

# A unique approach to restoring the Bay of Quinte - one environmental challenge at a time

## DEGRADATION OF FISH AND WILDLIFE POPULATIONS **RESTORED**



In the early 1990s, the fish population was considered impaired due to the lack of species variety. Now, the Bay has a balance of prey and predator species due to improved habitat, fisheries management, and reduced phosphorus levels. Today, the Bay is considered a world-class walleye and bass fishery. Wildlife was not identified as impaired.

## LOSS OF FISH AND WILDLIFE HABITAT **RESTORED**



Around the Bay of Quinte, shorelines, wetlands, and underwater vegetation that provide fish and wildlife habitat have been destroyed by human activities. However, a great deal of work has been done to rehabilitate shorelines

and wetlands. Today, wetlands in the Bay are ranked as some of the best in Lake Ontario. With the reduction in phosphorus levels in the Bay water clarity has improved allowing the re-emergence of under water vegetation, which provides habitat for smaller prey fish and hunting grounds for top predators - walleye, bass & pike.

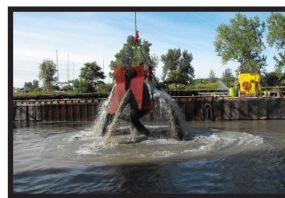
## DEGRADATION OF BENTHOS - UNDERWATER BUGS **RESTORED**



Benthos are the types of worms, nymphs and larvae that live in the sediment on the bottom of lakes, rivers and streams. Some species are tolerant of poor water quality, while

others require good water quality to survive. Today, a variety of underwater bugs that require good water quality to survive are present in the Bay. Current impacts on benthos are from invasives and habitat changes brought on by historical land uses.

## RESTRICTIONS ON DREDGING ACTIVITIES **RESTORED**



Due to current federal and provincial regulations this environmental challenge is no longer considered impaired. All dredging activities require permits from the appropriate agencies.

## FISH TUMOURS AND OTHER DEFORMITIES **RESTORED**



The Bay of Quinte RAP has enough scientific evidence to change the status of this environmental challenge. Based on the results of a detailed and lengthy study, it was determined that liver tumours in Bay of Quinte

brown bullheads are no longer a concern. Brown bullheads were used for this study, since they are considered an indicator species.

## BEACH CLOSINGS **RESTORED**



Beaches at Frankford, Kingsford Mills, Centennial Park (Deseronto) and Centennial Park (Northport) are routinely monitored for e-coli. The RAP recommends that Health Unit beach

posting days should not exceed 20% of the annual swimming season (Victoria Day to Labour Day). Currently, these beaches are meeting and/or exceeding this target.

## RESTRICTIONS ON DRINKING WATER OR TASTE AND ODOUR PROBLEMS **RESTORED**



Treated drinking water from the Bay of Quinte is monitored for compounds that can cause taste and odour problems or health issues. It meets the Ontario Drinking Water Quality Standards.

## DEGRADATION OF AESTHETICS **RESTORED**

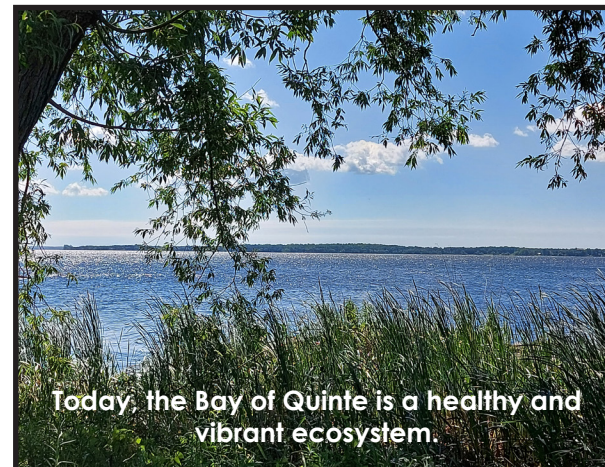


Over the years, the Bay of Quinte has become known as one of the most picturesque bodies of water in Lake Ontario. There have been dramatic improvements to the water clarity and quality since the beginning of Bay of Quinte Remedial Action Plan.

## EUTROPHICATION AND UNDESIRABLE ALGAE



One of the main issues with the Bay has always been excess phosphorus levels. The RAP has been working to reduce the amount of phosphorus from multiple sources, both rural and urban (sewage treatment plants, stormwater run-off, agricultural land practices). In aquatic ecosystems like the Bay of Quinte, it's the ability of phosphorus to promote rapid growth that causes problems. Excess phosphorus can lead to algal blooms and excess plant growth. This nutrient enrichment process is called eutrophication. Some types of algae (Blue-green algae) can produce toxins that are harmful to humans, domestic animals and wildlife. **FINAL REPORT IN EDITING PHASE**



Today, the Bay of Quinte is a healthy and vibrant ecosystem.

## RESTRICTIONS ON FISH AND WILDLIFE CONSUMPTION



Since the 1980s contaminant levels in fish have been steadily dropping. The 2011-2012 fish consumption advisories for Brown Bullhead, Yellow Perch, Smallmouth Bass, Largemouth Bass, Walleye for the Upper Bay of

Quinte and Middle Bay of Quinte have achieved the recommended maximum consumption level of 8 meals per month. Always check the Guide to Eating Ontario Fish for consumption levels for all population categories. Currently, the only lower recommended consumption levels are for Brown Bullheads in the mouth of the Trent River. These fish are safe to eat, just not at the maximum 8 meals a month level yet. **FINAL ANALYSIS OF SCIENTIFIC DATA UNDERWAY**

## DEGRADATION OF PHYTOPLANKTON AND ZOOPLANKTON



The varieties of phytoplankton (microscopic plants) and zooplankton (microscopic animals) that form the bottom of the food web have changed due to invasive species. These changes have caused the food web dynamics to adjust and adapt.

**FINAL REPORT IN EDITING PHASE**



The Remedial Action Plan is getting close to its goal of removing the Bay of Quinte's Area of Concern designation. The efforts of the federal and provincial governments, municipalities, industries, businesses and the public have made this possible. Today, the Bay of Quinte is a healthy and vibrant ecosystem. Now, the challenge is to protect and monitor the Bay, so it doesn't revert to conditions that require a RAP in the first place.



## **RESTORATION COUNCIL**

Lower Trent Conservation  
Quinte Conservation  
Ministry of the Environment and Climate Change  
Ministry of Environment, Conservation and Parks  
Ministry of Natural Resources and Forestry  
Fisheries and Oceans Canada  
Ontario Ministry of Agriculture, Food,  
and Rural Affairs  
Mohawks of the Bay of Quinte  
Municipal representation  
Public representation  
CFB Trenton

The Remedial Action Plan is getting closer to its goal of removing the Bay of Quinte's Area of Concern designation.

However, water quality in the bay will be subjected to additional stresses from population growth, development, and climate change.

A Phosphorus Management Plan is being developed to ensure the bay doesn't revert to conditions that required a Remedial Action Plan in the first place.



## **Bay of Quinte**

### **Remedial Action Plan**

Healthy Bay • Healthy Community

A Remedial Action Plan or a "RAP" deals with historical issues with a focus on local sources.

For more information, contact,

Anne Anderson  
Special Projects Coordinator  
anne.anderson@ltc.on.ca  
613-394-3915 Ext. 219

Shan Mugalingam  
Technical Specialist  
shan.mugalingam@ltc.on.ca  
613-394-3915 Ext. 213

Sarah Midlane-Jones  
Communications  
smidlanejones@bqrap.ca  
613-394-3915 Ext. 214

Bay of Quinte Remedial Action Plan  
c/o Lower Trent Conservation  
714 Murray St, R. R. #1  
Trenton, ON K8V 0N1

**[www.bqrap.ca](http://www.bqrap.ca)**

In partnership locally with  
Lower Trent Conservation & Quinte Conservation



**Where are we at?**  
**How many environmental challenges are left?**

**Today, the Bay of Quinte is a  
healthy and vibrant ecosystem.**  
**[www.bqrap.ca](http://www.bqrap.ca)**