



West Carling Association Fall 2017 Newsletter

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PRESIDENT'S LETTER

By Pam Wing

Summer, glorious summer is over! I am not sure how glorious it was this year – it seemed to me there was a lot of wind and rain. As a result of this, we were forced to cancel our annual picnic and regatta and we are very sorry about that. Be encouraged, we have learned our lesson and will definitely have a rain date for next year. In fact, please put these dates in your calendar now.

Annual Picnic and Regatta
Rain date

Saturday August 4, 2018
Sunday August 5, 2018

We had a very lively AGM with presentations from councillor Susan Murphy and Carling TWP CAO Kevin McIlwain and much discussion with those present. It was a small turnout but I found everyone very interested in the community and what was happening.

There was considerable discussion about parking and the parking lot on Remy Bay Road. This particular lot is not well used. I have only seen one car at a time parked there. It was decided at the meeting that WCA would recommend to council that this lot be used for non-resident parking. This did not receive unanimous approval. Further to this, the board suggested that we add that this be done on a one year trial basis to see how it will work.

Two new board members were elected this year, Donna Tucker and Carol Hodson and I look forward to working with them and gaining their fresh perspectives. At our August board meeting, we struck a membership committee to develop a strategy to improve our membership numbers and I am hoping we will have some new opportunities to bring more of us together.

An issue that we have all seen first-hand is the poor work that has been done on highway 559 by the ministry of transportation. I have heard from several people about damage they received to their cars as a result of this road work.

Recently, I received an email from the council that MPP Norm Miller has developed a petition for the Legislative Assembly of Ontario to request that the Minister of Transportation redesign and rebuild highway 559 with improved sightlines, asphalt surfaces and bike lanes.

Please check out the [Carling Township website](#) to find out how to sign this petition.

Your board of directors also sent a letter to the Ministry of Indigenous Relations and Reconciliation in support of the need for a settlement with the Wiikwemkoong Nation that is fair and equitable to all. This is a complex issue involving crown lands in the northern part of Georgian Bay. The letter will be on our website and I would encourage you to go on the [GBA website](#) for full details.

I hope you all have a wonderful Fall and Winter whether you are in the snowy north or the sunny south or somewhere in between. This week has been amazing with no wind and sunny warm skies. I wish everyone could be here to enjoy this late summer warmth. Take care, I would love to hear from you.

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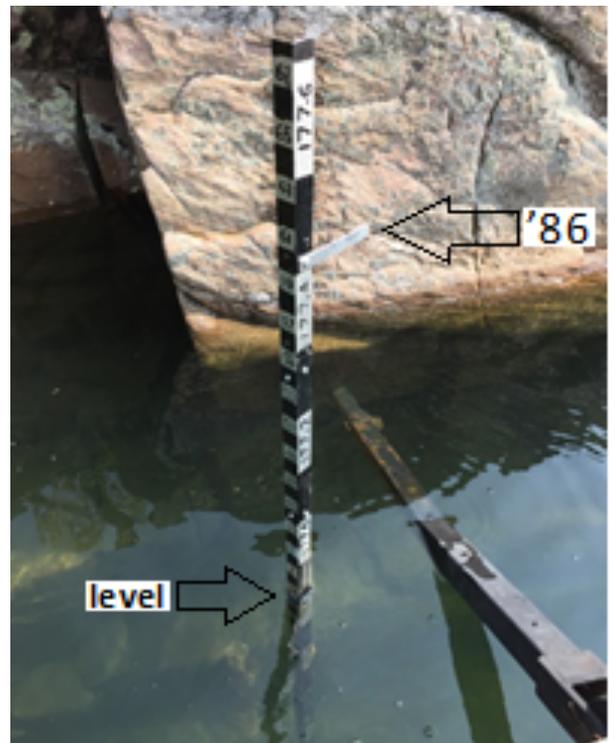
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AN UPDATE ON WATER LEVELS

By Bill Bialkowski

For most of us, water levels go up and down cyclically and that has not been an issue except for three crises events that those old enough, remember vividly. First, in April 1964 water levels set a new low record of 175.58 meters above sea level (ASL). That is 42 cm or 17 inches below what is called chart datum (datum for navigation charts depth readings). For us on Georgian Bay and all of Lake Michigan-Huron (MH) that is 176.0 m above sea level (ASL) in the Gulf of St. Lawrence. The 1964 low water came suddenly, but only lasted two years. The second crisis occurred in August 1986 when after two decades of rising water, the current high-water record of 177.5 m ASL was set – that is 1.5m, 4ft-11, or 59 inches above chart datum. Fixed docks were completely submerged - it was a crisis. In southern Lake Michigan, where some houses were built on high bluffs, which the high water eroded, the houses toppled into the water. It was a disaster. The last and most recent crisis started in 1998, when suddenly the water level dropped two feet. By 2000, water levels stabilized at chart datum, or 176.0 m and wiggled up and down a bit, until January 2013, when a new low water record was set at 175.57 m ASL. Then suddenly in February 2013 the levels started to rise and the fourteen years of miserable low water were finally over – the longest low water period ever recorded. Since then, the water rose, reaching 176.97 m ASL in the last week of August (38 inches above chart datum).

During the prolonged low water, wetlands dried up, water access cottages were stranded, boathouses were high and dry, and Phragmites invaded the shores. In 2003 as wetlands dried up, Mary Muter, then of the GBA, and now the Chair of the Georgian Bay Great Lakes Foundation (GLGBF), started digging into the cause of the low water. She asked me to help out with some hydraulic modeling so we could understand the numbers. I did not know that this would lead to a second engineering career for me. We learned that dredging projects lower upstream lakes, and are supposed to be followed by compensation projects to restore the level to previous values. We learned that the US Army Corps had designed sills (speed bumps) for the St. Clair River to compensate for the past dredging, but just as these were being installed in 1977, the water was already rising rapidly and the project was abandoned. We learned that the International Joint Commission (IJC) records show that due to this lack of compensation, the level of Lake MH had been permanently lowered by 16 inches. The Baird Report in 2004 was initiated by Mary Muter and it uncovered erosion in the St. Clair, which had lowered Lake MH by further 4 to 5 inches for a total lowering of 20 or 21 inches. We also learned that to authorise a new compensation project, the following steps are needed: the IJC must first study it and recommend to both governments what to do. Ottawa and Washington must both endorse it. Then Washington must fund the US Army Corps to study the best remediation means, and finally design and build the solution. A very long road.



Next to my dock in Snug Harbour I have erected a 'water level stick' just as a daily reminder of what is happening to water levels. This photo was taken on August 30, when the water level was reading 37 inches above Chart Datum (left scale) and 176.82 m ASL (right scale). The little aluminum bar at 177.5 m marks the '86 high water record. So, while our water levels today are 'highish', they are still 22 inches lower than the 1986 record high water.

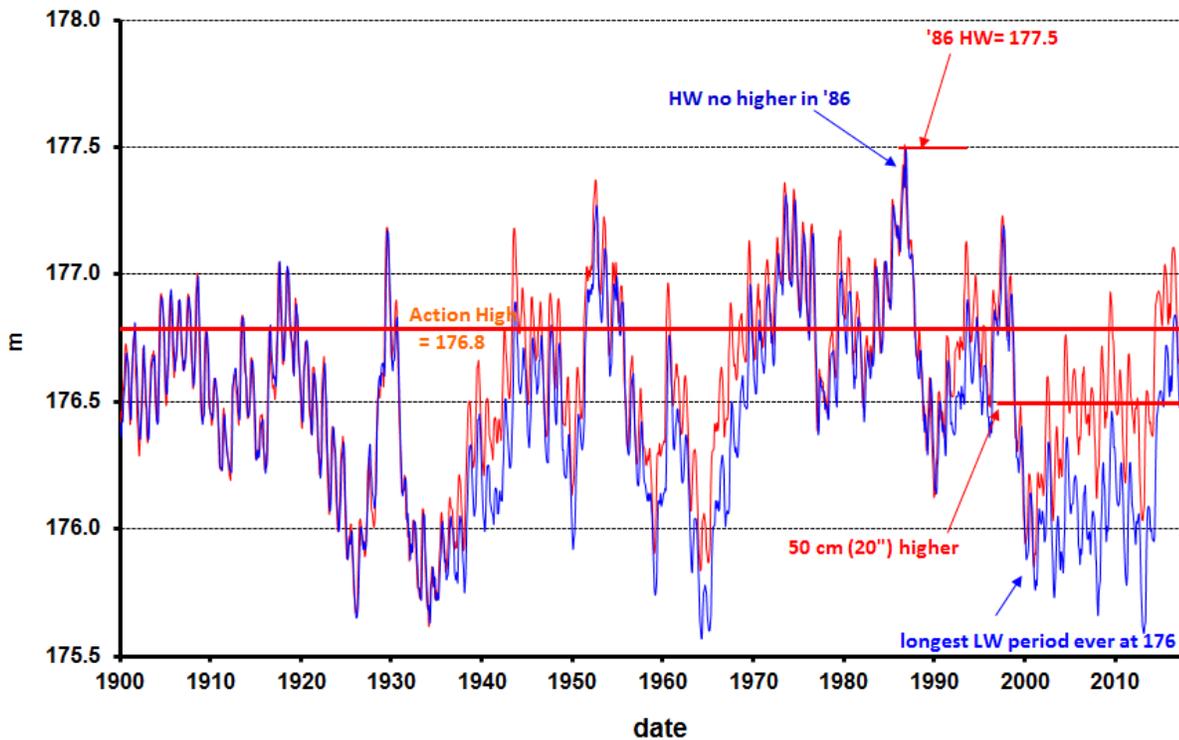
Are water levels cyclical? For each lake, water levels are the result of a fine balance between water supply and the rate of outflow. The water supplied to each lake's drainage basin is driven by naturally occurring cyclical influences. The rate of outflow is driven by water levels and restrained by the capacity of the outflow channel. When this capacity is expanded as it has been for Lake MH by St. Clair dredging, the outflow is increased and the lake level lowered - MH has no means of holding back water. For Lakes Superior and Ontario, the outflow is controlled by dams. The Georgian Bay Great Lakes Foundation (GBGLF) has retained the scientists at Baird and Associates (authors of the original Baird Report) to study the influence of the known cycles on water levels and prepare a water levels forecast as far into the future as possible. They have made great progress, and their final report is to be posted on (<http://www.georgianbaygreatlakesfoundation.com>) the GBGLF website by September 30.

Preliminary analysis from the study has identified that water levels are primarily driven by a 160-year sunspot cycle, a 30-year North Atlantic Oscillation cycle, plus some five other shorter cyclic phenomena. Together, these appear to correlate almost exactly with past water levels as far back as 1850. This work suggests that the 160 and 30-year cycles are threatening us with another bout of low water, which may be longer and deeper than the last. The analysis shows that the 160-year cycle peaked back in 1980. It contributed greatly to the rising water from 1930 to the 1986 record high water, and then drove falling water since 1980. It is scheduled to be a major low water driver between 2020 and 2100. The 30-year cycle peaked in 2015. This created the present high water 'blip' which we have enjoyed since 2013, which sadly, is likely to be replaced by lower water soon. This will be followed by a period (about 2020 to 2035) when both cycles are driving low water, and then we can expect an even more miserable low water than we had between 1998 and 2012.

So, what of the future? The first Baird Report lit a small fire under the seat of the IJC, and precipitated the International Upper Great Lakes Study (IUGLS) that was to prove if the St. Clair River really was eroding. Yes, the study concluded that it was eroding. But the US Co-Chair of the study was dead-set against putting compensation structures in the St. Clair (fear of litigation from southern Lake Michigan), and recommended that NOTHING BE DONE. During the IJC public hearings in 2012, the outcry was so loud and clear, that it persuaded the IJC to reverse its stand and reject the recommendation of its own study. In 2013 the IJC issued new recommendations to the two national governments: compensation structures in the St. Clair River should be considered, but that these should be so designed that they do not make high water levels worse (flexible structures are needed, that can be turned off when levels are high). Ottawa has now endorsed this and is fully supportive. Washington is still silent, and with the Trump Administration the chances look dim.

On May 19, I found myself speaking at IAGLR 2017 – the International Association of Great Lakes Researchers, in Detroit. My talk “Great Lakes Routing Model with St Clair River Variable Conveyance” was part of the hydraulic modeling session chaired by Lauren Fry of the US Army Corps of Engineers, and Andrew Gronewold of NOAA the National Oceanic and Atmospheric Agency. My model accounts for monthly water levels and flows, from Lake Superior to Montreal since 1900 and compensates for the past dredging and erosion in St. Clair River. The model was designed to evaluate compensation structures and strategies, and provide a ‘proof of concept’, even while the US Army Corps remains unauthorized to study remediation solutions. The graph below shows ‘what-if’ in past years we had deployed the strategy now recommended by the IJC. Hydraulic gates would be raised to slow the water as long as the level stays below the IJC defined High Crisis Action limit of 176.8m. As soon as the level rises above 176.8m, the gates are folded down to prevent the water from rising higher. The red graph below shows that water levels would have risen by 50 cm or 20 inches, during the miserable low water crisis period after 1998 and 2012. On the other hand, the level during the 1986 record high water crisis would not have gone up any higher. This proves that in concept, the IJC’s recommendations can in fact be made to work. All of these ideas and concepts have been shared with the IJC and the US Army Corps of Engineers.

MH Level, History & Model



The remaining challenge of course is that Washington must wake up, endorse the IJC recommendations, and authorise the Army Corps to do a re-evaluation study. This story is still unfolding.

OF GLACIATION, ISOSTATIC REBOUNDS, WATERFALLS AND OTHER FUN STUFF

By Bruce Davidson

In August of 2007 a Great Lakes research vessel *Pride of Michigan* was taking careful soundings of the lakebed east of Mackinac Island (which is the island very close to where Lake Michigan drains into Lake Huron through the Straits of Mackinac). To the researchers' astonishment they discovered a waterfall that had not degraded into rapids through erosion, but retained its form owing to its having been submerged under 110 feet of water. The waterfall itself measured 100 feet high. Scientists have concluded that this was the outflow point for Lake Chippewa (proto-Lake Michigan into Lake Stanley (proto-Lake Huron). What could possibly have raised the water levels of such a huge body of water over 200 feet?

Clearly the Great Lakes have not always looked like they do today. Which is entirely understandable considering that only 14,000 years ago our beloved Georgian Bay was covered by an ice sheet one kilometer thick! At its southern margin it had plowed up the huge Valparaiso-Charlotte-Fort Wayne Moraine, a natural dam that stopped the rising water released by the glacial melting from proceeding south into the Mississippi watershed. When the Wisconsin glacier melted and slowly retreated northward it left behind a series of deep valleys and basins formerly carved out by its advance, which then filled with meltwaters. It wasn't until 6,000 years ago that the lakes took the final shape we see today.

During the retreat era, about 10,000 years ago, what is now the upper Great Lakes drained toward the Atlantic Ocean through a deep channel that passed eastward through Georgian Bay continuing past present day North Bay and onwards through the Ottawa River system. This channel drained Lake Chippewa, much shallower than today's Lake Michigan towards a similarly small and shallow precursor to Lake Huron called Lake Stanley. The sole outflow for the water of Lake Chippewa was the Mackinac Channel with a water depth of as much as 230 feet.

Just east of Mackinac Island were the shores of Lake Stanley, and when the Mackinac Channel found its way around a limestone breccia which partially blocked the channel, it then discharged a mighty volume of water over the Mackinac Falls.

As the tremendous weight of the ice sheet was relieved by melting, the deformed crustal plate underneath began to rise in a process known as isostatic rebound. The areas rising fastest (which continues today) were those that had a heavier ice load and also the areas that were covered in ice most recently. Because the lower basin crust was rebounding more slowly, the northern outlets eventually rose above the level of those in the south. This caused the closure of the North Bay outlet and a reopening of abandoned outlets through the Illinois River and through the St Clair river into Lake Erie.

Once again, the process of erosion was not even as the limestone underlying the Chicago basin resisted downcutting, while the unconsolidated till in the St Clair river eventually cut down below that of Chicago, with the consequence that all the waters from the Upper Great Lakes eventually flowed through the St Clair river exclusively.

The isostatic rebound in our area is still a remarkable 30 cm per century while the Northern Superior Basin is rising about 53 cm per century. So cottagers in Carling Township looking for improved views take heart. A century from now your cottage should be a foot higher above sea level than it is today!

HIGH SPEED INTERNET IN WEST CARLING

By Nanci Wakeman

In February 2017, the federal government announced that it would invest \$500 million by 2021 to bring high-speed Internet to rural and remote communities in Canada. In response to this announcement, Parry Sound supported three organisations' applications to the program. Carling wrote a letter of support for one of those, West Parry Sound Smart Community Network, which has been working on this issue for many years.

The government originally stated that it would announce all the successful applicants at the same time; however, an application made by Lac Saint-Jean, a Quebec riding where a by-election will soon be occurring, was declared a successful applicant on August 30, surprising other applicants. The WPS Smart organisation says, " We remain confident that WPS SMART's application is receiving appropriate consideration and we remain optimistic for funding under the program."

The most significant issue to be addressed by a successful WPS Smart application is the lack of Internet capacity coming into the West Parry Sound area. What capacity there is getting old and is under the control to the largest carriers. WPS Smart will build a backbone to produce the required capacity so it can begin to distribute fibre-based distributions to homes and businesses. If WPS's application is successful, they indicate that they could see the backbone coming to fruition in 2018. They would then begin to build the distribution networks to homes and businesses to provide the connectivity everyone needs.

NUCLEAR WASTE BURIAL AND LAKE HURON

By Alex Davidson

About 150 km southwest of our Carling shores, plans are being finalized for the construction of a 680-metre-deep underground cavern within which will be stored up to 400,000 cubic metres of low and intermediate grade radioactive nuclear waste. Called a Deep Geologic Repository (DGR), it will be situated less than a kilometre from the shores of Lake Huron near Ontario Power Generation's Bruce Nuclear Generating Station. It is intended for the storage of low and intermediate levels of radioactive material. The project is expected to cost Ontario Power Generation (OPG) upwards of \$1.4 billion and be a welcome jobs contributor to the little town of Kincardine's local economy.

Not surprisingly, the proposed project is proving to be a battle ground among various stakeholders, with strong opposition from those concerned for the long-term safety of drinking water so depended upon by millions of Canadian and American citizens on the one side, and OPG's pressing need for a solution to its growing nuclear waste problem on the other. The Ontario government appears to be trapped somewhere in the middle and will have the ultimate say on whether the project goes forward.

I have neither the scientific knowledge nor enough newsletter space to provide more than an overview of the positions taken by both the critics and by OPG as to the safety and suitability of the undertaking. The issue is complex. There are thousands of pages of documentation, and countless papers supporting the positions of one side or the other; however, having done sufficient reading to prepare this report, I'm siding with the critics until persuaded otherwise.

Here are some factors one might consider in developing a position on the matter.

OPG's position seems pretty simple. It is spelled out in a weighty 700 -page report to the government's Canadian Environmental Assessment Agency (CEAA) along with 15,000 pages of evidence "proving" the project to be thoroughly researched and scientifically safe. (Note: I only read the first 10,000 pages.) It also cites the worrisome alternative of having to truck hazardous waste as far as 2,000 kilometres to remote, yet to be built underground granite vaults in northern Ontario or Manitoba. More esoteric issues such as the disturbance of traditional aboriginal burial grounds are also introduced. We are reminded that only low and intermediate waste will be stored in the Lake Huron site and that only nuclear waste originating in Ontario will be accepted. Low-level waste consists of industrial items that have become contaminated with low levels of radioactivity during cleanup and maintenance at the provinces three nuclear stations. Ninety-five per cent of the waste would be classified as low level. Intermediate waste, which includes such items as used reactor core components, filters and resins, will comprise the balance. OPG's report can be found on its website at www.opg.com/dgr. OPG also refers to a poll of 805 people which it claims demonstrates the widespread popular support for the Lake Huron site. These reports will serve as a large part of the basis for the Canadian Environmental Assessment Agency's determination of whether to recommend to Federal Environment Minister Catherine McKenna that she accept OPG's proposal. A decision is due sometime this Fall.

Opponents are adamant that OPG's report is badly flawed in that a basic international scientific protocol for assessing the safety of deep underground repositories around the world has been bypassed. The protocol is being followed by 15 nations who manage and store nuclear waste and requires as a mandatory first step, that an underground research laboratory (URL) be built on site to secure evidence- based validation that the host rock will safely contain nuclear waste without leakage for many thousands of years. OPG has bypassed this requirement! This action is worrisome in itself, but the fact that the host rock *of* the proposed Lake Huron site is sedimentary limestone and the only site in the world to be so, is frightening. Apparently, every underground nuclear waste storage vault in the world is granite based.

Rod McLeod, director of SOS Great Lakes, is a lawyer and a former Deputy Minister of the Environment for Ontario. He is one of those leading the charge to thwart approval of the Kincardine site until a full and proper scientific assessment in accordance with international standards has been done. He sums up the situation best in one of his blogs where he states that "a deep geologic repository at Kincardine is a startling choice to proceed (with) in the absence of the research and scientific testing that an underground laboratory would have provided. This proposed DGR (untested by an underground lab) on the shore of Lake Huron is the only known exception, worldwide". For more information on the matter, please see his series of blogs at SOSgreatlakes.org website.

BLOBS FROM SPACE?

Bruce Kelly

“I found a blob from space near your dock.”

That was how I first met Bruce Davidson one Sunday in August. I think he was really just introducing himself as a West Carling Association member, but it certainly served as a great introduction. Indeed, Bruce did appear to have some sort of alien space-blob rolling around in the belly of his kayak.

After some brief introductions, all attention turned to the football-sized gelatinous blob lolling about in the base of his boat. Our immediate fear was that some alien life-form would, at any moment, burst forth from the innocent mass – but after poking at it for a few minutes, we decided that an assault was not imminent. We all assumed it was some kind of egg-based thing, but a few quick clicks on Google revealed its true identity.

It was a bryozoan, likely the magnificent bryozoan (*Pectinatella magnifica*) – a harmless colony of freshwater filter-feeding creatures. If you were to look at the outside edge of the blob you would see very short tentacles, similar to a coral. The colony is gelatinous, firm, but slimy to the touch. The inner mass is almost all water, and like most, this particular specimen was found growing around sticks and branches in the water. They can also grow on the bottom of boats. The species is common in Ontario lakes, and by summer’s end, they range from our football-sized specimen to larger, basketball-sized creatures.



Each of the small animals in the colony is called a zoid. Each zoid is a simple beast with a U-shaped gut and a crown of ciliated tentacles called a lophophore. They feed on tiny particles that they filter from the water. The scientific description of the body of *P. magnifica* reads like a bad pathology report: contiguous rosette-like patches over a common gelatinous base, may grow into a large slimy gelatinous mass 30 to 50 cm in diameter. Statoblasts roughly circular with small flattened hook-shaped spines around the entire body, with red pigment on the horseshoe-shaped mouth region.

The statoblasts described above are a kind of asexual spore by which bryozoans over winter and propagate themselves. In the fall, or when waters fall below 12° C, statoblasts are shed from the parent colony and overwinter in lake sediments. They apparently make a tasty snack for perch, crayfish and caddisfly larva, so they are indeed a natural part of the local ecosystem.

Are bryozoans new to the Georgian Bay waters? No.

In fact, bryozoans date back in fossil records some 500 million years – meaning they have been filtering water for a bit longer than my 50-odd years of swimming in the bay. In defence of my lack of awareness of the creature (or collection of creatures) living around my swimming hole, they do flourish in a wide range of circumstances all across North America. That said, they do require quite specific

conditions – namely shallow, clear waters with organic materials both submerged and above the surface.

In comparison to the other 24 species of freshwater bryozoans, *P. magnifica* are known as a warm water species, so you would think that after 500 million years they would have learned what Georgian Bay is like.

But heck, one has to appreciate their persistence and optimism. What became of the blob, you ask? After a few photos with the monster, Davidson dutifully returned it to the environment where he found it.

All in all, our discovery of the bryozoans led to a great afternoon. I met a new friend from Snug Island, became a member of the WCA, and, thanks to Google, we demystified the blob from Remy Bay.

Submitted to West Carling Cottagers' Association

Bruce Kelly
Cottage 52 Long Bay Road (Remy Bay)
WCA #242



BASS WELCOME GOBIES TO GEORGIAN BAY **By Larry Moses**

As a child in rural London Ontario area, I could regularly be found from April to September rafting or fishing on the local ponds. My view from the raft was mostly downward into the world of the underwater creatures. Throughout my life I continued this entertainment and education, driven by curiosity, through snorkeling and fishing from Barbados to Cuba to Maine and up the East Atlantic coast to Nova Scotia and P.E.I.

In 1975 I brought this water-life fascination to the shores of Georgian Bay. Annually I could be found with my snorkel equipment exploring the swimming and fishing areas of Franklin Island, Snug Harbour and the outer islands. In approximately 1990 our family purchased a series of cottages in the West Carling Area ending in our final location between Gower and Richards Bays.

As a result of my snorkeling, I have had a front row seat for the past 25 years to witness the fall and rise of the Bay's water level, the introduction and consequences of the Zebra muscle infestation, and the demise of the crayfish population with consequent destruction of local sport bass fishing.

About eight years ago while snorkeling in Richards Bay, I met my first Goby fish. Having never seen one before, I rigged up a line and micro small hook, caught one, photographed it and turned to the Internet for identification. At that point in time few locals were aware that Goby had moved this far north. They immigrated from in and around the Black Sea through Seaway ballast water to Lakes Erie and Ontario. Gobies apparently can live in both salt and fresh water.

The Goby is a small, brown, minnow-sized fish that will seldom be more than five inches long. It has distinctive bug eyes and a split dorsal fin with a black dot on the front portion. Its lower dorsal fins are fused into a bowl-shaped support on which they seem to rest while sun basking on the tops of shallow water rocks.

It is my opinion that initially these early-arriving Gobies were free to breed (and they do reproduce rapidly from eggs several times per summer) and as a result their population ballooned, as the game fish in the Bay showed little interest in them. Slowly game fish and particularly bass have taken a real interest in Gobies as a major food source and one could say they have all but replaced the crawfish as a main course. Hopefully, this will take pressure off the Bay crawfish population and its size will improve.

Research into Bass populations in Goby-populated Lake Erie indicate a weight increase of more than 15% undoubtedly as a result of their new menu item. If this trend continues Georgian Bay might see an overall increase in population size and weight of white fish, trout, perch, bass and pickerel. Much more information regarding Gobies can be obtained on the Internet, but two factors are very important. Transport and usage of Gobies for bait in Ontario is illegal and one can be fined more than \$200 for the infraction. Keeping Gobies out of smaller inland lakes seems to be the goal. The Georgian Bay Gobies could be with us for a long while and the Bass are welcoming them with open mouths. Shortly as Bass populations continue to rise, I predict that once again, there will be fresh-caught, butter-fried bass, on cottagers' menus.

CHANGES TO YOUR HYDRO BILL

By Nanci Wakeman

The Ontario Energy Board is changing how distribution rates will be charged to residential customers. Currently, distribution rates are a combination of a fixed rate plus a rate based on volume of use. Over the next three to seven years, distribution rates will change so that all residential and seasonal customers will be charged an all-fixed distribution rate. Seasonal customers will see changes in their hydro bills in 2023.

The effect of the fixed distribution rate will be that if you use very little electricity, your hydro bill will increase. If you use a lot of electricity, your hydro bill will decrease. Customers using electric heat and or air conditioning will experience a decrease in the amount they pay for hydro.

According to Hydro One, the move to fixed distribution rates for residential customers will be a fairer and more transparent way to recover the costs related to distribution.

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