



## Waterlogs - August 2022

Today, the Bay of Quinte is a healthy and vibrant ecosystem.  
Now, we must focus on keeping it this way

### CURRENT CONDITIONS IN THE BAY OF QUINTE



This month's newsletter continues to outline important aspects of the Phosphorus Management Plan for the Bay of Quinte.

What are the current conditions in the Bay of Quinte. Despite the decreases in phosphorus loads made to date, the amount of phosphorus in the bay continues to be at a level that contributes to outbreaks of algae (both toxic and non-toxic) mainly due to nutrient loading. The target of a phosphorus concentration reduction for the upper bay from 40  $\mu\text{g/L}$  to 30  $\mu\text{g/L}$  for the May to October time period was set in 1993 using the scientific understanding at the time.

The Bay of Quinte is regularly meeting the established phosphorus target. The target and supporting criteria are addressed under Eutrophication and Undesirable Algae (BUI # 8). It is recommended that this target and criteria be used to delist the bay from the Areas of Concern list.

- Phosphorus concentration levels for the Upper Bay of Quinte have met the seasonal average of 30  $\mu\text{g/L}$  for the May to October time period over the 7-year period, 2012-2019 (Criterion 1)
- Chlorophyll a concentrations are meeting the delisting threshold of 10  $\mu\text{g/L}$  for the upper Bay of Quinte for the May to October with/without the presence of zebra mussels over the 7- year period, 2012-2019 (Criterion 2)
- Total phytoplankton biomass in the upper Bay of Quinte is meeting the delisting threshold of 4.5  $\mu\text{g/L}$  for the May to October time period over the 6-year period, 2012-2018 (Criterion 3)

However, based on current understanding, this target would still keep the bay within the eutrophic (June 2022 newsletter) range with its related risk of harmful algal blooms. The Phosphorus Management Plan proposes to bring the bay to a meso-eutrophic range and reduce the risk of harmful algal blooms. To ensure long-term protection of the bay's water quality, new long-term targets have been recommended based on modelling studies conducted by the University of Toronto.

These studies concluded that the current Remedial Action Plan target does not reflect:

- (1) the considerable year-round variations within the system;
- (2) the near-shore water quality conditions that are subject to public perception; and
- (3) the persistence of harmful algae blooms in the bay.

## CURRENT CONDITIONS IN THE BAY OF QUINTE - CONT.

As a result, it is proposed that long-term phosphorus targets be based on an assessment of extreme conditions in the system, not averages, and accommodate a range of conditions by permitting a realistic frequency of violations. The proposed phosphorus targets are designed to reduce harmful algae blooms and still maintain a healthy food web and sustainable fishery. The long-term proposed targets can be found on page 20 of the draft discussion paper.

**Draft discussion paper**

## WATER SOLDIER SPREADING IN BAY OF QUINTE

Water Soldier is spreading in the Bay of Quinte. This invasive species will have devastating consequence for the Bay's ecosystem, fishery, and recreational activities. Potentially, causing hefty financial implications for municipalities and tourism operators.



Water soldier is a cold tolerant invasive perennial aquatic plant that is native to Europe and northwest Asia. Water soldier is a submerged aquatic plant which has 40cm long sword shape leaves with serrated edges that are sharp enough to cut swimmers or anyone handling the plant. It becomes buoyant during the summer months forming dense mats of floating vegetation that choke out native species and are so thick that some boats can't move through the mats. As the leaves mature, they become waterlogged and the plant sinks below the surface. The mature plants produce offsets, like a household spider plant.

The Bay of Quinte is prime habitat as the plant grows in standing or slow flowing waterbodies up to depths of five metres. This plant will have a major impact on the ecosystem, because of the dense mats of floating vegetation it creates. As well, it has the potential to alter surrounding water chemistry, which may harm phytoplankton (the base of the food chain) and other aquatic organisms.



What has been done to stop the spread of this invader? Since it was found in the Trent River in 2008, a number of research, control and management strategies have been undertaken to better understand the biology and management of this invasive plant. In 2014, federal and provincial agencies and other organizations implemented a control program, using a herbicide. Due to the size of the infestation, control efforts focused on addressing the source populations and attempting to prevent further downstream dispersal of the plants.

What can you do to help stop the spread? Fishermen, recreational boaters and shoreline property owners can learn to identify the plants and report any sightings. When out on the water, fishermen and boaters should avoid infested areas, reduce boat speeds so the wake doesn't dislodge plants and offsets, and inspect their boat, trailer, and equipment to ensure they don't move the plant to another waterbody.

Everyone is asked to report any sightings of Water Soldier to 1-800-563-7711 or visit **EDDMapS Ontario**, or search for the 'Invasive Species in Ontario' project on **iNaturalist.org** to report a sighting.

**You can find out more about water soldier at**

<http://www.invadingspecies.com/invaders/aquatic-plants/water-soldier/>.

## SHORELINE PLANTING PROGRAM



**IS YOUR RESIDENTIAL OR AGRICULTURAL PROPERTY ON A WATERFRONT?**

**YOU COULD BE ELIGIBLE FOR A COST-SHARING SHORELINE PLANTING PROGRAM.**

Natural shorelines protect against erosion, support wildlife, and help to protect water quality.

The program includes a free site visit, the creation of a customized shoreline-planting plan, and native trees, shrubs and wildflowers.

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

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Shorelines are a critical and sensitive link between land and water, often called "the ribbon of life". The land and shallow water that meet at the water's edge provide a nursery for the wildlife. Here, fish spawn, aquatic insects find mates, waterfowl nest, and turtles scramble ashore to lay their eggs. When development destroys the vegetation, all living things are affected.

Also, shoreline vegetation helps to protect water quality. Shrubs, trees, grasses and wildflowers all play a role in removing sediments and pollutants from rainwater runoff.

This shoreline planting program includes a free site visit, the creation of a customized shoreline planting plan, and subsidizes the native trees, shrubs and wildflowers recommended for your shoreline.

**Book your shoreline site visit, Today!**

## BE SEPTIC SAVVY



Bay of Quinte Remedial Action Plan

**FREE**  
**Septic tank pump out**

Do you live on the Bay of Quinte or one of its tributaries?  
(up to 10 kms up the tribs)

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

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Bay of Quinte  
Remedial Action Plan  
Healthy Bay • Healthy Community

In partnership locally with Lower Trent Conservation and Quinte Conservation

### You are responsible for your septic system

Most rural homes and cottages use a septic system.

When working properly, septic systems can provide a safe and reliable way to treat your household wastewater. If you do not properly care for your septic system it could add excess phosphorus to nearby waterbodies causing algal blooms, and excess plant growth. As well, bacteria can cause localized health impacts for homeowners and their neighbours.

You own your septic system and are responsible for its safe operation, maintenance, and repair.

Regular maintenance can add years to the life of your system, saving you costly repairs and protecting the local environment. **Book your site visit, Today!**