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AREAS OF CONCERN **THUNDER BAY**

Efforts in Thunder Bay are undertaken in a partnership between the Government of Canada, other levels of government and non-government groups, including members of the public.

Undertaking environmental restoration requires a large amount of scientific and technical expertise, local knowledge and hard work. One agency or group cannot engage in such a large task on their own without the help of others.

Thunder Bay, located on the north shore of Lake Superior and one of Canada's largest inland shipping ports, was identified as an Area of Concern (AOC) in 1987. Today, through the efforts of Environment Canada and its partners, there have been significant improvements at this AOC.

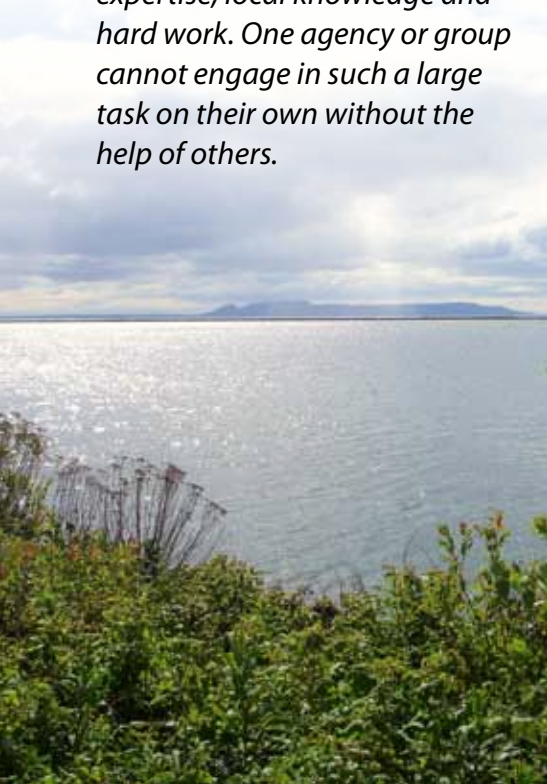
Why was it listed as an Area of Concern?

Thunder Bay was designated as an AOC because a review of available data indicated that water quality and environmental health were severely degraded. There has been a long history of discharges into the harbour, primarily from the forest products industry (e.g., pulp and paper mills). Over the years, industrialization, dredging, waste disposal, the release of pollutants, and channelization (channels made in the areas) eliminated a significant amount of fish and wildlife habitat along the waterfront.

What have we accomplished?

To date, Environment Canada has contributed more than \$9.6 million towards the remediation of the Thunder Bay AOC, resulting in significant improvements to the local environment.

Through the collaborative efforts of industry and the Governments of Canada and Ontario, contaminated sediments at the Northern Wood Preservers location in Thunder Bay Harbour, have been successfully remediated. During the Northern Wood Preservers Alternative Remediation Concept (NOWPARC) project, 11,000 cubic metres of highly contaminated sediment were removed, treated and reused; 21,000 cubic metres of contaminated sediment were contained; the contaminated site was isolated with an 850-metre-long rock barrier; and five hectares of fish habitat were created.



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The implementation of federal and provincial pulp and paper regulations and the Province of Ontario's Municipal Industrial Strategy for Abatement (MISA) regulations in the mid-1990s resulted in improvements in mill processes and upgrades to wastewater treatment facilities at pulp and paper mills here and elsewhere on the Great Lakes. The MISA regulations also led to upgrades in municipal wastewater treatment. Together, this resulted in improved water quality, fish habitat and fish populations.

The federal and provincial governments have completed many habitat rehabilitation projects in the AOC to restore and create aquatic habitat in five tributaries flowing into Thunder Bay Harbour; to rehabilitate the littoral zone (the area close to the shore) in the harbour; to stabilize wetlands; improve diversity of the biological community in rivers; and to increase the abundance of fish populations. Spawning sites and nursery habitats for fish have been created by building and rehabilitating natural areas. Three walleye spawning habitats in the Current River estuary, totalling 1,700 square metres in area, were rehabilitated by cleaning up debris and adding clean substrate.

Assessments of the fish community around the NOWPARC site indicate that the area now supports diverse and abundant fish populations.

Ongoing work in support of increasing fish populations and speeding recovery also includes the development of binational rehabilitation plans for four species of fish native to Lake Superior, stocking programs, sea lamprey control measures, and limits on fishing.

More than 4,000 native trees, shrubs and grasses, were planted near the mouth of McKellar River, adjacent to the Mission Marsh Conservation Area. This \$608,000 project – which was a collaborative effort by Environment Canada, Fisheries and Oceans Canada, the Ontario Ministry of Natural Resources and the Ontario Ministry of the Environment – saw the creation of three hectares of wetland, which provided more natural habitat for wildlife in the area.

The softening of shoreline at Kaministiquia River Heritage Park was completed in 1994 as part of a \$1.5 million park redesign, with contributions from federal, provincial and municipal governments. A straight-edge shoreline was improved by installing 560 metres of steel piles to provide in-stream cover and enhance substrate diversity. A promenade was also built on top of the steel piles, providing recreational access to the waterfront.

What's left to do?

The management of contaminated sediment continues to be a priority in the AOC. The challenge involves the remediation of organic (wood fibres/pulp) and mercury-contaminated sediment in Thunder Bay North Harbour. An ecological and human health risk assessment has been completed which will help to identify any additional studies and field tests that are needed to determine the best option for managing the contaminated sediment in the North Harbour. A risk assessment looked at the extent of contamination at the site and provided recommendations on the degree and location of remediation needed to reduce the risk of environmental and human exposure.

Environment Canada and the Ontario Ministry of the Environment are working with local citizens and community, industry and other government partners to identify and address remaining environmental issues.

Outlook

It is anticipated that the Thunder Bay AOC will be delisted by 2025.

Where can you find more information?

Environment Canada e-mail:

greatlakes-grandlacs@ec.gc.ca

Environment Canada web site:

www.ec.gc.ca/raps

North Shore of Lake Superior Remedial Action Plans

www.northshorerap.ca

InfoSuperior:

www.infosuperior.com

PARTNERS

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Public Advisory Committee

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