

Oil and Great Lakes Water Do Not Mix

By Bob Duncanson,
Executive Director, GBA

To state that oil pipelines spark a lot of controversy would be an understatement. A video produced by an organization called Motherboard (motherboard.vice.com/read/the-aging-oil-pipelines-below-the-great-lakes) landed on the GBA Board table last fall, which led us to look into pipelines under and around the Great Lakes. Here are some of the key insights from our research.

There are literally dozens of pipelines that run under or beside the Great Lakes.



Source: National Energy Board of Canada



Source: Enbridge Inc. (Safety in the Straits: Line 5 Design and Construction)

These pipelines are used to transport oil, natural gas and numerous other chemicals between Canada and the US. Most of the underwater pipelines are in the St. Clair River servicing industries on both sides of the border.

Two pipelines that are attracting a lot of attention, and that were the main focus of the Motherboard video, run for 4½ miles under the Straits of Mackinac, the straits that separate Lakes Michigan and Huron. These two pipelines are known as Line 5 and are owned by Enbridge Inc. Each day, some 540,000 barrels of light crude oil and natural gas liquids travel through these pipelines on their way from Alberta to refineries in Detroit and Sarnia. These pipelines were built 62 years ago. They are 20 inches in diameter and have one-inch-thick steel walls with fiber-reinforced enamel coating.

The Motherboard video asked: What would happen if one or both of these pipelines sprung a leak?

"Water in the Straits moves at speeds that rival that of water going over Niagara Falls," according to Eric Anderson, a physical scientist with the Great Lakes Environmental Research Laboratory at the National Oceanic and Atmospheric Association. Complicating matters, surface water and lakebed water often move in



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different directions. Distribution models show that an oil spill from Line 5 would spread at a high rate of speed throughout the Lakes, including parts of Georgian Bay, even if clean-up actions were as prompt and thorough as Enbridge claims they would be.

Enbridge came under great scrutiny after a breach of their Line 6B near Marshall, Michigan spewed as much as 1.1 million gallons of heavy crude oil into the Kalamazoo River in 2010. That was the largest inland oil spill in US history. It is no wonder that there is concern with the underwater pipes of Line 5.

Enbridge states that they have learned from the Line 6B experience and have put many safeguards into place on Line 5 and their entire pipeline network (Enbridge document entitled The Straits of Mackinac crossing and Line 5). In 2011, Enbridge opened a new, modernized Control Centre at which they conduct critical around-the-clock network management operations and monitoring. If there is a change in pressure or flow, Enbridge can remotely shut off the flow of oil in Line 5 within three minutes and activate trained responders to investigate and, if necessary, contain and begin to clean up a spill.

The company worked with emergency response agencies on both sides of the border in the development of a coordinated spill response plan.

Enbridge also conducts internal inspections of the Line using a MRI-like tool known as a “pig” that travels the pipeline recording data on the pipe’s thickness and looking for cracks, dents or signs of corrosion. (See diagram below.)



They keep an eye on the outside of the pipeline with the help of divers and, in partnership with Michigan Technological University, use an Autonomous Underwater Vehicle to visually inspect the line.

Canada’s National Energy Board regulates pipeline safety, while the American regulator is the Federal Regulatory Energy Commission (supported by the Pipeline Safety Advisory

Board). Both require detailed emergency response plans from pipeline companies and oversee regular emergency response training sessions. Enbridge informed us in a telephone interview that the two countries have aligned their regulation on pipeline safety for pipelines that cross the Canada-US border. Enbridge complies with both regulators’ requirements.

Water in the Straits of Mackinac moves at speeds that rival that of water going over Niagara Falls

Even with all of the assurances from Enbridge, including their shutoff timeframe of 3 minutes in case of a spill, a spill could release over 1,100 barrels of crude and/or natural gas liquids into the Straits of Mackinac. And despite their emergency response

protocols and training, the aggressive currents through the Straits would likely result in widespread water contamination from a spill.

So what are the alternatives to pipelines?

Train transport is the only practical alternative. In 2013 according to the Fraser Institute, trains transported about 6% of the crude oil that was transported by pipeline – but the volume of oil transported by train has nearly tripled over the past decade. This is a reflection of the obstacles pipeline companies face in getting new pipelines approved. In spite of the fact that trains only move a fraction of the amount of oil transported by pipelines, the Fraser Institute concluded that trains have a higher number of spill occurrences than pipelines.



Source: Fraser Institute, *Safety in the Transportation of Oil and Gas: Pipelines or Rail?* August 2015

“If you’re going to move a given quantity of oil or gas by rail or by pipeline, it’s considerably safer by pipeline,” said Kenneth Green, the Fraser report’s author and an energy and resources expert.

Georgian Bay is more vulnerable to oil spills from trains than from pipelines. CN Rail and CP Rail both have main lines running close to the east coast of Georgian Bay and its



Red Line is CN Rail
Yellow Line is CP Rail

tributary rivers.

On March 8, 2015 a Canadian National Railway train with 94 tanker cars carrying oil derailed near Gogama, Ontario, north of Sudbury (see picture on right side). Several cars exploded and some released their contents into the Makami River. This was on the same CN Rail line that is shown on the map above. One can only imagine the devastation that

would be caused if a similar train derailment occurred as a tanker train rolled down the eastern coast of Georgian Bay across the many rivers that flow into our communities.

Transport Canada regulates rail safety. In 2015, following several disastrous derailments involving oil tanker trains, Transport Canada introduced new standards requiring railways to use stronger and safer tank cars. All cars carrying crude oil will be required to meet the new standards by March 31, 2020. Cars carrying ethanol and all other flammable



Source: CBC News. A CN Rail train derailment near Gogama, ON. March 8, 2015

liquids will be required to meet the new standards by the end of April 2025. In addition, the Safe and Accountable Railways Act calls for more rigorous inspections of rails, rail beds and bridges. Only time will tell whether these new standards will be sufficient to safeguard us against rail disasters like the one near Gogama, but history teaches us that "accidents will happen."

In the long run the best way to alleviate the threat of an oil spill from a pipeline or from a train is to lessen our dependence on oil. The advances toward the electrification of our personal and communal transport systems in an effort to reduce carbon in the atmosphere may be our best hope. ■



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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.

Patrons of GBA:

The Right Honourable Adrienne Clarkson C.C.,
C.M.M., C.O.M., C.D.

John Ralston Saul, C.C.

President: **John McMullen**,
email: john.mcmullen@teksavvy.com

Executive Director: **Bob Duncanson**,
email: rduncanson@georgianbay.ca

Editor: **John Carson**,
email: johnwcarson@sympatico.ca

Advertising: **Marc Cooper**,
email: mcooper@agency59.ca

Webmaster: **Eric Armour**,
email: e.s.armour@gmail.com

GBA website: www.georgianbay.ca

Facebook: facebook.com/GBayAssociation

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Administrative Assistant
302-561 Avenue Road, TORONTO, ONTARIO, M4V 2J8
gba@georgianbay.ca • 416-860-0100

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Reflections on 2015

My original intent when starting to draft this report was to reflect upon what took place in 2015 and what we as an association achieved, and then turn my attention to the year ahead and itemize certain priorities that we will tackle.

As I tried to shake off the after effects of the Holiday Season, I eventually came to realize that a common thread runs through all GBA initiatives, accomplishments and future priorities, and that common thread, quite simply, is communications.

Notwithstanding the importance of specific issues GBA has and will continue to tackle (whether they be invasive species, water quality and water levels, aquaculture, boating and safety, and of course membership development), a pervasive and ongoing challenge that we as an association face is to communicate effectively with our audiences, members and non-members alike. To keep everyone apprised of issues facing the Bay, what we as an association are doing on their behalf – and what they as individuals can do to further a specific cause.

Over time, the technologies and tools with which to get messages out change. In years past, our flagship publication *UPDATE* was the primary communications vehicle. In recent years, the Board realized that *UPDATE* alone was no longer sufficient and therefore steps were taken to improve how we communicate, how we make people aware of GBA and its undertakings, and how we brand the organization. Here's what has been done in recent times:

- In 2013 we established a Facebook page.
- In early 2014 we redesigned our newsletter *UPDATE* to promote readability.
- Also in 2014, our website was redesigned and enhanced to accommodate mobile browsers, allow for more frequent updates, and include a news item alert subscription capability.
- In early 2015 we redesigned our logo as part of a broader movement to appeal to younger demographics, and tied that fresh look to existing and new communication activities.
- In the spring of 2015 GBA established a YouTube channel; with little promotional activity our videos have garnered a healthy number of views.

UPDATE remains our most trusted communications channel. However, going forward we will be embarking upon a number of new communications initiatives, including:

- Creating a monthly eNewsletter to feature highlights of the past month and distributing this via our website email subscription, plus, depending on the type of content, Facebook, YouTube, Twitter, Instagram, maybe Pinterest and other social media channels as appropriate.
- Announcing new web content as it is published to the website on these social media channels.

- Cross promotion with the GB5 on all our websites and promotional ads for our eNewsletter and social media channels in *UPDATE* and on the website.
- Increased integration of our social media channels on our website through sharing tools, etc.
- Targetted promotion of our channels and content on Google search, Facebook ads & promoted posts, and Twitter promoted “tweets.”

In order to effectively roll out these many initiatives and receive the eNewsletter, we would ask you to please sign up for the email alerts on the home page of our website and suggest to your family and friends that they sign up too.

However, back to my original intent of describing what we did last year, and what the coming year holds in store. I won't attempt to describe the activities of each and every committee and the issues that they have on their respective plates. Several of these are addressed elsewhere in this issue of *UPDATE*. Suffice to say that it was an exciting and busy year.

Phragmites reared its head even more (please excuse the pun) and replaced water levels as a major cause for concern and a priority requiring the attention of GBA, our sister GB5 organizations, and countless volunteers from among our member associations. The bottom line is that successfully tackling the threat posed by Phragmites is going to require a very large communal effort and many volunteers. This past year provided some excellent examples of what can be done and what others may aspire to.

As for water levels, what I heard on more than one occasion last summer was the tongue-in-cheek comment “stop the rise”. What will be the situation next year and down the road remains to be seen. Regardless, water levels should and will remain on the proverbial radar.

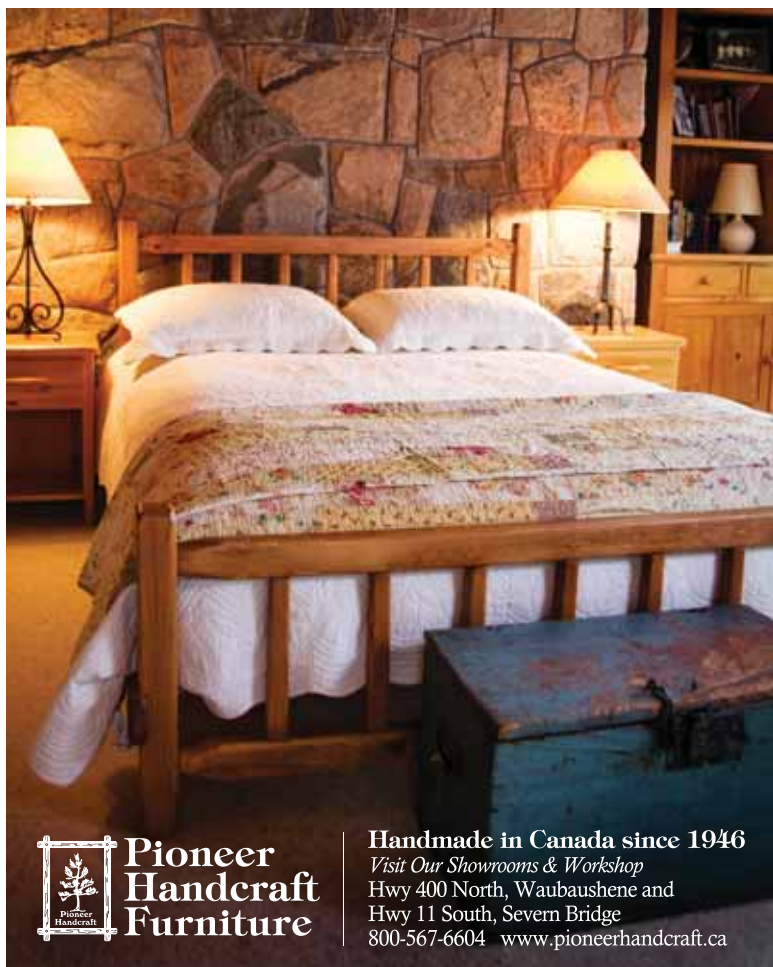
Hopefully you have been following news regarding the Wiikwemkoong Land Claim, including the postings to our website (www.georgianbay.ca). The Wiki file dominated our attention in the last half of 2015, and this particular land claim, and likely other related issues along the Bay, will continue to require our attention. At this time, I won't go into this matter further but I would draw your attention to the Wiki backgrounder included in this issue of *UPDATE*. I will reiterate what we have said all along: namely, that there are past wrongs that need to be remedied; and that GBA's objective is to work with all parties in an attempt to realize a settlement that is fair and equitable to Wiki and non-Wiki stakeholders alike.


Last year we celebrated the 400th Anniversary of Champlain's visit to Georgian Bay. This year we celebrate

one hundred years of the Georgian Bay Association's existence! We have a number of activities planned to celebrate this momentous occasion in appropriate fashion, including:

- A reception in conjunction with our April AGM.
- A special “keepsake” issue of *UPDATE* with interesting articles delving back into our history.
- A one-day Fall symposium that will address key threats to the Bay and means by which we may address these going forward. The symposium would include participation by the other GB5 organizations, local governments, GBA member associations and their members, and other stakeholders.
- And of course a few select memorabilia items to commemorate the 100th Anniversary.

I would hope that there will be occasions during the summer in your own cherished part of the Bay – a regatta, annual sailing race, an environment day, your local association's AGM meeting, or simply a social gathering of some sort or another – to pause for a moment, think of why the Bay is so important to you and your family, and raise a glass, literally or figuratively as appropriate, to the GBA and to the countless volunteers who over the last 100 years have contributed their time and effort to protect the Bay for the enjoyment of all. ■





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Update on Proposed Wiikwemkoong Land Claim Settlement

As reported in the fall edition of GBA *UPDATE* the Government of Ontario has been working with the Wiikwemkoong (Wiky) leadership to try to reach an interim settlement to their claim in the immediate vicinity of the Wiky Reserve on Manitoulin Island. This is what is referred to as the “Central Claim”. The government’s intention is that the Wiky’s larger claim on all of the Crown islands along the east coast of Georgian Bay and in the North Channel will be dealt with at a later time. The two parties have identified 17,000 acres of islands and several small blocks of mainland that are both currently Ontario Crown land and which, combined with cash, might be acceptable to the members of the Wiky band to resolve this interim settlement.

The Ontario Ministry of Aboriginal Affairs (MAA) solicited public input on the proposed settlement. The deadline for comment was extended several times, and comments finally closed in early January. GBA would like to thank all those who submitted letters to the MAA; we understand there were a great many, and that they had the desired effect of making the MAA realize the extent of public concern about the proposals.

GBA’s submission to MAA stated

that we recognize that there are past wrongs that need to be remedied and that a settlement should be reached that is fair and equitable to all stakeholders. We commented that the proposed settlement as currently structured is creating considerable public angst. We firmly believe that as the settlement is reviewed and hopefully revised some creative thinking could go a long way to alleviating public concerns while helping the Wiky achieve their vision for the future security of their Nation. The establishment of a Wiky-owned and managed public park on part of the lands to be transferred (perhaps with help from MNR&F), long-term leases by the Wiky to cottagers who own parts of small islands that could become co-inhabited, and the creation of an ecosystem protection committee comprised of both Wiky and relevant stakeholder representatives are some of the ideas that we have proposed.

GBA’s member association, the Northern Georgian Bay Association, wrote its own letter to MAA focussing on the classification of environmental assessment that the Ontario government is using for the proposed settlement. The NGBA argues that the extent of the public concern and the absence of any information on future use of the 17,000 acres of prime Crown Land that is proposed to be transferred to the Wiky meet the criteria for a higher level of environmental assessment and public scrutiny.

The government has yet to formally respond to either the GBA or the NGBA.

Over and above this interim settlement on the Central Claim

area, the Wiky’s larger claim on all Crown islands along the Georgian Bay and North Channel coast from Penetanguishene to Sault Ste. Marie ultimately needs to be addressed. Based on our analyses GBA has concluded that the larger claim is not as legally strong as the Central Claim. Moreover, we have been told that a government valuation model estimates that it would cost tens of billions of dollars to compensate the Wiky for the value of these islands if the claim was ever upheld. This is a cost that neither the Federal nor Provincial government could afford. GBA believes that the land and the cash that are likely to be offered in the interim settlement (of the Central Claim) should be sufficient to enable the Wiky to achieve their long-term goals and therefore we are urging that this settlement be the full and final settlement between the Crown and the Wiky.

A possible complication to the Wiky negotiations has recently come to light. The six other First Nation bands that also reside on Manitoulin Island and in the general vicinity have apparently issued their own land claim under the banner of the United Chiefs and Council of Mniidoo Mnising (UCCMM). Their claim covers the same land that is in the Wiky Central Claim. GBA is trying to understand the implications of this competing claim on the Wiky negotiations. We will be meeting with Ontario government officials over the coming weeks to discuss the matter.

For further details and updates on matters pertaining to the Wiky claim please visit GBA’s web site at www.georgianbay.ca ■

Correction on Aquaculture

In the Spring 2015 edition of GBA *UPDATE* we published an article on aquaculture that referred to materials from the Ontario Federation of Anglers and Hunters (OFAH). The OFAH has advised GBA that the statement

made in *UPDATE* that OFAH’s policy on aquaculture “remains the same as in the past” is inaccurate. OFAH has evolved its policy on aquaculture over the years. We have posted a full copy of the OFAH’s current policy on our web site www.georgianbay.ca. Although OFAH considers fish habitat degradation through environmental

contamination and nutrient loading from fish farms to be important issues that must be prevented, the OFAH does not take as strong a stance as GBA has on the operations of the aquaculture industry, as was stated in the Spring 2015 article. GBA apologizes for any impression left that OFAH endorses GBA’s policies on aquaculture. ■



Upcoming Field Plans

Between April and October 2016, Eastern Georgian Bay Stewardship Council will carry out a fish habitat assessment in specific tributaries to Eastern Georgian Bay, up to the first barrier for fish migration. Funded by the Environmental Damages Fund, the goal of this project is to identify whether there is sufficient fish habitat (spawning, nursery, rearing, foraging) to support self-sustaining populations of Walleye, Lake Sturgeon and Sucker species. Our project partners include Georgian Bay Forever, Georgian Bay Biosphere Reserve and Upper Great Lakes Management Unit. We plan to work on these tributaries this season:

- Blackstone River
- Seguin River
- Shebeshekong River
- Shawanaga River
- Sucker's Creek
- Naiscoot River
- Magnetawan River
- Key River

In April, we will visit spawning areas to take aerial photos, measure speed of water flow and see what fish species are using the spawning beds. In some areas, we may use egg mats to collect and identify eggs from fish species that spawn at the site. Between July and October, during periods of lower water levels, we will assess nursery, rearing and foraging habitat and take physical measurements on the spawning beds. The field work will include:

- Aerial photography in areas of focus
- Mapping tributary depths by boat or foot
- Width, depth, flow and slope measurements at spawning beds
- Underwater photography and video to assess tributary bottoms
- Temperature monitoring
- Collection of basic water quality data (dissolved oxygen, conductivity, pH)

EGBSC is a not-for-profit, volunteer-based organization whose mandate is to protect and enhance environmental health along the eastern shore of Georgian Bay and adjacent inland watersheds. Past projects have included bass nest creation projects, fisheries sampling, crown land campsite clean ups and five Walleye spawning bed rehabilitation projects. EGBSC relies on grants and donations to complete their stewardship projects. Any donations are greatly appreciated and go directly towards stewardship projects that benefit Eastern Georgian Bay. Donations can be organized by contacting the Coordinator.

During the field season of 2017, we will focus on the Pickerel and French Rivers and complete one restoration project.

We need your help!

You are our eyes and ears on the ground. We are looking for historical information on all of the tributaries listed above, near the outlets to Georgian Bay. We know there are many individuals who have a lot of knowledge about these areas. Please contact us if you have information you would like to share, or if you would like to volunteer with us!



Blackstone River Spawning Area



Measuring spawning substrate

Native Plant Sale!

Native plants are beautiful *and* functional! Are you interested in making your shoreline more natural? Do you have questions about native plants that you'd like to have answered by experts?

EGBSC is organizing a native plant sale. Plants need to be pre-ordered by early May and can be picked up near the end of May – date and location to be announced. That day will also feature a presentation on how to use native plants, and experts will be on-site to answer your questions! There will be other fun events throughout the day, including aquatic insect identification and instruction on how to build a bass nest. Order forms and details about the event will be posted on our website and Facebook page. You can also email Julia to receive your plant order form when available. ■

705-685-7532

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Who Does What on Georgian Bay?

Your Guide to the GB5 Organizations Working to Protect the Bay



At GBA and our sister “GB5” organizations, we continue to get frequent questions from Georgian Bay cottagers and other stakeholders about the specific roles of each organization. Why are there 5 entities and what is the difference in their roles? Simply put, Who does what on the Bay?

To give you a clear answer to those questions, GBA reached out to our sister organizations to develop this summary of each

organization’s roles, vision, and current major initiatives. Each organization’s website is listed in the summary – for more information on any GB5 organization, just go to its website. Social media links are also included.

This information will be available continuously on GBA’s website under the GB5 tab: www.georgianbay.ca







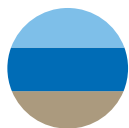
Georgian Bay Association

Vision Statement	To work with our water-based communities and other stakeholders to ensure the careful stewardship of the greater Georgian Bay environment.
Founded	1916
Community	An umbrella organization of 19 cottager associations on the eastern and northern shores of Georgian Bay plus one inland lake
Core Strategy	Advocate on behalf of cottagers with all levels of government and non-government entities to protect the interests of our members.
Current Major Initiatives	<ul style="list-style-type: none"> ➤ First Nations – Working with Wiikwemkoong First Nation and senior levels of government as they negotiate a land settlement to ensure that the interests of our members are considered. ➤ Fisheries – Advocate for the use of waste capture and treatment technology in fish farms that use our public waters. Work with the MNR&F and NGOs to rehabilitate and protect our native fishery. Advocate for prevention of Asian Carp in the Great Lakes. ➤ Lands and Forests – Address terrestrial invasive species that affect our wetlands and forests including Phragmites and forest pests. ➤ Boating and Safety – Work with the boating community to maintain a respectful relationship in the use of Georgian Bay. ➤ Water – Protect the quality and quantity of our water resource through active advocacy with all levels of government and our sister organizations. ➤ GB5 – Actively promote dialogue and coordination among the 5 organizations on Georgian Bay to pursue mutual objectives.
Registered Charity	No (funded by member dues)
<div>  www.georgianbay.ca  GBayAssociation  @GBayAssociation  /GBayassociation </div> <div>  search “Georgian Bay Association” </div>	



Georgian Bay Land Trust

Vision Statement	Conserve wilderness lands forever – Port Severn to the North Channel
Founded	1991
Community	Member of the Ontario Land Trust Community and partners with the Nature Conservancy of Canada
Core Strategy	Maintain wilderness places and open spaces to benefit all. Conserve recreation properties for everyone to enjoy and ecologically sensitive lands that protect rare species & habitats (including provincially significant wetlands) of ecological, geological and historic importance. Engage local residents to assist in the monitoring and ongoing management and protection of each property's natural features. Land is secured through donations, purchases, conservation easements and leases.
Current Major Initiatives	<ul style="list-style-type: none"> ➤ GBLT currently stewards, or financially assists the stewarding of, over 6,000 acres of coastline. ➤ Conservation education and university-level research on our terrestrial spaces and their wetlands.
Registered Charity	Yes (funded through donations and grants)
 www.gbtl.org  /GeorgianBayLandTrust  @gblandtrust	
 /channel/UCwBL_iDX2_tuPCUec_YsLqw	



Georgian Bay Forever

Vision Statement	Our vision is for the waters of Georgian Bay to be healthy and thriving for future generations.
Founded	1995
Community	A pan-Georgian Bay volunteer based organization working as partners with research institutions, governments, agencies and other NGOs to execute major research and education projects to protect the waters and sustain the Georgian Bay environment.
Core Strategy	GBF funds and supports scientific research and education that protects and enhances the waters of Georgian Bay, as part of the Great Lakes.
Current Major Initiatives	<ul style="list-style-type: none"> ➤ Water Levels Leadership – Economic and engineering studies looking at possible structural and non-structural adaptive measures to address climate impacts on water level extremes as well as research on how water levels impact ecosystems. ➤ Water Quality Assessment – Township of Georgian Bay water quality monitoring program, drinking water protection, microbial source tracking research, blue-green and nuisance algae blooms. ➤ Ecosystems Integrity – Index the biodiversity of Georgian Bay using DNA Barcoding, invasive species eradication (phragmites) and prevention education (Asian Carp). ➤ NASA Wetlands inventory and conservation projects including assessment of habitat loss.
Registered Charity	Yes (funded by donations and grants)
 www.gbf.org  /Georgian-Bay-Forever-107834349286669  @gbayforever	
 /gbayforever  /channel/UCWH8cJErRppkMklebKtlyzg	



Eastern Georgian Bay Stewardship Council

Vision Statement	To protect and enhance environmental health along the Eastern shore of Georgian Bay and adjacent inland watersheds
Founded	2000. Incorporated into the Ontario Stewardship Network in 2006 and as an independent not-for-profit corporation in 2014.
Community	Focuses on Georgian Bay from Severn Sound to the French River delta including adjoining inland watersheds. EGBSC brings stakeholders together to develop stewardship goals that will benefit Eastern Georgian Bay and works with stakeholders to carry out projects that will achieve those goals.
Core Strategy	To actively partake in management decisions and stewardship activities that promote the ecologically sustainable management of our natural resources for the enjoyment of present and future generations.
Current Major Initiatives	<ul style="list-style-type: none"> ➤ Key River Walleye spawning bed rehabilitation project and monitoring. ➤ Assessment of fish habitat and prioritization of fish habitat restoration in 10 tributaries to Eastern Georgian Bay, in the Parry Sound District. ➤ Creating awareness about Walleye status through meetings, presentations and distribution of booklet, Walleye Woes. ➤ Working with partners on crown land campsite management. ➤ Native plant sale for property owners and shoreline restoration projects.
Registered Charity	No



www.georgianbaystewardship.ca

Upcoming Events

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

Georgian Bay Association / Georgian Bay Biosphere Reserve

What's Bugging Our Forests? – Join us this spring at a Forest Health Workshop to learn about the state of our forests. The workshop will include guest speakers, handout materials and a chance to talk to forestry experts. The workshop is being hosted by the Georgian Bay Association, Georgian Bay Biosphere Reserve, Westwind Forest Stewardship and the Township of the Archipelago. Date and venue TBA – Check www.gbbr.ca and www.georgianbay.ca for details.

Georgian Bay Forever

Removal and Management of Invasive Phragmites Workshops – 2 dates

Toronto (location TBD) – Saturday April 16, 9.30 am - 2.30 pm
 Collingwood (location TBD) – Thursday April 21, 9.30 am - 2.30 pm
 You too can be a Phragbuster! These workshops are free, but space is limited and advance registration is required. Email us today at georgianbaykeeper@gbf.org to reserve your spot.

Georgian Bay Biosphere Reserve

Stewardship Workshop – 2 dates

Saturday, May 28, 10 am - Noon at Wasauksink Lands Inc. office, 14 James St., Parry Sound

Saturday, June 11, 9 am – 11 am at Georgian Bay Biosphere office, 11 James St., Parry Sound. Attend this free workshop to become eligible for funding through the Community Stewardship Program. For more information or to register for the workshop visit www.gbbr.ca/communitystewardship or contact Delaina Arnold at 705-774-0978.

Explore Our Shores: Hike in the Biosphere! –

Saturday, July 30, 10 am – Noon

Calhoun Lodge, Massasauga Park (boat access only)

Join GBBR staff on a guided hike and learn about the biosphere in your backyard! After the hike, we will offer a one-hour Community Stewardship Program workshop (Noon – 1 pm). Attendees will be eligible for funding towards stewardship projects. Register for the workshop at www.gbbr.ca/communitystewardship or at 705-774-0978. Held in partnership with the Township of the Archipelago, Woods Bay Community Association and Friends of the Massasauga Park.





Georgian Bay Biosphere Reserve

Vision Statement	To be an international model of sustainability that preserves the values of the Georgian Bay Biosphere.
Founded	2004
Community	The GBBR is one of 16 biospheres in Canada and 650 globally recognized by UNESCO. The community is made up of First Nations, permanent residents, cottagers, and boaters that live within the shoreline ecosystem stretching from the Severn River up to the French River.
Core Strategy	<p>The Biosphere serves as a model of sustainable development by:</p> <ul style="list-style-type: none"> ➤ Contributing to the conservation of landscapes, ecosystems and biodiversity through research, monitoring strategies and protecting species at risk ➤ Offering environmental education through community stewardship programs and school programs ➤ Providing programs and resources to promote healthy communities ➤ Developing a sustainable tourism program aimed at connecting people with nature
Current Major Initiatives	<ul style="list-style-type: none"> ➤ Species at Risk research, monitoring and stewardship. ➤ Love your Lake shoreline stewardship program. ➤ State of the Bay ecosystem health reporting. ➤ Community Stewardship Program funding. ➤ Amazing Places sustainable tourism project. ➤ Lessons-in-a-backpack school program.
Registered Charity	No (funded by grants)
   	

Georgian Bay Land Trust

Winterlude –

Thursday, March 10,
6 pm reception, 7 pm screening
Bishop Strachan School,
298 Lonsdale Road, Toronto

Winterlude features a screening of Painted Land: In Search of the Group of Seven, a beautiful look at the landscapes painted by the Group of Seven. Filmmakers Phyllis Ellis and Nancy Lang will attend a Q&A after the show. Free admission.
More information at www.gbtl.org



Forbes Black 1921-2015

Forbes Black passed away on December 7 hours before his 94th birthday, at his residence Arbour Trail, in Guelph. Forbes was a pillar of the Sans Souci & Copperhead Association (SSCA) and community, and the third generation of the Black family on Georgian Bay. He was a Director of the SSCA for 50 years, which included acting as Secretary/Treasurer and maintaining the membership records.

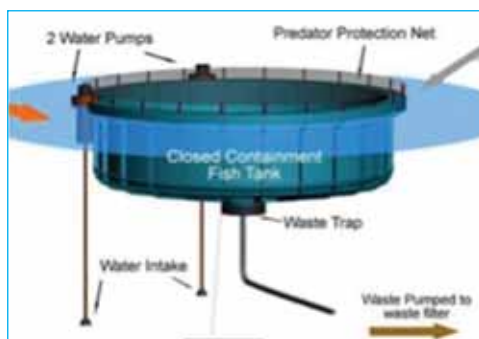
Before GPS was available, Forbes created a membership map with island numbers that is still used today. He sat on the GBA Standing Committee of the Archipelago – the Committee that provided the impetus behind the creation of the Township of the Archipelago – and the GBA Commercial Shipping Committee, which made recommendations to the Minister of Transport, Canada and the relevant transportation companies on groundings of commercial shipping in Georgian Bay, which the Department accepted. He was a tireless contributor of his 'talents and time' and we have much to thank him for. ■

Fish Farms – More Questions than Answers from Ontario Government

GBA's first mention of cage aquaculture appeared in the winter 2000 issue of *UPDATE*. At that time we were just starting to learn about this industry. Fast forward through 15 years and we have learned a lot but there are still more questions than answers.

GBA's Aquaculture Committee, under the stellar leadership of Claudette Young and supported by a dedicated group of volunteer scientists and engineers, have been engaging with government and the aquaculture industry over most of these 15 years.

Regular readers of *UPDATE* will know that our principal concern with aquaculture in the public waters of Georgian Bay and the North Channel is the use of open nets by this industry. In using open net technology the industry relies on the public waters to dispose of the waste created by the fish farms. Nutrient loading (primarily Phosphorous) of the water and the underlying sediment amounts to over 46 tonnes per year. Any antibiotics fed to the fish are also released directly into the water. And the nets have been known to fail from time to time, releasing farmed fish into the surrounding natural ecosystem. The GBA believes that closed containment systems that capture waste water for treatment before it is released into public waters and that prevent "escapees" are the only long term solution that would enable this industry to expand in an environmentally responsible fashion.



Source: AgriMarine Technologies

With that as background, here is an update on the most recent developments in the Georgian Bay fish farming industry.

Last spring the Ontario Ministry of Natural Resources and Forestry (MNR) posted for comment proposed license renewals for the commercial fish farms in Georgian Bay on the Environmental Bill of Rights Registry (EBR). The EBR

is a mandatory process for Ontario Ministries to advise the public of certain activities and solicit public feedback. The terms of the license renewals included proposed increases to the farms' feed quotas totalling 20%. These feed quota increases would increase the farms' Phosphorous output from 46 tonnes to 55 tonnes per year. One of the license renewals also permitted the farming of other species of fish than the traditional and arguably native Rainbow Trout species.

GBA wrote to the MNR to oppose the license renewals if they included higher feed quotas and permission to farm different fish species.* We believe there is a growing body of evidence that the waters around at least one farm site (in Lake Wolsey) are already stressed due to nutrient loading. GBA's position is that each license and each site should be subject to a high level of environmental screening before any changes to licenses are permitted.

Notably, the MNR assess all fish farms as Category A under a Class Environmental Assessment, which is the category that requires the least amount of public scrutiny. GBA's position is that MNR should classify each farm as Category C, which

would require more exhaustive and site-specific environmental assessments, as well as greater public transparency. We are not alone in our call for this. The Environmental Commissioner of Ontario (ECO) called for this very action in his Annual Report as far back as 2010:

"The ECO is seriously concerned that MNR continues to classify cage aquaculture licences in the category of lowest concern, given longstanding public anxiety with cage aquaculture in the Great Lakes and the potentially damaging impacts to the aquatic environment. By MNR classifying cage aquaculture projects as Category A, MNR absolves itself of all public consultation requirements when issuing licences, through its Class EA process and through the EBR. The ECO is disappointed that – five years later – MNR continues to circumvent the essence of the EBR without a revision to O. Reg. 681/94 or addressing cage aquaculture approval consultation weaknesses. The public deserves better public consultation on cage aquaculture licences in the Great Lakes."

GBA has yet to receive a response from MNR on our comments on the EBR posting. We recently asked MNR if the licences were renewed and, if so, with what feed quotas. Again, NO RESPONSE. We believe that the licenses must have been renewed as all of the farms continued to operate through



the summer 2015 season. The lack of transparency from the Government and the fact that it will not inform the public what decision it has made – in spite of the commitments made in the original EBR posting – is of serious concern. GBA has raised its concerns with the Environmental Commissioner and is considering taking further action in order to pressure the Government into meeting its obligations to disclose its decisions to the public.

Last Fall another blue green algae outbreak occurred in Lake Wolsey. As reported in the *Manitoulin Expositor*, “The Ministry of the Environment and Climate Change (MOECC) has advised the Sudbury and District Health Unit (SDHU) that results from samples taken September 28 from Lake Wolsey are positive for blue-green algae (cyanobacteria). The samples contained a species of cyanobacteria that can produce toxins.”

Lake Wolsey is the site of Blue Goose/Meekers Aquaculture operation. We gather that the MOECC conducted research on this bacteria outbreak but GBA has not seen a copy of their report because it has not been disclosed to the public. Below is a photo of a similar outbreak in Lake Wolsey in 2006.



Aquaculture cage and Phytoplankton bloom at Lake Wolsey.
Photo by K. Hille September 2006

GBA has serious concerns about the algae bloom around the Lake Wolsey fish farm. It begs a few questions:

➤ How much does the Phosphorous loading from the fish farm contribute to the environmental conditions that result in the toxic bloom?

We understand that the MOECC met with MNRF and the farm operator to review their findings. The upshot of this meeting and the findings have not been shared with the public.

➤ How safe is it to eat the fish from the Lake – whether farmed or native – that have been exposed to the toxic cyanobacteria?

The Sudbury Health Unit provided the following information to the *Manitoulin Expositor*: “The Health Unit advises people using lakes and rivers to be on the lookout for algal blooms. If you see a bloom near your property or water intake line: avoid using the water for drinking, bathing, or showering, and do not

The fact that the Government will not inform the public what decision it has made is of serious concern.



allow children, pets, or livestock to drink or swim in the bloom; be aware that shallow drinking water intake pipes can pump in blue-green algae; do not boil the water or treat it with a disinfectant, like bleach, because it breaks open the algae cells, which releases more toxins

into the water; avoid cooking with the water because food may absorb toxins from the water during cooking; exercise caution with respect to eating fish caught in water where blue-green algal blooms occur. Residents should not eat the liver, kidneys, and other organs of fish caught in the water; and do not rely on water jug filtration systems as they may not protect against the toxins.”

The most recent Ontario Government *Guide to Eating Ontario Fish* states,

“Microcystins can accumulate in fish, particularly in the viscera or organs (liver, kidney, etc.). Levels in fish tissue depend upon a number of factors including the severity and duration of algal blooms in the area where the fish is caught. You should be cautious about consuming fish caught from a water body where major blue-green algal blooms occur. Preliminary research suggests that when possible, you should avoid eating fish and fish organs from these areas during and at least two weeks after the bloom.”

Given the above we wonder what, if any, actions were taken by the Province or the Lake Wolsey operator to prevent potentially contaminated farmed fish from reaching market and being consumed by an unsuspecting public?

GBA understands that the long-awaited **Coordinated Application and Review Guide for Cage Aquaculture Sites in Ontario** will be posted on the EBR for public comment this Spring. This will give us another opportunity to raise the questions that we detailed in this article. It will be interesting to see how the Government responds – or if they respond at all!

We conclude with a request from GBA Aquaculture Committee Chair Claudette Young to our readers:

“We encourage you to contact us should you wish to help us in our efforts to engage government on their unmitigated and unfair resource allocation of public water to this industry that belongs on land or in contained systems subject to the same regulations required by other farm industries. We are always on the lookout for volunteers who can lend us scientific, communications and/or government relations expertise.”

If you would like to help, please contact Claudette at ClaudetteChabot@gmail.com

* A copy of our full EBR submission can be found on our web site www.georgianbay.ca under the fisheries tab. ■





Know Your Pests: Threats to Our Forests

Many of us who own cottages in the Georgian Bay biosphere have had experience with the diseases and insects that attack our beloved trees. I personally remember Forest Tent Caterpillar frass (poop!) dropping on my hat as I walked through the forest surrounding our cottage!

Forest Tent Caterpillar (*Malacosoma disstria*)



Source: Natural Resources Canada tidcf.nrcan.gc.ca/en/insects

Many of the pests are native to the area and a precarious natural balance has been achieved; as pest populations increase predators or diseases move in and check that growth. Trees are defoliated, but often survive.

A good example of this is the Forest Tent Caterpillar (*Malacosoma disstria*). Periodically the Forest Tent Caterpillar population burgeons and hardwood defoliation is extensive. When this happens diseases, fungi, and a predatory fly (falsely rumoured to be introduced by the Ontario government and known as the "government fly!") eventually knock down caterpillar populations. Consequently, most affected trees survive, provided they are healthy to start with.

There are exceptions. For instance, Hemlock Looper (*Lambdina fiscellaria*) is a small caterpillar that eats the needles of hemlock trees. Present in the eastern Georgian Bay area and Muskoka for ten years or more in limited numbers, Hemlock Looper often kills trees outright during the first year of an infestation.

Hemlock Looper (*Lambdina fiscellaria*)



Source: Natural Resources Canada tidcf.nrcan.gc.ca/en/insects

Pests that are NOT native to our area may be more problematic. These non-native pests may not find any natural enemies in the form of disease, fungi or predatory insects. Our local tree species may not have developed any defenses. Most of these non-natives have been

introduced accidentally over the past century or so.

Examples include: Dutch Elm Disease, a fungus (actually from Asia) spread by a beetle introduced in North America in 1928; Introduced Pine Sawfly (*Diprion similis*); Gypsy Moth (*Lymantria dispar*); and Beech Bark Disease (a fungus spread by a beetle). Some non-native pests are recent. Emerald Ash Borer entered Ontario from Asia via Michigan about 10 years ago, killing millions of ash trees in southwestern Ontario and around Ottawa.

Gypsy Moth



Source: Natural Resources Canada www.nrcan.gc.ca/science/story/17019

The Hemlock Woolly Adelgid (*Adelgis tsugae*), another introduced species, also poses a significant potential threat. This aphid-like insect, originally from Asia, has devastated hemlock stands in the northeastern United States. To date it has been found in Ontario only in a few locations near the U.S. border. Because it survives at high elevations in its native Japan and its adopted Appalachian Mountains home, the Hemlock Woolly Adelgid may adapt to Ontario's climate – without the help of climate change! This is one to watch.

Climate change may also pose a long-term threat, because warmer winters may allow insects accustomed to warmer climates to move into Ontario eventually. An example of this possibility is the Western Pine Beetle (*Dendroctonus ponderosae*). Thanks at least in part to warmer winters, this British Columbia native has expanded its range, destroying about half that province's Lodgepole Pine. It has crossed the Rocky Mountains and become established in Alberta's boreal forest, where it kills Jack Pine. It remains a long way from Ontario, but may pose a threat in the future.

Another potential risk of climate change is that trees near the edge of their natural range, for example Jack Pine along the northern Georgian Bay shore, may be stressed by a warming climate. Similarly, dryer growing seasons may stress trees, making them more susceptible to pest attack.

What can we do about pests that harm our forests and individual trees?

- Gain some knowledge about the potential pests. As usual, the Internet has lots of information. The Township of the Archipelago website (www.thearchipelago.on.ca/index.php/environment/forest-health) has some excellent summary information about forest health that is relevant to all Georgian Bay cottagers.
- Keep your trees healthy and happy. Take an “ecosystem approach”. Healthy trees need healthy roots, undisturbed soil, and the complex web of organisms living in that soil. Try to maintain undisturbed natural vegetation under your tree canopy. During drought, or if your trees are showing signs of stress (wilting or yellowing leaves, premature leaf drop), give them lots of water. The Georgian Bay Biosphere Reserve’s *Life on the Bay Guide* (www.gbbr.ca/our-environment/life-on-the-bay-guide/) has useful information about how to manage your property in a sustainable manner.
- Monitor your trees for insect infestations and foliage damage. The Township of the Archipelago website referenced above includes information that describes ways to control pests. In some cases simply removing caterpillars by hand or hosing them off the foliage with

water may help. Chemical or biological controls may be feasible for highly valued individual trees. For example, the biological pesticide Btk can be sprayed to control Hemlock Looper, and trees can be inoculated with fungicide proactively to protect against Beech Bark Disease or Emerald Ash Borer.

However, this approach is seldom financially feasible for large numbers of trees. As well, environmental approvals for aerial spraying are difficult to obtain. Local pest control services (such as Georgian Tree Experts) will be able to provide advice about effective controls.

- Do not bring firewood or scrap wood, especially pallets, to your cottage from other areas of the province. Source firewood and kindling locally. Insects such as the Emerald Ash Borer may be transferred on firewood or other wood products. ■

Emerald Ash Borer



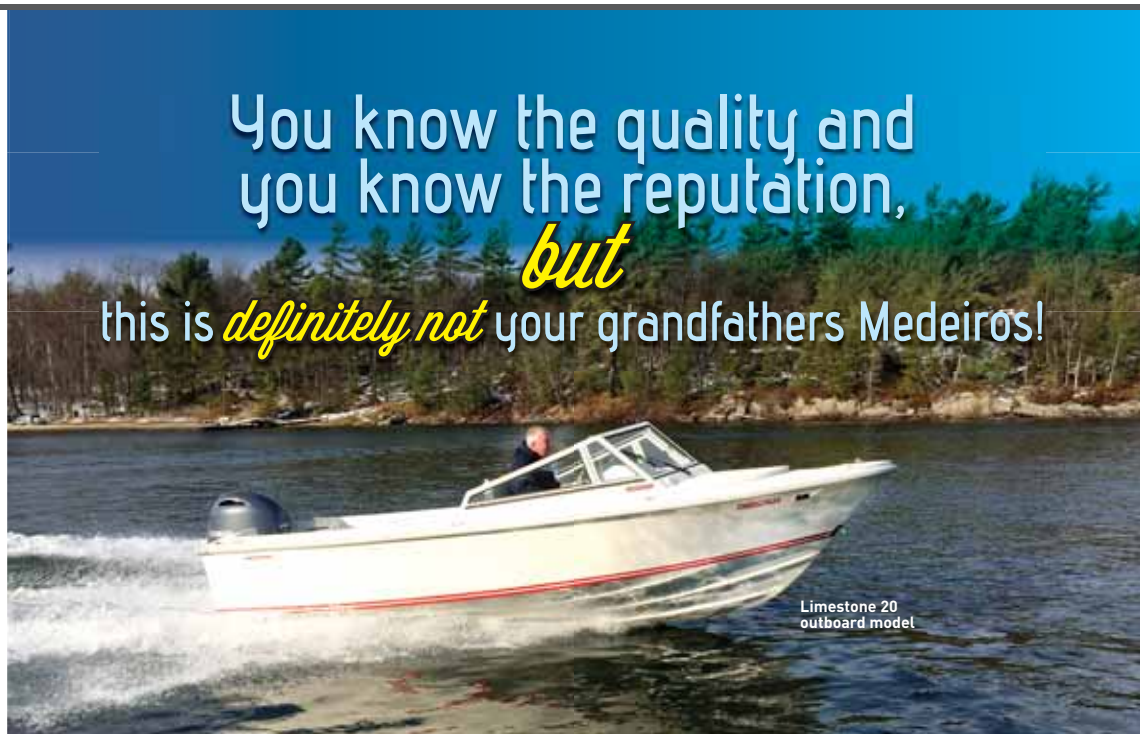
Source: Natural Resources Canada
tidcf.nrcan.gc.ca/en/insects



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Winter 2016 Update



Winter has finally arrived but what a December! Like many of you I watched the various web cams around the Bay to see the first signs of ice setting up. In late November of 2014 there was an inch of ice along most of the coastal shores. By Christmas people were skiing into their cottages. Not this year! Not only did numerous intrepid cottagers boat to their cottages for Christmas, but one brave Go Home couple, Wendy Camirand and Paul Brown, went to their cottage by boat for New Year's Eve weekend! Here is a picture over the stern of their boat as they left the main channel out of Go Home Bay on January 3rd 2016. Apparently 4 hours later ice covered these waters. As they say, "timing is everything!"

Normally we count on ice cover to maintain our water levels. A lack of ice cover in any given winter typically results in lower water levels the next summer. This past year we have been very fortunate with the precipitation we've received. In December the Great Lakes Basin received 40% more than its average rainfall. As a result, water levels on the Bay were 3 inches higher on January 8 compared with the same time



Photo courtesy of Wendy Camirand

last year and the US Army Corps of Engineers predict that water levels will be slightly higher next summer (see chart below).

If you would like to receive weekly updates on water levels and other timely notices please sign up for the email alerts on the home page of GBA's website, www.georgianbay.ca.

Last fall we had a Federal election and a new government was elected. GBA has already started the process of reaching out to several of the new Federal Ministers who manage portfolios that are of importance to our members. Specifically, we have contacted Minister Catherine McKenna (Environment and Climate Change) who we wish to speak to about water quality, water quantity and aquaculture. Minister McKenna has

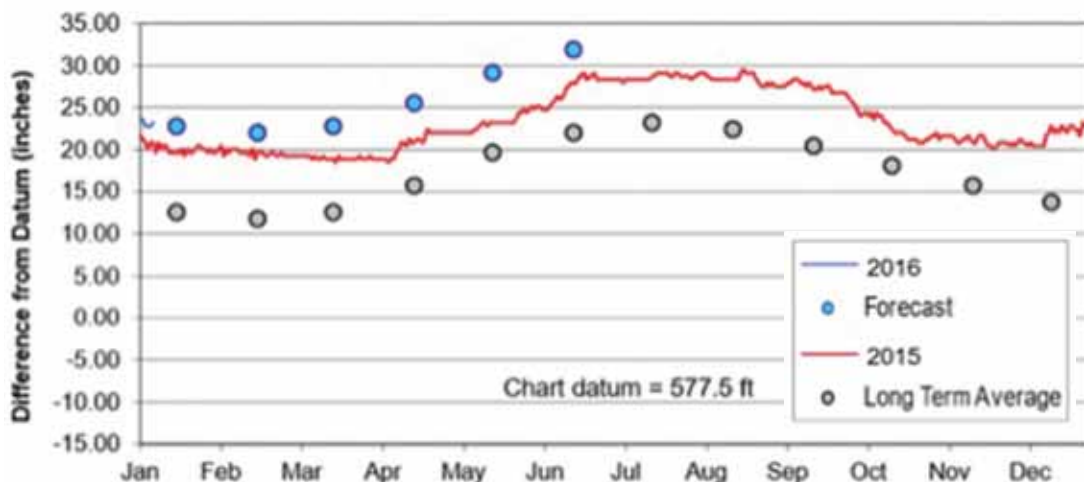
accepted our request for a meeting. We will be heading to Ottawa shortly to start our discussions with her. Also on our radar are Ministers Bennett (Indigenous Affairs) to speak about First Nations issues, Tootoo (Fisheries) to speak about aquaculture and Asian Carp, and Dion (Foreign Affairs) to speak about water levels.

The Federal election also saw the re-election of our main local MP, Tony Clement. Tony has been a friend and supporter of GBA over the years so

it was nice to see that his efforts were rewarded by his constituency. He has been appointed as the Foreign Affairs critic in the Official Opposition and as such will continue to be a good contact for us.

On the Provincial scene Ontario has a new Environmental Commissioner, Dianne Saxe. Commissioner Saxe brings an extensive background in environmental law to this position. She is one of Canada's best and most

Water Levels in Lake Huron-Michigan



Source: US Army Corp of Engineers

respected environmental lawyers. Gerry Quinn, Chair of GBA's Fisheries Committee, and I had an opportunity to meet with Commissioner Saxe earlier this month. We reviewed our position on cage aquaculture with her and she provided us with some excellent advice and suggestions. She presented herself as a "no nonsense" and very practical individual with whom we think we can forge a meaningful relationship. We hope to receive as much support and guidance from her as we enjoyed over the years from her predecessor, Gord Miller.

This year marks GBA's 100th Anniversary. I spent part of this winter going through several boxes of archival material dating back to the founding of the Association. What impressed me most as I read through the dozens and dozens of letters and meeting minutes was the passion that individuals brought to the table from day one. That sentiment has sustained the organization throughout the century. Fuelled by this dedication, GBA has punched above its weight regularly over the years. This spirit was evident when several prominent GBAers started sister organizations on the Bay to tackle issues that were beyond GBA's scope and capacity. Roy Schatz was the leader behind the founding of the GBA Foundation (now Georgian Bay Forever). Wally King was (and some would say still is) the patriarch of the Georgian Bay Trust Foundation (now the GBLT). And Pat Northey led the charge in having a large portion of the Georgian Bay coast designated as a UNESCO Biosphere Reserve and established GBBR as a vehicle to do so.

GBA was established to address issues on the Bay that impacted the quality of life of its members. The founders maintained that not only is there strength in numbers, but that it would be more efficient for small local cottage associations to band together to work on issues of mutual concern. Today we have 19 Member Associations, up from the 5 that founded the GBA. The mutual challenges that we now face are more numerous. The complexity of government and government agencies with whom we interact is exponentially larger. We believe that the need for an umbrella group to advocate on behalf of Georgian Bay cottagers is every bit as relevant in 2016 as it was in 1916. I am pleased to be able to do my part. ■



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Rattlesnake Bites

What to do if Bitten by a Rattlesnake

The most important goal is to get to the hospital as quickly and safely as possible. Early treatment is linked to a better outcome. Even if you think the rattlesnake did not inject venom, you should still go to the hospital. A dry bite can *only* be confirmed through blood tests.

1. Move away from the snake.
2. Stay calm.
3. Call 911.
 - Ask the 911 operator about involving the Joint Rescue Coordination Centre. (The decision to send the Coast Guard is based on your location and which emergency service has the fastest response time.)
 - It is a good idea to post the dock number and the longitude and latitude of your cottage by your phone as well as in your "contacts" on your smartphone. Relaying this information will speed up your rescue and ultimate wellbeing.
4. Reduce movement. If possible, do not move the part of the body where you were bitten and have someone carry you to the dock.

5. If you are alone, stay by a telephone.
6. Remove tight clothing and any jewellery from the affected limb.
7. Wash the snakebite gently with soap and water.
8. Stay warm.
9. Place the limb at or below the level of the heart or lie down.

Actions that may prevent a bite

1. Keep your walking paths clear of brush and bushes so that snakes are easily visible.
2. Wear shoes (not sandals) at night, use a flashlight and consider carrying a walking stick to shake the bushes as you walk.
3. If you see a snake, stay away from it. Rattlers usually only bite if startled or if they feel threatened.
4. Educate your kids and guests about what rattlesnakes look and sound like – they "buzz" more than they rattle. It is helpful to know the difference between a rattlesnake, a foxsnake and a garter snake.
5. Have a cottage "safety" sheet for anyone working or staying at your cottage; make sure they know what to do if bitten by a rattlesnake. If a rattler is present on your property let visitors know where it was last seen.
6. When working at the cottage, wear work boots and long pants.
7. Know your cottage dock number and longitude and latitude for the rescue crew. ■

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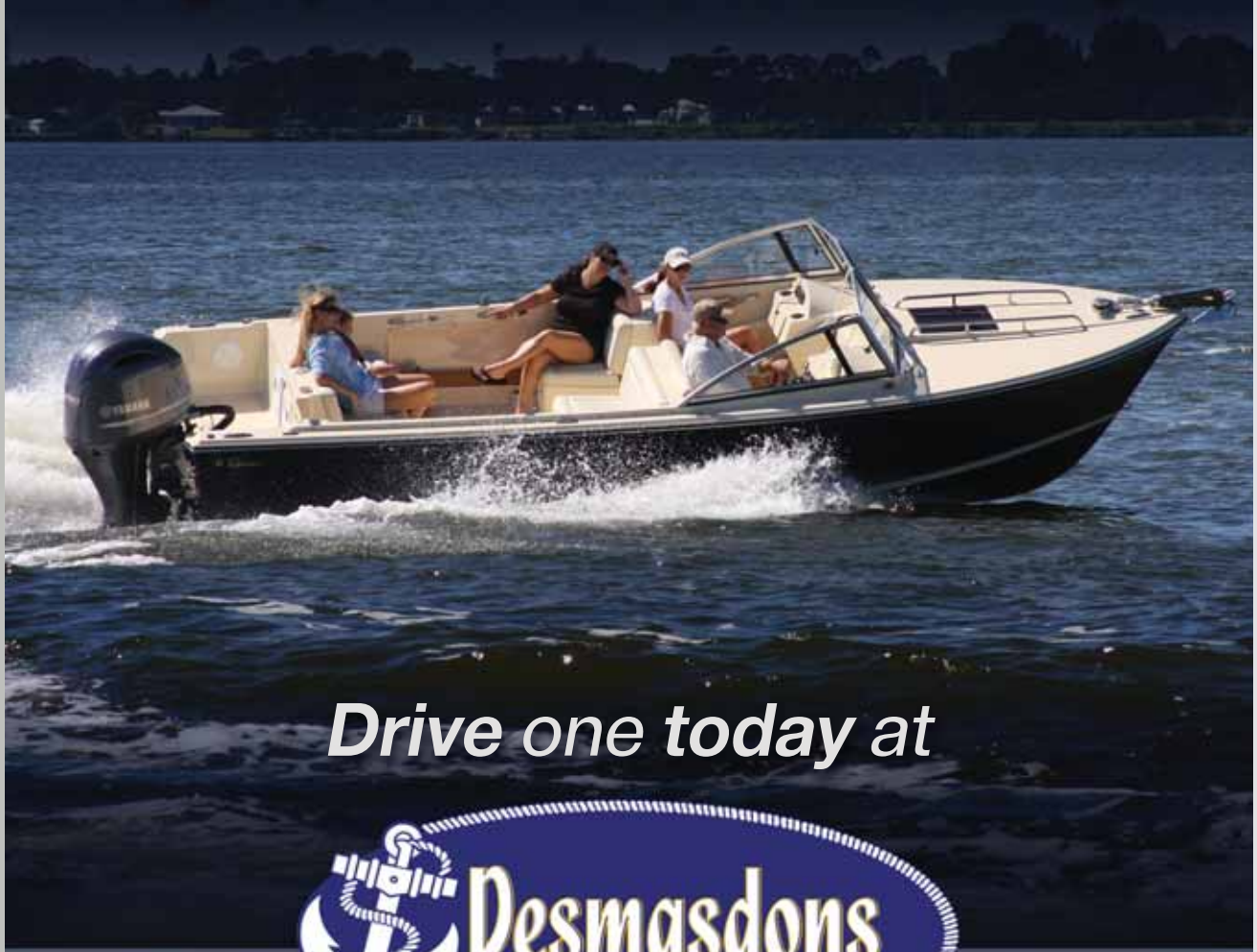
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