

St. Clair River Area of Concern

2022-2027 Work Plan

June 2023



Preface

In 2005, the Canadian Remedial Action Plan Implementation Committee (CRIC) was formed and given the mandate to organize the restoration of Beneficial Use Impairments (BUIs) identified in the 1991 Stage 1 Remedial Action Plan (RAP) for the St. Clair River Area of Concern (AOC). Since the CRIC's formation, a number of notable and significant activities have been completed and legislative initiatives enforced that have improved the environmental health of the St. Clair River.

The CRIC developed a work plan in 2007 that expanded on the St. Clair River Stage 2 RAP document published in 1995 and a synthesis report published in 2005 that provided an update on implementation activities conducted throughout the AOC. Both reports summarized remaining or additional actions required to restore Impaired BUIs or assess those with inconclusive or insufficient scientific data that required further assessment. Each recommended activity was established to facilitate either the re-designation of an Impaired BUI to Not Impaired or the collection of additional information to assign a designation to a BUI with insufficient data. Five subcommittees were organized to develop the 2007 – 2010 work plan which documented remedial actions for the St. Clair River that related to: 1) Point Sources, 2) Sediments, 3) Habitat and Non-Point Sources, 4) Monitoring and Research, and 5) Public Outreach and Education.

An update report published in the summer of 2012 summarized the activities completed between 2007 and 2010 along with what was accomplished in 2011. The 2012 – 2017 St. Clair River AOC work plan identified the remedial actions necessary to continue to restore BUIs, and ultimately delist the St. Clair River AOC. In 2019, the Report of Accomplishments for 2012 – 2017 was published to highlight progress made on identified actions up to March 31, 2017. The 2017 – 2022 Work Plan outlined the remaining actions required to delist the river as an AOC. Although the CRIC endeavoured to complete all actions by 2022, they recognized that some actions would still need to be addressed in subsequent years. During the 2017 – 2022 Work Plan period, the CRIC was successful in having four BUIs redesignated to Not Impaired. The purpose of this 2022 – 2027 Work plan is to outline the actions that are necessary to restore the four remaining BUIs that are designated as Impaired and the one remaining BUI that Requires Further Assessment.

Acknowledgements

The following individuals are or have been members of the St. Clair River Area of Concern Canadian Remedial Action Plan Implementation Committee and have contributed to the creation of this document.

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Introduction

In 1987, the International Joint Commission (IJC) identified the St. Clair River as an Area of Concern in the Great Lakes Basin as it did not meet the objectives of the Great Lakes Water Quality Agreement (GLWQA), signed in 1972 by the governments of Canada and the United States. As a result of degraded chemical, physical and biological integrity, impairments to beneficial uses were identified that were attributed to elevated contaminant concentrations in the water, biota and sediments of the St. Clair River. The loss of aquatic and coastal habitat was also a concern.

The Stage 1 Remedial Action Plan (RAP) report was published in 1991. It described the environmental conditions of the St. Clair River and identified the status of Beneficial Use Impairments (BUIs) based on criteria developed by the IJC. Of the 14 possible beneficial uses, eight were Impaired, four were classified as Requires Further Assessment (RFA) and two were Not Impaired based on surveys of water, biota, and sediment conducted between 1985 and 1986, and data up to 1990. The Impaired BUIs were attributed primarily to industrial and municipal discharges in the upper reaches of the St. Clair River.

The follow-up Stage 2 RAP report was completed in 1995 and introduced a framework for restoring the environmental integrity of the St. Clair River. The report outlined 45 different activities required to fulfill BUI delisting criteria and lead to the re-designation of all BUIs to Not Impaired.

In 2005, the St. Clair River Canadian Remedial Action Plan Implementation Committee (CRIC) was established to further advance efforts to rehabilitate the Impaired BUIs on the Canadian side of the St. Clair River. The CRIC consists of representatives from federal and provincial government agencies, municipalities, First Nation communities, Conservation Authorities, and non-governmental organizations. Through the CRIC, work plans have been created to ensure restoration actions were assigned and overseen by the designated CRIC member(s). The CRIC published a Report of Accomplishments in 2019 summarizing the progress made on the 87 actions identified in the 2012 – 2017 Work Plan.

With some tasks remaining to be completed before the outstanding BUIs could be redesignated to a Not Impaired status, a Work Plan was put in place for 2017 – 2022. Through the actions outlined in the Work Plan, the CRIC was successful in redesignating the following four Beneficial Use Impairments to Not-Impaired: BUI 4 - Fish Tumours and Other Deformities; BUI 5 - Bird and Animal Deformities; BUI 7 - Restrictions on Dredging Activities; and BUI 10 - Beach Closings. In 2021, an Annual Progress Report on the St. Clair River Area of Concern was published and set the foundation for a series of presentations to update municipal councils at the City of Sarnia, Village of Point Edward, and St. Clair Township. An update on the St. Clair River Area of Concern was also provided by the Remedial Action Plan Coordinator at the State of Lake Erie Conference in March 2022.

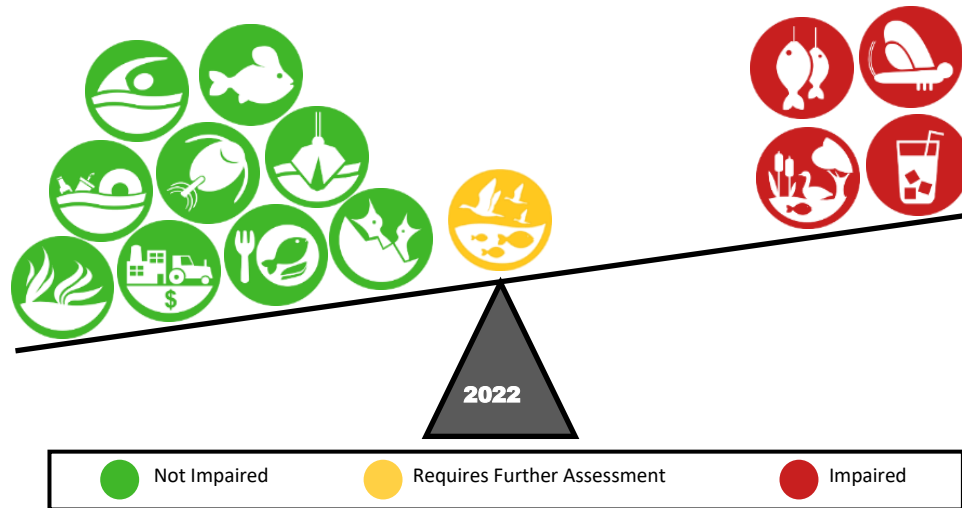
Table 1 identifies the status of the 14 Beneficial Use Impairments for the St. Clair River as of April 1, 2022.

Once all actions for the remaining BUIs have been completed and all steps have been followed as per the redesignation process for each BUI, and support with redesignating each of the remaining BUIs to a Not Impaired status has been confirmed, a recommendation can be made to delist the St. Clair River as an AOC. The process of delisting an AOC is a significant milestone as it signifies that the health of the aquatic environment has been significantly improved. The BUI re-designation process that the St. Clair River adheres to can be found in Appendix A.

Restoration activities are not limited to the Canadian side of the St. Clair River. In the U.S., all levels of government are working closely with the Binational Public Advisory Council (BPAC) and other partners to implement actions required to re-designate the final two BUIs remaining on the American side of the river - the Restrictions on Fish and Wildlife Consumption BUI and the Restrictions on Drinking Water Consumption or Taste and Odour BUI.

Table 1: Status of Beneficial Use Impairments for the St. Clair River Canadian Area of Concern

Beneficial Use Impairment	Status	Year Redesignated
1. Restrictions of Fish and Wildlife Consumption	Impaired	
2. Tainting of Fish and Wildlife Flavour	Not Impaired	2011
3. Degraded Fish and Wildlife Populations	Requires Further Assessment	
4. Fish Tumours or Other Deformities	Not Impaired	2021
5. Bird or Animal Deformities or Reproductive Problems	Not Impaired	2018
6. Degradation of Benthos	Impaired	
7. Restrictions on Dredging Activities	Not Impaired	2018
8. Eutrophication or Undesirable Algae	Not Impaired	
9. Restrictions on Drinking Water Consumption or Taste and Odour Problems	Impaired	
10. Beach Closings	Not Impaired	2018
11. Degradation of Aesthetics	Not Impaired	2016
12. Added Costs to Agriculture or Industry	Not Impaired	2012
13. Degradation of Phytoplankton and Zooplankton Populations	Not Impaired	
14. Loss of Fish and Wildlife Habitat	Impaired	



Beneficial Use Impairments

Restrictions on Fish and Wildlife Consumption

Current Status – Impaired

Delisting Criteria: This BUI will be considered restored when fish consumption advisories in indicator fishes (e.g., walleye, brown bullhead, and smallmouth bass) in the AOC are the same or less restrictive than the associated Great Lakes or appropriate reference sites and when the general guidance for the consumption of indicator wildlife (e.g., snapping turtles, geese) are no different than the non-AOC sites in the Great Lakes.

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Analyze contaminant levels in fish collected in 2022	✓					MECP
Review and discuss the ECCC report on the concentrations and trends of trace metals and organic contaminants of concern in the St. Clair River between 1987 - 2017	✓					CRIC
Prepare a final PowerPoint presentation and a Summary Report on the Angler Survey Results to identify the species of fish consumed from the St. Clair River.	✓					CRIC
Manage and remediate the three remaining contaminant sediment priority areas within the St. Clair River to reduce local risks to fish consumption. The following steps will be required:						
1) Confirm party that will be leading implementation of the engineering and design plan		✓				ECCC MECP

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
2) Support implementation of the engineering and design plan (e.g. community outreach etc.)		✓	✓			ECCC MECP
Evaluate effectiveness of sediment remediation and implement adaptive management to improve effectiveness of remediation if necessary.				✓		ECCC MECP
Review report on wildlife consumption risk approaches and consumption guidelines that could be used to help evaluate this BUI (specifically around waterfowl, muskrat, and turtles).		✓				ECCC MECP WIFN
Review all relevant data collected and assess status of BUI. If delisting criteria is met, prepare a status recommendation report. If delisting criteria is not met, identify further actions that may be required.			✓			CRIC ECCC MECP
Complete BUI re-designation as per the process outlined in Appendix A.					✓	ECCC MECP CRIC

Degraded Fish and Wildlife Populations

Current Status – Requires Further Assessment

IJC Delisting Guidance: This BUI will be considered restored when environmental conditions support healthy, self-sustaining communities of desired fish and wildlife at predetermined levels of abundance that would be expected from the amount and quality of suitable physical, chemical, and biological habitat present. An effort must be made to ensure that fish and wildlife objectives for Areas of Concern are consistent with Great Lakes ecosystem objectives and Great Lakes Fishery Commission fish community goals. Further, in the absence of community structure data, this use will be considered restored when fish and wildlife bioassays confirm no significant toxicity from water column or sediment contaminants.

The assessment approach includes the analysis of temporal data for contaminant burdens of fish and wildlife and compares the diversity and abundance of wildlife (including waterfowl, marsh birds, muskrats and frogs) inside the AOC to outside the AOC.

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Review all relevant data collected and assess the status of BUI. If delisting criteria is met, prepare a status recommendation report. If delisting criteria is not met, identify further actions that may be required.	✓					CRIC ECCC MECP
Complete BUI re-designation as per the process outlined in Appendix A.		✓				CRIC ECCC MECP

Degradation of Benthos

Current Status – Impaired

Delisting Criteria: *This BUI will be considered restored when the benthic community structure, diversity, and abundance are not significantly different to suitable, unimpacted reference sites within the AOC of comparable physical (sediment, grain size, water velocity) and chemical characteristics; and when benthic invertebrate tissue contaminant concentrations (body burdens) are comparable to suitable, unimpacted reference sites within the AOC or when all remedial options, recommended to address the areas of interest for contaminated sediment, have been completed and follow-up monitoring confirms their effectiveness.*

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Manage and remediate the three remaining contaminant sediment priority areas within the St. Clair River		✓	✓			ECCC MECP
Review all relevant data collected and assess the status of BUI. If the delisting criteria is met, prepare a status recommendation report. If delisting criteria				✓		ECCC MECP CRIC

is not met, identify further actions that may be required.						
Complete BUI re-designation as per the process outlined in Appendix A.					✓	ECCC MECP CRIC

Restrictions on Drinking Water Consumption or Taste and Odour Problems

Current Status – Impaired

- a. **Delisting Criteria:** *This BUI will be considered restored when there are no treatment plant shutdowns due to exceedances of drinking water guidelines over a two-year period.*

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Complete BUI re-designation as per the process outlined in Appendix A.		✓				ECCC MECP CRIC

Loss of Fish and Wildlife Habitat

Current Status – Impaired

Delisting Criteria:

1. Administrative and legislative mechanisms are in place to protect recognized aquatic, wetland and terrestrial habitats from destruction or degradation.
2. Wetland coverage within the sub-watersheds of Area 1A is 6-10%, or is restored to the extent possible, and 155 ha of wetland habitat is rehabilitated, created, or protected within the Chenal Ecarte, Walpole Island First Nation delta, or along the eastern shore of Lake St. Clair.
3. Habitat connectivity between the St. Clair River and Sydenham River and between Walpole Island First Nation, Bickford Oak Woods, and the Aamjiwnaang First Nation has been improved.
4. 50% of the major tributary lengths in Area 1A are buffered by a minimum width of 5 m of natural vegetation or buffered to the extent possible.

5. Nearshore and shoreline fish habitat have been enhanced at 6-12 priority sites along the St. Clair River to demonstrate the benefits of integrating shoreline protection with fish habitat enhancement.
6. Wetland habitat components (i.e. water quality, submerged aquatic vegetation, aquatic invertebrates, fish, and birds) achieve a quality ranking of “Good” or better based on Water Quality Index (WQI) and Indices of Biological Integrity (IBI) scores for a 3-year period, or when mean WQI/IBI scores within the AOC are shown to be statistically comparable to those outside the AOC for a 3-year period.
7. A long-term *Fish and Wildlife Habitat Management Plan* for Ontario is completed to facilitate habitat restoration and protection beyond AOC delisting.

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Conduct a wetland assessment at a select wetland within Walpole Island to compare with a reference wetland outside the AOC to determine if they are comparable as per the target and share results.	✓					WIFN
Update the draft Fish and Wildlife Habitat Management Plan.	✓					ECCC MNR SCRC
Review all relevant data collected and assess the status of the BUI. If the delisting criteria is met, prepare a status recommendation report. If the delisting criteria is not met, identify further actions that may be required.	✓	✓				CRIC ECCC MECP
PowerPoint presentation and Fact Sheet on the status of BUI 14		✓				RAP Coordinator
Complete BUI re-designation as per the process outlined in Appendix A.		✓	✓			ECCC MECP CRIC

Public Outreach and Education

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Raise public and youth awareness about the St. Clair River AOC progress via events, supporting programs, and media opportunities such as: <ul style="list-style-type: none"> • Conservation Authority education program to school age children; and • Children’s Water Festival • Local Science Fairs 	✓	✓	✓	✓	✓	FOSCR SCRCA BASES
Support BPAC outreach and celebration events such as BUI re-designations, boat cruises, science symposium and distribution of outreach information and display material.	✓	✓	✓	✓	✓	RAP Coordinator BPAC FOSCR
Engage municipalities and First Nations by presenting annual updates as arranged to: <ol style="list-style-type: none"> 1) Councils; 2) Environment committees; and 3) Environment department staff. 	✓	✓	✓	✓	✓	RAP Coordinator AFN WIFN
Organize annual community events to provide an update on progress in addressing the BUIs	✓	✓	✓	✓	✓	CRIC RAP Coordinator
Distribute newsletters and reports to First Nation communities through social media, community centres, local Newsletters (WIFN Nin.Da.Waab.Jig /AFN Chippewa Tribe-Une), as arranged by AFN and WIFN communications outreach.	✓	✓	✓	✓	✓	RAP Coordinator AFN WIFN FOSCR

ACTION	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	LEAD
Plan with WIFN and AFN attendance at special/environmental events and meetings such as: Earth Days and Jig Open House.	✓	✓	✓	✓	✓	RAP Coordinator AFN WIFN FOSCR
Promote industrial staff participation in environmental opportunities (e.g., clean-up days, tree planting, etc.)	✓	✓	✓	✓	✓	RAP Coordinator BASES
Continue the production of the FOCSR E-Newsletter, enhance distribution, and survey recipients for suggestions (request permission to distribute and contribute articles to the E-Newsletter by employees of local commercial and industrial facilities).	✓	✓	✓	✓	✓	RAP Coordinator FOCSR
Manage and maintain the AOC Website	✓	✓	✓	✓	✓	FOCSR RAP Coordinator
Use social networking tools (e.g., Facebook, Twitter) to support public outreach and education.	✓	✓	✓	✓	✓	FOCSR RAP Coordinator
Support BUI re-designation process (e.g., drafting reports, local and First Nation engagement).	✓	✓	✓	✓	✓	RAP Coordinator
Prepare an annual report summarizing public and First Nation and Metis engagement activities during the previous work plan year	✓	✓	✓	✓	✓	RAP Coordinator
Prepare an annual report summarizing accomplishments during the previous work plan year.	✓	✓	✓	✓	✓	RAP Coordinator
Prepare two draft AOC related Fact Sheets		✓				RAP Coordinator

Conclusion

Remedial activities completed since the late 1980s have significantly improved the ecological health of the St. Clair River AOC. Within this work plan, 34 priority actions have been identified, down from the 47 actions identified in the 2017-2022 work plan, and the 71 actions identified in the 2012-2017 work plan. Many of the actions listed include the review and analysis of existing data to determine the status of Beneficial Use Impairments as many remedial actions have been completed in previous years.

The Restrictions on Drinking Water Consumption or Taste and Odour Problems BUI is currently going through the redesignation process. The data required to assess the Degraded Fish and Wildlife Populations BUI and the Loss of Fish and Wildlife Habitat BUI has essentially been compiled and the focus in this work plan will be to prepare the assessment reports for these BUIs and complete the redesignation process. Proceeding with implementation of the engineering and design plan for the management of mercury contaminated sediment in the three priority areas will aid in efforts to further reduce contaminant burdens in fish and benthos.

The importance of Public Outreach and Education is also reflected in this work plan by the number of activities to be completed, including the creation of annual progress reports, an annual report on public and First Nation and Metis engagement, and the creation of two AOC related Fact Sheets.

The process by which this plan was developed highlights the cooperation between government agencies, First Nation and Metis communities, industry and community groups. These partnerships have contributed to the improved environmental quality of the St. Clair River and completion of the work plan activities will position the St. Clair River AOC to “delist” and will continue to be integral in the preservation of the river beyond “delisting.”

The CRIC looks forward to the next 5 years of cooperation and progress towards delisting the St. Clair River as an AOC. More information on the St. Clair River AOC is available online at the Friends of the St. Clair River at www.friendsofstclair.ca, the St. Clair Region Conservation Authority website at www.scrca.on.ca, or through the webpage for the Canadian Great Lakes Areas of Concern at <http://canadian-aocs.ca/>

Glossary

Areas of Concern (AOC) – Geographic locations recognized by the International Joint Commission (IJC) where water, sediment, and fish quality are degraded, and the objectives of the Great Lakes Water Quality Agreement (GLWQA) of local environmental standards are not being achieved.

Beneficial Use Impairment (BUI) – A change in the chemical, physical, or biological integrity of a Great Lakes System sufficient to cause any of the 14 use impairments.

Delist – The removal of an Area of Concern (AOC) from the list of AOCs achieved only when the criteria for the restoration of beneficial uses as defined by the Remedial Action Plan (RAP) are met and agreed upon by agencies and the local community.

Environmental Remediation – The removal of pollution or contaminants from environmental media, such as soil, groundwater, sediment, or surface water, for the general protection of human health and the environment.

Great Lakes Water Quality Agreement (GLWQA) – A joint agreement between Canada and the United States, which commits the two countries to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin ecosystem (from Article 2 of the 1978 GLWQA). Originally signed in 1972, the Agreement was amended in 1978, 1987, and 2012.

Habitat – An ecological or environmental area that is inhabited by a particular species of animal, plant, or other type of organism.

International Joint Commission (IJC) – A binational organization established in 1909 by the Boundary Waters Treaty. Through the IJC, Canada and the United States cooperatively resolve problems along their common border, including water and air pollution, lake levels, power generation, and other issues of mutual concern.

Non-Point Source (NPS) – Source of pollution in which pollutants are discharged over a widespread area from a number of small inputs rather than from distinct, identifiable sources.

Point Source – A source of pollution that is distinct and identifiable, such as an outfall pipe from an industrial plant.

Remedial Action Plan (RAP) – A document drafted with the purpose of restoring and protecting beneficial uses in the Areas of Concern (AOCs) within the Great Lakes Basin.

Sediment – The fines or soils on the bottom of the river or lake.

Appendix A - Beneficial Use Impairment Redesignation Process for the St. Clair River Area of Concern

1. Remedial Action Plan (RAP) team assesses the BUI and finds that the status is “Not Impaired” and prepares a BUI status recommendation report.

2. RAP team engages local RAP participants, First Nations and Metis communities and others as appropriate (e.g. for SCR, BPAC and FAMC) on the BUI status recommendation.

3. RAP team submits their status recommendation report to the COA AOC annex leads to confirm restoration of the beneficial use. The COA AOC annex leads may request additional information, a technical review or further engagement.

4b. For BUIs that were designated “Impaired”, the COA AOC annex leads will seek Executive approval of the status change. The ECCC COA executive co-chair (on behalf of Canada) sends a letter to the MECP Ontario COA executive co-chair to seek Ontario’s formal concurrence on redesignation.

4a. In the case where the BUI status was “Requires Further Assessment”, confirmation by the COA AOC annex leads of the “Not Impaired” recommendation is sufficient to confirm the new status of the BUI.

5. With concurrence from MECP, ECCC (as per the Party to the GLWQA) advises the RAP team and others as appropriate, of the change in BUI status.

Note: The above provides a general high-level overview of the process. Additional engagement activities are required for the St. Clair River AOC since it is binational and includes First Nation and Metis communities.

Appendix B - Work Plan Actions Completed 2017-2022

Beneficial Use Impairments

Restrictions on Fish and Wildlife Consumption

Current Status – Impaired

Delisting Criteria: *This BUI will be considered restored when fish consumption advisories in indicator fishes (e.g., walleye, brown bullhead, and smallmouth bass) in the AOC are the same or less restrictive than the associated Great Lakes or appropriate reference sites and when the general guidance for the consumption of indicator wildlife (e.g., snapping turtles, geese) are no different than the non-AOC sites in the Great Lakes.*

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	BEYOND	LEAD
Conduct sport fish surveys for contaminants every four years to monitor key indicator species and report on survey results until the survey is either replaced with another monitoring program or is no longer necessary for the AOC.				✓			MECP
Report on head and mouth river monitoring results for concentrations of metals and organic contaminants of concern from 2000 to 2012.			✓				ECCC
Report on sediment chemistry from 2008 to current to determine trends in contaminants for use in BUI assessment and, if required, deploy sediment traps in the St. Clair River to determine spatial and temporal trends in contaminants in the AOC.			✓				ECCC MECP

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	BEYOND	LEAD
Conduct and report on survey distributed to anglers to identify the species of fish consumed from the St. Clair River.					✓		CRIC
Management and remediation of three remaining contaminant sediment priority areas within the St. Clair River to reduce local risks to fish consumption. The following steps will be required:							
1) Request funding for preferred management options, which includes detailed engineering design and environmental assessment on select preferred options.		✓					ECCC MECP
2) Undertake detailed engineering design and environmental assessment on selected preferred options			✓	✓			ECCC MECP
3) Review tender and award project and begin mobilization					✓		
4) Implementation of preferred sediment management options						✓	
5) Evaluate effectiveness of sediment remediation and implement adaptive management to improve effectiveness of remediation if necessary.						✓	ECCC MECP
Review on existing consumption risk approaches and consumption guidelines that could be used to help evaluate this BUI (specifically around waterfowl, muskrat, and turtles).	✓						ECCC MECP WIFN
Review all relevant data collected, undertake an assessment.			✓	✓	✓		CRIC ECCC MECP

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	BEYOND	LEAD
Prepare status report. If an impaired status results, further actions may be required.						✓	CRIC ECCC MECP
Complete BUI re-designation process.						✓	ECCC MECP CRIC

Degraded Fish and Wildlife Populations

Current Status – Requires Further Assessment

IJC Delisting Guidance: This BUI will be considered restored when environmental conditions support healthy, self-sustaining communities of desired fish and wildlife at predetermined levels of abundance that would be expected from the amount and quality of suitable physical, chemical, and biological habitat present. An effort must be made to ensure that fish and wildlife objectives for Areas of Concern are consistent with Great Lakes ecosystem objectives and Great Lakes Fishery Commission fish community goals. Further, in the absence of community structure data, this use will be considered restored when fish and wildlife bioassays confirm no significant toxicity from water column or sediment contaminants.

The assessment approach includes the analysis of temporal data for contaminant burdens of fish and wildlife and compares the diversity and abundance of wildlife (including waterfowl, marsh birds, muskrats and frogs) inside the AOC to outside the AOC.

ACTION	2017- 2018	2018- 2019	2019-2020	2020-2021	2021-2022	LEAD
Conduct sport fish surveys to monitor key indicator species and report survey results.			✓			MNRF
Collaborate with WIFN and AFN on science results and solicit input/Aboriginal Traditional Knowledge on findings.		✓				ECCC WIFN

Review all relevant data collected, undertake an assessment and prepare status report based on delisting criteria. If an impaired status results, further actions may be required.			✓			CRIC ECCC MECP
Complete BUI re-designation process.				✓	✓	CRIC ECCC MECP

Degradation of Benthos

Current Status – Impaired

Delisting Criteria: *This BUI will be considered restored when the benthic community structure, diversity, and abundance are not significantly different to suitable, unimpacted reference sites within the AOC of comparable physical (sediment, grain size, water velocity) and chemical characteristics; and when benthic invertebrate tissue contaminant concentrations (body burdens) are comparable to suitable, unimpacted reference sites within the AOC or when all remedial options, recommended to address the areas of interest for contaminated sediment, have been completed and follow-up monitoring confirms their effectiveness.*

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	BEYOND	LEAD
Review all relevant data collected, undertake an assessment and prepare status report based on delisting criteria. If an impaired status results, further actions may be required.						✓	ECCC MECP CRIC
Complete BUI re-designation process.						✓	ECCC MECP CRIC

Restrictions on Drinking Water Consumption or Taste and Odour Problems

Current Status – Impaired

- b. **Delisting Criteria:** *This BUI will be considered restored when there are no treatment plant shutdowns due to exceedances of drinking water guidelines over a two-year period.*

ACTION	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	LEAD
Review all relevant data collected such as: <ul style="list-style-type: none"> • the nature and frequency of spills from vessels and land-based sources; • the nature and frequency of communal water intake closures; • river water quality; • action taken by industries to prevent and reduce spills; • water treatment processes; and • loading of industrial and municipal discharges to the St. Clair River, and undertake an assessment and prepare status report based on delisting criteria. If an impaired status results, further actions may be required.	✓	✓	✓			CRIC MECP ECCC
Complete BUI re-designation process.				✓	✓	CRIC ECCC MECP

Loss of Fish and Wildlife Habitat

Current Status – Impaired

Delisting Criteria:

1. Administrative and legislative mechanisms are in place to protect recognized aquatic, wetland and terrestrial habitats from destruction or degradation.

2. Wetland coverage within the sub-watersheds of Area 1A is 6-10%, or is restored to the extent possible, and 155 ha of wetland habitat is rehabilitated, created, or protected within the Chenal Ecarte, Walpole Island First Nation delta, or along the eastern shore of Lake St. Clair.
3. Habitat connectivity between the St. Clair River and Sydenham River and between Walpole Island First Nation, Bickford Oak Woods, and the Aamjiwnaang First Nation has been improved.
4. 50% of the major tributary lengths in Area 1A are buffered by a minimum width of 5 m of natural vegetation or buffered to the extent possible.
5. Nearshore and shoreline fish habitat have been enhanced at 6-12 priority sites along the St. Clair River to demonstrate the benefits of integrating shoreline protection with fish habitat enhancement.
6. Wetland habitat components (i.e. water quality, submerged aquatic vegetation, aquatic invertebrates, fish, and birds) achieve a quality ranking of “Good” or better based on Water Quality Index (WQI) and Indices of Biological Integrity (IBI) scores for a 3-year period, or when mean WQI/IBI scores within the AOC are shown to be statistically comparable to those outside the AOC for a 3-year period.
7. A long-term Fish and Wildlife Habitat Management Plan for Ontario is completed to facilitate habitat restoration and protection beyond AOC delisting.

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	LEAD
Evaluate unevaluated wetlands for protection in municipal plans.	✓					MNRF SCRCA
Track progress on wetland goals for the AOC.			✓			ECCC SCRCA
Collaborate with MTO to access the remaining properties that will complete the Hwy 40 project, improving habitat connectivity between WIFN, the McKeough Floodway, headwaters of the St. Clair River tributaries, Bickford Oak Woods, and Aamjiwnaang First Nation forest.	✓	✓				RLSN
Track and map riparian buffer projects to assess progress.			✓			RLSN SCRCA
Acquire necessary data layers to complete and apply <i>Fish Habitat Suitability Model</i> .	✓	✓	✓			DFO
Encourage and seek out opportunities to promote the naturalization of the SCR shoreline.	✓	✓	✓			SCRCA

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	LEAD
Conduct pre- and post-project implementation fish surveys at restoration sites and report on findings.	✓	✓	✓			DFO
Track shoreline projects and assess and report on progress.	✓					SCRCA
Conduct a wetland assessment at a select wetland within Walpole Island to compare with a reference wetland outside the AOC to determine if they are comparable as per the target and share results.						WIFN
Write a Fish and Wildlife Habitat Management Plan.	✓					ECCC MNRF SCRCA
Review all relevant data collected, undertake an assessment and prepare status report based on delisting criteria. If an impaired status results, further actions may be required.		✓	✓	✓		CRIC ECCC MECP
Complete BUI re-designation process.				✓	✓	CRIC ECCC MECP

Public Outreach and Education

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	LEAD
Raise public and youth awareness about the St. Clair River AOC progress via events, supporting programs, and media opportunities such as: <ul style="list-style-type: none"> • Conservation Authority education program to school age children; and • Children’s Water Festival • Local Science Fairs 	✓	✓	✓	✓	✓	FOSCR SCRCA BASES

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	LEAD
Support BPAC outreach and celebration events such as BUI re-designations, boat cruises, science symposium and distribution of outreach information and display material.	✓	✓	✓	✓	✓	RAP Coordinat or BPAC FOSCR
Engage municipalities and First Nations by presenting biennial updates as arranged to: 6) Councils; 7) Environment committees; and 8) Environment department staff.	✓	✓	✓	✓	✓	RAP Coordinat or AFN WIFN
Distribute newsletters and reports to First Nation households and/or through community centres, as arranged by AFN and WIFN communications outreach.	✓	✓	✓	✓	✓	RAP Coordinat or AFN WIFN FOSCR
Plan with WIFN and AFN attendance at special/environmental events and meetings such as: Earth Days, Nin.Da.Waab.Jig Open House and Ecosystem Circles.	✓	✓	✓	✓	✓	RAP Coordinat or AFN WIFN FOSCR
Promote industrial staff participation in environmental opportunities (e.g., clean-up days, tree planting, etc.)	✓	✓	✓	✓	✓	RAP Coordinat or BASES
Continue the production of the FOCSR E-Newsletter, enhance distribution, and survey recipients for suggestions (request permission to distribute and contribute articles to the E-Newsletter by employees of local commercial and industrial facilities).	✓	✓	✓	✓	✓	RAP Coordinat or FOCSR
Manage and maintain the AOC Website	✓	✓	✓	✓	✓	FOCSR

ACTION	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	LEAD
						RAP Coordinat or
Investigate use social networking tools (e.g., Facebook, Twitter) to support public outreach and education.			✓			FOSCR RAP Coordinat or
Support BUI re-designation process (e.g., drafting reports, local and First Nation engagement).	✓	✓	✓	✓	✓	RAP Coordinat or

Appendix C - List of Acronyms

List of Acronyms

AFN	Aamjiwnaang First Nation
AOC	Area of Concern
BPAC	Binational Public Advisory Council
BUI	Beneficial Use Impairment
CRIC	Canadian Remedial Action Plan Implementation Committee
DFO	Department of Fisheries and Oceans Canada
ECCC	Environment and Climate Change Canada
FAMC	Four Agency Management Committee
FOSCR	Friends of the St. Clair River
GLWQA	Great Lakes Water Quality Agreement
IJC	International Joint Commission
MTO	Ontario Ministry of Transportation
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
MECP	Ontario Ministry of the Environment, Conservation and Parks
MNRF	Ontario Ministry of Natural Resources and Forestry
RAP	Remedial Action Plan
RLSN	Rural Lambton Stewardship Network
SCRCA	St. Clair Region Conservation Authority
BASES	Bluewater Association for Safety, Environment and Sustainability
WIFN	Walpole Island First Nation