GEORGIAN BAY ASSOCIATION
Your Voice On The Bay

100TH ANNIVERSARY 1916 - 2016

GBA UPDATE

News and Information from the Georgian Bay Association

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GBA 100th Anniversary Symposium: What is the Future of the Bay?

By Bob Duncanson, Executive Director, GBA

Late last year over 50 people gathered at GBA's 100th Anniversary Symposium to discuss the future of Georgian Bay looking forward 100 years. What can and should we do to protect the Bay for our grandchildren's grandchildren? This event was the culminating activity in GBA's 100th Anniversary year. GBA feels that the best way to celebrate our 100th and all that we have accomplished is to take the lead on mustering the Georgian Bay community's resources to take on this forward-looking task.

It is a challenging task. What ensued was 5 hours of passionate sharing of ideas, concerns and a commitment to work together on solutions. The audience included leaders from most of GBA's Member Associations, local municipalities, the NGO communities on Georgian Bay (the GB5) and a First Nation Elder.

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Q&A with Georgian Bay Forever on Water Levels

PM # 40038178

photo by Karl Schiefer, PhD

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The group agreed on two core principles:

- The Georgian Bay coast supports truly unique natural ecosystems in need of stewardship and protection.
- Without a concerted effort by those who live in and are part of this ecosystem, many of its elements are at risk of being degraded or lost.

The wilderness nature of the Georgian Bay coast is seen to be a very important characteristic of the Bay and one that we need to fight to protect. Reeve Ketchum from the Township of the Archipelago reflected on a conversation that he had with neighbouring stakeholders in West Parry Sound who said, "It is marvellous to be close to Georgian Bay." Reeve Ketchum responded, "But it won't be marvellous to be close to Georgian Bay if it degrades."

Bill Lougheed, Executive Director of the Georgian Bay Land Trust, presented some highlights from Kawartha Lakes where a broad coalition of stakeholders undertook the Naturally Connected Project, a plan to build a natural heritage system for the Kawartha Lakes. There may be some lessons learned from this group that will be useful in protecting Georgian Bay.

The group agreed that we need a common vision and a coordinated action plan to protect the Bay as we know it. Without this the Bay could die from a thousand cuts made by a series of one-off actions that individually, in the absence of a larger framework, might appear to have little impact on the state of the Bay.

> "We need a common vision and a coordinated action plan to protect the Bay as we know it."

Elder Marilyn Capreol from the Shawanaga First Nation emphasized that we are here to speak for those who cannot speak, meaning the water, the plants and the animals. And from what she is seeing in her corner of Georgian Bay we don't have 100 years to address some of the stressors on nature.

Many participants emphasized the need for better coordination of efforts among all of the stakeholders on the Bay, including municipalities, non-governmental organizations, First Nations, and senior

government agencies. Education will be an important initial step. Most in the room were already "converted", but many other people and institutions need to be educated on the challenges we face and become part of the solution. It was suggested that we create a First Nations Elders Advisory Committee to share traditional knowledge about such things as lands and medicines.

The discussion ebbed and flowed between focussing effort on a pan Georgian Bay basis versus initially focussing on the east coast. It was agreed to start with the latter. That said, we agreed to explore the opportunity that the Great Lakes Project, spearheaded by Bayfield Nares cottager Doug Wright and supported by Ontario Lieutenant Governor Dowdeswell, might present to our efforts.

A small team headed by Claudette Young of the South Channel Association was tasked with creating a vision statement to share with the larger group. The executive of the GB5 organizations (GBA, Georgian Bay Land Trust, Georgian Bay Forever, Eastern Georgian Bay Stewardship Council and Georgian Bay Biosphere Reserve) will meet to discuss specific next steps on broad stakeholder engagement and education and report back to the Symposium's participants.


photo by Karl Schiefer, PhD

By Karl Schiefer, PhD

The Amazing, Unique Ecosystems of Georgian Bay

photo by Karl Schiefer, PhD

Karl Schiefer shared these amazing facts about the Bay with participants at GBA's 100th Anniversary Symposium on the future of the Bay this past December. The following insights are from Karl's contribution to the new book *Georgian Bay: A Unique North American Ecosystem*, which will be launched at Georgian Bay Land Trust's Winterlude event on March 29th (see Upcoming Events).

Dr. Schiefer is an Aquatic Ecologist with over 30 years' experience in consulting and management of professional services companies. Having held academic and research positions, he is a widely recognized specialist in freshwater ecosystems and aquatic resources across Canada.

Part 1 of the list is here. Look for Part 2 in the next issue of *Update*.

The greater Georgian Bay ecosystem has many unique features that distinguish it from all other parts of the Great Lakes and other water bodies in Canada and North America. These include:

An Archipelago Ecosystem

- Archipelago-based ecosystems are not common and a freshwater archipelago ecosystem on this scale is globally unique.
- From an ecological perspective, the following habitat components make it outstanding: exceptional terrestrial and aquatic habitat diversity, unprecedented amount of productive land/water interface (longer total shoreline than Lake Ontario), a very broad and productive littoral zone among the islands, an abundance of sheltered lakeshore habitats, a high diversity and abundance of coastal wetlands, and the close physical proximity of diverse habitats.

Physical Environment

- Exceptionally diverse geology and topography with a granitic igneous and metamorphic complex to the east and north (Canadian Shield) and sedimentary limestone to the west and south (Niagara Escarpment).

- The gentle sloping of the Canadian Shield into the waters of Georgian Bay has created one of the largest and most ecologically diverse freshwater archipelagos in the world. Unlike most lakes, the basin of Georgian Bay slopes from east to west with a wide and shallow littoral zone among the islands on the east and very deep waters along the cliffs of the Niagara Escarpment on the west.

- One of the important hydrological features of the eastern Georgian Bay coast are the wind-driven seiche currents which develop in channels between the islands. These are ecologically important for mixing warm, nutrient-rich inshore water with cold, low nutrient offshore waters.

Water Chemistry and Limnology

- Water chemistry is strongly influenced by the bedrock geology and glacial history of the region. The more soluble limestone bedrocks of the western basin result in waters that are clear, basic (non-acidic), and high in dissolved minerals ("hard" water). By comparison waters draining the lakes and acidic bogs perched on the insoluble granites of the Canadian Shield tend to be yellow or brown in colour, acidic, and low in dissolved minerals ("soft" water).

- The complexity of channels in the eastern archipelago results in a considerable diversity of water chemistry in this area, depending on the degree of influence of coastal tributaries or mixing with offshore waters.

- Thermal stratification is also highly variable in Georgian Bay. The waters of the western basin are strongly stratified in the summer with a large deep water zone of cold, oxygen-rich water. This provides excellent habitat for a cold-water fish community including Lake Trout, Chinook Salmon and Whitefish.

- The large and shallow littoral zone within the island archipelago does not thermally-stratify in most areas, with summer waters warming from top to bottom. This warm, sheltered and biologically-productive littoral zone provides excellent habitat for a diverse warm-water fish community including Musky, Northern Pike, Bass, Walleye, Perch and many other species.

Biological Environment

- On the Georgian Bay coast, as is the case everywhere, the biological component of the ecosystem develops in response to the physical and chemical environments that are available, combined with climate.

- The highly diverse physical and chemical features found on the Georgian Bay coast have produced a very high diversity of habitats for plants and animals. As a result, biodiversity is exceptionally high on this coast.

- The large archipelago of islands provides an excellent example of both habitat diversity and biodiversity gradients. From almost bare bedrock outer islands exposed to harsh storms through middle islands with sparse vegetation to larger and more sheltered interior islands and mainland coast with diverse mixed hardwood forests, biodiversity of plants and animals increases greatly.

- Coastal wetlands are an exceptional feature of this coast. The abundance of islands, shoals, bays and inlets found within the world's largest freshwater archipelago has created an abundance of opportunities for hundreds of wetlands to develop.

- Wetlands are among the most biodiverse and productive natural habitats in any ecosystem. The abundance and diversity of Georgian Bay's coastal wetlands are critical to the abundance and diversity of many plant and animal species here, including fish, reptiles, amphibians, shorebirds, waterfowl and aquatic mammals, such as moose, beaver, muskrat, otter and mink.

photo by Karl Schiefer, PhD

By John McMullen,
GBA President

And Now The Next 100

The past year and GBA's 100th Anniversary have come and gone all too quickly. It feels like only yesterday that we had our spring reception at which we celebrated GBA's past achievements.

What more fitting way to round out the year than to look to the future? On December 3rd GBA hosted a Symposium that addressed the question of what we wish Georgian Bay to look like 100 years out – and the challenges to this vision that we and future generations will encounter. Specifically, we wanted to discuss short- and long-term threats to Georgian Bay and to identify what citizens, community organizations, non-government organizations and governments themselves can and should do to protect the Bay so that our grandchildren's grandchildren may enjoy it as much as we have.

The Symposium was attended by GBA Member Association presidents and representatives from the other GB5 organizations, the five municipal governments that embrace eastern Georgian Bay, and First Nations.

By all accounts, the Symposium was a success. However, it is important to understand that it was simply a start and that there is much work to be done. In fact, I am reminded of Group of Seven pieces of art and the process whereby a finished painting is created, referred to as *en plein*. First the out-of-doors sketch that captures the essence of the subject, followed at a later date by the more detailed rendering, the one with all the fine strokes. By the time this is read, GB5 Executive Directors and Presidents will have met to firm up a vision and map out a strategy and broad action plan going forward. Undoubtedly there will be a number of tasks and sub-initiatives to tackle, and the number of stakeholder groups engaged in this process will increase accordingly. Rest assured that we will keep you apprised of developments as the process unfolds.

Incidentally, thanks to Bert Liverance (previously Sans Souci and Copperhead Association President and now recently appointed to the Township of the Archipelago Council), presentations made at the Symposium were captured on video. When you have a quiet moment, the several videos may be found on the GBA website (**www.georgianbay.ca**). Included is Karl Schiefer's *The Unique Ecosystem of Georgian Bay* which served to kick off the Symposium in excellent fashion. Pass the word along to others you know who would be interested.

Regarding the Wiikwemkoong Lands Claim, the Northern Georgian Bay Association and GBA had a third meeting with Chief Duke Peltier and three of his band Council members late last fall. Subsequent to that meeting, our draft proposed agreement, which identifies NGBA concerns and recommends solutions, was refined and was submitted to Chief Peltier so that he and his Council may review it and comment.

The coming year will likely be a busy one. At the time of writing, we are waiting to see the Environmental Assessment Report (EAR) by the Ontario Ministry of Natural Resources & Forestry (MNR&F)/ Ministry of Indigenous Relations and Reconciliation (MIRR). Close on the heels of the EAR, MIRR will no doubt be attempting to finalize the Lands Claim Settlement. Meanwhile, the federal government is back at the table. The NGBA and GBA will be meeting with federal Ministry of Indigenous and Northern Affairs representatives shortly to bring them up to speed on our interests and activities, and to better understand their agenda and plans with regard to this lands claim. All of this to say, it has become apparent that the NGBA/GBA document and our productive dialogue and negotiations with the Wiiky have become an integral part of the overall attempt to reach a settlement equitable to all stakeholders, Wiiky and non-Wiiky alike.

There is neither time nor space here to attempt a synopsis of the Macey Bay trailer park development proposal near Honey Harbour and what continues to be a complex matter. Nonetheless, the bottom line remains the same. GBA, working in support of our member associations, will strive to ensure that whatever development happens on Georgian Bay has minimal impact on our shared environment. Of course this includes the subject proposed development at Macey Bay and the OMB hearing scheduled to start Jan 23rd. More on Macey Bay is to be found elsewhere in this issue of *GBA Update*.

In light of changing communications technologies as well as the needs of our GBA audience we are taking a hard look at *GBA Update*, our flagship communications tool. Key to any changes that may be entertained is a comprehensive understanding of readership habits and what format for *Update* would be appropriate in the future - hard copy or some type of electronic newsletter. To that end, a short survey of GBA Member Associations' members will soon be carried out, as reported elsewhere in this issue.

In closing, I want to say what a pleasure – and enjoyable learning experience – it has been serving as GBA President these past two years. The dividend is the opportunity to see and learn so much more about the Bay, from Honey Harbour all the way up to the North Channel, to better appreciate the challenges facing us, and to meet many interesting and engaged individuals, all of whom value this pristine ecosystem and wish to see it preserved for the enjoyment of all.

By Robert Moos,
GBA Lands and Forests Committee

Relief on Dock Permits is in Sight

In the summer 2016 issue of *GBA Update* we reported on the Ontario Ministry of Natural Resources and Forestry's (MNRF) new requirement that land use permits would be required under the Public Lands Act (PLA) for most docks and boathouses. This requirement was in response to a ruling from a provincial court that the PLA required land use permits to be issued for most structures that occupy Crown lakebeds. This fall, in response to input from GBA and others, MNRF issued an interim policy that eliminated this requirement for existing docks.

Ontario's government is now amending the PLA so that land use permits are NOT mandatory for all new docks and other structures. This is being done through the proposed Burden Reduction Act, Bill 27 (an "omnibus bill" that will streamline a number of acts). This bill has received second reading in the Legislature and will soon be going to a legislative committee for review.

The bill will empower the Province to develop regulations under the PLA defining what kinds of new docks and structures will or will not require permits, and what the rules will be. These regulations will be developed once Bill 27 passes third reading and is proclaimed in force. Your GBA will keep an eye on this file and try to ensure the regulations serve our members' interests and protect our valued Georgian Bay environment.

Winter 2017

By Bob Duncanson,
Executive Director, GBA

As I write this I am looking out the window in Mulmur Township (northwest of Toronto) at 2 feet of freshly fallen snow. This is lake effect snow that came from Lake Huron and Georgian Bay. All this snow gives us a heads up that water levels next summer will likely be down from last summer as the Great Lakes have not frozen over yet this winter (see picture below). This has allowed the blasts of Arctic air that we have experienced on and off this winter to evaporate a lot of water and deposit it inland. Some of this water will find its way back into the lakes when spring rolls around but a significant amount of it will be lost. As is the nature of these things we may get lucky by receiving new Gulf of Mexico water courtesy of "Colorado Lows" in the future to offset some of this evaporation. Let's keep our fingers crossed!

Each year's turn of the calendar prompts us to take a look back at the year gone by and ahead at the year to come. 2016 was a very busy year for the GBA as it was our 100th Anniversary. It was a pleasure for me to be in this job as your Executive Director to help our organization celebrate with two significant events, the Spring Anniversary Reception that was recapped in the summer edition of *GBA Update* and our fall symposium. We report on the symposium in this edition of *Update*, but let me add a personal note that it was invigorating to be in a room full of people who share a deep passion for the Bay and a commitment to do whatever we can to protect the Bay for future generations.

The start of a new year is also a time to look at some personal goals for the year to come. Climate change weighs heavily on our minds in our household, leading us to look for ways to reduce our carbon footprints. As we reflect on our time at the cottage there are a few areas that we plan to address in 2017. We don't use a lot of electricity at the cottage but will certainly look into the various "loads" we have including lights that can be easily retrofitted with LED bulbs. If electricity rates continue to escalate we may even consider solar power to handle at least some of our needs.

Satellite photo of Georgian Bay taken on January 2, 2017 Source: NOAA CoastWatch - Great Lakes Region MODIS Imagery

The other big carbon contributor at our cottage is our armada of boats. We think that it is about time to replace our 50-year-old boat – a 20-footer powered by a less-than-efficient 165hp V6 inboard-outboard engine. We will look for a boat powered by a significantly more fuel-efficient 4 stroke outboard engine. We haven't run the carbon output comparison but believe that the difference is huge. So it's off to the Toronto Boat Show to start our search. While we are at it we will likely replace our 1970s era 2 stroke, 9.9hp with a relatively clean and efficient 4 stroke version

I often say there is never a dull moment at GBA, and this year will be no different. In this edition of *Update* you will read about a few of the current issues the GBA is busily engaged in to protect all of our interests on the Bay, including MPAC assessments, electricity rates and commercial land development.

Thank you for your continued support.

Survey of GBA Members on *GBA Update* Coming Soon

The GBA is in the process of reviewing its approach to the distribution of the *GBA Update* newsletter, which is printed and mailed to all members of GBA member associations three times a year. *Update* is also posted to the GBA website in PDF format.

We are looking to learn about your reading habits and preferences when receiving information from GBA through *Update*. The key issue that GBA is looking at is whether to move from mailing printed newsletters to electronic distribution of *Update*. We must consider the potential savings and costs of such a move, including the potential loss of some advertising revenue.

In February the GBA will launch a short survey asking for feedback about the *GBA Update* newsletter. All responses will be anonymous. There are four ways to participate in this survey:

1. Click on the link to the survey when you receive notice about it in an email from your Cottage Association.
2. Go to our website, **www.georgianbay.ca** and click on the link for the survey.
3. Copy this URL and type it into your internet browser: **www.surveymonkey.com/r/GBAupdatesurvey**

SurveyMonkey

4. If you do not have access to the internet and want to complete the survey, please contact Sue Anderson at **gba@georgianbay.ca** or 416-860-0100 to obtain a paper copy of the survey.

GBA Update's Q&A with Georgian Bay Forever on Water Levels:

Where are We Headed and What Can be Done?

GBA thanks **David Sweetnam, Executive Director of GBF**, for responding to our questions and informing readers about what drives water levels and GBF's current work in that area.

UPDATE: ***Based on recent changes in water levels on Georgian Bay, it appears that the main factor involved is seasonal variations in our climate, rather than "climate change". What is your take on this?***

GBF: Water levels are driven by a variety of factors. Some are short term and some are long term. The National Oceanic and Atmospheric Agency describes it this way: "Weather is what you might see outside on any given day, while climate is the average of that weather over a longer time period. Climate is what you expect, weather is what you get."

There is a scientific consensus that Georgian Bay water levels will continue to decline over the long term due to changes in the climate, while climate change-driven weather will continue to become flashier in the short term.

In its 2012 Upper Great Lakes study, the International Joint Commission (IJC) determined that there are three main drivers impacting long term water levels in Georgian Bay and Lakes Michigan-Huron: (1) climate changes, (2) previous dredging and unexpected erosion in the St. Clair River, and (3) glacial isostatic rebound. While all have contributed, climate change was determined to be the main current and ongoing driver of long term water levels declines.

Larger amounts of rainfall are now routinely falling over the Lakes and in the watershed, resulting in rapid increases in water levels over a few days. In some recent cases, a month's worth of rain fell in mere hours. Normal seasonal variations in evaporation through the colder months and rainfall produce the typical winter lows and August peak levels that we are used to in Georgian Bay. These variations are critical to maintaining healthy coastal wetlands supporting clean water and habitat for the large number of creatures and plants that depend on them, but these highs and lows are getting more volatile.

UPDATE: ***Water levels seem to be very unpredictable. Is there any way to predict the direction of water levels, or are levels too dependent on short-term factors like the amount of precipitation?***

GBF: Although water levels fluctuate daily and sometimes even hourly, seasonally we have a reasonable expectation that water levels will start low in the spring and peak in the summer typically rising on average a foot or more. Season over season these levels have historically fluctuated over seven feet from the record high in 1986 to the record low in 2013.

But in spite of this variability, there are ways to predict longer term average water levels. Environment Canada and the National Oceanic and Atmospheric Agency (NOAA) have produced computational models that can, with a degree of certainty depending on the timescales involved, forecast where waters levels will go.

Short term models focus on the next six months and are highly accurate, having been refined with weather data and actual measurements taken over the past 100 years. Slightly longer term models push the forecast out one year in advance. Evaluations show that these models are slightly less accurate than the short-term models, but still provide a reliable forecast of the impacts of global weather systems and effects of phenomenon like El Nino, the "Polar Vortex" and the jet stream on lakes levels. NOAA provides these forecasts to shippers and industries throughout the Great Lakes Region so they can plan freight movements throughout the year. You can find these on our website at **http://gbf.org/water-levels/current-water-levels/**.

Finally, a few modellers have produced long term climate models that look forward 30, 50 and even 70 years into the future. The reliability of these models remains to be seen, but the consensus of these models is weighted towards declining water levels in the upper Great Lakes.

UPDATE: ***GBF points out that fluctuations in water levels are important to maintaining healthy wetlands and biodiversity. Why do variations in water levels improve the health of lake ecosystems?***

GBF: Our native plants and animals have evolved and adapted to historic conditions in the upper Great Lakes. The competitive success of those plants at their favourite water levels ensure that there are a variety of plants that can provide shelter, protection and food for the large number of species that call these wetlands home.

Seasonal variations in water levels are predictable in the Great Lakes and allow native plants to germinate in sun-warmed, wet soils and then grow in the water as levels rise over the summer. Other plants grow in deeper water at the appropriate limits of sunlight penetration. On a gradually sloping, soft lake bed, these plants can naturally "move" towards or away from the shoreline depending on the water levels so that they experience their ideal water level requirements. But much of the Eastern Georgian Bay archipelago has a more abrupt drop-off with little resilience to extreme lake levels.

An easy way to see how water levels impact wetlands and biodiversity is to look at Lake Ontario. Since 1957, the water levels in Lake Ontario have been controlled by power dams in the St. Lawrence River at Cornwall. The water regulation plan was a compromise among shippers, power generators and shoreline stakeholders that didn't incorporate any environmental protection. As a result, the Lake Ontario wetlands collapsed into mono-culture cattail marshes with limited biodiversity that supported only a few species. The IJC just approved a new regulatory plan, Plan 2014, that with the stroke of a pen will restore over 60,000 acres of coastal wetlands by increasing the allowable range of water level fluctuation towards a more natural range.

Park Fill and Control Gate System- Mouth of St. Clair River
(aerial courtesy Google Maps)

UPDATE: ***Yet many people, as well as commercial interests, are very concerned by the hardships caused by very high or very low water levels. Georgian Bay cottagers and residents were very upset with the extremely low water levels that we experienced 3 to 5 years ago, but people don't want them to go too high either! How can these extremes be managed while at the same time maintaining healthy lake ecosystems?***

GBF: Just like the porridge in Goldilocks' bowl, there is a "just right" scenario for water levels in the Great Lakes. Those water levels in Lakes Michigan–Huron would continue to fluctuate seasonally and vary annually over a six to seven foot range – the same as the lakes did prior to the unnatural impacts of climate change, dredging and erosion in the St. Clair River. Our native plants and animals have evolved to adapt to those ranges, and our industries, residents and cities have similarly developed infrastructure to cope with the fluctuations between those natural extremes.

Without some additional tools to improve climate resilience and overcome the unnatural fluctuations beyond those historic levels, extremes will financially impact residents and businesses as well as the ecosystem. The modelling presented in the IJC's Upper Great Lakes study showed that additional control structures in the St. Clair and/or Niagara Rivers could mitigate these undesirable extremes. The IJC indicated that an examination of structural measures to reduce excessive fluctuations in lake levels had merit, while acknowledging that such a review was beyond the scope of its study. GBF engaged world-renowned engineering firm AECOM to address this gap.

UPDATE: ***Recently GBF commissioned AECOM Technical Services, a widely recognized water resources engineering consultancy, to study using structures or controls to address water levels in the Upper Great Lakes. What kinds of structures did they study?***

GBF: GBF engaged AECOM to investigate viable structural options for the long term climate resilient protection of water levels in the upper Great Lakes. Through identification and evaluation of various types of physical structures, they explored ways to better regulate the level of Lakes Michigan-Huron to mitigate the impacts of climate change and protect the $5.8 trillion Great Lakes regional economy, including $976 million in waterfront property value loss assessment over the next 33 years.

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The alternatives were categorized as: Compensatory Structures (submerged sills, weirs, jetties, river training walls, wing dikes); Power Generating Structures (conventional hydroelectric dams, in-stream turbines); Adaptive Management Structures (inflatable flap gates, inflatable dams, control/sector gates); and Other Structures (ice booms, landfill and control gate structures).

These alternatives were examined in light of existing data and information, and evaluated on the basis of seven criteria that include performance, implementation feasibility, cost, regulatory requirements, climate resiliency, environmental impacts, and social/cultural considerations. The evaluation culminated in the selection of three illustrative alternatives for additional analysis and "concept level" development.

UPDATE: *What were AECOM's findings?*

GBF: The most important finding of AECOM's team is that there is a need to move forward and cost-effective ways exist to increase climate resilience in the upper Great Lakes through the introduction of new management tools to offset the unnatural impacts of climate change.

The three illustrative alternatives selected for further analysis are 1) in-stream turbines that generate power, 2) flexible control structures in the form of inflatable dams and 3) renaturalizing parts of the connecting channel between Lakes Michigan-Huron and Lake St. Clair with a park fill and control gates system. It is clearly understood that the actual solutions would need to be identified through a comprehensive engineering and environmental impacts review process to ensure that Lakes Michigan-Huron and the entire Great Lakes - St. Lawrence River system is properly protected as an integrated system.

All three of these structural alternatives have significant strengths: they are proven technologies in freshwater systems, are adaptable to changing climate and water level conditions and, compared to other alternatives investigated, have favourable environmental and socio-economic characteristics. AECOM has recommended that the governments of Canada and the United States of America continue with the more detailed engineering work needed, and GBF continues to work to promote this project.

Inflatable dams-Adam Bower Dam Deflation. Adam T Bower, image courtesy of NOAA, http://www.erh.noaa.gov/marfc/100_0284a.jpeg

UPDATE: *Is GBF's current position that those kinds of structures should be installed to help to limit the extreme highs and lows of water levels in Lakes Huron and Michigan?*

GBF: The evidence strongly suggests that something must be done to mitigate the effects of climate change and manage the risks we all face from the resulting extreme high-highs and low-lows we have seen in recent decades in the water levels of Lakes Michigan-Huron and Georgian Bay.

Based upon the modelling showing future Great Lakes water level declines, research into the adverse ecological and economic impacts of climate change on the Great Lakes Region and the evidence presented in various official government reports as well as GBF's own studies, GBF does believe that the most cost-effective way to address the unnatural impacts of climate change on the Great Lakes is through the addition of structural tools. These flexible tools will allow us to take an adaptive management approach to the mitigation of these adverse impacts. Adaptation to these changes without such tools will be far more costly and detrimental to the $5.8 trillion dollar regional economy and be devastating to our fragile and already heavily damaged ecosystems.

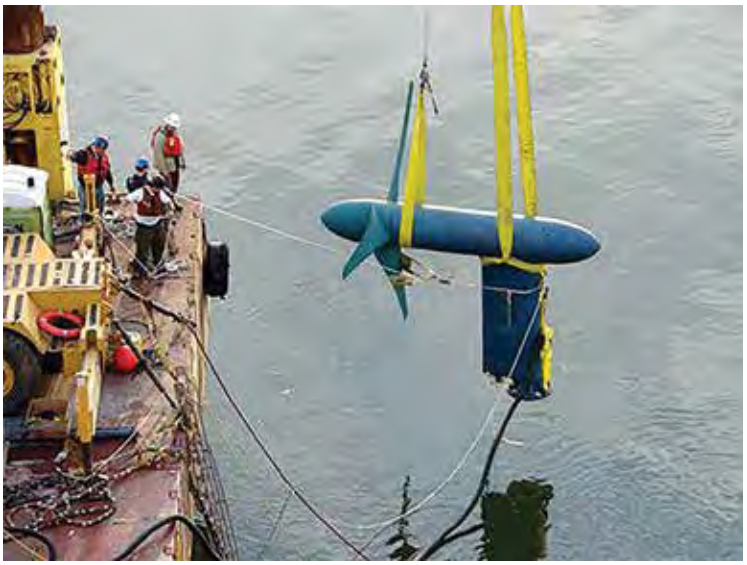
UPDATE: *What would the costs be, and who would pay for them?*

GBF: There will be costs either way. The costs of doing nothing are extremely high. An economic impact assessment commissioned by the Council of the Great Lakes Region and partially funded by GBF, found that declining water levels in the system will result in an $US 18.82 billion in economic losses over the next 33 years.

Our assessment is that projected construction costs of between $US 37 million to about $US 200 million to introduce structural tools is far more cost-effective than passive adaptation and

more fairly shares the cost burden amongst all Great Lakes stakeholders, rather than disproportionately impacting specific regions. There are also a number of synergistic initiatives underway in the Great Lakes region such as the Great Lakes Navigation System infrastructure investments, the Council of Great Lakes Governors Maritime Initiative and the "Soo Locks" expansion project that could provide opportunities for collaboration.

Further detailed cost investigations would need to be conducted, and financial appropriations and approvals will be required from the US Congress and Canadian governments.



In-stream Turbine, courtesy of Verdant Technologies. http://media.treehugger.com/assets/images/2011/10/verdant-power-turbine-j001.jpg

UPDATE: *What are the next steps to address these issues?*

GBF: Although these technologies are promising, they have only been examined at the conceptual level based on existing data and information. Data gaps and information needs must be fully addressed to ascertain, in detail, their potential applicability to the Great Lakes. This includes additional research and modeling to determine, with a degree of precision, factors such as their individual and collective water level control capabilities, desired engineering and design features, installation and operational costs, regulatory considerations, and perspectives of affected parties.

GBF and AECOM are engaging stakeholders on these three alternatives in order to consider their preferences and suggestions, and to maximize ecological and economic benefits while minimizing or eliminating social, cultural and other concerns.

For more details and information, see the longer version of the answers at **http://gbf.org/water-levels/faqs**.

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GBA Responds to MPAC's Revised Assessments of Small Islands

By Bob Duncanson,
Executive Director, GBA

As most cottage owners know, properties in Ontario were reassessed last year by the Municipal Property Assessment Corporation (MPAC). When the reassessment notices went out last fall we received a number of complaints from Georgian Bay Association (GBA) members about major increases in the assessed value of small islands of 2 acres or less. In some cases the assessments rose by 600% or more! Many of these islands are rocky outcrops with no trees, which cannot be built on under municipal zoning by-laws and cannot hold a septic system.

The changes stemmed from a revised assessment model applied to smaller islands by MPAC, which failed to reflect the fact that many of the islands are unbuildable. In fact municipal by-laws prohibit even having a dock or tent platform on them. Yet MPAC assessed some of these islands at over $150,000. The GBA and many property owners raised concerns with MPAC. In response MPAC has updated some of the assessments again by applying a 90% adjustment in the assessed value of islands under 1 acre, and a 50% adjustment on islands under 2 acres.

Here is MPAC's response to GBA:

A full review of all Single Owner Islands under 2 Acres in Muskoka/Parry Sound was undertaken for the 2016 Assessment Update. MPAC had identified some historic inconsistent treatment which created inequity in the valuations. Some of these islands had numerous variables attached to mitigate the values such as:

- *Poor Lot or Fair Lot*
- *Non-Conforming*
- *Unbuildable*

There was also the issue of varying Market Model Adjustments (MMA's). These MMA's ranged from -10% to -90%. Assessments ranged from $700 to over $500,000.

For the 2016 Assessment Update MPAC applied the following variables consistently to all single owner islands under 2 Acres:

- *Waterfront Code A – Lake*
- *Waterfront Code W – Single Owner Island*
- *On Site Code 10 – Unbuildable Lot*
- ***Apply a -90% MMA to islands .01 to .99 acres***
- ***Apply a -50% MMA to islands 1.00 to 1.99 acres***

One grey area is inconsistency between municipalities regarding the building allowances, variances and zoning on these small parcels. It's not black and white as far as restrictions and grandfathering. Many of these properties are also exempt as they are owned by the municipality, MNR or Trust Associations.

As of Dec 22nd MPAC has received 37 Request for Reconsiderations on these small islands. We are willing to work with owners on any issues, or unique attributes to their property, please direct any enquiries to: MPAC Customer Contact Centre 1-866-296-MPAC (6722).

If you receive a notice of assessment from MPAC for a small island that does not reflect the -50% or -90% adjustment to the assessed value, GBA encourages property owners to file a Request for Reconsideration (RfR) with MPAC, or to contact MPAC at the above telephone number. The deadline for filing a RfR is printed on your assessment notice.

GBA appreciates that MPAC has at least recognized property owners' concerns and has taken some steps to address them, but we feel that more changes to the assessment models should be made. It is not clear why small islands have been categorized into groups based on size, with MMA's of 90% applied on islands under 1 acre and no adjustment at all to islands larger than 2 acres, even if the latter are unbuildable islands. If an island cannot be built on, it has limited resale value and GBA's view is that assessments should reflect that reality. GBA plans to seek a meeting with MPAC officials to discuss our members' concerns. We will keep members posted on this issue. ■

GBA Acts on Macey Bay Trailer Park Development

The Georgian Bay Association (GBA) has been actively monitoring a proposed commercial trailer park development at the south end of Georgian Bay. A company is proposing to create a 180 unit trailer park on a 167 acre property south of Honey Harbour. The GBA's main concern is the potential impact of this development on the environment; specifically on the adjacent provincially significant wetlands and the many species, endangered and otherwise, that inhabit those wetlands. We are also concerned about the precedent that would be set if this development is permitted on Georgian Bay.

An Ontario Municipal Board (OMB) hearing is scheduled for late January to review issues related to the Macey Bay development proposal. GBA will be a Participant at this hearing at which we will make submissions on our concerns.

GBA is also concerned with the lack of just process in the OMB's involvement on this file over the last 20 years. In our view, the OMB has not been fully open and publicly transparent in its deliberations. As a result, GBA has hired a lawyer to contest the 2015 OMB amendments to the 1996 OMB Decision, which permit the development to go ahead. A court date to hear this application for judicial review has yet to be set.

John Birnbaum

It is with heavy hearts that we report on the death of John Birnbaum on January 19th. John was a Cognashene cottager and a true champion of the Bay. John was always politically engaged. As a long-time volunteer Director for GBA John served as Vice-President and Chair of the Township of Georgian Bay Liaison Committee. In that role he initiated the very successful annual Delawana Conferences and the groundbreaking Eastern Georgian Bay Conference in 1991. When John retired from the GBA Board in 1991, his 11 years of hard work were recognized by his being awarded an Honourary Life Membership in the GBA.

In 1992 John became GBA's first paid Executive Director. For the next 15 years John helped grow the GBA from an alliance of cottage association volunteers to an organization that was well-connected politically and an effective advocate for the diverse range of issues facing our members. Our thoughts are with John's wife Sandra and their family. A more comprehensive tribute to John will be included in the next issue of *Update*. We have lost a true friend of the Bay.

How Healthy Is Your Septic System?

By Anne Stewart
Chair, GBA Water Committee

If you worry about the impact of aging septic systems on water quality in Georgian Bay, you're right to be concerned. Inspections and education are two key answers.

Most cottages and residences along the east coast of Georgian Bay sit close to the water and use private waste disposal systems that are not far from the water. On small islands, it is inevitable that septic tanks and beds are situated nearby water, often on two or three sides. This creates obvious risk that overloaded septic systems or systems in poor condition will leach effluent into the water.

The risk is increased by the fact that most Georgian Bay properties are on rocky land that does not have suitable soil for septic systems, which depend on the soil to filter and digest nutrients. On islands that are mostly rock, soil was usually brought in and deposited over the septic area when the system was installed.

These risks have led to problems such as:

- breaks in black water septic system lines
- plumbing lines carrying gray water discharging directly into the water
- liquid from composting toilets spilling over
- leach pits used for black water
- compost from composting toilets being spread on land without decomposition
- septic drain fields that are compacted or crushed

Despite the risks to water quality, and the fact that many cottage waste systems were installed long ago, most systems have never been checked beyond a visual inspection, if that. In GBA member association areas, only the Township of Georgian Bay currently has a broad-based septic re-inspection program for existing systems.

The Township of the Archipelago was one of the first municipalities in Ontario to introduce an inspection program in 1999. Its program was recognized for its success and proactive nature by the Ministry of Municipal Affairs and Housing. It was used as a model for provincial regulations that introduced mandatory and discretionary *Sewage System Maintenance Inspection Programs*. Today the Township only inspects high-risk systems that use steel tanks, which are susceptible to corrosion. The Township advised *GBA Update* that they are proposing enhancements to the educational part of the program, including posting more information on their website.

> "The only practical answer is to ensure that effective mandatory inspections of existing septic systems are carried out periodically."

The Township of Georgian Bay has had an ongoing program to inspect existing systems for many years. In 2016 the Township inspected 739 systems. The main issues that inspectors look for in their visual inspections are:

- ponding water
- sewage on the ground
- defective pipes and pipe failures
- unsealed sewage pumps
- outdoor showers not connected to an approved system

Even if a septic system is not failing and a septic bed is functioning, the Township advises that inspections can identify other problems that need to be addressed. Many infractions arise due to:

- plumbing under the cottage requires repair
- conveyance pipes in need of repair
- overgrown septic beds with shrubs and trees
- outdoor showers not discharging to an approved grey water pit or sewage system

Any system that requires further investigation must be dye tested, which enables the inspector to identify any breakouts of effluent from the system. If issues are identified, the owner is notified that a follow-up inspection must be scheduled when the owner is on site. If infractions are found the owner receives a notice with a date by which the system must be repaired and in compliance. If the owner does not comply, or no response is received to a notice of a follow-up inspection, the Township issues an Order to Comply.

For **townships around and to the north of Parry Sound**, septic systems are the responsibility of the North Bay Mattawa Conservation Authority or the Sudbury & District Health Unit. Neither carries out inspections of existing systems, except on a complaint basis. The GBA plans to contact the Ministry of Environment and Climate Change to

discuss how to encourage regular inspection programs for our northern communities.

Georgian Bay volunteers have been monitoring water quality by testing for decades. Unfortunately, periodic bacterial testing does not tell us if the lake is safe to swim in, fish in or drink from. Phosphorus and bacterial testing cannot identify where the nutrients or the bacteria are coming from, so cannot be used to identify faulty septic systems.

If you have concerns about a leaky septic system on a nearby property, you can alert your municipal building department. But how many cottagers would file a complaint? Our fellow cottagers are often friends and relatives and we don't want to create animosity or misgivings. And what about your own septic system? Maybe it is not in the best of shape either.

Water testing and responding to complaints are not enough to effectively monitor whether septic systems are functioning properly. The only practical answer is to ensure that effective mandatory inspections of existing septic systems are carried out periodically. To that end, last year the GBA wrote to the Mayors of all the municipalities in our members' areas in support of having septic inspection programs in place, combined with a property owner education program.

At the same time, the GBA released a Primer for members entitled *Septic Tanks 101* on how septic systems work, monitoring their performance and the proper maintenance of systems – see **www.georgianbayassociation.com/septic-tank-primer/** for a copy. The Primer explains how to care for your system and that it is critical to regularly pump out your septic tanks and to keep leaching beds clear of trees and shrubs, as roots will crack or obstruct the pipes in your system.

The first step is to put regular visual inspection programs in place. A visual inspection program can be improved by adding steps like opening the tank to measure the sludge level, doing a dye flow test of the system, checking the number of fixtures using the system, and using test holes to check the health of septic beds or drain fields.

Inspection programs also provide an opportunity to educate residents on maintaining their septic systems and protecting water quality when inspectors take the time to discuss their program with property owners or leave educational materials after the inspection.

In Ontario inspection programs can be introduced in three ways:

1) A municipality may implement an inspection program on a discretionary basis, as in the Township of Georgian Bay.
2) Sewage System Maintenance Inspection Programs are mandatory where there is a Source Water Protection Plan in place. Such plans exist in Lake Simcoe, Severn Sound, North Bay-Mattawa, and 21 other watersheds in Ontario.
3) The Clean Water Act, 2006, requires all septic systems in Ontario identified as a significant threat to drinking water sources to be inspected every five years. If septic systems around Georgian Bay were determined to be a significant threat to drinking water, inspection programs would become mandatory.

The GBA will continue to promote adoption of septic system inspection programs throughout the eastern coast of the Bay as one important initiative to protect our water quality, significant wetlands and the health of the overall ecosystem on Georgian Bay. This ties in with the overall goal of our 100th Anniversary Symposium in December: to protect the Bay for our grandchildren's grandchildren (see related article in this issue).

Filing a Complaint about a Septic System

If a complaint is filed the local building department, health unit or conservation authority will investigate. Complaints may be filed with:

Area	Agency	Contact
Killarney area	Sudbury & District Health Unit 1300 Paris Street Sudbury, ON P3E 3A3	(705) 522-9200 Ext. 398 **https://www.sdhu.com**
Unincorporated Townships	Sudbury & District Health Unit	(as above)
Township of the Archipelago	Township of the Archipelago, 9 James St. Parry Sound	(705) 746–4243 **chenderson@thearchipelago.on.ca**
West Parry Sound Municipalities & Townships (Carling, Magnetawan, McDougall, McKellar, McMurrich/Monteith, Seguin & Whitestone)	North Bay Mattawa Conservation Authority, Parry Sound Office, 69 Bowes Street, Parry Sound	(705) 746-7566 **nbmca@nbmcaps.ca**
Township of Georgian Bay	Township of Georgian Bay, 99 Lone Pine Road Port Severn, ON L0K 1S0	(705) 538-2337 X233 **building@gbtownship.ca**

GEORGIAN BAY ASSOCIATION
Your Voice On The Bay
GBA UPDATE is published by the Georgian Bay Association

GBA Mission Statement:
To work with our water-based communities and other stakeholders to ensure the careful stewardship of the greater Georgian Bay environment.

The Georgian Bay Association is a volunteer umbrella group representing 19 community associations with over 3,200 dues paying property owners and over 18,000 residents.

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GBA to Respond to Soaring Rural Electricity Rates

Electricity costs in Ontario are regulated by the Ontario Energy Board (OEB). They oversee all of the energy providers in the Province including Hydro One. In 2013 the OEB decided that the low-consumption seasonal customers of electricity were not paying the full costs of the service they received. They felt that seasonal customers should pay appropriate density-based costs including a fixed cost for distribution services.

The OEB asked Hydro One for a proposal to eliminate the seasonal class of customers. Hydro One delivered a report to the OEB on December 1 entitled *Report of the Elimination of the Seasonal Class*. To view this report go to: **http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/rec/553182/view**

The Report shows that elimination of the seasonal class combined with the move to all-fixed distribution residential rates will result in only a small benefit to the 70,000 seasonal customers moving to the R1 class*, and very large cost increases for the 84,000 seasonal customers that would move to the R2 class*. GBA believes that most cottagers on Georgian Bay fall into the R2 class.

The report concludes that seasonal customers moving to all-fixed R2 rates will see large unfavourable impacts from the elimination of the seasonal class – **on average a 150% increase** in their monthly bill - if not higher. Hydro One has proposed a long term (11 year) phase-in of this increase through a monthly credit to limit the hike to seasonal-R2 cottagers' total bill to 10% per year.

This recommendation is now in the hands of the OEB. The GBA contacted the Federation of Ontario Cottagers Associations (FOCA), which also has concerns with the elimination of the seasonal class and the resulting high rates proposed for many cottagers. We will work with FOCA to prepare submissions to the OEB and, if necessary, petition politicians on this issue. Stay tuned to our website and email updates for current information.

*The density definitions that have been in place for many years are Urban(U), Medium Density (R1) and Low Density (R2).

Urban density – areas with over 3,000 customers with line density over 60 customers per km.

Medium density – areas with at least 100 customers with line density over 15 customers per km.

Low density – all other customers.

Upcoming Events

We have received the following information from our sister Georgian Bay organizations on upcoming events.

Georgian Bay Forever

Parry Sound Phragmites Workshop

Friday, April 28. Presented by GBF and the Georgian Bay Biosphere Reserve. Registration required. More details at **gbf.org/upcoming-events/**

Invasive Phragmites webinar

Wednesday, February 22. Hosted by the Ontario Invasive Plant Council, featuring GBF's David Sweetnam discussing Phragbusting Community Action. More details at **gbf.org/upcoming-events/**

Georgian Bay Land Trust

Winterlude – *Georgian Bay: A Unique North American Ecosystem* Book Launch

Wednesday, March 29, 6 pm cocktail reception, 7 pm book launch, Bishop Strachan School, 298 Lonsdale Road, Toronto. Free admission.

Winterlude will feature short presentations by several of the authors to introduce the extraordinary history and ecology of Georgian Bay covered in this new book.

Seminars: Income & Capital Gains Tax Benefits of Conservation

To learn more about the ecological significance of your Georgian Bay property, and the income tax and capital gains tax advantages of conservation agreements or gifts of land, join the GBLT for an informative seminar. Seminars are free and will be held in Port Severn, Toronto and King City, in February and March. Visit **gblt.org/seminars** for dates and locations, and to register.

Eastern Georgian Bay Stewardship Council

Annual Native Plant Sale

A variety of native plants will be available for order, including shoreline, meadow and forest species. A plant list and order form will be available by April 1 on EGBSC's website and by contacting the Coordinator. All plants must be pre-ordered by Friday, May 19. Plants will be available for pick up on Saturday, June 3 between 9am and 1pm at the Museum on Tower Hill, 17 George St, Parry Sound. While picking up your plants, stay for EGBSC's Annual General Meeting between 10am and 12pm. Send questions or RSVP for the AGM by contacting Julia at 705-783-5098 or **egbaystewardship@gmail.com**.

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