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RESTORING THE RIVER

Official Newsletter of The St. Marys River Remedial Action Plan

Degradation of Benthos BUI Overview

Benthos are a group of organism that live on, in or near the river bottom which is also known as the benthic zone. Benthos can include microorganisms such as bacteria or fungi and microorganisms such as larger invertebrates. Due to these organisms living on or in the river bottom, they can be heavily effected by contaminants within the sediments.

The Degradation of Benthos Beneficial Use Impairment was originally deemed impaired due to high levels of polycyclic aromatic hydrocarbons (PAHs) and heavy metals in several locations in the St. Marys River. Environment and Climate Change Canada (ECCC) and the Ministry of Environment, Conservation and



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Degradation of Benthos BUI
Overview

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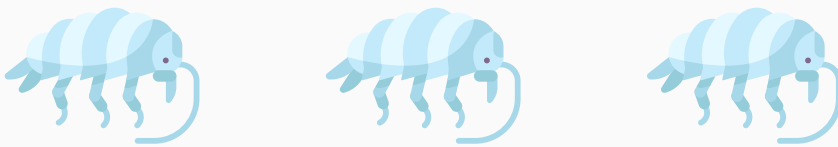
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Parks (MECP) have been carrying out studies on the chemical, biological and physical conditions of the river sediment and the animals living within it (benthos), which has contributed to an informed decision on the most appropriate sediment management for the AOC.

Did You Know?

Initial delisting criteria was developed for the St. Marys River Area of Concern (AOC) in 2002, and was updated in 2015. This was accomplished with the support and participation of the Binational Public Advisory Council (BPAC).

In an effort to outline meaningful targets, the delisting criteria was updated to follow the SMART goals, meaning that they are Specific, Measurable, Achievable, Relevant, and Time-oriented. All Beneficial Use Impairments (BUIs) for the St. Marys River AOC received updated delisting criteria with the exception of the Degradation of Benthos BUI, due to an ongoing revision.



Canada-Ontario Decision Making Framework for Assessment of Great Lakes Contaminated Sediment

The Canada-Ontario Decision Making Framework for Assessment of Great Lakes Sediment was developed in 2008 on behalf of ECCC and MECP as a consistent, scientifically defensible, and publicly accepted framework for assessing and managing contaminated sediment within Areas of Concern. It is being applied to the St. Marys River AOC.

Sediments in the St. Marys River Area of Concern were evaluated through the use of multiple lines of evidence as prescribed under the Canada-Ontario Decision Making Framework for Assessment of Great Lakes Contaminated Sediment. This Framework ensured the use of an ecosystem approach to sediment assessment, and considers potential effects on sediment-dwelling and aquatic organisms, as well as potential for contamination to accumulate in the food chain. The Framework is intended to standardize the decision-making process for contaminated sediment management in Great Lakes Areas of Concern while also being flexible enough to account for site-specific considerations.

What Is The Delisting Criteria?

The benthic invertebrate community within the St.

Marys River has largely recovered over the last 30 years. There is, however, some evidence of benthic toxicity in localized areas

east of Bellevue Marine Park, within the Algoma

Boat Slip, and the

Transport Canada water

lot. Each site has its own

unique characteristics,

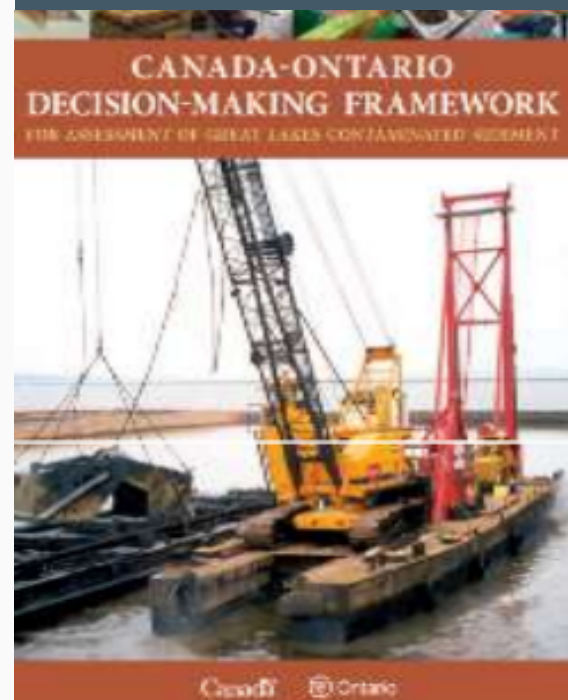
contaminants of concern

and ownership. Thus, the

proposed delisting criteria

will be specific to these

three primary locations.





Localized Sediment Impacts Identified

While the benthic invertebrate community has generally recovered across much of the river, localized areas still show signs of benthic toxicity. These include:

- East of Bellevue Marine Park
- Algoma Boat Slip
- Transport Canada water lot

Each of these sites presents unique contamination profiles and land ownership considerations, which will inform the tailored delisting criteria.

The next steps are underway. The development of site-specific delisting targets is ongoing revision. Once complete, the criteria will support a more accurate assessment of recovery in areas still affected by historic contamination.

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