

ST CLAIR RIVER AREA OF CONCERN

SEDIMENT STUDY
JUNE 2009

OVERVIEW

Delisting the St. Clair River as an area of concern under the Canada-US Great Lakes Water Quality Agreement is the ultimate goal of Ontario, Canada, local industry and other stakeholders.

In 2007, the Canadian Remedial Action Plan (RAP) Implementation Committee (CRIC) asked the St. Clair River Sediment Technical Committee to assess the sediment contamination in Zones 2 and 3 of the river. The initial risk assessment on the sediments is now completed and has helped to identify priority areas in Zones 2 and 3. The next step is to develop options for managing the contaminated sediments.

Together with Ontario and in consultation with local stakeholders and residents, Canada will develop a sediment management strategy for the site. The clean-up project is expected to begin 2010 and be completed by 2014.

HISTORY

Environmental conditions along the Canadian shoreline downstream of the Sarnia industrial complex have been monitored and studied since the 1950s.

In 1985, the St. Clair River was identified as an area of concern (AOC) because of the effects on environmental quality from contaminated sediments and pollutants from municipal and industrial discharges, urban and rural runoff, and combined sewer overflows on both sides of this international waterway. Impairments to the ecosystem have resulted in fish contamination, degraded conditions for the organisms that live in or near the sediment, and loss of fish and wildlife habitat.

By the 1990s, through the efforts of local industries, stakeholders and government agencies, environmental conditions in the river had improved.

The 1991 St. Clair River Remedial Action Plan (RAP) report identified three areas (Zones 1, 2 and 3) as the remaining priority areas for fur-

ther study. Mercury and several chlorinated organic compounds typically used in certain industrial processes were the main contaminants of concern.

Remediation efforts included the cleaning up the Cole Drain in 1996 and, in Zone 1, the clean up carried out by Dow Chemical Canada completed in 2004.

The Sediment Technical Committee that undertook the 2007 assessment of the sediment in Zones 2 and 3 consisted of representatives from the Ministry of the Environment, Environment Canada, Sarnia Lambton Environmental Association, Walpole Island First Nations, Aamjiwnaang First Nations, St. Clair Region Conservation Authority and St. Clair Township.

In 2007, Environment Canada announced up to \$3.3 million dollars in funding for remediating sediment in the St. Clair River.



PROJECT UPDATE

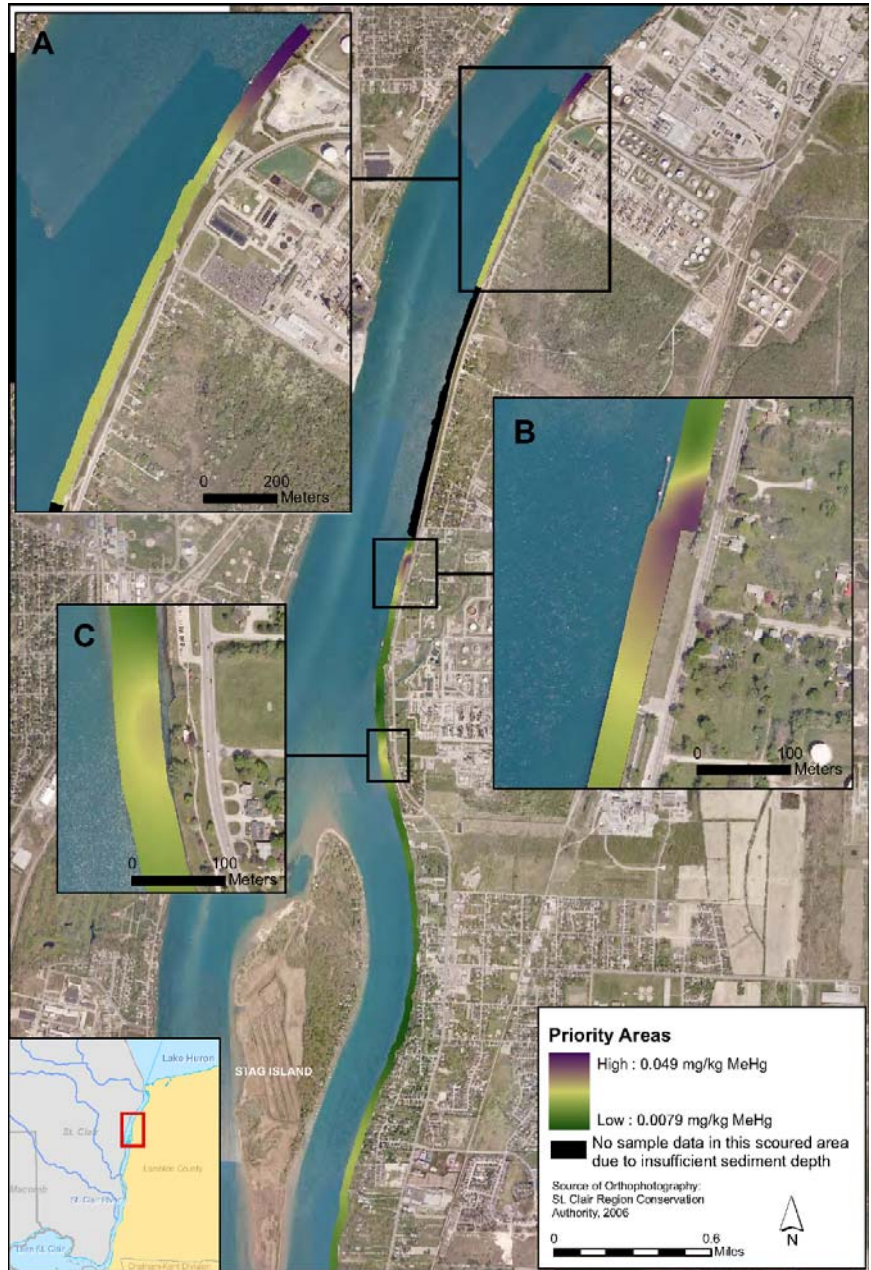
Studies identified contaminated sediment issues causing biological impacts to three priority zones in a 12-kilometre stretch downstream of the Sarnia industrial complex. One of the contaminated zones has been cleaned up by the local industry, Dow Chemical Canada.

Canada and Ontario developed a sediment management strategy in consultation with local stakeholders in 2008.

The consulting firm ENVIRON was hired to carry out an assessment of risk to wildlife and fish from elevated concentrations of mercury and octachlorostyrene in the sediments within Zones 2 and 3 of the St. Clair River. This study was completed at the end of March 2009.

The study applied the *Canada-Ontario Decision-Making Framework for the Assessment of Great Lakes Contaminated Sediments* (COA Framework) which uses a holistic, ecosystem approach in assessing sediment and identifying potential effects on sediment-dwelling and aquatic organisms, and the potential for biomagnifications (accumulation of chemical to high levels in the food chain) in fish because they feed on smaller contaminated creatures.

Zones for sediment management were prioritized based on risk to fish. The species looked at include Yellow perch, White sucker, Carp, Freshwater Drum, Brown Bullhead, Largemouth bass, Rock bass, Walleye, Redhorse sucker, and Northern pike.



Zones 2 and 3 of the St. Clair River

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 The MOE district office at **519-948-1464 between 8am-5pm** or
After hours contact the MOE-Spills Action Centre at **1-800-268-6060**

NEXT STEPS

The St. Clair River risk assessment study results and next steps will be presented to the public and stakeholders by Environ, the consultant who undertook the assessment.

The St Clair River (SCR) Technical Sediment Committee has determined that further work is required in order to develop sediment management options for review:

- Sediment stability work to be done by Environment Canada
- Sediment trap and young fish collection by the Ministry of the Environment
- Sediment core monitoring behind industrial properties along the rivers edge.

All of the above sampling initiatives will be carried out during the summer months and early fall of this year.

The SCR Technical Committee will hire a consultant to develop the management options. The request for proposal will be released by early 2010.

Once management options have been developed a preferred option will be selected and the public given an opportunity to provide input.

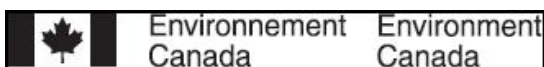
If the preferred option requires a detailed engineering plan, the plan will be developed and remediation will start in 2011.

Efforts to address other impairments in the St. Clair River AOC will continue.

Quick Facts:

- ⇒ Areas of Concern are degraded geographic areas in the Great Lakes Basin. Restoring environmental quality is a priority due to their impact on local and basin-wide ecosystem health. In August 2007, Canada and Ontario announced the renewal of the Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem; the first agreement was signed in 1971.
- ⇒ The St. Clair River is one of nine AOC's across the Great Lakes developing sediment management strategies to reduce the ecological and human health risk from contaminated sediments. Other areas are: Thunder Bay, Peninsula Harbour, St Marys River, Detroit River, Niagara River, Hamilton Harbour, Port Hope and Bay of Quinte.
- ⇒ Cleaning up the nine AOC's is part of Canada's Action Plan for Clean Water and its goal of ensuring all Canadians have access to clean, safe and healthy water.
- ⇒ Three AOC's have been delisted, Collingwood and Severn Sound in Canada and Oswego River in the US. Two are currently identified as Areas in Recovery, Spanish Harbour (on Lake Huron) and Presque Isle Bay (in Pennsylvania).
- ⇒ While the sediment remediation effort in the St. Clair River focuses specifically on the historical contaminated sediment issues, work continues throughout the AOC on improving both stormwater and wastewater discharge quality to improve both fish and wildlife habitat and promoting best management practices to control urban and agricultural run off.

This project is in partnership with



FAQ'S

How will the contaminated sediment in the St. Clair River be cleaned up?

The consulting firm ENVIRON finished assessing the contaminated sediment in Zone 2 and 3 in March 2009. Environ will present the study results to key stakeholders and the public in June. Additional sediment assessment work is needed before sediment management options can be developed for public review and consultation. This work will be carried out this summer and early fall. The public will be invited to provide comments on the result later this year. The partners are committed to public consultations prior to the selection of a preferred option for cleaning up the contaminated sediment.

Who caused the pollution and why aren't they paying for it? Don't you have a polluter pays approach?

In general, Canada applies a polluter pays approach to cleaning up environmental problems. However, as in the case with the St. Clair River Area of Concern, where ownership of the problem is unclear, federal, provincial and industry collaboration on funding and clean up activities is the most effective way to address the pollution.

How much will the remediation project cost?

Remediating contaminated sediment in the St. Clair River Area of Concern is based on a partnership approach, with funding and/or support from Canada, Ontario, municipal governments and local stakeholders.

Canada will provide up to \$3.3 million towards the cost of remediation.

How long will this work take?

The clean-up is expected to begin in 2010 and be completed by 2012.

Will this complete the work that needs to be done in order to delist St. Clair River as an Area of Concern?

Sediment remediation is one of the restoration actions needed in the St. Clair River Area of Concern. There is a need to:

- upgrade municipal infrastructure facilities to reduce the input of contaminants and excessive nutrients
- reduce contaminants and excessive nutrients from rural areas
- rehabilitate and protect fish and wildlife habitats
- monitor recovery.

Delisting the St. Clair River Area of Concern depends on completing all required restoration actions by all partners and how quickly the natural environment responds to these actions.

Who is working on this project?

The Technical Sediment Review Committee representatives are the Ministry of the Environment, Environment Canada, Sarnia Lambton Environmental Association, Walpole Island First Nations, Aamjiwnaang First Nations, St. Clair Region Conservation Authority and St. Clair Township.

What actions might be taken to manage these sediments?

Potential remedial measures could include capping and/or dredging and disposing of contaminated sediment and long-term monitoring.