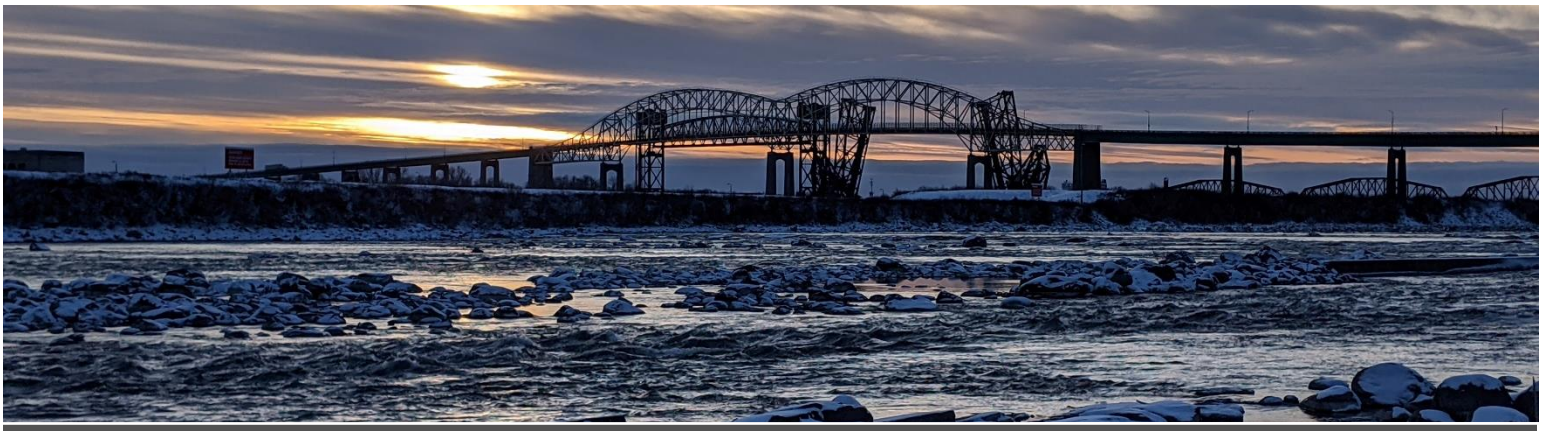

Degradation of Fish and Wildlife Populations Edition

St. Marys River Area of Concern NEWSLETTER

The St. Marys River

Area of Concern

In 1987, the St. Marys River was designated as an Area of Concern (AOC) in the Great Lakes.

Pollution from industrial sources, such as effluents from the pulp and paper mill and steel production, insufficiently treated municipal and private sewage, and contaminated stormwater runoff from the surrounding watershed are all factors that have contributed to the degradation of the St. Marys River. While inputs of pollution into the river are no longer as severe as they used to be, our legacy of environmentally harmful activities has left many negative effects on fish and their habitat, sediment composition, and the overall quality of the water.

Did you know?

BENEFICIAL USE IMPAIRMENTS (BUIs) are a set of 14 environmental challenges recognized under the *Canada-US Great Lakes Water Quality Agreement* that are indicators of an Area of Concern (AOC) in the Great Lakes. In the St. Marys River, 9 out of 14 BUIs were originally deemed impaired and 1 required further assessment.

Today, thanks to remedial action efforts, only 6 out of 14 BUIs remain impaired.

Degradation of Fish and Wildlife Populations

Background on the Beneficial Use Impairment

Degradation of Fish and Wildlife Populations *is 1 of the 14 possible Beneficial Use Impairments (BUIs) recognized under the Canada-US Great Lakes Water Quality Agreement.*

In the St. Marys River Stage 1 Remedial Action Plan report (1992), the *Degradation of Fish and Wildlife Populations* BUI was divided into 2 parts:

(a) degradation of fish populations

(b) degradation of wildlife populations

The **fish component** of the BUI was identified as impaired in the St. Marys River. The **wildlife component** was never deemed impaired, but instead was determined to "Require Further Assessment" due to a lack of assessment criteria at the time.

Did you know?

The fish component of the Degradation of Fish and Wildlife Populations BUI was identified as one of ten Beneficial Use Impairments in the St. Marys River because native fish populations were being affected by:

- *habitat alteration*
- *overfishing*
- *pollution*
- *invasive species*

BUI Delisting Criteria (fish component only)

The delisting criteria for the fish component of the *Degradation of Fish and Wildlife Populations* BUI states that the BUI will no longer be impaired when:

'The overall fish community health within the AOC is comparable to that of a suitable reference site, as assessed using an index of biotic integrity through a minimum of two consecutive studies'.

INDEX OF BIOTIC INTEGRITY (IBI)

Scientific tool used to identify and classify faunal communities.
Biotic integrity is based on the premise that the status of living systems provides the most direct and effective measure of the integrity of water.

Work Completed to Date:

Fish Populations

❖ Fisheries and Oceans Canada completed an assessment of the AOC fish community using the IBI approach in two separate studies (2009 and 2014)

The studies concluded that the overall health of the community compared favourably with healthy reference sites from Lake Huron. The overall IBI score for the St. Marys River borders between ***fair and good***

❖ Michigan Department of Natural Resources and the Ontario Ministry of Natural Resources and Forestry undertook an open water access fish survey of sport anglers.This was accompanied by a fish community survey was conducted by the St. Marys River Fisheries Task Group and its member agencies

Both studies concluded that the St. Marys River is home to a relatively healthy fish community that is complex, diverse and dominated by native species, and has managed fish populations that are stable or increasing

The overall conclusion is that the St. Marys River is home to a relatively healthy fish community that is complex, diverse and dominated by native species

Wildlife Populations

❖ In 2014, Environment and Climate Change Canada (ECCC) completed a wildlife population assessment for **Common Terns** and **Black Terns** based on nest count surveys conducted between 2010 and 2013

The study concluded Commons Terns and Black Terns are breeding within the AOC, and that there is no evidence that breeding status within the AOC differs from that outside of AOC

❖ ECCC completed a three-year **Common Tern** and **Herring Gull** study based on fieldwork and laboratory analysis to assess deformities, reproductive health, and chemical contamination in eggs of indicator species

The study concluded that there is no evidence of impaired reproduction or deformities in colonial waterbirds attributable to local contamination effects within the AOC, and the reproductive success for birds studied within the AOC is similar to that from outside the AOC

The overall conclusion is that the wildlife populations were found to be in good condition within the St. Marys River

	RECOMMENDED ACTIONS FOR DELISTING THE BUI		STATUS
WILDLIFE	FFM-5	The CWS surveys of the Common and Black Tern populations	COMPLETE
	FFM-6	Analysis of contaminant levels in eggs	COMPLETE
FISH	PS-1	Virtual elimination of all persistent and bioaccumulative contaminants	ONGOING
	NPS-4	Identification and control of contaminants from the Algoma Slag Dump	COMPLETE
	NPS-7	Remediation of contaminated terrestrial and aquatic disposal sites	ADDRESSED
	FF-7	Develop a 10 year Fisheries Assessment Program for the river	COMPLETE
	FF-8	Continued support for Sea Lamprey control efforts	ADDRESSED
	FFM-3	The fish harvest survey	COMPLETE
	PSM-8	Monitoring study of contaminant discharges from wastewater treatment plants	ADDRESSED
	NPSM-9	Identify terrestrial and aquatic disposal sites transferring contaminants into waterways	ADDRESSED
	NPSM-11	Assess the potential hazards associated with spills from shipping vessels	COMPLETE
	NPS-1	Development of a multi-agency sediment management plan	UNDERWAY
	FFM-7	Monitoring of population changes due to habitat enhancement	PENDING

BUI Status Update

All recommended remedial and monitoring actions pertaining to the *Degradation of Fish and Wildlife Populations* BUI have been completed. Based on the lines-of-evidence presented for both fish and wildlife populations and the fulfilling of the delisting criteria, it is now being recommended that the *Degradation of Fish and Wildlife Populations* BUI for the Canadian side of the St. Marys River AOC be re-designated to "Not Impaired".

Contact Information >>>

For more information about the initiatives being undertaken to restore the St. Marys River, visit our website at bpac.algomau.ca or find us on Social Media:

Facebook: St. Marys River Remedial Action Plan
Instagram: stmarysriver_rap
Twitter: StMarysRiverRAP