Detroit River Canadian Cleanup

2024 - 2025 Annual Report



A 25 year look back on the Detroit River Canadian Cleanup's Public Advisory Council

Tom Henderson, Chair, Public Advisory Council

The DRCC's Public Advisory Council (PAC) is 25 years old! The PAC provides a route through which the public can provide input on the cleanup of the River. To celebrate this milestone, the PAC wants to highlight some of the environmental issues they've been instrumental in advocating for:

2004 General Chemical soda ash settling ponds. The PAC was the only NGO to publicly support the Town of Amherstburg and the Ministry of Environment in its efforts to force the company to clean up the ponds.

2008 Herb Gray Parkway. The PAC advocated for high compensation for the loss of 15 acres of Provincially Significant Wetland (PSW) during Parkway construction. The 15 acres of PSW was compensated for via 90 acres of constructed wetland.

2015 Petcoke piled on the US side and other issues. Over the years PAC has been in contact with local MPs, MPPs, and representatives of the State of Michigan advocating for water quality improvements.

2016 Save Ojibway Shores. Windsor Port Authority officials David Cree, Steve Salmons and Harbour Master Peter Berry were most helpful in the twenty-year effort to save Ojibway Shores beginning with the Citizens Environment Alliance's (CEA) Ric Coronado and ending with Prime Minister Trudeau announcing the Ojibway National Urban Park.

Binational cooperation. The PAC has a 25-year history of attending meetings with our US counterpart, Friends of Detroit River. During that time, we've seen Detroit River improvements up and down the channel on both sides of the river.

Special thanks to the PAC's loyal member NGOs: Little River Enhancement Group, CEA, Essex County Field Naturalists, Unifor Local 200 and more recently the Friends of Ojibway Prairie and Canada South Land Trust. Additionally, thanks to the DRCC funding sources, Canada Water Agency and Ontario Ministry of the Environment, Conservation and Parks.





2,100

Trees planted in the Detroit River watershed by our partners www.detroitriver.ca Hosted or attended 15 in person outreach events and engaged over 1,500 people!



BUI assessment report submitted for change in status to not impaired



410 kg of trash removed from the Detroit River watershed

Overview of Beneficial Uses

Under the 1987 Amendment to the Great Lakes Water Quality Agreement, 14 "beneficial uses" were identified and used to establish 43 Areas of Concern (AOCs) within the Great Lakes. These beneficial uses generally include recreational, ecological, and economic benefits that come from a healthy aquatic environment. When the quality of the aquatic environment is degraded and cannot support the intended beneficial use due to local sources of pollution, they are designated as *impaired* and cleanup actions are identified to restore the beneficial uses to a *not impaired* status and as of March 2025, there are four beneficial use impairments (BUIs) remaining. They are:

BUI#1 - Restrictions on Fish Consumption BUI#3 - Degraded Fish and Wildlife Populations BUI#5 - Bird or Animal Deformities or Reproductive Problems BUI#14 - Loss of Fish and Wildlife Habitat

BUI #5 - was submitted to the federal and provincial governments for change in status from *impaired* to *not impaired* in March 2025.

Updates on Remaining Impaired Beneficial Uses

Restrictions on Fish Consumption (BUI #1)



The restrictions on Fish and Wildlife Consumption beneficial use for the Detroit River is designated as *impaired* for fish. The main driver of this impairment is chemical contamination in the waters and sediment of the

Detroit River. Researchers from the Great Lakes Institute for Environmental Research (GLIER) at the University of Windsor have completed assessing this beneficial use. They evaluated fish consumption advisories using the established delisting criteria for this BUI: "When consumption advisories for indicator fish species (e.g. walleye, brown bullhead, smallmouth bass 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".

To evaluate this beneficial use, a four-tier hierarchical framework was used. At each tier, an unimpaired or impaired status is possible based on each assessment. Tier 1 assesses the presence of fish consumption restrictions within the AOC and whether they exceed a benchmark level of allowable meals per month. Tier 2 compares the degree of restrictiveness of fish consumption advisories in the AOC to multiple reference sites. Tier 3 compiles multiple lines of evidence to address whether past mitigation actions in the AOC have contributed to the improvement of fish consumption advisories over time. Tier 4 was added to provide an additional line of evidence that can be used to understand contaminant recovery in the AOC over time and address whether there is a need for additional, local restoration actions that can lead to further reductions in fish consumption advisories in the AOC. The framework was applied to the four indicator species (results in figure at right) and a not impaired status resulted. The report is currently being reviewed by our Monitoring and Research Work Group and public engagement is expected to begin in late 2025.





Results of the 4-tiered framework when applied to the indicator species for the Canadian Detroit River.

Degraded Fish and Wildlife Populations (BUI #3)



In 2022, the Ontario Ministry of Natural Resources (OMNR) completed an assessment report on fish populations recommending a *not impaired* status as scientific data demonstrated the fish community is diverse, healthy, and self-sustaining. Public and Indigenous engagement was completed in 2024 and no concerns were identified with the proposed change in status. This report will be combined with an upcoming wildlife populations report once two habitat projects are completed on the river (see below).

Bird or Animal Deformities or Other Reproductive Problems (BUI #5)



A report assessing BUI #5 was written using several wildlife studies conducted between 2008–2019 to evaluate the prevalence of deformities and reproduction problems in birds and aquatic wildlife. Study findings on northern leopard frogs, turtles, tree swallows, and colonial waterbirds did not reveal high deformity rates or problems with reproduction due to exposure to contaminants in the aquatic environment. The status recommendation report provided scientific evidence for a not impaired status. Public and Indigenous engagement was completed in 2024 and in March 2025,

the report was submitted to the Canadian and Ontario governments for official change in status from *impaired* to *not impaired*. We look forward to the official re-designation notification, expected to come in late 2025.







Degraded Fish and Wildlife Habitat (BUI #14)



The Loss of Fish and Wildlife Habitat (BUI 14) has four delisting criteria to achieve before the BUI can be considered *not impaired*. Two of the four criteria have been met. The first, pertaining to shoreline restoration, has been accomplished through the completion of several shoreline restoration projects and the development of a long-term restoration strategy. In 2024, the DRCC's Habitat Work Group decided that due to the significant amount of wetland restoration and tree planting work conducted in the Detroit

River watershed, protection of Ojibway Shores, and opportunities for restoration and the identification of corridor connections in the watershed, the sub-criteria for terrestrial habitat has been met. Significant progress has been made advancing the restoration goals of the other two, focusing on coastal wetlands and aquatic and riparian habitat and is outlined below.

Coastal Wetlands

Collavino Wetland Protection and Restoration



In October 2022, the Collavino family donated 60.7 ha (150 acres) of ecologically sensitive wetland habitat for protection in perpetuity by the Essex Region Conservation Authority (ERCA). The property is a mix of wetland and floodplain near the mouth of the Canard River in Amherstburg. Since 2019, a restoration plan has been successfully implemented by ERCA to restore the health and function of this wetland.

The restoration started with dyke repairs, implementing infrastructure to manage water levels, and a multi-year Phragmites management strategy which included a prescribed burn and a water draw down to expose the native aquatic plant seedbed.

In Spring 2024, site prep and a native meadow seeding of 6 acres were conducted. There was also a survey of native vegetation establishment to determine next steps; 'high mowing' to reduce weed pressure in summer 2025 and ongoing Phragmites treatment was recommended. In Summer 2024, there was a re-treatment of invasive Phragmites using herbicides.

Further, a biocontrol was released at the wetland to control Phragmites within the wetland in 2023. Biological control or "biocontrol" refers to the use



Oats, used in combination with native seeds, to create meadow at the Collavino site. Source: DRCC

of living organisms which suppress an introduced pest. Biocontrol can become self-sustaining as the organisms reproduce and attack Phragmites through space and time. Because of the self-sustaining nature, biocontrol can be very cost effective even at very large spatial and temporal scales. There is ongoing monitoring of the biocontrol and vegetation surveys to determine the recovery of native plant species following biocontrol implementation. This return of native vegetation in wetlands will improve habitat quality, a goal for wetland habitat under BUI 14 - Loss of Fish and Wildlife Habitat. The property is planned to open in Fall 2025 as an ERCA conservation area.



Collavino wetland in Spring 2024 post burn and initial biocontrol release. Source: DRCC

Detroit River Habitat Projects



In September 2024, the federal government announced \$5.3 million support for two habitat projects on the Detroit River under the Great Lakes Freshwater Ecosystem Initiative. This marks the largest investment in habitat projects on the Canadian side of the Detroit River.



Canard River Marsh Project

Canard River Marsh Dyke. Source: Rob Lesperance

The first project proposes to protect the River Canard wetland complex by repairing the finger dyke that has been breached due to high water levels and freighter waves in the area. The finger dyke and aquatic vegetation in the MMM Hunt Club Marsh play a crucial role in protecting the wetland system from the forces of the river, shipping channel wash, ice scour, and sediment diversion. The finger dyke protects the biggest wetland complex left on the River and largest wild celery beds in the system from eroding away. The wild celery beds provide an important food source for many species of local and migrating waterfowl. The area is an important staging area for canvasback and redhead ducks during fall migration. This project will also improve existing habitat by creating features to benefit not only fish but rare turtles and snakes.

The project aims to repair the dyke by installing rock armour in twelve discreet repair sections. The additional armour will prevent the dyke from further erosion and from being washed away by the force of the Detroit River. The rock armour provides stability and adds weight to the structure, making it more resilient to the forces of nature, such as waves, strong currents and ice scour. This helps to ensure the finger dyke remains intact and continues to effectively serve its purpose of protecting the valuable wetland habitats found in the Canard River Marsh Complex. In 2024, project planning and permitting were completed. The project is planned to be implemented in Summer/Fall 2025.

South end of Fighting Island

The second project is the Fighting Island wetland re-creation project and proposes the construction of 6 sheltering islands, similar to Peche Island, to create a calm water embayment. Using a model developed by the Department of Fisheries and Oceans (DFO) that can predict losses and gains in fish habitat as well a fish community response, this project is predicted to provide an overall fish habitat gain as an increase in the diversity of submerged aquatic vegetation is expected.

Historically, an extensive cattail bed existed to the south of Fighting Island. While submerged aquatic vegetation is beneficial to fish, emergent vegetation, such as cattails, is beneficial to aquatic wildlife (marsh birds, in particular). Habitat outcomes have been modeled using a computer model from Environment and Climate Change Canada (ECCC) to predict emergent vegetation changes over time to provide a better sense of habitat outcomes. Additionally, the modelers explored other potential configurations of the sheltering islands in the water to maximize emergent vegetation establishment. Initial runs of the model show that the desired emergent vegetation outcomes will not be achieved without filling behind the islands to make the area shallower. The Habitat Work Group is working with the modelers to decide on an optimal configuration for the sheltering islands balancing habitat needs, erosion mitigation desires, and financial constraints.

To date, initial engineered drawings for this project have been completed and the permit application for the Fighting Island project has been prepared. Project planning is expected to continue until expected project implementation in Summer/Fall 2026.

Aquatic and Riparian Habitat

The Department of Fisheries and Oceans has been working to apply models to previous restoration projects to determine habitat gain and loss in the river. They have also been working to develop a Habitat Suitability model to determine if habitat supply for target fish guilds and life stages have increased over time since 1987. These models will be able to assess fish habitat and submerged aquatic vegetation (SAV) changes in the AOC since listing. A comprehensive report outlining the results of this work is expected later in 2025 and will provide an update on the status of the delisting criteria in the Detroit River Canadian AOC.

Monitoring and Research

The Monitoring and Research Work Group helped coordinate post-restoration monitoring at Collavino, as well as pre-restoration surveys at Fighting Island during 2024/25.



Post-restoration Collavino

In late summer 2024, the Canadian Wildlife Service (CWS) conducted post-restoration (dyke repairs, pumping infrastructure, Phragmites burn) sampling at the Collavino wetland using indices of biological integrity (IBIs). An IBI is a standardized, multi-metric index that indicates the ability of a habitat to support and maintain a balanced, integrated, adaptive biological system that has the full range of elements expected in a region's natural habitat. IBIs have been developed for communities of marsh breeding birds, submerged aquatic vegetation, aquatic macroinvertebrates, amphibians, and fish for coastal wetlands in the Great Lakes.

At Collavino Marsh, water quality sampling, aquatic macroinvertebrate sampling, SAV surveys, and marsh bird surveys were conducted. The water quality index score for Collavino Marsh indicated water quality was "very degraded" due to high turbidity and conductivity. Similarly, IBI scores indicated that the SAV were in "poor" condition. The aquatic macroinvertebrate IBI score indicated "good" condition, an improvement from previous years.

The marsh bird scores were considered to be "poor". The lower marsh bird values in recent years are likely attributed to Phragmites management efforts that have left very little emergent vegetation for marsh nesting species. It is likely that restoration efforts will eventually result in the growth of more diverse emergent vegetation that will be able to support a more diverse marsh bird community. More time is needed to determine whether restoration efforts (e.g., management of invasive Phragmites) will result in a more diverse and abundant assemblage of marsh birds once emergent vegetation has time to re-establish.





Researchers identifying submerged aquatic vegetation at the Collavino wetland. Source: DRCC

Pre-restoration Fighting Island

Canadian Wildlife Service also conducted surveys at the south end of Fighting Island. This sampling effort was intended to build baseline data prior to commencing restoration efforts in 2026, as well as to provide further information on the condition of coastal wetlands located within the Detroit River AOC. The sampling campaign included sampling the south end of Fighting Island, as well as a nearby reference wetland. Data collected at Fighting Island can be compared to this reference site to measure the success of the restoration effort in future years. The water quality index scores for both sites indicated "good" conditions, vegetation metrics at Fighting Island were lower than at the reference site, and the marsh bird IBI score was "poor" at Fighting Island and "fair" at the reference site.



To reassess the "no-net-loss" component of BUI 14, coastal wetland data was interpreted and delineated from 1978 aerial imagery. This was compared to coastal wetland data from 2010 and 2020. Within the study area, the wetland system showed an increase of 168.6 ha (34.8%), and the combined wetland and aquatic system showed an increase of 231.1 ha (9.4%), from 1978 to 2020. To further assess the compositional changes within the study area, Ecological Land Classification (ELC) data was assessed for 2010 and 2020, which also coincided with a period of low water levels (1999-2014) compared to a period of high-water levels (2017-2020). From 1978 to 2020, 297.7 ha of wetland habitat remained as wetland and 290.4 ha of terrestrial habitat changed to wetland. With respect to the aquatic system, 95.1% (1881.7 ha) remained as aquatic habitat while 64.8 ha changed to wetland. Additionally, the expansion of invasive Phragmites was assessed for 2006, 2010 and 2020, revealing a substantial increase from 195.4 ha in 2006 to 395.3 ha in 2020; indicating a degradation of the quality of remaining wetland habitat. This analysis shows that the sub-criterion #1 for the coastal wetland habitat portion of BUI #14 delisting criteria stating "There has been no net loss of coastal wetlands within the AOC since 1987" has been met.



Hussel Biomonitoring



Mussel from the Detroit River biomonitoring. Source: Todd Leadley

Results from the 2023 mussel biomonitoring conducted by the City of Windsor and the Great Lakes Institute for Environmental Research were released in late 2024. In 1996, the mussel biomonitoring program was established to determine if the city and its drainage was a major source of pollutants to the Detroit River, and to identify priority areas for local remedial actions. The program involves deploying cages filled with mussels at various sites in the Detroit River, Little River, and Turkey Creek. The mussels are then analyzed for pollutants and chemicals as they filter large quantities of water, have limited ability to metabolize contaminants, and are resistant to chemical contamination, making them important bioindicators.

The 2023 data indicate that there was notable decline in the total Polychlorinated biphenyls (PCBs) concentrations across all sites compared to the 2022 elevated concentrations. However, like previous years, higher concentrations were noted in mussels located in Windsor's Grand Marais Drain and Turkey Creek near LaSalle compared to other monitoring stations.

Overall, the concentrations of most pesticides and polynuclear aromatic hydrocarbons were low. The Little River Pollution Control Plant and Lou Romano Water Reclamation Plant were not identified as consistent pollution sources of major concern. Non-point source inputs of PCBs were, as in past surveys, higher along the Grand Marais Drain, and in Turkey Creek.



The DRCC's Habitat Work Group will:

- Support the implementation of the Canard River Marsh project;
- Conduct post-restoration marsh bird monitoring at Collavino;
- Execute baseline marsh bird and vegetation surveys at Fighting Island;
- Support Work Group partners to complete modeling and analysis necessary to evaluate progress towards the habitat delisting criteria; and
- Improve and expand marsh bird habitat, where possible.

The DRCC's Monitoring and Research Work Group will:

- Support Habitat Work Group in the implementation and planning for two habitat projects;
- Review and provide input on beneficial use assessment reports.



The Ojibway Prairie Complex. Source: DRCC



The Detroit River Canadian Cleanup (DRCC) participated in 15 outreach events between the spring of 2024 and end of winter 2025. Through these efforts, thousands of individuals celebrated ongoing restoration efforts in the Detroit River AOC, learned about Detroit River history, projects, the DRCC program, and more!

Detroit River Cleanups



Volunteers participated in four Detroit River watershed cleanups in 2024, thanks to a generous gift from ADM through their corporate social investment program, ADM Cares. Shoreline and in-water canoe cleanups took place in Little River (two separate events) as well as Turkey Creek and River Canard. In total, 410 kg of trash was removed from the Detroit River's tributaries.



Volunteers participating in cleanups of the Detroit River tributaries. Source: DRCC

Community Tree Planting



The Essex Region Conservation Authority hosted the large Earth Day community tree planting celebration in April 2024 at the greenspace between Wyandotte Street East and Florence Avenue in the City of Windsor. More than 800 volunteers and Green Teams planted over 2,000 potted and native seedlings. A big thank you to Enwin Utilities, Green Sun Rising Inc., and CUPE 543 for their sponsorship of these trees!

Additionally, both Malden Park and the Ojibway Parkway walking trail are greener now due to the tremendous efforts of 25 volunteers who planted 100 native large stock trees in the spring and fall of 2024. These trees provide native biodiversity, contribute to the growing urban canopy, and provide shade in West Windsor. Funding for these initiatives was provided by the Gordie Howe International Bridge Community Benefits Plan.



Volunteers plant trees at various events in the Detroit River watershed in 2024. Source: ERCA



Detroit River Evening

Many thanks to everyone who joined us for the Detroit River Evening on June 19, 2024 at the Ojibway Nature Centre. The DRCC released their updated workplan and annual report highlighting efforts over the past year. Attendees heard from Claire Sanders, Partnership and Communications Officer with Parks Canada, discussing the proposed National Urban Park in the Windsor area. Lindsay Bennett, Manager, Environmental for Windsor-Detroit Bridge Authority and Katie Bosco, Manager of Outreach and Engagement at Windsor-Detroit Bridge Authority. The team provided an update discussing the sustainable design features integrated into the construction of the Gordie Howe International Bridge, along with environmental considerations and mitigation measures implemented across the project sites.



Ojibway Nature Centre. Source: DRCC



Family Fishing Day

In partnership with Just Fishin' Friends, the DRCC hosted the annual Learn to Fish event on July 6th at Front Road Park in LaSalle. Over 80 participants came to fish (some for the first time!) and learn from expert volunteer anglers. The DRCC provided information to

participants about restoration and cleanup projects, statistics on fish populations, and information on how to safely consume fish from the river. Many thanks to everyone who joined us and to all our volunteers from Just Fishin' Friends.



Youth holding a channel catfish caught during Family Fishing day in 2024. Source: DRCC

DRCC Presents: ALL TOO CLEAR



On January 29, 2025, the DRCC screened ALL TOO CLEAR at the University of Windsor Armouries. We welcomed 130 attendees and had a hearty discussion following the film with an expert panel. Thank you to Drs. Robin DeBruyne (USGS)

and Michael Thorn (ONMNR) for providing your expertise and sharing your work with the audience to restore, protect and preserve fish populations in the Great Lakes! Further, we would like to thank both Yvonne Drebert and Zach Melnick, the filmmaking team of All Too Clear for bringing this story to the public and sharing the magic of the Great Lakes with us on screen! Missed the screening? Watch All

Too Clear in three episodes, available on TVO Today.



Panel discussing fish community and habitat restoration in the Detroit River. Source: DRCC.





Shipwreck found at bottom of the Great Lakes by the film crew. Source: All too Clear



Film producers Zach Melnick (left) and Yvonne Drebert (right). Source: Yvonne Drebert



The Detroit River Canadian Cleanup is supported by two main funding agencies – Canada Water Agency and the Ontario Ministry of Environment, Conservation, and Parks.

Agencies involved in the DRCC include:

Canada Water Agency Ontario Ministry of Environment, Conservation, & Parks **Essex Region Conservation Authority Ontario Ministry of Natural Resources Fisheries and Oceans Canada Canadian Wildlife Service City of Windsor** Town of LaSalle Town of Amherstburg **UNIFOR Local 200** Citizens Environment Alliance Essex Field Naturalists' Club Windsor Port Authority University of Windsor **Atura Power** Little River Enhancement Group Friends of Ojibway Prairie Aamjiwnaang First Nation **Caldwell First Nation** Walpole Island First Nation

...and many dedicated citizens like you!

Acronyms	AOC	Area of Concern
	BUI	Beneficial Use Impairment
	CWA	Canada Water Agency
	CWS	Canadian Wildlife Service
	DFO	Department of Fisheries and Oceans
	DRCC	Detroit River Canadian Cleanup
	ECCC	Environment and Climate Change Canada
	ELC	Ecological Land Classification
	ERCA	Essex Region Conservation Authority
	GLIER	Great Lakes Institute for Environmental Research
	IBI	Index of Biotic Integrity
	OMNR	Ontario Ministry of Natural Resources
	PAC	Public Advisory Council
	SAV	Submerged Aquatic Vegetation
	USGS	United States Geological Survey



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