

Environmental Objectives for Lake Huron

The Environmental Objectives for Lake Huron (EOs), developed under the auspices of the Great Lakes Fisheries Commission (GLFC), were formally adopted in 2007 after undergoing public consultation and review in Ontario, Michigan and by the Chippewa Ottawa Resource Authority. The EOs represent an important component of the GLFC's inter-jurisdictional and ecosystem approach to fisheries management with the Ontario Ministry of Natural Resources (OMNR) playing one of the lead agency roles.

The EOs describe the biological, chemical, and physical needs of desired fish communities as described in the Fish Community Objectives for Lake Huron (FCOs). The EOs also identify environmental impediments that would prevent the achievement of FCOs. A total of four environmental objectives were identified: protect and restore spawning and nursery habitats in coastal wetlands, tributaries and reefs; protect and rehabilitate nearshore fish habitats; protect and where possible enhance or restore native fish community structure and function; and protect and restore water quality and reduce or remove contaminant burdens from fish communities.

Each environmental objective is accompanied by background information, description of issues, a summary of historic and current information, a selection of priority management areas, and information needs. The priority management areas (PMAs) have been identified as areas representing significant fisheries values and would provide the greatest return in aquatic resource benefits. Within each of the PMAs a number of recommendations are provided that address ways that environmental impediments can be overcome or ameliorated. Because of the sheer size of the Lake Huron basin and the numerous PMAs identified the task of selecting and prioritizing recommended actions is a daunting one.

A strategy for implementing recommendations found in the EOs is currently being developed by both U.S. and Canadian agencies involved with aquatic resource management in the Lake Huron basin. In Canadian waters, a unique approach is being considered that proposes to utilize 'The Lake Huron Watershed Framework for Community Action'. This Environment Canada (EC) led initiative which is promoting working relationships between individuals, communities and governments to manage Lake Huron and its watershed in a healthy and sustainable way, can use recommendations found in the EOs to generate locally based actions that will not only benefit fish communities but also their associated aquatic ecosystems.

To determine the effectiveness of this proposed implementation strategy, two PMAs (Nottawasaga Bay and eastern Georgian Bay) have been selected as pilot project sites. Nottawasaga Bay and its associated watersheds has been identified in the EOs as an important area supporting an abundance of spawning reef habitat for lake whitefish and lake trout, tributaries providing spawning and nursery habitat for numerous species including Chinook salmon, rainbow trout, lake sturgeon, walleye, and important shoreline and coastal wetlands supporting a diverse warm and coolwater fish community. The popularity of this area for tourism and community growth in recent years has resulted in increasing stress and alteration of aquatic habitats.

Eastern Georgian Bay, recently designated as a World Biosphere Reserve, represents the largest contiguous extent of littoral habitat in the Canadian waters of Lake Huron. This area supports a diverse fish community ranging from warm and coolwater species such as smallmouth bass, northern pike, walleye and muskellunge to coldwater species including lake trout, lake whitefish and lake herring. These fish species and their associated fish communities have undergone numerous changes due to historic changes in critical spawning habitats and water quality as well as recent changes in exploitation rates and fish community composition. The area is also experiencing increases in development pressure as a result of its natural beauty and appeal as a recreational destination.

In both of these PMAs the EOs identify common information needs that include the need to identify, characterize and inventory critical aquatic habitats. Many shoreline areas are not protected from future development and in some cases may require purchase for conservation measures. Rehabilitating degraded habitats is required in many locations as well as identifying future threats to habitat integrity. Monitoring the spread of invasive exotic species and their impact on native fish communities has also been identified as an emerging need. The pilot project approach will hopefully garner local community based interest and involvement in specific actions that address environmental objectives in support of fish community objectives in Lake Huron.