THE GREAT LAKES-ST. LAWRENCE RIVER AOC 2022 SURVEY

Prepared by the Great Lakes Ecoregion Network (GLEN) Area of Concern (AOC) committee

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Submitted to:

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&

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SUMMARY

The purpose of this survey was to gather an assessment from citizens involved in Great Lakes Areas of Concern (AOCs) of progress towards the general goal of the Great Lakes Water Quality Agreement (Agreement) "to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes," and towards the specific objectives of removing 14 "Beneficial Use Impairments" (BUIs).

We are presenting the results of this survey to the Canadian and United States Governments as the Parties with lead responsibility to implement the programs identified in the Agreement.

We are also presenting it to the International Joint Commission (IJC), who have lead responsibility to review and comment on the effectiveness of the governments' programs.

Here is a brief summary of our recommendations, with more details in the body of the report.

AOC recommendations on what is most needed now:

- Develop and implement a Basin-wide climate mitigation and adaptation strategy.
- Demonstrate stronger support for restoring and maintaining fish safe to eat, water safe to drink or swim in, and ecosystem health over "bad redevelopment" of restored AOCs.
- Increase recognition and support for protecting existing habitats, natural flows and connectivity given ever increasing pressures on natural systems.

- Increase government awareness of where existing laws and policies--or lack of their enforcement--undermine the goals of the Agreement.

- Demand commitment at every level of government to zero use/zero discharge of new persistent toxic substance such as PFAS now found in our waters, wildlife and people.

- Evaluate impacts of navigation, navigational dredging, sediment removal and dredge spoil placement in the context of climate instability and ecosystem costs.

- Re-evaluate AOC delineations, BUI definitions and remedial strategies in terms of what we have learned since they were first defined 35 years ago.

- Provide funding and support for continued ENGO, Indigenous, and local government involvement in restoring and maintaining Great Lakes waters, including in delisted AOCs.

- Support life after delisting for all AOCs, including current delisted ones, with long-term monitoring and research.

SURVEY PROCESS

We received responses from 30 individuals who were involved in remedial or public action committees for 16 of the 43 AOCs (listed by Great Lake below). We thank all of them for reviewing their work of the past 35 years and for addressing where we need to go from here.

Lake Superior:
St Louis River AOC
St Marys binational AOC
Lake Huron:
Severn Sound AOC (delisted)
Lake Michigan:
Grand Calumet River AOC
White Lake AOC (delisted)
Milwaukee Estuary AOC
Lake Erie-Detroit River:
St. Clair River binational AOC
Detroit River binational AOC
River Raisin AOC
Maumee River AOC
Cuyahoga River AOC
Presque Isle Bay AOC (delisted)
Buffalo River AOC
Lake Ontario-Niagara River
Niagara River binational AOC
Hamilton Harbour AOC

St. Lawrence River at Massena/Akwesasne binational AOC*

Annex 2 of the 1987 amended Agreement identifies these 14 Beneficial Use Impairments. The numbers after each BUI indicate the number of AOCs who identified it as a top concern.

1. restrictions on fish and wildlife consumption (7)
2. tainting of fish and wildlife flavour (2)
3. degradation of fish and wildlife populations (6)
4. fish tumors or other deformities (4)
5. bird or animal deformities or reproduction problems (1)
6. degradation of benthos (9)
7. restrictions on dredging activities (8)
8. eutrophication or undesirable algae (7)
9. restrictions on drinking water consumption or taste and odour problems (8)
10. beach closings (4)
11. degradation of aesthetics (3)
12. added costs to agriculture or industry (2)
13. degradation of phytoplankton and zooplankton populations (1)
14. loss of fish and wildlife habitat (11)

SURVEY QUESTIONS

What so far are the TOP SUCCESSES in your AOC?

- Public involvement and the development of local groups and expertise dedicated to clean water and a healthy Great Lakes ecosystem. Many credit their success to having a funded coordinator as well as PAC members who could build bridges between environmental advocates, principal responsible parties (PRPs), local expertise and scientific research, and federal, state, provincial and municipal elected representatives. For example, coordination of these resources led to strong and ongoing grassroots-based organizations like Milwaukee River Waterkeeper, Buffalo Niagara Waterkeeper, the St. Louis River Alliance, and the Bay Area Restoration Council (Hamilton) whose hands-on public programs have fostered community interest in restoring and maintaining their rivers and harbors. PAC leaders from Presque Isle Bay, Severn Sound and White Lake--three delisted AOCs--still remain engaged and provided many responses to this survey. In the River Raisin AOC "the City of Monroe passed an ordinance to create a Commission of the Environment and Water Quality which meets regularly and includes PAC members appointed to serve." For many AOCs, even getting to that first level of local municipal recognition and inclusion in policy-making has not yet occurred.

- Addressing BUI 14, "loss of fish and wildlife habitat" (which also addresses many related BUIs). The focus on restoring stream and shoreline habitat connectivity, including

removal of obsolete dams, barriers and shoreline armor has led to more natural flows and improved aquatic health for many species. Removal of 5 obsolete dams brought 10 miles of the Cuyahoga River AOC to full attainment of Ohio's strict aquatic life standards with the last, the Gorge Dam, ready to go when funds can be found. Aquatic connectivity and fish and wildlife populations have also been restored in Ontario's Welland River Watershed, Ohio's Maumee River tributary wetlands, Michigan's River Raisin (where 7 obsolete dams have been removed or modified), and in 37 miles of the Milwaukee River Estuary. A federal initiative for creating national urban parks across Canada led to "a protected necklace of green" stretching along the Windsor side of the Detroit River. In both the St. Louis and Detroit River AOCs, habitat restoration and shoreline softening have led to the return of spawning sturgeon.

- Water quality improvements. WWTP upgrades, stormwater management, phosphorous controls, and fewer industrial spills have benefitted human and wildlife communities impacted by heavy industrial use along the St. Clair River-Detroit River corridor and in Hamilton Harbour. In the St. Marys River, severely contaminated sediments have been removed from the Algoma Steel slip, Tannery Bay (former leather tanning plant) and a former coal gasification site. Severn Sound credits as a major success its strategy and actions to reduce controllable sources of phosphorous in Georgian Bay (Lake Huron).

- Engagement with Indigenous governments. The multi-national St. Lawrence-Massena and St. Clair River AOCs respectively credit the Mohawk Council of Akwesasne and St. Regis Mohawk Tribe, and the Aamjiwnnang First Nation and Walpole Island First Nation with addressing the BUIs and being able to accomplish what has been achieved to date. Indigenous science has proven to be a valuable asset to Great Lakes-St. Lawrence River restoration approaches and projects.

What are the TOP REMAINING UNRESOLVED ISSUES in your AOC?

- "Bad redevelopment." Several AOCs note that cities and towns generally have primary responsibility for land use regulations, and "historically have had little spine for pushing back against environmentally damaging development" (Buffalo River). In some cases there are weak or no land use regulations to prevent unsuitable redevelopment, including gentrification of recovering areas. "We need to empower municipalities to protect these habitats" (Severn Sound). Several people suggested that delisted AOCs and ZIPs need to be designated "Areas of Protection".

- Contaminated sediments, disposal facilities, continuing pollution discharges and fish unsafe to eat. These remain major issues for many heavily industrialized AOCs. "At the last RAC meeting on 7/20/22 DEC stated that there are an additional 17 hazardous waste sites of concern identified in the upper Niagara River . . . Working to address those is a long process . . . DEC is working with BSA (Buffalo Sewer Authority) on a long-

term control plan, and city of Niagara Falls on improvements to their waste water treatment plant, but this will also be a long process" (Niagara River).

Even when "remediated," contaminated sediments can remain a concern. The cap over the PCB hotspot in the federal navigation channel (Monroe Harbor) needs monitoring to see if the PCBs are contained" . . . especially with harbour cargo activity "increasing exponentially" (River Raisin). Fish consumption advisories remain in many AOCs where PCBs, lead, mercury and other long-lived toxic contaminants continue to make fish unsafe to eat. Restrictions on consumption may be less post-dredging than before, but not gone. This BUI can be delisted when fish caught in the AOC are no more harmful than fish caught outside the AOC even though those fish may still have restrictions on their consumption because of contamination from outside of the AOC. For the protection of fish consumers, this needs to be clarified.

Continued navigational dredging throughout the Great Lakes requires continued remedial dredging to sequester exposed contaminants. These dredging cycles inflict their own physical damage on aquatic and benthic habitats and species. As a result, the definition of navigational dredging as a "beneficial use" needs to be clarified.

- Increased phosphorous loadings and consequent increased Harmful Algal Blooms (HABs). These are largely due to poor stormwater management and increased Concentrated Animal Feed Operations (CAFOs) around the Great Lakes, especially Lake Erie, whose health is "poor" and trend "deteriorating." This is one of many regulatory issues that limit the scope for AOC remediation. We need the Clean Water Act, not the Farm Bureau, to regulate CAFO manure spreading as a pollution discharge. (Presque Isle Bay)

- Stewardship post-delisting. There is much uncertainty around this, including the perception that Lakewide Management Plans (LaMPs) will take over when AOCs are delisted (expected to be largely completed by 2030). "AOCs had access to funding which will be greatly diminished after delisting, and they benefitted from regulator focus on specific delisting criteria. LaMPs are not well structured for management of former AOCs" (Buffalo River). Some felt delisting came too soon: "The PAC was sidelined too early in the process. We have not heard of any recent sampling/monitoring of fish, water or sediments." New threats include lack of data, new invasives, increased industrial development, and lack of protections for coastal areas and wetlands. (Presque Isle Bay)

- Lack of binational delisting criteria. (Detroit River, Niagara River, St. Lawrence River). Can half a river be delisted? (Niagara River, CA)

- The presence of the nuclear industry throughout the Great Lakes. The scale of this fact was not a focus of the survey, nor is it explicitly addressed in the BUIs. However, it was a major issue brought to GLEN's "Speak Out for the Great Lakes" public hearings—from active and decommissioned nuclear power plants around the Great Lakes to stockpiles

of nuclear waste along shorelines, awaiting transport "elsewhere." This should be included.

What are the TOP NEW THREATS TO THE GREAT LAKES-ST. LAWRENCE RIVER ECOSYSTEM?

- Climate change was unanimously voted the #1 threat—including lake level fluctuations, erosion, storm surges and seiches (coastal battering, flooding), and warmer waters that threaten many keystone native species like the Emerald shiner, and benefit many non-native nuisance species with longer growing seasons. Climate change will also bring population pressures as the region becomes a destination for climate refugees.

- Weakening and repeal of environmental regulations such as lessening the requirements for Environmental Impact Statements, public hearings and new project approvals in the U.S., Canada, and in Great Lakes states and provinces.

- Withdrawal of government resources. Ecosystem restoration is like housekeeping: in constant need of attention and love. "It would be tragic if the huge financial and human resource investment in getting to this point winds up being p—d away for lack of follow through" (Buffalo).

- New toxic substances such as PFOAs, microplastics. etc., need to be regulated.

What is needed to address these threats?

- A Basin-wide climate mitigation and adaptation strategy including increasing Great Lakes climate resilience and carbon storage capacity by restoring former coastal and riparian wetlands that were destroyed by industrialization and commercial navigation.

- Stronger government support for restoring and maintaining fish safe to eat, water safe to drink and swim in, and ecosystem health over "bad redevelopment" of restored AOCs. We must protect and build on the public investment that has been made in AOC recovery. Citizens should not have to sue governments and private interests for not maintaining these investments.

- Increased recognition and protection of existing habitats, natural flows and connectivity given ever increasing pressures including climate change-related population pressures.

- Increased government awareness of where existing laws and policies--or lack of their enforcement--undermine the goals of the Agreement.

- Commitment at every level of government, to zero use/zero discharge of new persistent toxic substance such as PFAS now affecting Great Lakes waters, wildlife and people.

- Increased monitoring, evaluation and public transparency of navigation, navigational dredging, sediment removal and placement of dredge spoils in the context of climate instability and physical damages to aquatic habitat and benthic life.

- Re-evaluation of AOC delineations, BUI definitions and remedial strategies in terms of what we have learned since they were first defined 35 years ago.

- Funding and support for Indigenous, local government and ENGO involvement. Diverse public participation should be sustained to tackle issues that have not been addressed through the RAPs including watershed-based restoration and long-term sustainability.

- Support for life after delisting. All AOCs, including delisted ones, require government commitment and funding to support continued research, monitoring, education and action to achieve goals. Billions of dollars have been invested in improving conditions in AOCs, but those recoveries are potentially fragile. Gains we see today could be lost if we fail to monitor and help maintain them. Our restoration efforts in the AOCs have proven to us that avoiding degradation is far less costly and more effective than trying to remediate the damage later.

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* Note: The international line dividing the Great Lakes Basin ends near Cornwall and Massena. Downstream several hundred more miles of the St. Lawrence River flow through Quebec to the Atlantic. These miles of river have been impacted by contaminants flowing down from the Great Lakes, especially industrial contaminants like mirex and mercury, which are still found in fish and wildlife in the lower river. The St. Lawrence River is also the main commercial navigation channel into the Great Lakes and vector for new introductions of invasive aquatic species. Our representative from Quebec has prepared a brief on the status of 16 Zones d'Intervention Prioritaire (ZIPs). This report from Ambioterra concludes that monitoring is

inadequate and that the essential role of the public in restoring these areas has been virtually eliminated by the governments.
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