PUBLIC ADVISORY COMMITTEE
IN-PERSON MEETING
A G E N D A

NPCA Main Office
Carolinian Hall
3350 Merrittville Hwy., Thorold ON
Tuesday, May 28, 2024
5:00 PM

CALL TO ORDER – ROLL CALL

The Niagara Peninsula watershed is situated within the traditional territory of the Haudenosaunee, Attiwonderonk (Neutral), and the Anishinaabeg, including the Mississaugas of the Credit—many of whom continue to live and work here today. This territory is covered by the Upper Canada Treaties (No. 3, 4, and 381) and is within the land protected by the Dish with One Spoon Wampum agreement. Today, the watershed is home to many First Nations, Métis, and Inuit.

1. **OPENING WELCOME**

2. **APPROVAL OF AGENDA**

3. **DECLARATIONS OF CONFLICT OF INTEREST**

4. **APPROVAL OF MINUTES**

   4.1 Minutes of the Public Advisory Committee meeting dated February 27, 2024.

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5. **CORRESPONDENCE**

   5.1 Correspondence from NPCA RE: Report FA-09-24 RE: Conservation Authorities Act Legislative and Regulatory Changes

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   5.2 Correspondence from NPCA RE: Report FA-23-24 RE: Fish & Wildlife Populations Beneficial Use Impairment Change Status – Public Engagement

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   5.2.1 Public Engagement Page open for comment until May 31, 2024: https://getinvolved.npca.ca/niagara-river-fish-wildlife

6. PRESENTATIONS

6.1 Draft Findings of Annual Water Quality Monitoring Report.
Presented by Water Quality Specialist, Eric Augustino.

6.2 Fish and Wildlife Populations Beneficial Use Impairment Change Status – Public Engagement.
Presented by Remedial Action Plan Coordinator, Sydney MacIntyre.

7. DELEGATIONS

None.

8. CONSENT ITEMS

None.

9. DISCUSSION ITEMS

9.1 Report No. PAC-03-24 RE: Conservation Authorities Act Conformity Requirements – Conservation Areas Strategy and Watershed-based Resource Management Strategy Draft Engagement Plan (*distributed separately*)

10. COMMITTEE REPORTS

None.

11. NEW BUSINESS

11.1 Members' Updates (Verbal) – Information/Issues/Items of Interest

12. ADJOURNMENT

PUBLIC ADVISORY COMMITTEE
IN-PERSON MEETING
MINUTES

NPCA Main Office
250 Thorold Road West, 3rd Floor, Welland

Tuesday, February 27, 2024
5:00 PM

MEMBERS PRESENT:
Lennie Aarts
Philip Beale
Lageera Chatheechan
David Cribbs, Vice Chair
George McKibbon
Jonathan Musso
Naheed Qureshi
William Rapley
Albert Witteveen, Chair
David Wyllie
Cindilee Ecker-Flagg

MEMBERS ABSENT:
Tracy Boese
Robert Foster
Leslie Clarke

STAFF PRESENT:
C. Sharma, C.A.O. / Secretary – Treasurer
W. Baldin, Manager, Digital Transformation & IT
M. Davis, Manager Office of the CAO & Board
A. Christie, Director, Conservation Areas
J. Diamond, Manager, Watershed Monitoring and Reporting
B. Lee, GIS Specialist
L. Lee-Yates, Director, Planning & Development and A/Director, Watershed Strategies & Climate Change
A. Powell, Manager, Conservation Areas' Programs & Services
K. Royer, Coordinator, Community Engagement
G. Shaule, Administrative Assistant

Public Advisory Committee Chair Albert Witteveen called the Public Advisory Committee meeting to order at 5:03 p.m.

1. **OPENING WELCOME FROM NOKOMIS CINDILEE ECKER-FLAGG**

2. **APPROVAL OF AGENDA**

Recommendation No. PAC-01-2024
Moved by D. Wyllie
Seconded by G. McKibbon

THAT the Public Advisory Committee Agenda dated February 27, 2024 **BE APPROVED.**

CARRIED

3. DECLARATIONS OF CONFLICT OF INTEREST

None.

4. APPROVAL OF MINUTES

4.1 Minutes of the Public Advisory Committee meeting dated November 30, 2023

Recommendation No. PAC-02-2024
Moved by L. Aarts
Seconded by P. Beale

CARRIED

5. CORRESPONDENCE

None.

6. PRESENTATIONS

6.1 Presentation by Wendy Baldin, Manager, Digital Transformation & Information Technology, RE: GIS public-facing web-app.

Brian Lee spoke to this presentation. Members asked to submit feedback to **gis@npca.ca.**

6.2 Presentation by Adam Christie, Director, Conservation Areas RE: Green Infrastructure Updates and Conservation Area improvements.

Niagara College was consulted with project. Discussion ensued.

6.3 Presentation by Josh Diamond, Manager, Watershed Monitoring and Reporting, RE: Conceptual Framework – Integrated Watershed Monitoring Program

Recommendation No. PAC-03-2024
Moved by P. Beale
Seconded by W. Rapley

THAT the following presentations **BE RECEIVED** for Information:

- GIS public-facing web-app;
- Green Infrastructure Updates and Conservation Area improvements Conceptual Framework; and
- Integrated Watershed Monitoring Program.

CARRIED

7. DELEGATIONS

None.

8. CONSENT ITEMS

8.1 NPCA Main Office Relocation – Verbal update provided by Chandra Sharma, CAO / Secretary – Treasurer.

Informed the Committee that the Annual General Meeting will be at the new head office location at 3350 Merrittville Hwy Thorold. Celebrating 65 years, April 19th, 2024. PAC Members will receive formal invitations to attend opening celebrations**.**

Recommendation No. PAC-04-2024
Moved by W. Rapley
Seconded by D. Wyllie

THAT NPCA Main Office Relocation verbal update **BE RECEIVED** for information.

CARRIED

9. DISCUSSION ITEMS

9.1 Report No. PAC-01-24 RE: Ball's Falls Festival 50th Anniversary Planning

Recommendation No. PAC-05-2024
Moved by P. Beale
Seconded by G. McKibbon

THAT Report No. PAC-01-24 RE: Ball's Falls Festival 50th Anniversary Planning **BE RECEIVED.**

CARRIED

10. COMMITTEE REPORTS

None.

11. NEW BUSINESS

11.1 Members' Updates (Verbal) – Information/Issues/Items of Interest

- Member Baird shared an update regarding research initiatives at the Global Centre for Climate Change Impacts on Transboundary Waters. The current focus is on the Great Lakes, with Niagara Region included as an area of interest.
- Seedy Saturday event was well attended and successful.
- Clean Air Hamilton Committee – air quality and effects of climate change
- Discussion held regarding highlights from the Birds on Niagara event held February 16-19.

11.2 PAC 2024 Workplan Discussion

- Circulating presentations in advance for comments was suggested.
- Discussion held regarding *Conservation Authorities* Act enactment and regulatory changes. Housekeeping changes to NPCA policies be brought forward for further discussions at Board meeting. Include Board report from PAC with transition plan to be a part of it.
- Discussion regarding increased engagement between meetings, staff will circulate proposed Work Plan spreadsheet, further feedback from members is encouraged.
- New provincial regulations O. Reg 41/24 and O. Reg 668/21 come into effect April 1, 2024.
- Staff will circulate monthly emails to Public Committee members regarding:
    - Volunteer and employment opportunities;
    - Upcoming community events;
    - Projects/portal updates; and
    - Full Authority Board agenda package and presentations.

12. ADJOURNMENT

Recommendation No. PAC-06-2024
Moved by D. Cribbs
Seconded by P. Beale

THAT the Public Advisory Committee Meeting **ADJOURN** at 6:58 p.m.

CARRIED

Niagara Peninsula CONSERVATION nature for all

250 Thorold Rd 3rd Floor, Welland, ON L3C 3W2
905.788.3135 | info@npca.ca | npca.ca

May 16, 2024

NPCA Public Advisory Committee

SENT ELECTRONICALLY

Report No. FA-09-24 RE: New Conservation Authorities Act Legislative and Regulatory Requirements – NPCA Housekeeping Policy Amendments and Transition Plan

At the Board of Directors meeting held on March 22, 2024, the Board authorized the implementation of the transition plan attached as Appendix 2 in Report No. FA-09-24. This plan outlines steps, processes, and timelines to align with the *Conservation Authorities Act* and associated regulations.

Attached are Report No. FA-09-24 and associated Appendices for your information. Stakeholder and community engagement are a critical component of these efforts, and staff look forward to receiving input from Committee members to ensure impacted actors are aware of legislative changes.

Sincerely,

Melanie Davis
Manager, Office of the CAO & Board
Niagara Peninsula Conservation Authority

Report To: **Board of Directors**

Subject: **New Conservation Authorities Act Legislative and Regulatory Requirements – NPCA Housekeeping Policy Amendments and Transition Plan**

Report No: **FA-09-24**

Date: **March 22, 2024**

Recommendation:

WHEREAS the Niagara Peninsula Conservation Authority (NPCA) Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority was approved by the Board of Directors on November 4, 2022, through Resolution No. FA-105-2022, with additional approval of deferred policies on November 18, 2022, through Governance Committee Recommendation No. GC-37-2022;

WHEREAS on February 16, 2024, the Ministry of Natural Resources and Forestry issued a notice on the Environmental Registry of Ontario of the government's decision to proclaim legislative and regulatory amendments under the *Conservation Authorities Act* that will all come into force on April 1, 2024;

NOW THEREFORE IT BE RESOLVED THAT Report No. FA-09-24 RE: New Conservation Authorities Act Legislative and Regulatory Requirements – NPCA Housekeeping Policy Amendments and Transition Plan **BE APPROVED**;

THAT staff **BE AUTHORIZED** to revise NPCA Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority to include housekeeping amendments described in Appendix 1 for implementation on the provincially set date of April 1, 2024;

THAT staff **BE AUTHORIZED** to implement the transition plan identified in Appendix 2 and to report to the Board periodically on these matters;

THAT a copy of the Board of Directors decision and Report FA-09-24 RE: New Conservation Authorities Act Legislative and Regulatory Requirements – NPCA Housekeeping Policy Amendments and Transition Plan be **CIRCULATED** to the Office of the Clerk for NPCA's watershed upper, single and lower-tier municipalities for their information, and **POSTED** on the NPCA's website.

Purpose:

The purpose of this report is to inform the Board of the new provisions under the *Conservation Authorities Act* and new regulations coming into effect on April 1, 2024, to provide a summary of key changes, and to seek approval of staff recommendations for housekeeping amendments to the NPCA Policy Document and a transition plan for conforming to the legislative and regulatory changes.

Background:

In recent years, the *Conservation Authorities Act*, has been amended through several pieces of legislation starting in 2017 with the *Building Better Communities and Conserving Watersheds Act*, and more recently in late 2022 through the *More Homes Built Faster Act* (Bill 23). These amendments have been implemented at various times per legislative proclamations. In late 2022, a regulatory proposal for "Proposed updates to the regulation of development for the protection of people and property from natural hazards in Ontario" was posted on the Environmental Registry of Ontario (ERO) for consultation.

Conservation authorities across the province, including the NPCA, have provided comments to the Provincial Government on the proposed changes either directly or through Conservation Ontario. During the consultation on Bill 23, the NPCA sent comments directly through the ERO and was invited to make a delegation to the Standing Committee on Heritage, Culture and Infrastructure Policy.

On February 16, 2024, the Ministry of Natural Resources and Forestry (MNRF) provided notice that the proclamation of provisions of the *Conservation Authorities Act* related to work permits and compliance and enforcement, as well as the approval of Ontario Regulation (O. Reg.) 688/21: Rules of Conduct in Conservation Areas, O. Reg. 41/24: Prohibited Activities, Exemptions and Permits, and amendments to O. Reg. 686/21: Mandatory Programs and Services made under the act (O. Reg. 42/24), will all come into effect on April 1, 2024.

E-laws has been updated to include the proclamation date within the *Conservation Authorities Act* and the new regulations:

- Conservation Authorities Act: https://www.ontario.ca/laws/statute/90c27
- O. Reg. 688/21: Rules of Conduct in Conservation Areas: https://www.ontario.ca/laws/regulation/210688

- O. Reg. 41/24: Prohibited Activities, Exemptions and Permits: https://www.ontario.ca/laws/regulation/r24041#BK0
- O. Reg. 42/24: Mandatory Programs and Services: https://www.ontario.ca/laws/regulation/r24042

Effective April 1, 2024, O. Reg. 41/24: Prohibited Activities, Exemptions and Permits sets out details on prohibited activities and areas where a conservation authority permit is required, exemptions from a permit for certain low-risk activities, the process for applying for a conservation authority permit, and service requirements for conservation authorities in reviewing permit applications. The new regulation will apply to all conservation authorities and the existing 36 conservation authority-specific regulations ("Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses") will be revoked.

Amendments to O. Reg. 686/21: Mandatory Programs and Services, also in effect April 1, 2024, prescribes requirements for conservation authorities to prepare an annual report that outlines statistics on permits, including reporting on their level of compliance with the requirements set out in O. Reg. 41/24

Since 2018, the NPCA Planning and Development division has been developing policies, procedural guidance, customer service standards and regulatory mapping updates to improve customer service delivery and respond to the on-going changes to the *Conservation Authorities Act*.

In 2020, the process to update the NPCA Policy Document began and in 2022, the Board of Directors approved an updated Policy Document and Procedural Manual to provide much-needed clarity and direction to staff and applicants for planning and permit applications under the current legislation while establishing a solid foundation for future updates that would be required. This focus on continuous improvement has positioned NPCA to effectively transition to preparing new and updated policies and procedures to ensure the Planning and Development programs and services conform to the pending legislative and regulatory changes.

Discussion:

The new legislative structure includes requirements for the administration of work permits, enforcement of offences and public use of conservation authority properties in both the *Conservation Authorities Act* and regulations. The following summary highlights key changes resulting from the passing of the new regulation and the enactment of amended sections under the *Conservation Authorities Act*.

Defining Regulated Activities and Areas

- The term, “development” has been replaced by “development activity” but the definition remains the same.
- The definition of a “watercourse” has been amended to require that a watercourse be a defined channel, having a bed and banks or sides (formerly defined as an identifiable depression in the ground).
- The definition of “pollution” is removed, which is an amendment related to the new criteria or ‘tests’ of a permit.
- The regulated area adjacent to a wetland is changed to 30m for all wetlands and there are no size thresholds. The former legislation included 120m for provincially significant wetlands and wetlands greater than two hectares in size, and 30m for wetlands less than two hectares in size.
- The hazard allowances, which are regulated areas adjacent to apparent and non-apparent river or stream valleys (including floodplains) has been standardized for all conservation authorities. The existing exception for hazard allowance to non-apparent valleys has remained unchanged for the NPCA.
- The description of regulated areas adjacent or close to the Great Lakes-St. Lawrence River System continues to include the 100-year flood level, plus the appropriate allowance for wave uprush and also specifies, “other water-related hazards, including ship-generated waves, ice piling and ice jamming.”
- A standard 30m allowance from a dynamic beach associated with waterfront lands has been added.
- A standard additional 15m allowance inland from the further extent of the regulated areas from the Great Lakes-St. Lawrence River System has been included.

Regulation Mapping

- Maps depicting regulated areas must be made available to the public on an authority’s website, and any other means the authority considers advisable.
- At least once annually the authority must review mapping to determine if updates are required and make any updates available to the public.
- Where significant mapping updates are to be made, an authority shall provide notice to the public, municipalities, and stakeholders at least 30 days prior to any authority meeting to consider the changes.
- Regulation continues to state that in the case of a conflict regarding the boundaries of the regulated areas, the description of those areas in O. Reg. 41/24 prevails over the depiction of the areas in the maps.

Exemptions for Low-Risk Activities

- A number of development activities considered low-risk are exempt from requiring a permit.
- The exempted development activities are mainly minor in nature and would fall under the NPCA “minor” or “routine” permit category. There are size threshold and location criteria that also must be met.
- Generally, the exempted activities include:
    - Seasonal or floating dock
    - fencing
    - agricultural in-field erosion control structures
    - non-habitable accessory structures
    - non-habitable garage reconstruction
    - unenclosed detached decks or patio
    - installation/maintenance of tile drains
    - installation/maintenance of an offline pond for watering livestock
    - the maintenance or repair of municipal drains (previously permits were required for municipal drain works within wetlands). Conservation Ontario is seeking clarification from the Province on revisions to the DART protocol.
    - maintenance/repair of private driveway/laneway or public road/driveway

Permit Application Requirements

- An authority and applicant can engage in pre-submission consultation. If an applicant requests a pre-submission consultation, the authority is required to engage in the consultation.
- More detailed list of permit application requirements, including fee submission and landowner authorization.
- The applicant must be notified in writing within 21 days of receiving an application if application is deemed complete.
- Once an application is deemed complete, no new studies/plans can be requested unless agreed to by the applicant; however, the authority may ask the applicant for clarification or further details regarding any matter related to the application.
- An applicant may request an administrative review by an authority if they do not receive a notice of complete application within 21 days or if the applicant disagrees with the authority’s determination of a complete application or the request for additional information/studies/plans is unreasonable.
    - Administrative reviews must be completed within 30 days of request.
    - There is no appeal mechanism if the applicant disagrees with the outcome of the review.

- Requests for permit fee reconsideration must be responded to within 30 days and can be appealed to the Ontario Land Tribunal (OLT) for non-decision or continued objection to fee amount.

Permits

- Existing permit approval 'tests' related to "pollution" and "conservation of land" are removed.
- New tests added for consideration of "unstable soil or bedrock", "health or safety of persons", and "damage or destruction of property". The control of flooding, erosion, and dynamic beaches remains.
- Permit conditions are limited to those which assist in preventing or mitigating hazards or effects on health and safety or property damage, or which support permit administration.
- Maximum period of validity for permits increases from 24 to 60 months.
- If the authority fails to give the applicant notice of a decision on a complete application within 90 days, the applicant can appeal directly to the OLT. Former guidance through Conservation Ontario has been to provide notice of a decision within 30 days for minor permits and 90 days for major permits.
- New powers for the Minister of Natural Resources and Forestry to issue permits and/or direct an authority not to issue a permit.
- Applicants may request a Minister's review where the authority refuses a permit or imposes conditions on a permit to which an applicant objects. The Minister's decision is final.
- An applicant may appeal an authority's decision to refuse a permit or issue a permit subject to conditions following a hearing of the Board to the OLT.
- Provision allows for the exemption of development from obtaining a permit within a municipality prescribed by regulation where the development has been authorized under the *Planning Act*. However, a regulation under this section **has not** been made at this time.

Enforcement and Offences

- Appointment of Officers moved from individual regulations (to be revoked) to Part VII of the *Conservation Authorities Act*.
- Minor changes to provisions for power of entry to private property.
- New powers for Officers to issue Stop Orders where:
    - Officer forms reasonable grounds to believe that a person is engaging in activity or about to engage in activity that contravenes the Act, regulations or permit conditions;
    - Activity has caused or is causing significant damage that would affect natural hazards, health and safety of persons or damage property; or
    - Order will prevent/reduce damage.

- Maximum penalties for offences increased – up to $50,000 and up to three months imprisonment for individuals and $1 million for corporations, plus additional daily fines and/or court-imposed amounts.

Reporting and Policies

- Authorities shall develop policy and procedure documents for permit applications and reviews.
- Authorities shall prepare and publish an annual report that outlines statistics on permits and its level of compliance with the requirements of O. Reg. 41/24.

Conservation Areas

- Enactment of O. Reg. 688/21: Rules of Conduct in Conservation Areas replaces individual conservation authority regulations.
- Outlines prohibited activities and activities requiring a permit on lands owned by conservation authorities.
- Enforcement provisions remain unchanged.

Transition Plan to Achieve Conformity with Legislation

Given the short amount of transition time (six weeks) to the date (April 1, 2024) the amended legislation and regulations come into force, conservation authorities are working closely with Conservation Ontario to ensure conformity to the Legislation is achieved in a timely and coordinated manner. NPCA has been proactively working on some of these items over the past few years. While NPCA is expected to comply with the proclaimed pieces of legislation as of April 1, 2024, best efforts will be made to prepare and update policies and procedures in a timely yet thorough manner.

It is recommended that the NPCA take a phased approach to implementing the changes, beginning with key housekeeping amendments to the NPCA Policy Document and administrative updates to forms and templates, followed by more comprehensive work requiring further time and resources.

Appendix 1 describes the nature of the proposed housekeeping amendments to the NPCA Policy Document that staff will endeavour to have completed and posted to the NPCA website by April 1, 2024. These amendments include updating legislation and regulation references, revising definitions, revising descriptions of regulated areas, updating references to the ‘tests’ of a permit and including the permit exemptions.

Appendix 2 includes a transition plan that identifies the administrative updates, such as re-delegation of authority for permits, re-appointment of Officers, and

updates to permit application forms and templates that will be in place by April 1, 2024, and the long-term workplan with general timelines that are required to bring the NPCA policies and procedures in conformity with the amended legislation and regulations.

Planning and Development staff will report to the Board of Directors periodically to provide status updates on the implementation of the transition plan.

Financial Implications:

There are no financial implications associated with this report. Resources required to implement the legislative and regulatory changes under the *Conservation Authorities Act* are funded through the approved budget.

Links to Policy/Strategic Plan

The mandated regulatory role of conservation authorities aligns with the NPCA's 10-year Strategic Plan goals to protect people and properties from natural hazards and climate impact, and maintain a high standard of client services, tools and procedures for planning review and permits.

Related Reports and Appendices:

Appendix 1 – Housekeeping Amendments to the NPCA Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority

Appendix 2 – NPCA Planning and Development Transition Plan to Conform to Legislative and Regulatory Changes Under the *Conservation Authorities Act*

Authored by:

Original signed by:

Leilani Lee-Yates, MCIP, RPP
Director, Planning and Development

Submitted by:

Original signed by:

Chandra Sharma, MCIP, RPP
Chief Administrative Officer/Secretary-Treasurer

Appendix 1

Housekeeping Amendments to the NPCA Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority

It is recommended that the following housekeeping amendments be made to the NPCA Policy Document to provide the necessary clarity and guidance for the implementation of legislative and regulatory amendments under the *Conservation Authorities Act* that come into force on April 1, 2024.

Section of NPCA Policy Document	Description of Housekeeping Amendments
Part A: Watershed Context Chapter 1: Introduction This section provides an introduction, watershed context, direction from the 10-year Strategic Plan, a summary of roles and responsibilities of the NPCA and the Legislative Framework affecting NPCA's plan review and permitting functions.	Updates to this section will include: • Changing references of the former O. Reg. 155/06 to O. Reg. 41/24. • Update references to numbering of sections within the *Conservation Authorities Act* that have changed. • Revise references to the permit approval 'tests' • Further clarify NPCA roles and responsibilities to align with the legislative changes.
Part B: Environmental Planning Chapter 2: Enviornmental Planning Areas of Interest This section contains policies related to NPCA's role and responsibilities related to the review of applications under the *Planning Act* and other legislation.	Updates to this section will include: • Removal to references to natural heritage and stormwater management plan review services and related municipal MOUs, which is no longer allowed under changes to O. Reg. 686/21. • Changing references of the former O. Reg. 155/06 to O. Reg. 41/24. • Update policies related to permit exemptions for maintenance and repair of municipal drains. • Update references to numbering of sections within the *Conservation Authorities Act* that have changed. • Further clarify NPCA roles and responsibilities to align with the legislative changes. Future amendments to this section will be required after the release of the pending Provincial Planning Statement, and the

Section of NPCA Policy Document	Description of Housekeeping Amendments
Part B, Chapter 2 continued	updated Drainage Act and Conservation Authorities Act Protocol. The *Environmental Assessment Act* is currently under reivew, and future amendments to this section may be required to align with changes to the Act.
Part C: Policies for the Administration of Ontario Regulation 155/06 This section provides detailed policies for the specific areas regulated by the NPCA.	Updates to this section will include: • Changing references of the former O. Reg. 155/06 to O. Reg. 41/24. • Update references to numbering of sections within the *Conservation Authorities Act* that have changed. • Change specific section references within the new O. Reg. 41/24. • Revise policies related to the former permit 'tests' to reflect the deletions and additions in the *Conservation Authorities Act* and O. Reg. 41/24. • Update policies for development activities that do not require a permit as identified in O. Reg. 41/24. • Replace "development" with "development activity". • Revise definition of "watercourse". • Update descriptions of regulated areas adjacent or near the Great Lakes-St. Lawrence River System and areas adjacent to wetlands in accordance with the changes in O. Reg. 41/24. • Update the Hazardous Lands policies to include "unstable soil" and "bedrock". Future amendments to this section may be required upon the completion of the updates to the Lake Ontario and Lake Erie Shoreline Management Plans that may result in recommended changes to policies based on revised technical information.
Definitions	The definitions section will be updated to revise any changes to definitions resulting

Section of NPCA Policy Document	Description of Housekeeping Amendments
Includes definitions of terms used in the document.	from the amendments to the *Conservation Authorities Act* and O. Reg. 41/24/
Appendix A: Ministry of Natural Resources and Forestry (MNRF) Delegation of Natural Hazards to Conservation Authorities MOU	This appendix will be deleted, because O. Reg. 686/21 mandates the role and responsibilities of conservation authorities to provide programs and services for the purpose of commenting on prescribed Acts related to the natural hazard risks and ensuring decisions under the *Planning Act* are consistent with the natural hazard policies in policy statements and provincial plans.
Appendix B: Conservation Authorities Act, Regulation 686/21, Mandatory Programs and Services	O. Reg. 686/21 has been amended since the date of the NPCA Policy Document was approved. As such the most recent version of the regulation will be included in this Appendix.
Appendix C: Conservation Authorities Act, Ontario Regulation 155/06	This Appendix will be changed to replace O. Reg. 155/06 with a copy of O. Reg. 41/24
Appendix D: Municipal Plan Review MOUs	The MOUs with City of Hamilton and Haldimand County will be removed, because NPCA no longer provides natural heritage and stormwater management plan review services to the municipalities.
Appendix E: NPCA By-law 01-2021, Being a By-law to Amend the NPCA Administrative By-law governing the calling of meetings and procedures to be followed at meetings	Conservation Ontario is updating their Hearing Guidelines to reflect amendments to the *Conservation Authorities Act* related to hearing requests and notifications. Future amendments to the NPCA Administrative By-law will be required at which time this Appendix will be updated to include the new By-law.

Appendix 2

NPCA Planning and Development Transition Plan to Conform to Legislative and Regulatory Changes Under the Conservation Authorities Act

The following transition plan identifies a phased approach to bring the NPCA policies and procedures in conformity with the legislative and regulatory changes under the *Conservation Authorities Act*. Planning and Development staff will report to the Board of Directors periodically to provide status updates on the implementation of the transition plan. In the meantime, NPCA Planning and Development staff will ensure that the authority continues to carry out its duties, functions and responsibilities to administer and enforce the provisions of Part VI and VII of the *Conservation Authorities Act* and any regulations made under those Parts.

Review of Permit Applications

Applications for permission to develop in a regulated area or interfere with a wetland or watercourse **received prior to April 1, 2024**, will be subject to the provisions of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (O. Reg. 155/06) in effect at the time the application was received. If the subject application for the proposed works is not within an area or an activity regulated under the new regulation (O. Reg. 41/24), then the applicant will be advised in writing that a permit is not required for the proposed works. All applications **received on or after April 1, 2024**, will be subject to the provisions of O. Reg. 41/24.

Review of Planning Applications

For planning applications **submitted prior to April 1, 2024**, the NPCA will continue to review the application in accordance with O. Reg. 155/06 that was in effect at the time the application was received and in accordance with O. Reg. 686/21: Mandatory Programs and Services. NPCA staff will note in their comments that O. Reg. 41/23 comes into effect on April 1, 2024, however, the application continues to be reviewed in accordance with O. Reg. 155/06. Those planning applications **submitted after April 1, 2024**, will be reviewed in accordance with O. Reg. 41/24 and O. Reg. 686/21.

Violation Notices and Legal Actions

Violation Notices issued **prior to April 1, 2024**, will be addressed and remedied by CA Provincial Offences Officers in accordance with the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (O. Reg. 155/06).

Violation Notices issued **prior to April 1, 2024**, for works in an area or activity no longer regulated under the new O. Reg. 41/24, upon satisfactory resolution of the matter, the proponent will be issued a letter advising that the works occurring in violation of O. Reg. 155/06 have remedied/ rectified and the violation notice is revoked.

Violation notices issued and prosecutions commenced on or after April 1, 2024, will confirm with Parts VI and VII of the Act and O. Reg. 41/24.

NPCA Planning and Development Transition Plan

Actions	Timeline
Delegation of authority for permit signatories to CAO, Director of Planning and Development, Senior Manager of Environmental Planning and Policy, and Manager of Planning and Permits	March 22, 2024 Board Approval (Report No. FA-12-24)
Delegation of authority for permit administrative reviews to CAO and Director of Planning and Development	March 22, 2024 Board Approval (Report No. FA-12-24)
Re-appointment of Officers under the *Conservation Authorities Act*	March 22, 2024 Board Approval (Report No. FA-13-24)
Communication to watershed municipalities	March 2024 May 2024 – training session with Niagara Area Planners
Prepare a Permit Pre-Submission Consultation Checklist	April 1, 2024
Revise Permit Application Form	April 1, 2024
Revise Permit Template	April 1, 2024
NPCA Policy Document Housekeeping Amendments	March 22, 2024 Board Approval (Report No. FA-09-24) April 1, 2024 Completion
Update NPCA Planning and Permits website to include revised permit application documents, updated NPCA Policy Document and related Board Reports	April 1, 2024
Update NPCA Section 28 Compliance and Enforcement Procedural Manual	May 2024
Update Compliance and Enforcement Standard Operating Procedures	May 2024
Update NPCA Client Service Standards for Plan and Permit Review Conservation Ontario is preparing an updated guidance document on service delivery standards	Summer 2024
Prepare administrative review policies and procedure Conservation Ontario is preparing a new guidance document for administrative reviews	Summer 2024

Actions	Timeline
Update the hearing procedures within the NPCA Administrative By-law Conservation Ontario is updating their Hearing Guidelines	To be determined based on timing of Conservation Ontario updating their Hearing Guidelines and any additional broader updates to the by-law
Update NPCA Planning and Permitting Procedural Manual Board Resolution No. FA-105-22 authorizes staff to maintain and update the procedural manual as needed to reflect evolving best practices and technical guidance documents issued from Provincial Ministries	Review of the procedural manual has begun. Updates will be made on an on-going basis as staff receive further guidance from Conservation Ontario and the Province releases updated technical guidelines. Updated versions and notices will be posted to the NPCA Planning and Permitting website and shared with watershed municipalities.
Regulation mapping updates	Regular updates to the regulation mapping to reflect planning and permit approvals are on-going. Updates to wetlands and watercourses have begun and are anticipated to be completed in 2025. Staff will provide a status update on the mapping workplan by end of 2024.
Workplan for comprehensive review of NPCA Policy Document	Present workplan to Board for approval by end of 2024
Presentations and communications to broader stakeholders and communities Staff are reaching out to various stakeholders and communities through the NPCA Public Advisory Committee	On-going outreach and engagement throughout 2024

Niagara Peninsula CONSERVATION nature for all

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May 21, 2024

City of Niagara Falls
NPCA Public Advisory Committee
Niagara Parks Commission
Regional Municipality of Niagara
Town of Fort Erie
Town of Niagara-on-the-Lake

SENT ELECTRONICALLY

Resolution No. FA-62-2024 pertaining to Report No. FA-23-24 RE: Niagara River 'Degradation of Fish and Wildlife Populations' Beneficial Use Impairment (BUI) Status Assessment

At the NPCA Board of Directors meeting held on May 17, 2024, the Board passed the following resolution:

> **Resolution No. FA-62-2024**
>
> **THAT** Report No. FA-23-24 RE: Niagara River 'Degradation of Fish and Wildlife Populations' Beneficial Use Impairment (BUI) Status Assessment **BE RECEIVED**;
>
> **THAT** NPCA's Public Advisory Committee, Niagara Parks Commission, and municipalities adjacent to the Niagara River **BE ADVISED;**
>
> **AND FURTHER THAT** a report about the final outcome of the BUI status re-designation **BE BROUGHT** back to the Board.

A copy of Report No. FA-23-24 and associated Appendices are enclosed for your reference.

Sincerely,

Melanie Davis
Manager, Office of the CAO & Board
Niagara Peninsula Conservation Authority

cc: Chandra Sharma, CAO / Secretary - Treasurer
Leilani Lee-Yates, A/Director Watershed Strategies & Climate Change
Natalie Green, Manager, Climate Change & Special Projects

Report To: **Board of Directors**

Subject: **Niagara River 'Degradation of Fish and Wildlife Populations' Beneficial Use Impairment (BUI) Status Assessment**

Report No: **FA-23-24**

Date: **May 17, 2024**

Recommendation:

THAT Report No. FA-23-24 RE: Niagara River 'Degradation of Fish and Wildlife Populations' Beneficial Use Impairment (BUI) Status Assessment **BE RECEIVED**;

THAT NPCA's Public Advisory Committee, Niagara Parks Commission, and municipalities adjacent to the Niagara River **BE ADVISED;**

AND FURTHER THAT a report about the final outcome of the BUI status re-designation **BE BROUGHT** back to the Board.

Purpose:

The purpose of this report is to inform the NPCA Board of Directors about a recent assessment report which recommends changing the status of the 'Degradation of Fish and Wildlife Populations' BUI to *Not Impaired*.

Background:

In the late 1980s, the Niagara River was identified by Canada and the U.S. as one of 43 environmentally-degraded locations called Areas of Concern which required a Remedial Action Plan (RAP) to address specific environmental issues. The NPCA, alongside many local partners, continues to make progress on addressing issues pertaining to the water quality and ecosystem health of the Niagara River through the Niagara River RAP program. The program is implemented through a team of various partners and local stakeholders.

The RAP tracks the status of fourteen (14) potential environmental challenges called Beneficial Use Impairments (BUIs) that inform actions toward the improvement of environmental, social, or recreational benefits of water. There are currently four (4) remaining on the Canadian side of the Niagara River AOC which are related to fish consumption, habitat, sediment quality, and fish and wildlife populations.

On May 19, 2023, the NPCA Board of Directors received a staff presentation and corresponding Report No. FA-20-23 providing a progress update that includes more information about the remaining challenges. Changing the status of a BUI is a tremendous achievement that signals the success of several long-term, collaborative efforts to improve water quality and ecosystem health in the Niagara River.

Discussion:

Recently, scientists from the Department of Fisheries and Oceans Canada and Environment and Climate Change Canada completed two independent, multi-year research studies examining the Niagara River's fish community and the health of colonial waterbirds. These studies aimed to monitor the condition of Niagara River fish and wildlife as environmental indicators to better understand if water quality or ecosystem health was impaired.

Following the completion of the technical studies, a BUI assessment report was completed to determine if the RAP-established BUI delisting criteria have been met. The purpose of the report is to assess the scientific evidence against the criteria, summarize the studies, and provide a recommendation for the status of the BUI.

In brief, the key findings of the assessment report are that:

- there is a healthy diversity of fish species in the Niagara River;
- the composition of fish species in the upper and lower Niagara River is similar to that of their adjacent Great Lake, indicating no undue local impacts within the Niagara River;
- fish population levels support recreational fishing; and
- contaminant levels within Niagara River fish-eating colonial waterbird remain stable or have decreased over time and do not affect their populations or ability to reproduce.

The report shows that all the established BUI goals have been met. As such, the RAP Team is recommending that the status of the 'Degradation of Fish and Wildlife Populations' BUI be changed to *Not Impaired*.

Public Engagement Process

As part of the established Niagara River RAP process and through the implementation of a robust engagement plan, the RAP Team is currently seeking input from the public, Indigenous partners, and relevant U.S. counterparts. The engagement period extends over a period of 30-days from April 30, 2024 to May 31, 2024.

There are many ways to learn more and get involved by visiting the NPCA's online engagement portal at: https://getinvolved.npca.ca/niagara-river-fish-wildlife. Interested parties are encouraged to read the BUI assessment report, fill out a brief survey, read

frequently asked questions, and leave a comment on our online engagement portal to provide their feedback.

In addition, a webinar is planned for May 14 at 7 P.M. during which the lead scientific experts will showcase the research studies that formed the basis of the assessment report and recommendation to change the BUI status. Registration is required to attend the webinar; however, a recording will be available online for future viewing.

Next Steps

Following the engagement period, the RAP Team will compile all the relevant information and summarize the feedback received into the assessment report. If there is community support for the recommendation to change the status of the 'Degradation of Fish and Wildlife Populations' BUI to *Not Impaired*, the report will be submitted to the Government of Canada and Ontario for final approval and official BUI status re-designation. If approved, the Niagara River RAP Team will have reached another tremendous milestone on the journey to remove the Niagara River from the list of Great Lakes' Areas of Concern and will have three remaining BUIs.

Financial Implications:

There are no financial implications. The Niagara River Remedial Action Plan program is funded through agreements with Environment and Climate Change Canada and the Ontario Ministry of the Environment, Conservation and Parks.

Related Reports & Appendices:

FA-20-23 RE: Progress Update for the Niagara River Remedial Action Plan Program (2019-2023)

Appendix 1: Assessment of the Degradation of Fish and Wildlife Populations Beneficial Use Impairment (BUI #3)

Links to Policy/Strategic Plan:

Restoring habitat, water resources, and forest cover is identified as a priority in Goal 1.3 of the NPCA's 10-year strategic plan. Additionally, the project advances the Niagara River RAP's water quality and ecosystem health goals, and strengthens relationships with government, academic, and community partners to advance mutual goals, aligning with goals 4.1 and 4.2.

Authored by:

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Chief Administrative Officer/Secretary-Treasurer

Appendix 1 to Report No. FA-23-24

Assessment of the *Degradation of Fish and Wildlife Populations* Beneficial Use Impairment (BUI #3)

Final Draft

2024

Final draft endorsed by Niagara River Remedial Action Plan Council in March 2024

Suggested citation: Niagara River Remedial Action Plan (NRRAP). 2024. Degradation of Fish and Wildlife Populations Beneficial Use Impairment Assessment Report for the Niagara River (Ontario) Area of Concern. Welland, ON. pp. 23

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Special thanks to Mark Filipski, U.S. RAP Coordinator with the New York State Department of Environmental Conservation, for facilitating a data gathering exercise with U.S. technical experts that supported the 'Degradation of Fish Populations' section of this report.

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EXECUTIVE SUMMARY

In the late 1980s, the Niagara River was identified as an Area of Concern, one of several degraded Great Lakes locations requiring effort to restore and improve its water quality and ecosystem health. The *Degradation of Fish and Wildlife Populations* Beneficial Use Impairment (BUI) is one of 14 potential impairments identified in the Canada-U.S. Great Lakes Water Quality Agreement used to address human-induced, legacy pollution issues that negatively impact the biological, chemical, and physical integrity of the Great Lakes. This BUI was designated 'impaired' on the Canadian side of the Niagara River AOC in the Stage 1 and Stage 2 Remedial Action Plan (RAP) reports, released in 1993 and 1995 respectively. The BUI was also designated impaired on the U.S. side of the AOC[1].

Following years of improvements to the Niagara River ecosystem, several comprehensive studies were undertaken to determine the current status of the Niagara River as it pertains to health and condition of fish and aquatic wildlife. The studies included a seasonal three-year Niagara River fish community study, an expert survey of fisheries professionals from both the U.S. and Canada, recreational fishing surveys, and long-term colonial waterbird monitoring. Based on the results of these studies that conclude the BUI delisting criteria have been met, in addition to a commitment for other long-term monitoring actions, the Niagara River Remedial Action Plan (NRRAP) team recommends changing the status of the *Degradation of Fish and Wildlife Populations* BUI for the Canadian side of the Niagara River AOC to 'NOT IMPAIRED'.

This report presents the most recent scientific information and expert opinion used to assess the status of the BUI against the established delisting criteria. Below is a summary of the results of this assessment:

BUI Delisting Criteria:	**Result**
• multiple lines of evidence indicate similarity between the Niagara River fish community and expectations based on the adjoining Great Lakes;	☑
• a monitoring plan is developed and there is a commitment confirmed by local partners for long-term implementation at suitable wetland sites along the Upper Niagara River;	☑
• breeding colonial waterbird populations within the Niagara River AOC are the same as (or better than) suitable reference sites;	☑
• temporal trends in contaminant concentrations in eggs, tissues, or whole-body burden of sentinel species in the Niagara River AOC are stable or declining;	☑
• spatial comparisons show that contaminant concentrations in eggs, tissues, or whole-body burden of sentinel species in the Niagara River AOC are the same as (or better than) suitable reference sites;	☑
• If the temporal or spatial contaminant concentrations above are not met, then they must not exceed established thresholds associated with potential population-level effects (i.e., reproductive impacts).	☑

[1] https://www.epa.gov/great-lakes-aocs/niagara-river-aoc-0

INTRODUCTION

The Niagara River is a 58-kilometre bi-national connecting channel flowing from Lake Erie to Lake Ontario that supports complex and diverse ecosystems. With hundreds of bird species relying on the Niagara River for migration and breeding, it was designated an Important Bird and Biodiversity Area in the 1990s. In addition, the river provides important aquatic habitat for a diversity of fishes and contributes to world-class fisheries.

The Niagara River is known for its noticeable drop in elevation resulting in the Niagara Falls that span both sides of the border. This unique natural feature gave rise to hydroelectric power generation and led to significant industrial and residential development in the area, particularly on the New York side. By the early 1900s, numerous pollution problems were documented as a result of industrial activities, because at that time there lacked environmental knowledge and regulations that exist today. As a result of decades of water quality issues, the Niagara River was listed as one of 43 Great Lakes Areas of Concern (AOC) in 1987 through the Canada-U.S. Great Lakes Water Quality Agreement (GLWQA). The GLWQA is the document through which Canada and United States commit to maintaining and restoring the environmental integrity of the waters of the Great Lakes.

Through the GLWQA, a Remedial Action Plan (RAP) is required in each AOC to address ecosystem health and water quality impairments, termed Beneficial Use Impairments (BUIs). The goal of a RAP is not to restore the river to a pristine, pre-settlement state. Rather, the achievement of BUI restoration goals (delisting criteria) means the environmental state of the Niagara River is improved —and no longer worse than other Great Lakes locations. The BUIs are used as ecosystem indicators to focus monitoring activities and remedial action efforts such as pollution abatement and habitat restoration.

The *Degradation of Fish and Wildlife Populations* BUI is an environmental indicator[2] intended to understand the condition and impacts of legacy issues (e.g., water and/or sediment pollution) on the overall health of fish and aquatic wildlife that rely on the waters of the Niagara River for breeding and feeding, such as colonial, fish-eating waterbirds and marsh-dependent birds. Individual fish and wildlife organisms consistently exposed to elevated levels of pollutants can develop diseases, deformities, or other health issues that can affect their survival, growth, and ability to reproduce; subsequently leading to population-level impacts. For example, pollution may reduce numbers of certain sensitive fish species or result in a community structure with increased proportions of pollution-tolerant species, with fewer top predators and trophic specialists. Understanding the extent and potential for population-level effects from Niagara River AOC legacy pollution is integral in making meaningful progress towards ecosystem improvements that support healthy fish and wildlife populations.

[2] The Niagara River Remedial Action Plan (RAP) has historically divided this indicator into two separate sub-BUIs focused on either fish or wildlife populations with their own specific delisting criteria and assessed individually.

PURPOSE

The purpose of this report is to highlight the completed actions (refer to Appendix 1) and summarize the most recent scientific information and expert opinion to assess the status of the *Degradation of Fish and Wildlife Populations* BUI for the Canadian side of the Niagara River AOC.

BUI DELISTING CRITERIA

As part of the Niagara River RAP's 5-year Delisting Strategy (Green et al. 2021), updated BUI delisting criteria were developed with community participation, and targeted remediation and monitoring actions were identified to make progress on achieving overall ecosystem health of the Niagara River.

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

1a) multiple lines of evidence indicate similarity between the Niagara River fish community and expectations based on the adjoining Great Lakes; ***AND***

1b) a monitoring plan is developed and there is a commitment confirmed by local partners for long-term implementation at suitable wetland sites along the Upper Niagara River; ***AND***

2) breeding colonial waterbird populations within the Niagara River AOC are the same as (or better than) suitable reference sites; ***AND***

3a) temporal trends in contaminant concentrations in eggs, tissues, or whole-body burden of sentinel species in the Niagara River AOC are stable or declining; ***AND***

3b) spatial comparisons show that contaminant concentrations in eggs, tissues, or whole-body burden of sentinel species in the Niagara River AOC are the same as (or better than) suitable reference sites; ***OR***

3c) If the contaminant concentrations in 3a or 3b are not met, then they must not exceed established thresholds associated with potential population-level effects (i.e., reproductive impacts).

When relevant remedial actions are complete and scientific evidence through a BUI assessment shows these delisting criteria have been met, the RAP Team prepares a recommendation to redesignate the status of the applicable BUI. More information about the rationale and explanation of terminology used in the BUI delisting criteria is provided in detail in the Niagara River Delisting Strategy[3].

[3] http://ourniagarariver.ca/wp-content/uploads/2021/05/Niagara-River-Area-of-Concern-Delisting-Strategy-FINAL-May-2021.pdf

ASSESSMENT OF FISH POPULATIONS BUI CRITERION

Background

Overview of fish communities in the Niagara River

The Niagara River supports two geographically separated fish communities in the Upper and Lower sections of the river, which are divided by Niagara Falls. The Lower Niagara River (i.e., downstream of the Niagara Falls to Lake Ontario) supports a cold, cool, and warmwater fish community that is similar to that found in Lake Ontario. Angler harvest in the lower river is dominated by Rainbow Trout (*Oncorhynchus mykiss*), Lake Trout (*Salvelinus namaycush*), Coho Salmon (*Oncorhynchus kisutch*), and White Bass (*Morone chrysops*) with notable catches of Yellow Perch (*Perca flavescens*), Freshwater Drum (*Aplodinotus grunniens*) and Rock Bass (*Ambloplites rupestris*). Similarly, the Upper Niagara River (Lake Erie upstream of the Niagara Falls) reflects the fish community in adjoining Lake Erie with angler harvest dominated by Smallmouth Bass (*Micropterus dolomieu*), Yellow Perch, Rock Bass, Rainbow Smelt (*Osmerus mordax*), Walleye (*Sander vitreus*) and White Bass.

History of Fish Populations BUI Status

The status of the fish populations portion of the BUI in the Niagara River has been inconsistent over time. In the 1993 Stage 1 RAP Report (NRRAP 1993a), fish populations in the Niagara River were noted as generally not degraded and reflected those in the nearby Great Lakes. The report indicated that the Niagara River AOC supported a vibrant sport fishery with an impressive array of fish species, but also described reduced populations of certain species in the Upper Niagara River (i.e., Lake Sturgeon, Emerald Shiner, Northern Pike), which led to conflicting conclusions on the state of the Niagara River fish community at that time. These anecdotal observations along with concerns in the Welland River, a tributary of the Niagara River, resulted in an 'Impaired' status for this indicator on the Canadian side of the AOC. Despite some limited monitoring efforts on the Niagara River proper between 1997-2011, the status of the BUI remained 'Impaired' on the Canadian side of the AOC largely due to the conditions of the fish populations in the Welland River. During this time, extensive monitoring and remediation efforts (e.g., removal of fish barriers) were implemented in the Welland River watershed. Before 2012, the AOC included the Niagara River proper as well as the entire watershed, making these prior concerns from the Welland River relevant in the BUI impairment status. In 2012, the scope of the GLWQA was clarified and stated that the BUIs apply to the "Waters of the Great Lakes", which resulted in a need to re-examine the status of the Fish Populations BUI in the context of the Niagara River proper. Recent studies were intended to address information gaps and apply an appropriate scientific approach to assessing the current status of the BUI.

Known Challenges & Limitations

The main limitation for evaluating the status of fish populations in the Niagara River has been the practical challenges of sampling the river. Assessing fish communities using standard fisheries techniques such as electrofishing, gillnetting, and trawling have proven to be difficult in the deep, fast-

flowing waters of connecting channels (e.g., St. Clair River, Detroit River and Niagara River) (OMNRF 2020). In the Niagara River, sampling is further limited by large sections of river that are unsafe due to currents and natural hazards (e.g., immediately above and below the Niagara Falls and the whirlpools). These sampling challenges have resulted in an inability to consistently monitor the fish community and help explain the lack of robust historical fish community data from the river.

In addition, the Niagara River faces non-AOC specific pressures/challenges experienced across the Great Lakes basin, including impacts from invasive species, broadscale land use changes, and climate change. For example, invasive species including *Dreissenid spp.* mussels, Round Goby (*Neogobius melanostomus*) and Common Reed (*Phragmites australis*) cause impacts to native species and habitats across the Great Lakes. These pressures, although important as part of ecosystem health, are not specific nor unique to the Niagara River. These broad-scale challenges are addressed in other existing, ongoing programs that will continue beyond the scope of the Niagara River RAP. A full list of relevant monitoring programs can be found in Appendix 2.

To overcome these challenges, an approach to determining the BUI status was developed that compared the composition of fish species that would be expected in an unimpaired Niagara River ecosystem - a function of species available from Great Lakes species pool - to the species currently found through agency sampling. With this approach, a large number of missing species may indicate potential impairment; whereas compositional similarity between expected and observed species would indicate a lack of impairment.

Summary of Relevant Studies

Niagara River Fish Community Monitoring (2015-2017)

Fisheries and Oceans Canada (DFO) designed and conducted a comprehensive nearshore fish community assessment in the Niagara River between 2015 and 2017 (Gáspárdy et al. 2020; Lamothe et al. 2020). The goal of the survey was to resample areas fished by the Ontario Ministry of Natural Resources and Forestry (MNRF) in 2004 and 2008 (Yagi & Blott 2012). DFO sampling used boat electrofishing techniques to evaluate seasonal fish community composition (occurrence and relative abundance of fish species) at 10 sites through the river (6 Upper Niagara River, 4 Lower Niagara River).

DFO's 3-year fish sampling effort captured 41,365 fishes representing 65 species (Gáspárdy et al. 2020; Lamothe et al. 2020). Three species made up 60% of the total catch across all sampling events: White Sucker (*Catostomus commersonii;* 26.47%), Emerald Shiner (*Notropis atherinoides*; 21.07%), and Yellow Perch (12.42%). Eight species were only captured in the Lower Niagara River, including Silver Redhorse (*Moxostoma anisurum*), American Eel (*Anguilla rostrata*), Sea Lamprey (*Petromyzon marinus*), and several salmonid species (Coho Salmon, Chinook Salmon, Atlantic Salmon (*Salmo salar*), and Lake Trout). Species captured only in the Upper Niagara River included White Crappie (*Pomoxis annularis*), American Brook Lamprey (*Lethenteron appendix),* Trout-Perch (*Percopsis omiscomaycus*), Rainbow Darter (*Etheostoma caeruleum*) and Johnny Darter (*Etheostoma nigrum*). Refer to Appendix 3 for the full data report of DFO sampling results.

Analysis of observed versus expected fish species in the Niagara River (2019)

Based on the premise that the fish species occurring in a healthy Niagara River should be similar to the species composition in the adjacent Great Lakes (after correcting for non-riverine, geographically distinct, rare, or habitat-specialist species), a list of species present in the Lake Erie and Ontario drainages was created, based on Roth et al. (2012). Of the base pool of species from the Lake Ontario (123 fish species) and Lake Erie (134 fish species) drainages, it was recognized that only a subset of species would be expected in an unimpaired Niagara River due to the species' habitat requirements, rarity, life history, and geographic proximity to the river (Drake et al. in prep.). Using these criteria, 74 and 67 fish species were expected to be present in the Upper and Lower Niagara River, respectively.

Given that the multi-year DFO electrofishing survey (Gáspárdy et al. 2020) used a single gear to sample and determine the composition and relative abundance of the fish community, it did not necessarily detect all fish species occurring in the river. Therefore, a list of observed species in the Niagara River was developed by combining the DFO sampling results with recent catch records in scientific literature, ongoing studies, and other recent agency assessments. Together, this was used to develop a list of observed species over the recent 10-year sampling interval.

In total, the list of observed fish species (using results from DFO sampling together with recent (10 year) catch records from the scientific literature, ongoing studies, and other U.S. and Canada agency assessments, regardless of fishing gear used) indicated 76 fish species detected in the Upper Niagara River and 68 fish species detected in the Lower Niagara River. Of the subset of species that were expected, 70 species were detected in the Upper Niagara River (indicating 95% compositional similarity with 74 expected) and 65 species detected in the Lower Niagara River (indicating 97% compositional similarity with 67 expected; Drake et al. in prep). Moreover, in both cases, the *total* number of fish species detected was greater than those expected because some species were detected that were not expected, and assumed to occupy the Niagara River sporadically despite overall habitat limitations. Collectively, the results do not indicate signs of fish community impairment because: a) only a few species expected were not detected (e.g., Lower Niagara River: Silver Lamprey, Brindled Madtom); and b) these species likely exist in the river but remain undetected due to specialized sampling techniques that are difficult to implement in the river. Refer to Appendix 4 for a detailed summary of observed versus expected species.

Recreational Fishing in the Niagara River (2020)

A recreational fishing survey conducted by MNRF in 2020 provides valuable insight into the significance and value of Niagara River fisheries (Hunt et al. 2023). The 2020 survey used the same methodology and was complementary to previous DFO/MNRF collaborative Recreational fishery surveys completed in 2010 and 2015. The 2020 Ontario survey analyzed data on a finer spatial scale, and for the first time, provided the ability to compare the Upper and Lower Niagara River to other waterbodies across the province.

While fishing activity and total number of fish caught in the Upper and Lower Niagara River did not exceed those observed in neighbouring waterbodies (i.e., Lake Erie and Lake Ontario) or similar nearby waterbodies (e.g., Detroit River, St. Clair River, the Bay of Quinte, St. Lawrence River, and Lake St. Francis)[4], the survey demonstrated that the Niagara River supports provincially valuable fisheries. Notably, Smallmouth Bass in the Upper Niagara River and Rainbow Trout and Lake Trout in the Lower Niagara River. The catches in each of these fisheries exceeded by ~two or more times, those observed in neighbouring or similar nearby water bodies. Walleye (*Sander vitreus*) catches in the Upper Niagara River were similar to those observed in Lake Erie's eastern basin and the Bay of Quinte. The collective Muskellunge (*Esox masquinongy*) catches throughout the river (i.e., 700 fish) were similar to 'Musky' fisheries in the Detroit River and Lake St. Francis (approx. 500 fish, respectively), two known popular Muskellunge fisheries.

Results from the 2020 recreational fishing survey suggest that the Niagara River fish populations are healthy and demonstrate that beneficial uses of the river through recreational fishing opportunities are comparable to locations across the province.

Key Findings & Conclusion

In summary, multiple lines of evidence indicate fish populations in the Niagara River are healthy and are not impaired by the historic human-induced legacy pollution issues and habitat degradation. These multiple lines of evidence include:

- The fish communities of the Upper and Lower Niagara River show strong compositional, functional, and trophic similarities to the fish communities that would be expected based on the species pool in the corresponding Great Lakes.
- The expected species are in fact present in the Upper and Lower Niagara River, and span unique life history and habitat requirements, including those of two species of conservation concern: Grass Pickerel (*Esox americanus vermiculatus*) and the American Eel (*Anguilla rostrata*).
- The fish populations in the Upper and Lower Niagara River are providing beneficial uses through recreational fishing opportunities in ways that are comparable to locations across the province.

Based on these lines of evidence, fish populations do not show signs of impairment which indicates that criterion 1a has been met.

[4] While these locations are also considered AOCs, they are the most functionally similar to the Niagara River connecting channel, are the most suitable for comparison, and are all in the process of re-designating their fish population BUIs.

ASSESSMENT OF WILDLIFE POPULATIONS BUI CRITERIA

Background

Overview of Niagara River wildlife populations

The Niagara River corridor is an important area that supports various wildlife species including hundreds of species of birds that rely on its waters for migration, overwintering habitat, breeding, and feeding. At least six waterbird species congregate in the Niagara River corridor in globally significant numbers based on single day surveys, including Canvasback (*Aythya valisineria*), Greater Scaup (*Aythya marila*), Red-breasted Merganser (*Mergus serrator*), Bonaparte's Gull (*Chroicocephalus philadelphia*), Herring Gull (*Larus argentatus*), and Ring-billed Gull (*Larus delawarensis*). In fact, the Niagara River was designated an Important Bird and Biodiversity Area in the 1990s namely because it supports up to 25% of the global population of Bonaparte's Gull.

The wildlife portion of the BUI is focused on specific aquatic wildlife species that spend most (or all) of their lives near water and rely on the Niagara River for breeding and feeding, such as colonial waterbirds, marsh-dependent birds, and amphibians. This close connection to the aquatic environment is vital in understanding whether the Niagara River's water quality (i.e., due to legacy pollutants such as polychlorinated biphenyls [PCBs] and mercury) is impacting the biological integrity of organisms within the aquatic ecosystem. Two colonial waterbird species that breed and forage within the Niagara River AOC selected for this BUI assessment are Herring Gull and Double-crested Cormorant (*Phalacrocorax auritus*). These colonial waterbirds are important because they are top predators in the food web, they nest in colonies near water, and obtain almost all of their food (fish and aquatic invertebrates) from the water (USFWS 2002). The Herring Gull has been used as an indicator species in Great Lakes environmental monitoring for decades, which allows for the study of change over time.

History of Wildlife Populations BUI Status

When the Niagara River was first listed as an AOC, the status of wildlife populations was considered 'Unknown' as there was limited information available (NRRAP 1993a). The Stage 1 RAP Report (1993a) noted that while the Niagara Peninsula had a wide diversity of bird species, a number of wildlife species were endangered or extinct. However, the threats leading to the endangered or extinct status were widespread across the developed portion of Ontario, not specifically linked to issues in AOCs. A follow-up to the RAP Stage 1 Report noted that long-term contaminant data (1977-1990) in colonial waterbird eggs showed declining trends, and that the number of nests were increasing (NRRAP 1993b). Despite evidence suggesting improved health of colonial waterbirds nesting within the Niagara River, the wildlife BUI status was changed from 'Unknown' to 'Impaired' through the completion of the RAP Stage 2 Update Report (NRRAP 2009).

Summary of relevant studies

Long-term Wildlife Monitoring Plan

The Great Lakes Marsh Monitoring Program (GLMMP) was established in 1995 as a partnership between Birds Canada, ECCC, and the U.S. Environmental Protection Agency. The program focuses on marshes in the Great Lakes basin with a special emphasis on coastal Great Lakes marshes since many of these locations experienced declines in health due to heavy pollution and development (Birds Canada 2009). Given the Niagara River's unique natural features and its fast-flowing waters, it does not support the typical marsh-type habitats used by the GLMMP (Bichel 2022). Since 2016, seven coastal wetland habitat restoration projects, as well as an addition wetland project at Gonder's Flats, have been completed by NRRAP partners along the Canadian side of the Upper Niagara River. While these sites are vegetated and beginning to establish, only one (Gonder's Flats) meets the GLMMP site criteria. As such, a different approach and appropriate monitoring sites were needed to understand and assess wildlife in the Niagara River.

In 2022, a Long-Term Wildlife Monitoring Plan was prepared for the Niagara River AOC by Birds Canada in collaboration with staff from the Niagara Peninsula Conservation Authority (NPCA) and Niagara Parks Commission (NPC) (Bichel 2022). The plan outlines the implementation of repeatable, annual surveys using established methodology easily conducted by staff or community volunteers to monitor presence/absence of breeding bird species at four Upper Niagara River Sites (Ussher's Creek, Baker's Creek, Service Road 3, and Frenchman's Creek), as well as the presence of breeding amphibian species at two Upper Niagara River sites (Gonder's Flat's and Dufferin Islands) over time. The monitoring is being implemented by relevant partners through existing organizational, environmental strategies beyond the scope and life of the RAP. Refer to Appendix 5 for more information.

Colonial waterbird populations and current trends 2018-2019

Since the 1970s, scientists from ECCC have been monitoring spatial and temporal contaminant trends, and nest counts in Great Lakes colonial waterbirds as part of its Great Lakes Herring Gull Contaminant Monitoring program. The NRRAP Team identified the need to update monitoring efforts to validate earlier evidence of improving contaminants trends and nest counts of colonial waterbirds in the Niagara River AOC. As a result, ECCC conducted a 2-year study (2018-2019) examining nest counts of colonial waterbird populations in the Niagara River AOC, as well as the spatial and temporal trends for a suite of historic, relevant contaminants (e.g., polychlorinated biphenyls (PCBs), mercury, organochlorine compounds, and polybrominated diphenyl ethers (PBDEs)) (Hughes et al. 2020).

There were two components to the assessment of colonial waterbird populations. First, a laboratory incubation of cormorant eggs to assess embryonic viability and deformity frequencies. Second, an analysis of contaminants in gull and cormorant eggs to evaluate spatial and temporal trends against thresholds with established population-level effects. Gull and cormorant eggs were collected from the Buffalo Harbour (U.S.) and appropriate reference sites in eastern Lake Erie to complement previous long-term monitoring within the Niagara River AOC at the "Weseloh Rocks". From 1979 to 2017, the

annual collections of Herring Gull eggs for the monitoring program were conducted at Weseloh Rocks near the top of the Niagara Falls, but record-breaking high-water levels at this site in 2018 and 2019 reduced nesting habitat available for Herring Gulls (as ground-nesters) compared to earlier years. Therefore, new sampling sites near the Buffalo Harbor were sampled in 2018 and 2019. Nesting locations at Mohawk Island and Port Colborne in the eastern basin of Lake Erie were used as reference sites in the study. Refer to Appendix 6 for the full technical report.

Key Findings & Conclusion

In conclusion, a monitoring plan is in place and there is a confirmed commitment by local partners for its long-term implementation at suitable wetland sites along the Upper Niagara River. Criterion 1B has been met.

Additionally, results from the ECCC colonial waterbirds study indicate stable or decreasing contaminants levels in the AOC over time that are similar to reference locations and have minimal potential impacts on reproduction and survival rates of colonial waterbirds in the Niagara River AOC. Specific findings related to the BUI delisting criteria are:

- Egg viability was similar in cormorant eggs collected from Buffalo Harbor (85%) and the reference colony (80%) following artificial incubation in the two study years. Egg viability in cormorants was considered to be not impaired. Criterion 2 has been met.
- Based on long-term collections of Herring Gull eggs from Weseloh Rocks and recent egg collections from another colony within the AOC at Buffalo Harbor, temporal trends in contaminant levels indicate that concentrations have declined (for PCBs) or are stable (for mercury) between the late 1970s/early 1980s to 2019. Criteria 3A has been met.
- Spatial comparisons indicate that the majority of contaminant concentrations (except mercury) in eggs under the influence of the AOC are the same as those at the upstream reference site and outside of the influence of the AOC. Criterion 3B has been met, except for mercury.
- For mercury, higher concentrations were found in gull eggs from the AOC colony compared to the reference colony; however, mercury burdens were well below those associated with population-level effects in colonial waterbirds. Criterion 3C has been met.

This assessment shows that all wildlife-related BUI delisting criteria have been met.

RECOMMENDATION

This report outlines multiple studies used to assess the status of fish populations and wildlife populations in the Niagara River AOC. The lines of scientific evidence indicate all delisting criteria for the *Degradation of Fish and Wildlife Populations* BUI have been met, and all relevant remaining actions under the RAP have been completed. Therefore, the Niagara River RAP Team **recommends that the**

status of the *Degradation of Fish and Wildlife Populations* BUI for the Canadian side of the Niagara River be officially changed to 'NOT IMPAIRED'.