







Pathway to Delisting Detroit River Canadian Area of Concern Delisting Strategy

Updated June 2025





















Edited by members of the Detroit River Canadian Cleanup (DRCC) Technical Work Groups:

Jacqueline Serran Detroit River Canadian Cleanup Gina Pannunzio Detroit River Canadian Cleanup

April White Canada Water Agency

Ted Briggs Ontario Ministry of Environment, Conservation, and Parks

Mike Thorn
Contario Ministry of Natural Resources
Katie Stammler
Essex Region Conservation Authority
Kevin Money
Essex Region Conservation Authority
Kate Arthur
Essex Region Conservation Authority

Amber Falkner United States Environmental Protection Agency

Ken Drouillard Great Lakes Institute for Environmental Research, University of Windsor

Kevin Webb City of Windsor

Joe Fiorino Canadian Wildlife Service
Ian Smith Canadian Wildlife Service
Susan Doka Fisheries and Oceans Canada

Special thanks to all of the scientists and researchers that participated in revising and improving this document.

Suggested Citation: Detroit River Canadian Cleanup (DRCC). 2025 Pathway to Delisting: Detroit River Canadian AOC Delisting Strategy. Publication No. 2, Essex, Ontario, Canada.

Table of Contents

| Introduction | 2 |
|--|------|
| Our Pathway to Delisting: Remaining Actions to Re-Designate BUIs | 5 |
| Restrictions on Fish and Wildlife Consumption (BUI #1) | 7 |
| Degradation of Fish and Wildlife Populations (BUI #3) | 8 |
| Loss of Fish and Wildlife Habitat (BUI #14) | 10 |
| General RAP Goals | |
| Long-Term Goals & Recommendations | 14 |
| Existing Monitoring Programs | |
| a) Angler Creel Survey Program – OMNR | xv |
| b) Caged Mussel Biomonitoring – GLIER & City of Windsor | xv |
| c) Great Lakes Fish Contaminants Monitoring Program – ECCC (STB) | xv |
| d) Great Lakes Fish Population Assessment – OMNR/DFO/University of Winds | orxv |
| e) Herring Gull Egg Contaminant Monitoring Program – ECCC | |
| f) Great Lakes Marsh Monitoring Program – BSC/ECCC/U.S. EPA/Volunteers | xv |
| g) Great Lakes Surveillance Program – ECCC (STB) | |
| h) Great Lakes Sediment Monitoring Program – ECCC (STB) | xvi |
| i) Environmental Compliance Approvals – OMECP/Detroit River Dischargers | xvi |
| j) Provincial Water Quality Monitoring Network – OMECP/ERCA | xvi |
| k) Essex Region Surface Water Monitoring Program – ERCA/OMECP | xvi |
| Sport Fish Contaminant Monitoring Program – OMECP/OMNR | xvi |
| m) Connecting Channel Fish Community Assessment – OMNR | xvi |
| Acronyms | xvii |
| Definitions | |
| APPENDIX 1: Delisting: What does it mean? | xix |
| APPENDIX 2: Proposed Delisting Process for the Detroit River Area of Concern | xx |

Introduction

The 51 km long Detroit River is a connecting channel that, along with the St. Clair River and Lake St. Clair, link Lake Huron to Lake Erie. The Detroit River has been used intensively for international shipping, industrial and agricultural development, recreation (fishing/boating), and as a source of drinking water. This intensive use and urbanization resulted in a degraded environment and, as a result, the Detroit River was designated as one of 43 Great Lakes Areas of Concern (AOC) in the Great Lakes Water Quality Agreement (GLWQA) Protocol of 1987. Under the Agreement, both Canada and the United States have committed to restoring these highly degraded areas around the Great Lakes. In Canada, the restoration of AOCs is facilitated under the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA), an agreement between select federal and provincial governments.

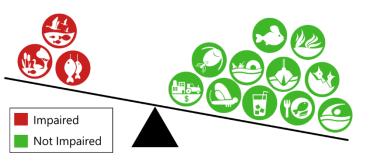
Recognizing that each AOC has different environmental problems, a locally driven and defined Remedial Action Plan (RAP) was developed to guide restoration efforts in each location. Although the Detroit River AOC is a binational AOC, separate RAPs for each country have been coordinated and implemented since 1998. The Detroit River Canadian AOC refers to the Canadian portion of the Detroit River proper (Fig. 1). The Canadian watershed is not part of the AOC itself but is identified as a potential source of impairment to the AOC and has been the focus of certain implementation actions (Green et al. 2010).

Progress in the Detroit River AOC, and others, is measured through the re-designation of beneficial use impairments (BUIs). A BUI is a reduction in the chemical, physical, or biological integrity of the waters of the Great Lakes sufficient to cause any of the following beneficial uses (Table 1) to be impaired. Once all actions listed in this document under a specific BUI are completed, then an assessment of that BUI will be conducted to determine its status. If that BUI is found to still be impaired, then next steps for remediation will be identified. If the majority of evidence shows the BUI has met the delisting criteria (restoration target), then the BUI will be considered for re-designation and no further restoration actions will be required. The status of the BUI will then change to 'not impaired'. Appendix 1 provides information on delisting requirements and processes and Table 1 provides the current (June 2025) status of the BUIs on the Canadian side of the Detroit River.

As of June 2025, the Detroit River Canadian AOC has 3 BUIs that are listed as impaired and 11 that are not impaired. The purpose of this document is to identify the remaining actions necessary to achieve the restoration criteria for the remaining BUIs and lead to the delisting of the Canadian side of the Detroit River.

Table 1. Status of BUIs for the Detroit River Canadian Area of Concern as of June 2025.

| | Beneficial Use Impairment | Status |
|---|--|---|
| | Restrictions on Fish and Wildlife Consumption | Impaired for fish |
| | 2. Tainting of Fish and Wildlife Flavour | Not impaired (May 2014) |
| | 3. Degraded Fish and Wildlife Populations | Impaired (Fish population assessed as not impaired, 2023) |
| | 4. Fish Tumours and other Deformities | Not impaired (December 2020) |
| | 5. Bird or Animal Deformities or Other Reproductive Problems | Not impaired (June 2025) |
| | 6. Degradation of Benthos | Not impaired (December 2020) |
| | 7. Restrictions on Dredging Activities | Not impaired (April 2019) |
| | 8. Eutrophication or Undesirable Algae | Not Impaired |
| B | Restrictions on Drinking Water Consumption or Taste and Odour Problems | Not impaired |
| | 10. Beach Closings | Not Impaired (January 2016) |
| | 11. Degradation of Aesthetics | Not Impaired (January 2016) |
| | 12. Added Costs to Agriculture or Industry | Not impaired |
| | 13. Degradation of Phytoplankton and Zooplankton Populations | Not impaired (September 2021) |
| | 14. Loss of Fish and Wildlife Habitat | Impaired |



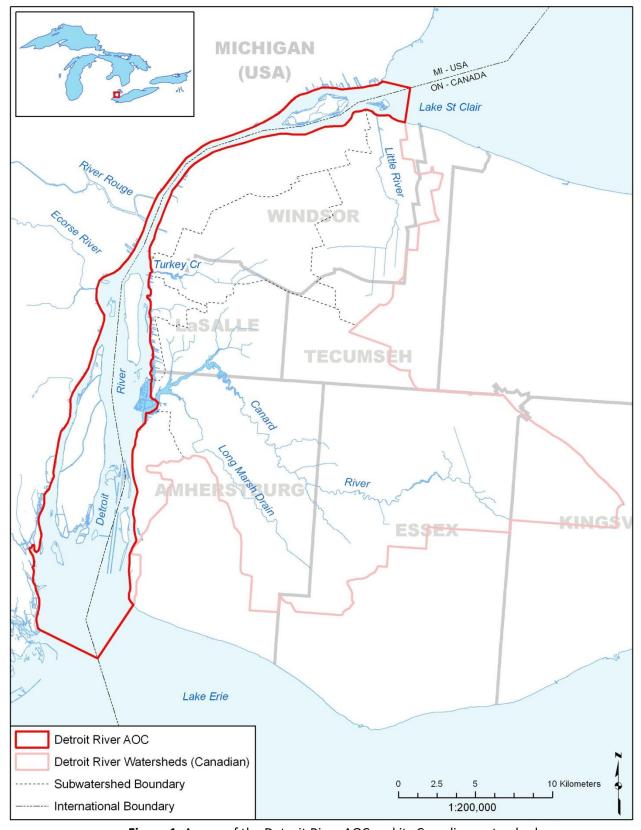


Figure 1. A map of the Detroit River AOC and its Canadian watersheds.

Our Pathway to Delisting: Remaining Actions to Re-Designate BUIs

The following work plan was developed by the DRCC's technical expert work groups based on the recommendations given in the Detroit River Canadian 2010 Stage 2 RAP Report, a report that identified restoration criteria and recommended remedial actions to achieve them. The objective is to achieve the restoration criteria and redesignate the remaining 'impaired' beneficial uses to a 'not impaired' status and once achieved, the Detroit River can be delisted, a process that removes it from the list of "Areas of Concern" under the Great Lakes Water Quality Agreement. This workplan has been updated annually since 2013, outlining remaining short-term actions to be completed (to achieve restoration criteria and ultimately delist) and long-term actions (beyond delisting) for stakeholders in the Detroit River Canadian RAP for each fiscal year (April 1 - March 31). An 'X' under the year column indicates that the action needs to be completed while a '\(\psi'\) indicates that it was done. This document is updated annually.

The following principles from the Detroit River Canadian Stage 2 RAP Report (Green et al. 2010) are used by the DRCC to guide decision-making on AOC-related issues. For a full description please refer to the Stage 2 RAP Report.

- Delisting should be based on the river as a complete ecosystem. That is, a significant portion of the river must be affected and should not be dependent on the complete elimination of all hotspots or issues in very small areas (unless they are severe).
- There are region-wide issues that are beyond the scope of the AOC program; therefore, the causes of beneficial use impairments must originate within the Detroit River AOC. If an impairment is identified, then the source needs to be determined (e.g., active and anthropogenic, in-river vs. upstream/regional).
- Delisting/re-designating BUIs should be linked to the original reasons that the beneficial use was impaired in the first place (i.e., Stage 1 RAP).
- The RAP should deal with only those watershed issues that impact the river and are linked to specific BUIs.
- Once there is enough evidence to indicate that BUI is no longer impaired, the BUI should remain 'not impaired' unless monitoring shows a significant problem.
- The goal of the RAP is not to restore the River to a pristine, pre-settlement state. Rather, the achievement of delisting goals means the Detroit River is no longer the seriously polluted waterbody it once was—and no longer worse than other Great Lakes locations.
- When the AOC is delisted, monitoring and implementation of projects are expected to continue under the Lake Erie Lakewide Action and Management Plan (LAMP) and/or other existing programs.

This document is anticipated to be the last work plan for the Detroit River Canadian AOC. It is a dynamic document and will be updated annually as actions are added and completed and until the Detroit River is delisted as a Great Lakes AOC. Table 2 provides an overview of the timeline to complete all three remaining beneficial uses.

Table 2: Estimated timeline for completion of actions on remaining impaired beneficial uses.

| Action | 2025-26 | 2026-27 | 2027-28 | 2028-29 | 2029-30 | 2030-31 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------|
| BUI #1: Restrictions on fish and wildl | life consump | tion | | | | |
| Review by DRCC Work Groups | X | | | | | |
| Public & Indigenous Engagement | X | | | | | |
| Submit to COA Annex Leads | | Х | | | | |
| Expected change in status to <i>not</i> impaired | | X | | | | |
| BUI #3: Degradation of fish and Wild | life populati | ions | | | | |
| Remedial Actions ongoing | X (wildlife) | X (wildlife) | X (wildlife) | | | |
| Remedial Actions completed | | | | X (wildlife) | | |
| Review by DRCC Work Groups | | | | X (wildlife) | | |
| Public & Indigenous Engagement | | | | | X (wildlife) | |
| Submission to COA Annex Leads | | | | | | X (Fish & Wildlife) |
| Expected change in status to <i>not</i> impaired | | | | | | X (Fish & Wildlife) |
| BUI #14: Loss of fish and wildlife hab | itat | | | | | |
| Remedial actions ongoing | X | Χ | Χ | | | |
| Remedial actions completed | | | | X | | |
| Review by DRCC Work Groups | | | | X | | |
| Public & Indigenous engagement | | | | | Χ | |
| Submission to COA Annex leads | | | | | | X |
| Expected change in status to <i>not</i> impaired | | | | | | X |



Restrictions on Fish and Wildlife Consumption (BUI #1)

... will be considered not impaired when consumption advisories for indicator fish species (e.g. walleye, brown bullhead, and largemouth bass) given for the sensitive population in the AOC are similar to upstream and downstream non-AOC Great Lakes reference areas due to contaminants from locally-controllable sources.

| Action | 2024-25 | 2025-26 | 2026-27 | Lead |
|---|----------|---------|---------|--------------------------|
| Review all relevant data and prepare a status report to recommend status of BUI based on delisting criteria | / | | | DRCC (M&R Work Group) |
| Consult with Steering and Implementation Committee (SIC) on BUI status report | | Х | | DRCC |
| Engagement planning and implementation | | X | | DRCC (EPI Work Group) |
| Submit re-designation report to COA Leads | | | Χ | DRCC |
| Receive confirmation of not impaired status from federal and provincial governments | | | X | DRCC |



Degradation of Fish and Wildlife Populations (BUI #3)

...will be considered not impaired when environmental conditions support self-sustaining and healthy communities of indicator fish (e.g., walleye, bass, lake sturgeon, brown bullhead) and wildlife (e.g., black-crowned night heron, Northern leopard frog) species.

| Action | 2024- 25 | 2025- 26 | 2026- 27 | 2027- 28 | 2028- 29 | 2029- 30 | 2030- 31 | Lead |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------------|
| Fish | | | | | | | | |
| Engagement planning and implementation | ✓ | | | | | | | DRCC (EPI Work Group) |
| Wildlife | | | | | | | | |
| Continue monitoring at coastal wetland sites in the Detroit River AOC to evaluate coastal wetland marsh bird populations | | | Х | X | | | | ECCC (CWS) |
| Improve wetland quality for marsh | h birds thr | ough resto | oration, en | hanceme | nts, and m | anagemen | nt | |
| Collavino Wetland | | | | | | | | |
| Conduct post restoration surveys of marsh birds, SAV and water quality at the Collavino wetland | | Х | | | | | | ECCC (CWS) |
| Canard Marsh Project | | | | | | | | |
| Plan Canard Marsh project to improve wetland quality for marsh birds (engineering, permits) | J | X | | | | | | DRCC/ ERCA |
| Implement Canard Marsh project to improve wetland quality for marsh birds | 1 | Х | | Χ | | | | DRCC/ ERCA |
| Conduct post construction fish monitoring at Fighting Island | | | X | | X | | | ECCC (CWS) |
| South End of Fighting Island | | | | | | | | |
| Conduct baseline bird and SAV monitoring at Fighting Island | / | X | | | | | | ECCC (CWS) |
| Plan Fighting Island project to improve wetland quality for marsh birds (engineering, permits) | / | X | | | | | | DRCC/ ERCA |

| Action | 2024- 25 | 2025- 26 | 2026- 27 | 2027- 28 | 2028- 29 | 2029- 30 | 2030- 31 | Lead |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|
| Implement Fighting Island project | | | X | | | | | ERCA |
| Conduct post construction bird, SAV, and water quality monitoring at Fighting Island | | | | X | | X | | ECCC (CWS) |
| Adaptive management of projects to enhance habitat quality/quantity, as needed | | | | | X | | | DRCC/ CWS/ ERCA |
| Review all relevant data and prepare a status report to recommend status of BUI based on delisting criteria | | | | | | Х | | DRCC |
| Consult with Steering and Implementation Committee (SIC) on BUI status report | | | | | | X | | DRCC |
| Engagement planning and implementation | | | | | | Х | Х | DRCC |
| Submit re-designation report to COA Leads | | | | | | | Х | DRCC |



Loss of Fish and Wildlife Habitat (BUI #14)

...will be considered not impaired when

<u>Coastal wetlands</u>: Protect existing coastal wetland habitat and restore wetland function in priority areas of the AOC and its watershed (as identified in the 2007 Detroit River AOC Canadian Priority Habitat Sites and the 2013 Essex Region Natural Heritage System Strategy).

<u>Aquatic & riparian habitat</u>: Protect existing fish and aquatic wildlife habitat (deep water, coastal, nearshore) and restore ecosystem function of these priority areas in, and hydrologically connected to, the Detroit River.

<u>Shoreline softening:</u> Develop and begin to implement a shoreline management strategy to soften and naturalize Detroit River Canadian shoreline, whenever opportunities arise.

<u>Terrestrial habitat</u>: Protect existing natural terrestrial corridors and restore ecosystem function between the Detroit River and the Ojibway Prairie Complex, the LaSalle Candidate Natural Heritage sites, and other major identified habitat sites (as identified in the 2007 Detroit River AOC Canadian Priority Habitat Sites, the 2013 Essex Region Natural Heritage System Strategy, and other fish and wildlife habitat assessments).

| Action | 2024- 25 | 2025- 26 | 2026- 27 | 2027- 28 | 2028- 29 | 2029- 30 | 2030- 31 | Lead |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| Coastal Wetlands | | | | | | | | |
| Conduct baseline wetland monitoring of coastal wetlands to evaluate quality | 1 | | Х | Х | | | | ECCC (CWS) |
| Conduct in-depth analysis of landscape factors on wetland habitat and consider/apply findings (manage phragmites and increase emergent wetland area with upland habitat) | J | Х | х | | | | | ECCC (CWS) |
| Conduct analysis of wetland extent within the AOC | 1 | | | | | | | ECCC (CWS) |
| Collavino Wetland | | | | | | | | |
| Conduct wetland monitoring of marsh birds and water quality parameters to assess post-restoration status | √ | X | | | | | | ECCC (CWS) |
| Implement Collavino wetland management plan | 1 | Х | Х | Х | | | | ERCA |
| Canard Marsh Complex | | | | | | | | |
| Lead project planning (engineering, permitting) | 1 | Χ | | | | | | ERCA |
| Explore options for funding project implementation | 1 | Х | | | | | | ERCA/ DRCC |
| Implement project | | X | | | | | | ERCA/ DRCC |
| Conduct post construction fish monitoring | | | Х | | Х | | | DFO/ MNRF |

| Action | 2024- 25 | 2025- 26 | 2026- 27 | 2027- 28 | 2028- 29 | 2029- 30 | 2030- 31 | Lead |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| South end of Fighting Island | | | | | | | | |
| Discuss, evaluate and finalize design of Option 3 | 1 | Х | | | | | | DRCC |
| Run HEAT model on Option 3 | ✓ | Χ | | | | | | DFO |
| Involve EMV modelling team to provide outcome of Option 3 and alternatives | 1 | Х | | | | | | ECCC |
| Explore options for funding project implementation | 1 | Χ | | | | | | DRCC |
| Lead project planning (engineering permitting, funding) | 1 | Х | Х | | | | | ERCA |
| Conduct pre-construction baseline wetland monitoring for marsh bird populations and water quality | J | X | | | | | | ECCC (CWS) |
| Implement project | | | Χ | | | | | ERCA/ DRCC |
| Conduct post construction marsh bird and water quality monitoring | | | | X | Х | Х | | ECCC (CWS) |
| Conduct post construction fish monitoring | | | | Х | | Х | | DFO/ MNRF |
| Aquatic and Riparian Habi | <u>tat</u> | | | | | | | |
| Apply HEAT model to previous restoration projects to determine habitat 'gain/loss' | √ | | | | | | | DFO |
| Apply HEAT to proposed Fighting Island project | J | Χ | | | | | | DFO |
| Apply Habitat Suitability Model to projects and AOC | 1 | | | | | | | DFO |
| Apply model(s) to AOC to determine if habitat supply for target fish guilds and life stages have increased | J | | | | | | | DFO |
| Assess fish habitat/SAV changes in AOC since listing | 1 | | | | | | | DFO |
| Prepare a concise report, including maps providing status of delisting criteria | | Х | | | | | | DFO |
| Terrestrial Habitat | | | | | | | | |
| Implement Clean Water ~ Green Spaces program (or similar program) to protect, restore and improve habitat quality & quantity in priority areas of the AOC | J | X | X | X | X | X | | ERCA |

| Action | 2024- 25 | 2025- 26 | 2026- 27 | 2027- 28 | 2028- 29 | 2029- 30 | 2030- 31 | Lead |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------------------------|
| watersheds (identified in ERNHSS) via tree plantings, wetland restoration, buffer strips, and other agricultural BMP activities | | | | | | | | |
| Determine whether terrestrial habitat criteria have been met | 1 | | | | | | | DRCC (Habitat Work Group) |
| Develop a Fish and Wildlife Habitat Restoration Report summarizing projects completed and future opportunities | | X | X | X | | | | DRCC (Habitat Work Group) |
| Review all relevant habitat data (related to fish/wildlife habitat) and prepare a status report to recommend status of BUI based on delisting criteria | | | | Х | X | | | DRCC |
| Consult with SIC on BUI status report | | | | | Χ | | | DRCC |
| Complete BUI engagement | | | | | | Χ | | DRCC |
| Submit BUI re-designation report to COA Leads | | | | | | | Х | DRCC |

General RAP Goals

This section includes items that are important to the RAP because they are linked to achieving delisting the AOC through administration, outreach, stewardship, and public involvement. All the actions below are ongoing on an annual basis since 2018 (except during the COVID-19 pandemic where some in-person events were hosted virtually). They are all very important but are not necessarily required to re-designate one particular BUI.

- Support the coordination / governance of the Detroit River Canadian RAP including office administration, work plan support, liaison, communications and outreach. Lead agency(s): CWA, OMECP, ERCA
- Update and maintain DRCC's database, which is a critical aspect of the DRCC's corporate memory and decision-making process. Lead agency(s): CWA, OMECP, UWindsor
- Encourage public involvement and Detroit River stewardship through public events, seminars, community plantings and cleanups. Lead agency(s): DRCC
- Public review and report on Detroit River Canadian RAP progress. Lead agency(s): Public Advisory Council (PAC)
- Advocate for the protection and enhancement of the Detroit River and implementation of the RAP (as needed). Lead agency(s): PAC
- Encourage the reduction of urban and rural non-point sources entering the Detroit River through various restoration/BMP and outreach techniques. Lead agency(s): ERCA, DRCC, Municipalities

Long-Term Goals & Recommendations

This section includes items that are important to RAP because they are linked to achieving delisting the AOC long-term planning and general water quality or habitat improvements. The actions benefit the entire region (not just delisting the AOC) and should be implemented at regional level by various stakeholders. These actions are recognized as important but are not necessarily required to re-designate a BUI or delist the AOC. Many of the projects or programs below are expected to be implemented after the AOC is delisted.

| Action | 2024-25 | 2025-26 | Beyond | Lead |
|--|---------|---------|--------|----------------|
| Develop a 'Post-Delisting' Monitoring Plan for the AOC | | | Χ | DRCC |
| Develop and implement the Integrated Watershed Management Plan (based on above framework) to guide municipalities and private landowners and achieve ongoing protection/restoration of local natural heritage features | | | X | ERCA |
| Continue to replace 'over-under' and combined sewer systems, as needed | ✓ | Х | Х | Municipalities |
| Continue to replace deteriorated separated sewer systems, as needed | ✓ | Х | Х | Municipalities |
| Continue to ensure compliance of Environmental Compliance Approvals as they pertain to discharge to the Detroit River | | | Х | OMECP |
| Implement an "illegal connections eliminations" program in the AOC municipalities | | | Х | Municipalities |

Existing Monitoring Programs

A number of existing, ongoing Canadian monitoring programs are implemented in the Detroit River Canadian AOC by various agencies. These programs, funded outside of the RAP, are very important for the DRCC as they provide key information/data required to assess and monitor the status of several BUIs. There is a strong need for long-term monitoring of fish, wildlife, and water/sediment conditions in the Detroit River AOC to show improvements or deterioration of the ecosystem over time. Therefore, it is recommended (and expected) that these programs continue in the region even after the AOC is delisted. Below is a brief overview of each program implemented in the Detroit River (and other Great Lakes locations) including the timing and lead agency. For more information about a program, contact the lead agency.

a) Angler Creel Survey Program - OMNR

Angler creel surveys provide information on angler harvest, effort, catch characteristics, harvest rate, target species effort and distribution. Occurs periodically.

b) Caged Mussel Biomonitoring - GLIER & City of Windsor

Mussels are deployed along most of the Windsor shoreline of the Detroit River (as well as in some locations in Little River and Turkey Creek) to measure the amounts of bioavailable chemicals in water. Occurs annually (since 1996).

c) Great Lakes Fish Contaminants Monitoring Program – ECCC (STB)

One of the flagship monitoring programs in the Great Lakes which currently operates yearly in the four Canadian Great Lakes. Whole fish (lake trout or walleye) samples are analyzed for contaminants and provide key status and trend data sets over time.

d) Great Lakes Fish Population Assessment - OMNR/DFO/University of Windsor

Fish population assessments directly address the health of fish communities in the corridor. A number of programs have operated through the years: MNR fish assessment (1980s), COA (DFO-MNR) fish assessment (2002, 2003, and 2004), and MNR angler diary program (1980s-2018), MNR connecting channel fish community assessment (2019 – present). Occurs periodically.

e) Herring Gull Egg Contaminant Monitoring Program – ECCC

Program implemented since 1970 to understand the temporal and spatial trends of environmental contaminant levels in herring gulls. Sampling of gull eggs is done annually in a number of locations and results are compared with those from previous years. In recent years, the herring gull colonies in the Canadian side of the Detroit River have decreased in number. So, instead of monitoring herring gulls, ECCC monitored cormorants.

f) Great Lakes Marsh Monitoring Program – BSC/ECCC/U.S. EPA/Volunteers

A binational monitoring program conducted in the Great Lakes basin, including AOCs, with volunteers to assess wetland status and identify long-term trends in wetland bird and amphibian populations. Ongoing annually since 1995.

g) Great Lakes Surveillance Program – ECCC (STB)

Monitoring of nutrients and priority legacy contaminants (PCBs, dioxins, mercury) in Great Lakes water (various locations) to examine trends over time for the AOC. Data are typically provided within one year of the completion of sampling and samples are collected from the upper and lower Great Lakes in alternating years.

h) Great Lakes Sediment Monitoring Program – ECCC (STB)

Monitoring of contaminants in Great Lakes sediment. One Canadian Great Lakes is done on the cycle of the Cooperative Science and Monitoring Initiative (CSMI). Data are typically provided within one year of the completion of sampling.

i) Environmental Compliance Approvals – OMECP/Detroit River Dischargers

As of July 1, 2021, the nine sector-specific industrial wastewater Effluent Monitoring and Effluent Limits regulations, also known as the Municipal Industrial Strategy for Abatement (MISA) regulations, under the *Environmental Protection Act* (EPA), which currently apply to 111 industrial facilities in the province, including the Canadian Salt Company on the Detroit River was revoked and transferred into Environmental Compliance Approvals (ECA) program.

Other direct dischargers (e.g., Ford Motor Company of Canada Ltd. (Windsor Engine Plant)) already fell under the ECA program This change reduces regulatory burden on these industries while still maintaining a strong current level of oversight of the release of wastewater from facilities to the Detroit River.

j) Provincial Water Quality Monitoring Network - OMECP/ERCA

There are 23 hydrologically distinct watersheds in the Essex region. ERCA monitors 8 of these as part of the PWQMN. Three are in the Detroit River watershed (Little River, Turkey Creek and River Canard) and an additional 10 watersheds are monitored as part of an "in house" surface water monitoring program. The Canard River watershed has stations included in both programs. These sites are sampled once a month from April to November. Each site has decades worth of data which are available through the OMECP

k) Essex Region Surface Water Monitoring Program – ERCA/OMECP

In addition to the 8 PWQMN stations (above), ERCA monitors surface water quality at 11 other sites across the region. One site is located in the Detroit River watershed in River Canard's Long Marsh Drain. There are five additional sampling locations in watersheds draining to Lake St. Clair, upstream of the Detroit River. These sites are sampled once a month year round, analysed for nutrients, TSS and E. coli. Many of these sites have up to 20 years of data which are available through ERCA. OMECP provides laboratory support to analyse these samples.

I) Sport Fish Contaminant Monitoring Program – OMECP/OMNR

Monitoring of contaminants (mercury, PCBs, dioxins, mirex, and DDT) in the dorsal muscle tissue of various sport fish in the Detroit River (and other province-wide lakes). Results from this work are published biennially in the *Guide to Eating Ontario Fish*.

m) Connecting Channel Fish Community Assessment - OMNR

Began in 2022 and the plan is to conduct monitoring on a 5 year rotational basis moving forward. This assessment also takes place in the St. Clair and Niagara Rivers, so will be able to provide cross connecting channel AOC comparisons.

Acronyms

AIR Area in Recovery (also sometimes AOCir)

AOC Area of Concern

BSC Bird Studies Canada

BUI Beneficial Use Impairment

COA Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health

CSMI Cooperative Science and Monitoring Initiative

CWS Canada Water Agency

CWS Canadian Wildlife Service (Environment and Climate Change Canada)

DDT Dichlorodiphenyltrichloroethane

DFO Department of Fisheries and Oceans Canada

DRCC Detroit River Canadian Cleanup

ECCC Environment and Climate Change Canada
EGLE Environment, Great Lakes, and Energy
ERCA Essex Region Conservation Authority

ERNHSS Essex Region Natural Heritage System Strategy
GLIER Great Lakes Institute for Environmental Research

GLWQA Great Lakes Water Quality Agreement

IBI Index of Biotic Integrity

LAMP Lakewide Action and Management Plan
MISA Municipal Industrial Strategy for Abatement

OMECP Ontario Ministry of the Environment, Conservation, and Parks

OMNR Ontario Ministry of Natural Resources

PAC Public Advisory Council
PCB Polychlorinated biphenyl

PWQMN Provincial Water Quality Monitoring Network

RAP Remedial Action Plan

SAV Submerged Aquatic Vegetation

STB Science and Technology Branch (Environment and Climate Change Canada)

USEPA United States Environmental Protection Agency

Definitions

Area of Concern

A degraded area in the Great Lakes that fails to meet the General or Specific Objectives of the Canada-United States Great Lakes Water Quality Agreement, where such failure has caused or is likely to cause impairment of beneficial use or of the area's ability to support aquatic life.

Area in Recovery (AIR)

An area, originally identified as an Area of Concern, where, based on community and government consensus, all scientifically feasible and economically reasonable actions have been implemented and additional time is required for the environment to recover.

Beneficial Use Impairment (BUI)

A reduction in the chemical, physical or biological integrity of the Waters of the Great Lakes sufficient to cause any of the following:

- Restrictions on fish and wildlife consumption
- Tainting of fish and wildlife flavour
- Degradation of fish and wildlife populations
- Fish tumours or other deformities
- Bird or animal deformities or reproduction problems
- Degradation of benthos
- Restrictions on dredging activities
- Eutrophication or undesirable algae
- Restrictions on drinking water consumption, or taste and odour problems
- Beach closings
- Degradation of aesthetics
- Added costs to agriculture or industry
- Degradation of phytoplankton and zooplankton populations
- Loss of fish and wildlife habitat

Delisting

Removal of an AOC from the list of Great Lakes Areas of Concern by meeting the criteria for the restoration of beneficial uses as defined by the RAP and agreed upon by the agencies and community.

Re-designation of a BUI

Meeting locally defined delisting criteria designed to be specific, measurable, achievable, and scientifically defensible. Sometimes this process is also called delisting a BUI.

Remedial Action Plan

A Remedial Action Plan (RAP) is a document designed to guide the restoration of Areas of Concern (AOCs). Each RAP is tailored to the specific needs of the individual AOC, outlining the causes of impairments to beneficial uses, setting clear and measurable restoration goals, and recommending specific actions to achieve them. The goal of the RAP is to restore all impaired beneficial uses to a "not impaired" status. Once this is achieved, the AOC can be "delisted".

APPENDIX 1:

Delisting: What does it mean?

The term 'delisting' refers to the removal of an AOC from the list of Great Lakes Areas of Concern under the Great Lakes Water Quality Agreement. The delisting of an AOC can occur when all beneficial uses are designated 'not impaired' by meeting the agreed upon restoration criteria defined by the RAP Team and community.

In 2012, the GLWQA was updated and introduced the "AOC in Recovery (AOCiR)" designation. According to the GLQWA (2012), the Governments of Canada and the United States "may elect to identify an AOC as an AOC in Recovery after all remedial actions have been completed and monitoring is underway and indicates recovery is progressing, but more time is needed to achieve the restoration criteria for one or more BUI's." The designation of AOC or AOCir shall be removed "when environmental monitoring confirms that beneficial uses have been restored in accordance with the criteria established in the RAP" (GLWQA, 2012). There are subtle—yet important—differences between being listed as an AOC, AOCiR, or a delisted. A brief summary is provided below.

| AOC | AOC in Recovery | Delisted AOC |
|---|--|---|
| Impaired BUIs according to local criteria; RAP actions not completed; Monitoring shows restoration criteria has not been achieved for one or more BUIs. | All RAP actions are completed; Monitoring is underway to track the restoration of one or more BUIs. | No impaired BUIs; All remedial actions are completed; Monitoring confirms recovery is complete. |

Principles for Delisting a binational Area of Concern

Although the DRCC only implements a RAP for the Canadian side of the AOC, careful consideration needs to be taken for the bi-national aspect of the AOC. The Compendium of Position Papers offers guidance on delisting binational AOCs as part of the Four Agency (ECCC, USEPA, Michigan EGLE, Ontario MECP) Letter of Commitment.

Delisting should be pursued on a case-by-case basis, <u>domestic or bi-nationally</u>, and in consideration of the following (Compendium, 2020):

- all beneficial use impairments have been re-designated or removed as unimpaired, e.g., redesignation or removal criteria have been met;
- the Agencies have solicited review and comment from stakeholders and Indigenous communities and have appropriately addressed any concerns of the local community relative to delisting;
- environmental conditions based on sound science confirm restoration of beneficial uses with no trans-boundary concerns.

APPENDIX 2:

Proposed Delisting Process for the Detroit River Area of Concern

Using the 2020 Compendium of Position Papers as guidance, below is the proposed process for delisting the Canadian side of the Detroit River AOC.

Once there is evidence that the Principles for Delisting (above) have been met, the below process will be initiated:

- 1. The DRCC's Steering and Implementation Committee shall prepare a recommendation to delist the AOC and form a writing team to prepare a draft Completion Report to substantiate the recommendation to delist the AOC. The Writing Team, led by the RAP Coordinator, should include one representative from any interested Member Organization (refer to DRCC Framework and Terms of Reference) and members of the Canadian Public Advisory Council.
- 2. The Completion Report will be provided to the Steering and Implementation Committee and Public Advisory Council for review and comment.
- 3. Engagement with First Nation communities and Metis will be coordinated to solicit review and comments.
- 4. Engagement of government and industry partners and public through Open Houses, social media, communications and media releases. Comments will be reviewed by the Writing Team and the report will be revised, as necessary.
- 5. The recommendation to delist along with the final report is to be submitted to the Four Agency Working Group and U.S. Public Advisory for review (bi-national consultation) and comment.
- 6. The report is sent to the Canada Ontario Agreement (COA) Annex Leads for technical review and comment. Final revisions incorporated, as needed.
- 7. A Final Draft Delisting Report will be forwarded to the COA Management Committee to coordinate approvals and official submission to the International Joint Commission.
- 8. The Canadian federal government will officially remove the Canadian portion of the Detroit River from the list of AOCs.
- 9. The Canadian federal government will officially inform the U.S. and Canadian Co-chairs of the IJC that AOC delisting has occurred; the Final RAP report is transmitted along with the official notification.



Areas of Concern status as of 2025.

An Area of Concern is a location in the Great-Lakes – St. Lawrence River Basin that has been identified as severely polluted or degraded. For more information about Great Lakes AOCs, visit https://binational.net/annexes-issues/a1/.



311-360 Fairview Avenue West, Essex, Ontario N8M 1Y6 519-776-5209 ext. 356 postmaster@detroitriver.ca ~ www.detroitriver.ca





























