



Waterlogs - November 2021

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

IT'S ALL ABOUT THE SCIENCE

Numerous areas of scientific study are used to ensure the Bay is meeting the goals set out in its Remedial Action Plan. Every year, different agencies are out on the Bay monitoring, researching, and analyzing various components of the ecosystem. Everything from fish populations and habitats, to underwater bugs, to phosphorus levels and its sources. The Bay of Quinte is fortunate to have one of the largest data sets in the Great Lakes. All this information ensures the Bay is protected and maintained as a healthy and vibrant ecosystem, thereby enhancing everyone's enjoyment of the resource for the long-term.

Here are some examples of the branches of science used to evaluate the health of the Bay of Quinte.

LIMNOLOGY - THE FRESHWATER SCIENCE, IS THE STUDY OF INLAND WATERS. IT COVERS THE BIOLOGICAL, CHEMICAL, PHYSICAL, GEOLOGICAL, AND OTHER ATTRIBUTES OF ALL INLAND WATERS.



During summer months, the RAP and its partners monitor water chemistry, vegetation, bugs, fish, and other aquatic communities in 15 coastal wetlands around the Bay. Also, the RAP team collects water quality samples in the Bay of Quinte, to learn more about when, where and why algae blooms develop and sometimes produce toxins.

ICHTHYOLOGY - THE BRANCH OF ZOOLOGY DEVOTED TO THE STUDY OF FISH.



In 2018, the environmental challenges related to fish populations and habitat were classified as restored, meaning all the scientific criteria outlined in the BQRAP had been met. Over the years, there has been an increase in water clarity due to a couple factors: reduction in phosphorous levels and zebra mussels, both reducing algae levels. Less algae means more light can penetrate the water, so weed beds have re-grown providing habitat for smaller prey fish species, like perch, black crappies and pumpkin seeds and hunting

grounds for top predators like walleye, bass, and pike.

The Bay, is a highly productive walleye and bass fishery, which contributes millions to the local economy each year.

ORNITHOLOGY - THE BRANCH OF ZOOLOGY THAT DEALS WITH THE STUDY OF BIRDS.



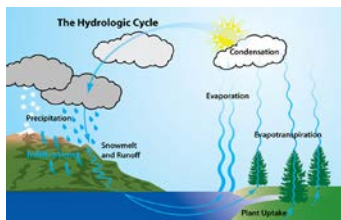
One of the success stories for the Bay of Quinte is the return of a healthy and thriving Osprey population. There are a couple of reasons for this, first, the banning of DDT back in the 1970s - the use of this chemical had brought the birds to the edge of extinction. Secondly, the restoration of a healthy, diverse and abundant fish population, which was achieved through restoration activities undertaken in the Remedial Action Plan. One way people can help with the protection of the Bay's Osprey population is by participating as citizen scientists. Each year, people are needed to visit nesting sites throughout the season and provide updates on the birds with details like: whether the nest

is active or not, number of adult birds, number of fledglings, and the arrival and departure dates. There is also a Marsh Monitoring Program that monitors for marsh birds and amphibians in local wetlands. If you are interested in volunteering, there is an information session every March. Check our web site for details www.bqrap.ca

www.bqrap.ca

In partnership locally with Lower Trent Conservation and Quinte Conservation

HYDROLOGY - THE SCIENTIFIC STUDY OF THE PROPERTIES, DISTRIBUTION AND EFFECTS OF WATER ON THE EARTH'S SURFACE, IN THE SOIL, UNDERLYING ROCKS AND ATMOSPHERE.



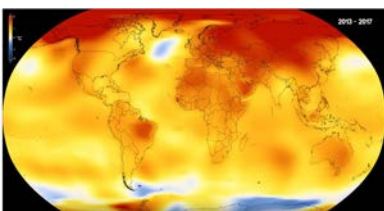
Hydrologic and water quality mathematical models are developed and used by scientists for planning, management, and predicting water quality in a variety of conditions. Simple analyses such as pH, turbidity, and oxygen content may be done in the field. However, other chemical and mathematical analyses requires more sophisticated laboratory equipment, this is why the RAP works with universities, federal and provincial agencies, and conservation authorities.

ECOLOGY - THE SCIENTIFIC STUDY OF THE RELATIONS THAT LIVING ORGANISMS HAVE WITH RESPECT TO EACH OTHER AND THEIR NATURAL ENVIRONMENT.



"Everything in life is connected" When we talk about the Bay of Quinte and its ecosystem the importance of the interconnection between land and water becomes obvious. Or it should! What we do on the land influences the aquatic environment. When there is a concrete retaining wall along a shoreline to stop erosion, instead of a natural shoreline or when a manicured lawn is taken right to the water's edge; fish and wildlife habitat is lost and water quality is degraded by the lack of natural vegetation. The RAP works with rural and urban landowners to address water quality issues through stewardship projects.

CLIMATOLOGY - THE STUDY OF THE CLIMATE



It's impossible to talk about the environment without the topic of climate change being a large part of the conversation. We are experiencing more extreme weather patterns. How is it going to influence the Great Lakes basin including the Bay of Quinte? In 2017 and 2019, there were historic high water levels on Lake Ontario/Bay of Quinte due to extreme precipitation events throughout the Great Lakes basin. As well, there has been a reduction in ice cover and an increased water temperatures, all affecting the ecosystem dynamics.

PSYCHOLOGY - THE SCIENCE OR STUDY OF THE MIND AND BEHAVIOUR



Wilfred Laurier University

One of the guiding principles of the RAP has always been community engagement. One of the aims is to foster sustainable behaviours that will encourage individuals to adopt and implement actions to protect and maintain the Bay of Quinte as a healthy and vibrant ecosystem. A variety of platforms are used to help people understand the importance of rehabilitating the Bay for social, economic and cultural reasons.

TIS' THE SEASON

Over the last 18 months or so, being out in nature has saved a lot of people's sanity. When you are thinking of Christmas gifts this year, nature should be top of mind. Here are a couple of ideas to give the gift of nature.



Help to preserve and protect Quinte Conservation's public green spaces by symbolically Adopting an Acre! From November 15th - December 13th

For details and to adopt an acre, visit the **donation page** to adopt your acre.



As a non-profit **registered charity**, Lower Trent Conservation invites you to Give the 'Gift of Green' this year and support our Connecting Kids with Nature youth educational program. <https://www.canadahelps.org/en/dn/9595>

**"In winter, I plot and plan.
In spring, I move."**
Henry Rollins

Take site photos this fall.
Over the winter design and plan your project
and complete the application process. In the
spring you will be ready to start implementing
your project.

We offer cost-sharing incentives for both rural and urban projects.

<u>Rural Stewardship</u>	<u>Urban Stewardship</u>
• Livestock fencing • Riparian buffer zones • Water quality and erosion projects • Alternate watering systems • Cover crops.	• Rain Gardens

Also, we offer FREE soil testing.

Winter is a great time to plan next spring's projects. Start with taking site photos this fall, then contact our stewardship technicians for all the details on getting your project planned and ready for spring.

<https://www.bqrap.ca/communityprograms/landownerstewardship/>

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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

Bay of Quinte
Remedial Action Plan
Healthy Bay • Healthy Community

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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; and bacteria that can cause localized health impacts for homeowners and their neighbours.

Regular maintenance can add years to the life of your system, saving you costly repairs and protecting the local environment. <https://www.bqrap.ca/communityprograms/septiceducation/>

To book your site visit contact - Jason Jobin, BQRAP Environmental Technician, Lower Trent Conservation
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