

Richmond Bay Watershed Association Inc. News

Volume 9, 2013



Who are we?

The Richmond Bay Watershed Association Inc. is a volunteer, non-profit community based watershed improvement group. It consists of people who take an interest in the health of watersheds and are willing to work together to rehabilitate, conserve and protect watersheds in Central Prince County, PEI.

Anoxic events, a growing concern:

Over the summer of 2012, many of you may have noticed an increase of anoxic events occurring in our rivers and estuaries across PEI. When anoxic events occur, damage is inflicted upon all aquatic life. It is also very unpleasant for local residents who must endure the unhealthy odors.

Anoxia, which means the absence of oxygen in the water, is caused by a buildup of excessive nutrients. Overtime, human activity in any watershed, whether in the use of manure, septic systems, farms, chemical fertilizers spread on lawns, fields, and golf courses, or such basic daily activities as using household detergents and soaps for washing, have all contributed to the buildup of excessive nutrients in water.

Understanding how estuaries become anoxic:

The freshwater in our rivers and creeks comes from groundwater and surface runoff from the land. Studies on the Island have shown that as much as 70% of the water that creates rivers and creeks originates from groundwater sources, the same sources that we receive our drinking water from. Everything off the land including any pollutants that leaches into our groundwater, washes into rivers and creeks and is transported downstream to the estuary.

When we have excessive nutrients in our waterways it causes unnatural algae (sea lettuce) to grow in huge masses and then it dies. When it rots and decomposes, oxygen is stripped from the water. The estuary then turns green or milky white and gives off a strong rotten egg odor. This is known as an anoxic event.

During hot dry summers, like we experienced in 2012, even water quality in lower portions of rivers can become problematic. With a very high tide, salt water can get pushed into a river. If there is a huge decrease in river flow during a dry summer, then the heavier salt water has a hard time to flush back out. It tends to just lie there on the river bottom and combined with hot temperatures, it becomes stagnant, often resulting in anoxia.



What can be done to stop anoxic events when they start?

There have been attempts to harvest the sea lettuce mechanically to reduce or eliminate anoxic events on Island estuaries, but this PEI program turned out to be very costly. Officials realize that by removing it with a machine is not effective because the sea lettuce simply grows back very quickly. In the short term, once anoxia starts there is very little that can be done to make it go away.

What is the solution?

Reducing the amount of nutrients entering our Island rivers and estuaries is the most effective way to address the growing problem of anoxia. However, for this to be successful, it requires long term solutions and the support and efforts from everyone living within each watershed community.

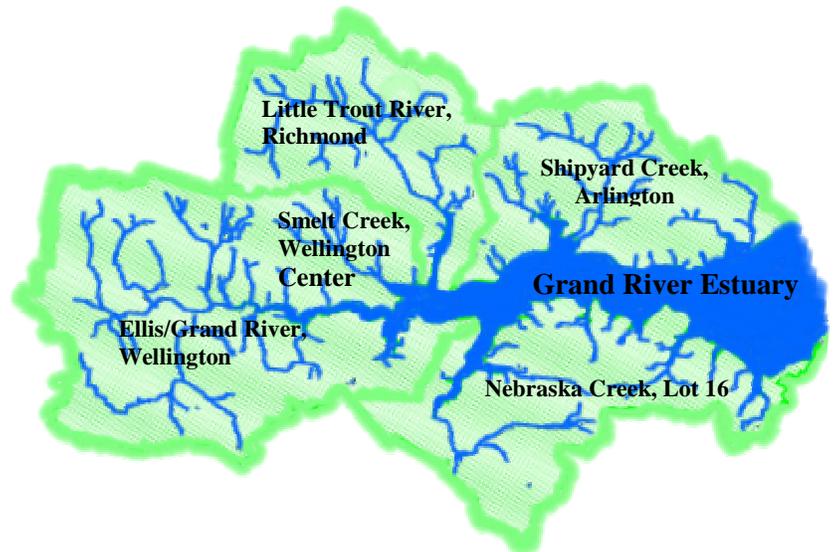
Streams that flow into the Grand River Estuary:

The Grand River Estuary is a body of water where freshwater from rivers and streams mixes with the saltwater from the ocean. It is one of a few estuaries across PEI that still remains relatively healthy. However, the detection of green algae blooms located on a number of freshwater stream outlets that feed the estuary is a growing concern. Since the Grand River estuary is partially closed off from the ocean, and because there is reduced tidal activity on PEI's North Shore compared to PEI's South shore, pollutants don't wash out easily. The Grand River estuary is an irreplaceable resource that must be managed carefully for the mutual benefit of all who enjoy and depend on it.

Water quality results on nitrate:

Aquatic life in our rivers, creeks, and estuaries are very sensitive to nitrate pollution and the Canadian Water Quality Guideline for the protection of freshwater aquatic life for nitrate is 2.9mg/l.

Water testing results on the Little Trout River & Ellis/Grand River watershed has shown good nitrate levels well within the Canadian Water Quality Guidelines for aquatic life. Water testing results on the Smelt Creek, Shipyard Creek, & Nebraska Creek have shown very high nitrate level results above the Canadian Water Quality Guidelines.



Updates:

Over the 2012 field work season, eight people were hired on with the watershed group. The main focus of work occurred on the Smelt Creek and the Ellis/Grand River Watersheds. A total of 3,100 native tree species were planted throughout alder sites, open meadows, and expanded buffer zones. Stream restoration activities included the installation of 13,885 square feet of brush mat, installing cover logs and log structures, the completion of one spring restoration, and the creation of in-stream sediment traps to capture and stabilize sediment. **For additional project updates, photos reports, job opportunities, and/or additional information about the watershed group, please visit us online at www.rbwa.ca.**

We would like to thank the following funding programs for supporting our watershed group with this year's project: Environment Canada's Eco-Action Community Funding Program, the PEI Watershed Management Fund, the PEI Employment Development Agency, the PEI Wildlife Conservation Fund, Service Canada's Canada Summer Jobs Program, PEI Post Secondary Student Program, Evangeline Credit Union, and the PEI Greening Spaces Program.

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Simon Hashie, President
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Phillip Brown, Director
Dennis Cormier, Director
Rene Arsenault, Director

Cathy Gallant, Executive Director
Richmondbaywatershed@yahoo.ca

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