

Interactive Sediment Maps

There have been numerous assessments and study reports completed over the past decade focusing on contaminated sediment in the St. Marys River. In order to outline all of the existing data collected within the area of concern (AOC), Environment Canada (EC) hired the MMM Group to develop illustrative maps of the study sites. These maps include a historical overview of over 100 sample sites and results collected by EC and the Ministry of Environment and Climate Change (MOECC) since 2002. Currently, an interactive version is available online for everyone to access. For the online interactive maps, visit: geo.mmm.ca/flexviewers/StMarys/



A Great Lakes Area of Concern

There are a number of locations around the Great Lakes where historical pollution and habitat degradation have caused negative environmental impacts. The St. Marys River is one of these areas of concern (AOC). Each AOC has a remedial action plan that defines the nature, extent, and causes of environmental problems and recommends actions to restore and protect the environment. Due to stricter environmental regulations and improvements by both the City of Sault Ste. Marie and local industry, the water guality and habitat provided by the river has substantially improved since first being designated an AOC in the 1980s.

A Sediment Accumulation Model

The EC sediment study in the area east of Bellevue Marine Park (Topsail Island area) is scheduled to be completed in 2016. The study involves using a sediment accumulation model to determine the rate and chemical quality of new sediment deposition over time. Underway since 2012, the results are expected to aid EC and the MOECC in identifying sediment management options.



Sediment sampling Photo Credits: Hans Biberhofer, EC

Contaminated Sediment Initiatives

Benthic assessments have been completed periodically between 2002 and 2010. Compiled results have indicated that sediment management is not required upstream of Belleview Marine Park. However, there is still a need for further study and sediment management required east of the park.

In 2011 the Sault Ste Marie Innovation Centre completed sediment flow and transport modeling to determine and show a visual representation of whether contaminated sediment at a specific depth could be exposed. The results have concluded that deeper sediments (under 5cm) are stable under a range of tested historical flow conditions (i.e. those measured over the last 100 years).

The *St. Marys River Dredging Administrative Controls Protocol* was drafted in 2015. This document provides information to proponents considering dredging projects in Canadian waters of the St. Marys River, and encourages coordination and cooperation among the different authorities and government agencies that have a responsibility in the approval, permitting and planning process.



Contaminated sediment initiatives along the St. Marys River AOC. Photo Credits: Paula Antunes, SSMIC (left) and Hans Biberhofer, EC (right)

Facts About PAHs

The main contaminants of concern in the St. Marys River area include polycyclic aromatic hydrocarbons (PAHs). PAHs occur naturally in oil, coal, tar and petroleum, and are released into the environment as byproducts from the burning of these fossil fuels. PAHs mix more easily with oil than water and are often found in sediment where they persist and breakdown very slowly. In the past, industry has contributed most of the PAHs in the St. Marys River, but with new regulations and technology, the amount of PAHs discharged to the river has declined significantly.

For more information:

For more information on the St. Marys River Remedial Action Plan visit: bpac.algomau.ca

For more information on Areas of Concern visit: ec.gc.ca/raps-pas