

2013 Recreational Water Testing

Sturgeon Bay Shoreline

Report by David Cornish, President

Talpines Property Owners Association.

Our Shoreline Water Testing Plans ended up 1 month short as we did not do a September sampling. This was due to several things; firstly, due to 36 hours of almost steady rain (heavy at times) followed by secondly, 2 days and nights of strong west, north-west winds churning up the Bay water and thirdly, I took sick at this time and was unable to do the sampling. I am still not sure how I was able to pack & drive home.

Since several bodies we have discussed our findings with this summer have questioned our ability to do sampling in an acceptable and reliable fashion, I would like to explain to all, our procedure in collecting the samples referred to in this report. It was pointed out to me by the independent Lab doing the analysis of the samples (Central Ontario Analytical Laboratories or C.O.A.L.) that we should *collect our samples in a minimum depth of 2 feet of water and with the actual sample being taken approximately 8 inches below the surface.*

Taking this into account let me explain how I assured our samples were collected as close to the instructions I received from the Lab as possible. First, I marked my legs with pen at the 2 foot level above the floor and then marked my forearm with the sample bottle in hand, 8 inches above the bottle. Samples were done basically at the same location each month. Several locations required walking about 50 feet out from the water's edge while others required walking over 200 feet to reach the 2 foot requirement. In each instance, the sample was then taken ahead of where I had walked to try to avoid any sediment disturbance from the lake bed and capped immediately. The Bay water temperature was then taken at the same spot (8 inches below the surface) and once back on shore, the location, time of sampling, water temperature, wind presence, direction and relation to the shoreline, wave action, sunlight conditions, human activity, water fowl presence, rainfall history, water clarity at sample location and presence of algae was recorded on the Lab sheet.

As most of our samples were collected in the afternoon or evening the day before they were delivered to the Lab, they were stored in my cottage refrigerator from shortly after collection time and delivered the next morning in my picnic cooler to the Lab in Orillia on my way home to Peterborough. The Lab began their procedure in most cases within an hour of receiving the samples and notified me approximately 24 hours later by e-mail with the test results.

Indeed, we have been told that only sampling done by reputable, registered companies who do water sampling would garner any consideration by Government bodies or courts if we wished to question and/or receive answers regarding our test results or findings! This information is from several Government Departments (Provincial and Municipal) that don't seem to agree on what is good and bad when it comes to e-coli readings in recreational water!

Allow me to explain as best I can where this confusion comes from. C.O.A.L is required by law to report any and all recreational water samples they analyse that exceeds 100 parts e-coli per 100 milliliters of water to their local Health Board (in this case, Simcoe-Muskoka District Health Unit). SMDHU considers 100 parts e-coli as the *Warning Threshold* of contamination for human activities and advises a

number of precautions be taken. If the location is a Public Beach Area, SMDHU would notify the local Municipality to post an Advisory at the location. Unfortunately, this requirement does not pertain to private beach areas, (I guess property owners aren't considered *the public*) however, the Health Board recommends all users be aware of and advises these precautions when an advisory level is reached:

- *Don't allow small children to use the water
- *Do not submerge your head in the water
- *Immediately upon leaving the water, thoroughly towel- dry your skin
- *Do not let the sun do the drying for you
- *If possible, shower after leaving the contaminated water.

A representative from the M.O.E. told one of our people "100 parts is nothing to worry about" and in fact as several of our readings were in excess of 600 Parts, when told replied "oh, that's not bad"! Sadly our Municipal Environmental Specialist echoed the same response, "oh, 600 parts isn't bad!"

Our year of Sampling and Analysing whether acceptable to some bodies or not, has pointed out a number of things to us regarding our Sturgeon Bay Water and the risk fluctuations to human usage and health. Most things evolving were of a *common sense nature* even though explanations at times, lacked evidence to back ones reasoning up. Most times, our samples were collected in fairly calm weather conditions (early morning or late evening) however, June was done during fairly windy conditions and pointed out the variations caused by wave action. They also pointed out the question as to "Why our eastern shoreline readings were so different from the western shoreline readings". I'll discuss this issue later on in the report.

These test results were forwarded to all our members as they were received. Here again are the results:

Location	May	June	July	August	September
#1	>600	30	120	>600	*
#2	*	10	80	*	*
#3	80	60	50	20	*
#4	10	70	200	30	*
#5	40	70	120	10	*
#6	10	40	140	30	*

*No Sample taken

- Location # 1 – 370 Robins Point Road
- Location # 2 – 58 Bass Road
- Location # 3 – 56 King Road
- Location # 4 – 256 Albin Road
- Location # 5 – 52 Lawson Lane
- Location # 6 - 1 Tucker Lane

(3,4,5,6 are all eastern shore locations)

The first thing to catch the eye is the reading for location #1, >600 parts! I questioned the Lab as to a possible printing error & was assured the number (> is greater than) was correct. They suggested there must be a severe Septic System problem in that area. When I replied that area had been on the Municipal Sewage System for years, they simply said “oh” and rolled their eyes! This led to questioning the Municipality regarding recent activity at the Victoria Harbour Waste Water Treatment Plant (referred to as VHWWT). We were told by staff, there had been a “partially treated / raw sewage by-pass” at the plant less than 48 hours before we had taken our May samples! No, there had been **no** notices released to the public either before, during or after the occurrence! We have not received any confirmation of another such occurrence happening in August to explain that test result from the same location.

Point of interest, the “Outflow Pipe” for the VHWWT is located mid-way between our sample locations #1 and #2.

June results pointed out my earlier comments on the effects of the wind on water quality on the eastern shoreline. Strong westerly winds all day resulted in an e-coli reading twice as high on the eastern shore as were found on the western shore. Again, location #1 being south of the out-flow area had a very good reading. Also, location #3 had a quite respectable reading, possibly due to the current influence coming out of Matchdash Bay and the Trent-Severn System.

July had consistently higher readings on both sides showing the effects of sun, heat, humidity and light & no wave action. These samples were collected after 5 days of high temperatures and 48 hours after a heavy rain. As well, the water temperature at this time was 28 degrees Celsius! Incidentally, location #4 had just completed cleaning the mats of weeds that had washed in and accumulated on their beach and their dog was playing in the water which no doubt, had things stirred up on their beach.

August sampling followed a number of days with winds out of the South. Of note here is the more consistent and respectable e-coli readings on our shore line when our water flow was not coming from across the Bay. This is worth noting since our normal wind flow is predominantly a West or North-West direction in Sturgeon Bay. These results were even after 2 hot, humid days and with water temperatures of 25 and 26 degrees C.

Our Talpines Recreational Water testing Program this year has possibly answered a few of our questions but has also led to many new questions and got us thinking and looking at a number of things we have been told and led to believe as true in the past. Several other water front owners and myself have been asking a number of questions and have been getting a wide variety of answers from those “supposedly in the know” or in “official positions” or with “degrees and letters as long as your arm” after their names. I must say, I have learned a lot this summer and especially from researching on the Internet!

On a personal note, one thought keeps coming to mind the more I look at the situation on Sturgeon Bay. If one needs an education and with all kinds of degrees and are hired into a position of authority because of these “Letters” and are perceived as only they know how and what is to be done to be correct, *how in the world did the uneducated people before our time invent, develop and build the world and infrastructure we still have today??* The answer I seem to keep coming up with points to “Common Sense!” *Those before our time invented and developed products to fill a need working often without outside consultation, constant supervision from others and without regulations and by-laws that stifle ambition and drive!* And yes I believe *Common Sense is available to all but only a few will rise above the “control freak attitudes” and go on to achieve the greatness of our fore fathers (and mothers)!*

Since the few remaining long time residents, both seasonal and permanent, who reside on the Sturgeon Bay Waterfront have long complained that the quality and purity of the water in Sturgeon Bay has deteriorated significantly since the construction of the VHWWTTP with their outflow pipe delivering the effluent directly into Sturgeon Bay, I thought I would look at what “Common Sense” tells us and as well, some of the statements that were made in support of the VHWWTTP situation.

Severn Sound Environmental Association states there is little or no current in Sturgeon Bay. If true, the VHWWTTP therefore depends on the dilution powers of the Bay to make the effluent acceptable. Currently, with water levels at record lows, this dilution power they speak of is very limited compared to when the plant began operations. If the “current” statement is true, why then did the May reading show the increased e-coli reading along the western shoreline apparently flowing north along the western shoreline to the Channel??

At the EA Information sessions for the VHWWTTP expansion and rebuild, it was stated by those in charge that the weed growth in Sturgeon Bay is now more healthy than before the construction of the original plant. Could this be attributed to the additional nutrients flowing into the Bay from the VHWWTTP? They failed to mention the increase weed population now in the Bay nor did they show much concern on the volume of water missing from the Bay due to the record low water levels! I’m sure the fact that the sunlight can now reach the bottom of a larger portion of Sturgeon Bay due to low water levels has a great deal of influence on the excessive current weed growth as well.

Although most of the public attending the EA Information Sessions requested the “Outflow Pipe” be relocated from emptying into Sturgeon Bay to the deeper channel to the North where there is a known current to dispel the effluent away from the Bay, we were informed it was “Not Needed” and besides “It would then interfere with the intake pipe for the Municipal Water Treatment Plant”. According to a scientific study & subsequent Report done by Genivar Inc. that was part of a Study carried out by SNC Lavalin for the Simcoe Clean Water Agency, the intake pipe for the Water Treatment Plant is located entirely in Hoggs Bay. As well, their maps showed a direct water current in Hoggs Bay from the Port McNicoll WWTP in a Northerly direction towards the area of the VH Water Treatment Plant. It would appear this Hogg Bay current would counter any possibility of contamination from the VHWWTTP if the “Outflow Pipe” were to be relocated.

Having been told numerous times that any pollution problem in Sturgeon Bay is probably the result of the outflow (Possible Raw or Partially Treated Sewage) from Port Severn and Coldwater Waste Water Treatment Plants, this fall, I checked with both areas in regard to any “By-passes or Spills” of raw or partially treated sewage from their facilities over the last few years. They were very obliging and presented me with a great deal more information than I was expecting.

Findings: Port Severn has not had a “By-Pass or Spill” since constructing their new Plant in 1999! Coldwater, since 2009, have had 2 minor Spills (both were contained within several feet of where they occurred within the Plant property) and 1 By-Pass in 2011 of Raw or Partially Treated Sewage into the Coldwater River due to flooding (Approximate amount 10,000 liters or about 100 cubic meters).

Recent years our Municipality has suggested the blame for the questionable water quality in Sturgeon Bay lies with the waterfront property owners, claiming many of their septic systems or holding tanks are probably defective and are the cause of the e-coli problem. Thanks to Walkerton years ago and an over zealous Provincial Government, a weird Septic Inspection Program was devised and passed on to be implemented by the Municipalities across Ontario.

I called it a weird Program as it cost each property owner \$100.00 plus HST to have a “Hired Consultant” do a visual inspection at each property that was deemed a “Risk”. (Deemed by whom?). But wait, they only looked at the surface features and then sometime afterwards, the property owners started receiving notices to have their tanks pumped and show proof to the Municipality that they had complied with the request. Opps, what was really required by the Municipality was actually a certificate stating the condition of the Septic or Holding Tank! Question: Why was this not part of the Hired Consultants Job to inspect these tanks when they were pumped? Another surprise, Sewage Pumpers where not aware they must issue certificates regarding condition of the tanks so then had to have their people trained on tank inspections and filling out of the Reports. This certificate became another cost to the property owner on top of the already paid “Inspection Fee”!

Unfortunately for those in the Septic Pumping Business, this bonanza of additional work in a specific time frame created more problems for them and added costs for the property owners. *Seems no one devising or implementing the Septic Inspection Program* looked into the disposal of the increase in “Septage” volume that would occur! Most existing Waste Treatment Plants could either not handle the product or could only accept limited quantities. This is due to septage needing to be stored at the facility and blended into the normal sewage product to be treated. This created a need to truck the septage to facilities in other Municipalities creating lost time travelling, added costs for disposal and less time available to do the actual pump outs!

The frustration didn’t end there for property owners. Many received certificates stating “the tank is showing signs of aging”. These were perceived by the Municipality as being “defective” and late in the season, the property owners were faced with tank replacements. Installation contractors were run off their feet trying to get systems replaced before freeze-up and property owners were faced with escalating prices and the thoughts of an empty tank in the ground over winter and the possibility that it might float in the spring.

But back to Sturgeon Bay Water and pages 2 and 3 of this report. With the unusually high e-coli readings in May at location #1 and the apparent reason, I decided to find out if this was a “one time occurrence” or had it happened before. It was most appreciated to receive from Tay Office Staff, the rundown regarding by-passes and quantities of effluent involved for 2013 from January to Mid May. However, then the shock factor kicked in! The VHWWTP had recorded a number of by-passes in that 5 ½ month period for plant filter replacements, sewage volume and maintenance reasons. During that period, over **51 thousand cubic meters** of partially treated or raw sewage was sent directly into Sturgeon Bay!

How much is a cubic meter I wondered – but not for long. I went on the Internet & found conversion charts. Those individual water bottles you buy at the store are ½ liter, it takes 8 of them to make up the 4 liter jug. It takes 250 jugs to make a cubic meter! (A cubic meter is also a metric tonne). *I would doubt very much if all our septic tanks & holding tanks were to drain directly into the Bay for a year, it would come anywhere close to the amount fed into the Bay from the VHWWTP in less than ½ a year!* Makes me wonder ... is this “Walkerton East”?? And who is getting the blame for poor water quality by the Provincial and Municipal Politicians?? Sounds like the pot is calling the kettle black!

The Report mentioned (mid way down on page 4) for the Simcoe Clean Water Group as presented by SNC Lavalin and with references to Reports done by W.F. Baird and Associates and also Genivar Inc., was done to indicate potential contamination hazards to various Municipal Water Treatment Plant Intake locations. Two items caught my eye when reading the reports and the accompanying maps.

First: Rope Water Treatment Plant would be vulnerable to potentially contaminated water from the VHWWTWP when ever Sturgeon Bay was experiencing winds from a southerly direction!

Second: The flow chart of currents out of Hogg Bay travel from south to north meaning the Port McNicholl WWTP effluent will be carried almost directly to the VHWTP intake area! Also mentioned was that a spill at the Marina in the Harbour would be a potential hazard to the intake area.

To those on Municipal Water and wondering why their water rates are so high, here is a suggestion. The clean, treated and purified water is not only used for drinking, washing, showering, laundry, washing the car and watering the lawn, but also for fighting fires and *every flush of the toilet. 1 to 2 gallons (4 to 8 liters) of purified water is used every time a toilet is flushed to make the flushed material more mobile and easier to move through the sewer system! This once treated water is now contaminated and must be treated again at the VHWWTWP or the PMcNWWTP before it is returned to the respective Bay through the outflow pipe! Oh yes, don't forget the amount of previously treated water that is used to "Flush" the water mains each year and runs down the ditches!* Yes, you pay for that too.

Where do we go from here? Looking back at my second paragraph, it seems very unlikely we should consider any direct action at this time and with only 1 year of testing. I am thinking there is a good alternative route to take as it is beginning to appear as if there could be a Provincial Election in the not too distant future. We may be able to make this an Election issue with our candidates both here and at home. As well, 2014 is Municipal Election time again. This could become one of the hottest Election issues locally!

Since the people on the western shore have been involved with our testing and chipped in towards the costs this summer, I will be discussing with them, the possibilities of either sending a brief letter containing our concerns to the local papers or sending a copy of this report for the Editor's scrutiny. As well, I am hoping our joint group can work it into one of the discussions we have with the Mayor and the CAO in the near future. I personally do not feel we should appear at a Council Meeting at this time. Perhaps it would be advantageous more to meet and talk to our representing Councillors 1 on 1 to discuss our concerns and get them thinking individually about these issues.

I'm thinking, it would be really nice if we could convince MPAC and Government that "View" isn't everything and that owning water front property is one thing but owning property fronting on a potential Sewage Lagoon is quite another! If this could be achieved, my bet is all Municipalities wouldn't be long righting the problem as those "Golden Goose Assessments" that taxes are based on, would disappear.

This report will be sent to the folks at FOCA as they have shown considerable interest in our recreational water testing program. They were amazed to learn that the Municipality did not have any Beaches in Sturgeon Bay included in the Health Unit Testing Program especially since there are 2 appearing as "swimming" locations on the Municipality of Tay Recreational flyers.

According to the Simcoe-Muskoka District Health Unit Our Municipality did have 5 Beaches being tested in 2013. Unfortunately when I checked their list, I only found 4 listed ...they were MacKenzie Beach, Albert Street Beach, Magnus Beach and Patterson Beach.

Although this Report is quite lengthy, I tried to be as complete and thorough as possible. I trust you will find it interesting and the information given will help explain some of the walls and pit-falls we have been up against this summer. Whether perceived as being accurate or acceptable information by some, I think the knowledge we have gathered and gained in 2013 concerning Sturgeon Bay indicates a desire to continue with our testing program in 2014. As was stated by the SMDHU representative I was dealing

with, “if for no other reason than your own satisfaction, knowing the condition of your water makes it worthwhile and can remove some of the health risks when you use it.”

Perhaps it appears I have wandered from the actual subject of the Report at times, I believe it all ties in with the reasons that Talpines decided to sample the water of Sturgeon Bay. At our Annual General Meeting in June, our members gave unanimous approval to do monthly sampling during the 2013 summer months. Perhaps this was perceived as a means to relieve some of the frustrations and answer some of the questions of our members. Hopefully (although more questions may have arisen) at least partially, we have succeeded.

This Report was written in October, 2013.

David Cornish may be reached at: dlcornish@msn.com

We would be remiss to not mention our sources of Information used in this Report.

Acknowledgements and Thanks

Central Ontario Analytical Laboratory (C.O.A.L.)

Simcoe-Muskoka District Health Unit (SMDHU)

Severn Sound Environmental Association (SSEA)

Simcoe Clean Water Group who commissioned the SNC Lavalin Report which contained
Reports from Baird and Associates and also Genivar Inc.
Re: Municipal Water intake Locations & Hazard Response Times.

Township of Tay

District of Muskoka (Port Severn)

Township of Severn (Coldwater) (Clean Water Agency)

Federation of Ontario Cottage Associations (FOCA)

Numerous Internet Sites

