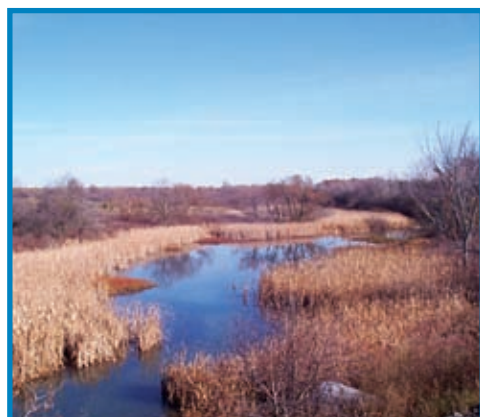


3) What remains to be done?

It was clear from this review that while a lot of positive work has been completed there is still work to be done in order to deal with the impairments listed above. Some of the remaining key actions include:

1. Assessing and addressing sources of nutrients leading to eutrophication of the Welland River and its tributaries.
2. Restoring and protecting fish and wildlife habitat, including unique habitats rarely found in other parts of the Great Lakes basin, and reducing the impacts of hydroelectric operations at the Sir Adam Beck Generating Station on the river upstream of the Chippawa Power Canal.
3. Completing assessments for the beneficial use impairment *degradation of phytoplankton and zooplankton populations* and implementing appropriate actions for any other beneficial uses deemed impaired.
4. Completing assessment of Queens Royal Beach and implementing any required actions to reduce *e.coli* at this beach.
5. Developing and implementing an updated monitoring plan to help track progress of the beneficial use impairments and ensure they don't regress.
6. Based on community input and scientific studies, it was decided that a monitored natural recovery process is the most suitable approach to manage PCB-contaminated sediment in Lyon's Creek East. Administrative controls will be developed and implemented to ensure that the sediments are not disturbed.

The review process also demonstrated how important actions by the community are to the Remedial Action Plan process. For example, the Niagara Water Strategy was initiated by the Region in 2003. It established various goals and objectives in response to stakeholder input. Those goals relevant to the Remedial Action Plan principally revolve around the need to maintain and protect water quality throughout the watershed area. Remedial Action Plan related activities proposed by the strategy include eliminating combined sewer overflows and identifying key environmental systems reliant on clean water. Projects related to the Niagara River Remedial Action Plan have been identified as key priority actions in the current work program.



Another significant example of local action is the successful work that the Niagara River Restoration Council (in partnership with the Niagara Peninsula Conservation Authority and Environment Canada) has achieved in restoring fish access to many of the tributaries in the Niagara River (Ontario) AOC. This project work has unlocked approximately 511 km of potential fish habitat (based on available GIS data). It is anticipated that this will assist in a greater number of fish being able to reach areas where they can reproduce.

These successes, and many more like them, illustrate how this Remedial Action Plan depends on support and leadership by its various partners and stakeholders to make progress towards removing the Niagara River from the list of Areas of Concern in the Great Lakes.

To obtain copies of any of the Niagara River (Ontario) Area of Concern documents please visit:

www.npca.ca/water-management/nrap/



What is a Great Lakes Area of Concern?

There are a number of environmental hotspots around the Great Lakes as a result of historical pollution. Area of Concern (AOC) is the term used to identify those hotspots where the environment has been harmed to the point that it affects use and enjoyment of the water. In 1987, the governments of Canada and the United States identified 43 of these Areas of Concern. Twelve are Canadian and five are shared between Canada and the United States.

Remedial Action Plans were developed and are being implemented to restore each of these AOCs. The plans follow a dynamic three stage process which includes the identification of environmental issues, also known as beneficial use impairments. There are 14 impairments which may be considered in each AOC. The beneficial use impairments identified in an AOC must be addressed before it can be delisted (i.e. removed from the list of AOCs). Two of the Canadian AOCs have been delisted.

Niagara River Area of Concern

The 58 km long Niagara River is the major waterway linking Lake Erie and Lake Ontario. The river was designated an AOC on both the Canadian and American sides but these areas are being managed separately. The Niagara River (Ontario) AOC extends along the entire length of the Canadian side of the Niagara River (including Niagara Falls) and also includes the Welland River Watershed (which makes up 80% of its area).



Niagara River (Ontario) AOC Boundaries

Issues Identified in the Niagara River Area of Concern

The *Niagara River (Ontario) Remedial Action Plan Stage 2 Report* was released in 1995. It listed 16 goals and 37 recommendations and outlined a list of criteria for evaluating the restoration of beneficial uses. This process helped identify future actions needed to restore the AOC.



Some of the beneficial use impairments identified in the Niagara River (Ontario) AOC included:

- *Restrictions on fish and wildlife consumption*
- *Degradation of fish and wildlife populations*
- *Degradation of benthos* (worms and insects that live at the bottom of the river)
- *Eutrophication* (increase in nutrients that results in decreased oxygen in the water) or *undesirable algae*

These beneficial use impairments are the result of habitat destruction and a wide variety of **local contaminant sources** (e.g., urban sewage, stormwater runoff and industrial discharges, agricultural runoff, municipal sewage treatment, failing septic systems, and contaminated sediments).

In addition to these local sources, several of the impacts come from outside the Niagara River AOC (e.g. from Lake Erie, from the US side of the river, and/or from air deposition). These **non-local contaminant sources**, however, are beyond the scope of this Remedial Action Plan and are being addressed through other initiatives. One program set up to deal with these concerns is the Niagara River Toxics Management Plan. This binational plan's purpose is to reduce the concentrations of toxic pollutants in the Niagara River.

Review of the Stage 2 Report

Since the release of the 1995 Stage 2 report, it is often asked:

“What remains to be done in order to delist the Niagara River Area of Concern?”
 &
“How long will it take to achieve delisting?”

A full review of the Niagara River (Ontario) AOC's Remedial Action Plan Stage 2 began in 2004, with assistance from various local groups, industries, levels of government and the general public. This review:

- Assessed the status of implementation activities and the beneficial use impairments
- Identified any information gaps that require monitoring and assessment
- Focused all future actions under the Remedial Action Plan towards delisting

This review is important as many changes have occurred during the past 14 years including:

- Changes to the environmental conditions within the AOC
- Changes in remediation technologies
- Changes in programs and priorities of Remedial Action Plan partners
- Advances in analytical capabilities
- Advances in scientific understanding of environmental issues
- Changes in government policy and regulations

The *Niagara River Remedial Action Plan Stage 2 Update* will replace the former Stage 2 report.

What Was the Outcome of the Stage 2 Review?

1) Progress made since the 1995 Stage 2 report

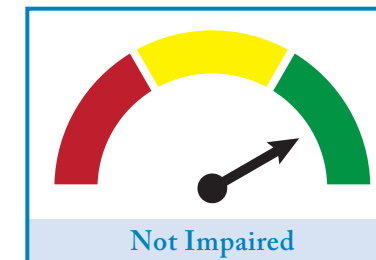
The original 16 Remedial Action Plan goals, established by the community, remained unchanged and valid.

Five of the 37 recommendations in the 1995 report have been addressed: seven are no longer applicable and six will be addressed in an updated monitoring plan. The remaining 19 were revised into a list of 12 new recommendations

2) Charting a course to delisting

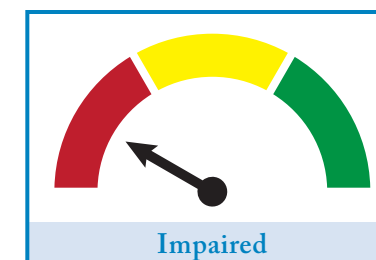
The delisting criteria are the performance measures for the AOC. They are the indicators that will be used to determine whether impairments have been restored. The 1995 delisting criteria were updated to reflect current standards which are considered to be scientifically defensible, specific, measurable and achievable. The new criteria can be found in the *Niagara River Remedial Action Plan Stage 2 Update report*.

The nine beneficial use impairments that were identified for this AOC were evaluated against the updated delisting criteria using the most current data. This evaluation resulted in the following update:



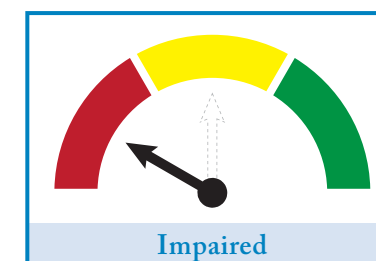
No Longer “Impaired”

- *Bird or animal deformities or reproduction problems*
- *Fish tumours & deformities*
- *Restrictions on fish and wildlife consumption* (just the wildlife component – the fish component continues to be impaired)
- *Restrictions on dredging activities* (this was originally incorrectly designated as impaired and has now been removed)



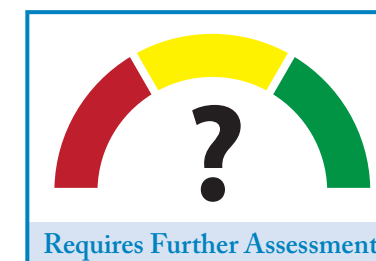
Continues to be “Impaired”

- *Degradation of benthos*
- *Beach closings*
- *Loss of fish and wildlife habitat*



From “Requires Further Assessment” to “Impaired”

- *Degradation of fish and wildlife populations* (just the degradation of wildlife populations component – resulting in the entire beneficial use impairment now being listed as impaired)
- *Eutrophication or undesirable algae* (just the undesirable algae component – resulting in the entire beneficial use impairment now being listed as impaired)



Continues to “Require Further Assessment”

- *Degradation of phytoplankton and zooplankton populations*