



## AREAS OF CONCERN **WHEATLEY HARBOUR**

*An AOC is delisted by the Government of Canada when environmental monitoring information confirms that environmental quality has been restored in accordance with criteria established in consultation with other levels of government and the public.*

Wheatley Harbour was the third Canadian Area of Concern (AOC) to be delisted. In 2010, Environment Canada, in consultation with the Ontario Ministry of the Environment and local communities, determined that impaired beneficial uses in the area had been restored in accordance with the Great Lakes Water Quality Agreement (GLWQA), and Wheatley Harbour was removed by Canada from the list of AOCs.

### **Why was it listed as an Area of Concern?**

Wheatley Harbour was designated an AOC because a review of available data indicated that water quality and environmental health were severely degraded. Five beneficial use impairments were identified for the area:

- restrictions on fish consumption,
- degradation of fish and wildlife populations,
- restrictions on dredging activities,
- eutrophication (a gradual increase in the concentration of phosphorus, nitrogen and other plant nutrients) or undesirable algae, and
- loss of fish and wildlife habitat.

Historically, Wheatley Harbour had significant water pollution problems due to industrial discharges, primarily from fish and vegetable processing plants. Since the early 1970s, nutrient and metal concentrations had also increased in harbour waters, and were largely attributed to non-point sources, such as agricultural runoff and septic system seepage. The major environmental concerns in the harbour were polychlorinated biphenyls (PCBs), contaminated sediments, high phosphorus concentrations, poor water clarity, bacterial contamination and habitat loss.



© Environment Canada

## What was accomplished?

In order to improve environmental conditions in Wheatley Harbour meet GLWQA objectives, a Remedial Action Plan (RAP) was developed. The Wheatley Harbour RAP was initiated in 1987. Its creation involved the following steps:

- identifying the environmental challenges,
- planning and implementing remedial actions, and
- monitoring restoration and delisting the AOC.

The RAP was developed through a partnership between the federal and provincial governments, with cooperation from the Essex Region Conservation Authority and the Essex County Stewardship Network. Linkages and alliances were developed between the RAP team and various other groups in the community, including industry, municipalities and landowners. These linkages and alliances served to engage and coordinate the actions of this group to restore the water quality and ecosystem health of this harbour. Restoration of an AOC is a shared responsibility.

The RAP process, which included consulting with the public, involved selecting a number of recommended remedial actions to restore environmental conditions in Wheatley Harbour. Environment Canada and other members of the RAP, along with local industry and community groups, supported the implementation of many actions in the AOC, including upgrading wastewater treatment plants and restoring an extensive amount of habitat.

While total phosphorus concentrations in the AOC continue to be elevated, they remain similar to (and in some cases lower than) those in other wetland and creek systems in the regions outside the AOC. Discharges from Omstead Foods Ltd. are now regulated, and phosphorus concentrations are within the limits established by the provincial certificate of approval. Dissolved oxygen conditions within the AOC have improved considerably since the 1960s, and there have been no reports of persistent algal blooms or nuisance algae.

PCB sources in the AOC have been eliminated through upgraded wastewater treatment by local industry and revised backwash procedures by local wastewater treatment plants. Partners have confirmed that there are no active sources of PCBs in the AOC, because PCB-contaminated sediments have been buried under sediments from upstream sources. In addition, residual PCBs in sediments at the bottom of the harbour are being removed through ongoing navigational dredging, so they no longer pose a risk to fish and wildlife in the AOC. Navigational dredging of the harbour mouth occurs on an annual basis. The inner harbour was dredged in 1984–1985 and in 2004–2005, with the dredge material being disposed of on land. Sediment chemistry data suggest that the inner harbour dredging in 2005 resulted in reduced concentrations of cadmium and polyaromatic hydrocarbons (PAHs) in the sediments. In the future, continued dredging of

the inner harbour is expected to remove additional contaminated sediments.

Efforts were also directed at restoring natural habitat throughout the AOC and remediating non-point sources of pollution inside the Muddy Creek watershed. Since 1990, the Government of Canada's Great Lakes Sustainability Fund has contributed more than \$409,000 to projects in the categories of non-point source pollution control and habitat restoration. Monitoring indicates that fish and wildlife populations are healthy and diverse, and are considerably more abundant than in 1987. The fish community appears balanced and diverse, and the abundance of fish in 2008 was much higher than in 1987. Snapping Turtles are abundant, with a variety of size classes ranging from small juveniles to large mature adults.

By 2007, all remedial actions taken by the Government of Canada and its partners were completed, and a period of environmental monitoring followed. Through these monitoring activities, environmental conditions in the area were determined to have met the delisting criteria established for the AOC, and Wheatley Harbour was officially delisted in 2010.

Today, Wheatley Harbour is healthier than it has been in the last several decades.

## Where can you find more information?

Environment Canada e-mail:  
[greatlakes-grandslacs@ec.gc.ca](mailto:greatlakes-grandslacs@ec.gc.ca)

Environment Canada web site:  
[www.ec.gc.ca/raps](http://www.ec.gc.ca/raps)

## PARTNERS

Essex County Stewardship Network

Essex Region Conservation  
Authority

Ontario Ministry of Agriculture,  
Food and Rural Affairs

Ontario Ministry of the  
Environment

Ontario Ministry of Natural  
Resources