CAPTAIN OTTY'S LOG

Newsletter of the Otty Lake Association

October 1998

OTTY LAKE WATER QUALITY MONITORING PROGRAM *Lorne Gold*

We have been measuring the fecal coliform count, water clarity and phosphorus level for Otty Lake for 25 years. These measurements have been reported regularly at the Annual General Meeting and from time to time in the Newsletter. They show that Otty is a good quality lake, one of the best in the region, but the fecal coliform measurements indicate a deteriorating trend. This report summarizes the results to date for our fecal coliform measurement program. The other water quality measurements will be reported on later.

The fecal coliform count has been used for many years as an indicator of contamination of water by human and animal wastes. In recent years, E.coli has been considered a better indicator of contamination by human waste. In both cases, public swimming beaches are closed when the number of coliforms in a 100 ml exceeds 100. Studies have shown that fecal counts parallel those for E. coli. For this reason, when the Provincial guidelines for recreational water safety were changed from fecal to E. coli, we decided to continue with the fecal count so as to maintain continuity in our monitoring program.

Decal coliform samples are collected at 32 sites distributed uniformly along the shoreline of he lake. The approximate location of these sites are shown on the map (Figure 1). For several years, government bodies would do the analysis at no cost and so several samples were usually taken yearly at each location. This support has gradually disappeared and since 1990 only three samples a year have been obtained from each site - the first in late May or early June, the second in the latter half of July, and the third in late August or early September. This is done in six trips, with samples at stations 1 to 16 alternating with sampling at stations 17 to 32. The Association has had to pay for the analysis since 1994.

The fecal count is highly variable, usually lower than 20 but can be over 500. High values are relatively rare; subsequent testing has shown that they are transient. They may be due, for example, to a beaver passing through the area. A study in Georgian Bay has shown that fecal coliform can survive in the near-shore bottom sediments, even over winter. High counts can be caused by disturbance due to an onshore wind.

Samples are often taken and analysed daily when monitoring conditions at a public beach. In this situation, decisions are based on what is called the geometric mean of five or more samples taken over two or more days. Monitoring public beaches can be compared to forecasting weather on a daily basis. Our situation is quite different. We take only one sample per month for each site and the results are not received until two or three weeks after taking the samples to the lab. Our program can be compared to determining the climate from observations extending over several years. We now have sufficient years of observation to indicate that he water quality 'climate' of Otty Lake is changing in the direction of increasing number of fecal coliforms.

Instead of the geometric mean method of analysis, we have been tabulating the number of times that the fecal count is equal to or greater than 10. We have found that this has been a useful and easily understood way of showing year to year variations and trends in the fecal count readings. More than 4500 samples have been taken in the 25 year period, and 795 of them have had a count equal to or greater than 10.

The size of the circles on the map at each sampling site is proportional to the number of times in the 25 years that the fecal count equalled or exceeded 10. This number was obtained by adding the times found for all sampling sites, dividing by the total number of samples taken, and multiplying by 100. For example, in 1985, there were 200 samples taken of which 39 had counts equal to or greater than 10, giving an average value of 19.5 per 100 samples. The figure shows, in spite of the great variation from year to year, a gradual increase in the average yearly number of counts per 100 samples. A start has been made on a more detailed analysis and it shows, for the few stations that have been analysed, a gradual increase with time in the fecal count at those sampling sites.

The situation for your area can be seen from the map. We strongly encourage you to discuss your local condition with your neighbours. One of the most effective steps that can be taken to improve conditions for the whole lake is to ensure that all septic systems and other means of handling human waste for each property meet current health standards and are functioning properly. The sampling station readings, however, are probably determined primarily by the local situation. Conditions in the area of a sampling

Otty and McLaren Lakes - Location of sampling sites

The column on the left gives for each station the 25 year total of fecal coliform counts greater than or equal to 10. The size of the shaded area at each site is proportional to the total number of counts.

Station No.	25 year total
1	30
2	27
3	32
4	14
5	12
6	8.0
7	13
8	31
9	27
10	19
11	8.0
12	32
13	24
14	26
15	13
16	17
17	28
18	19
19	29
20	22
21	48
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29	33
30	27
31	33
32	30

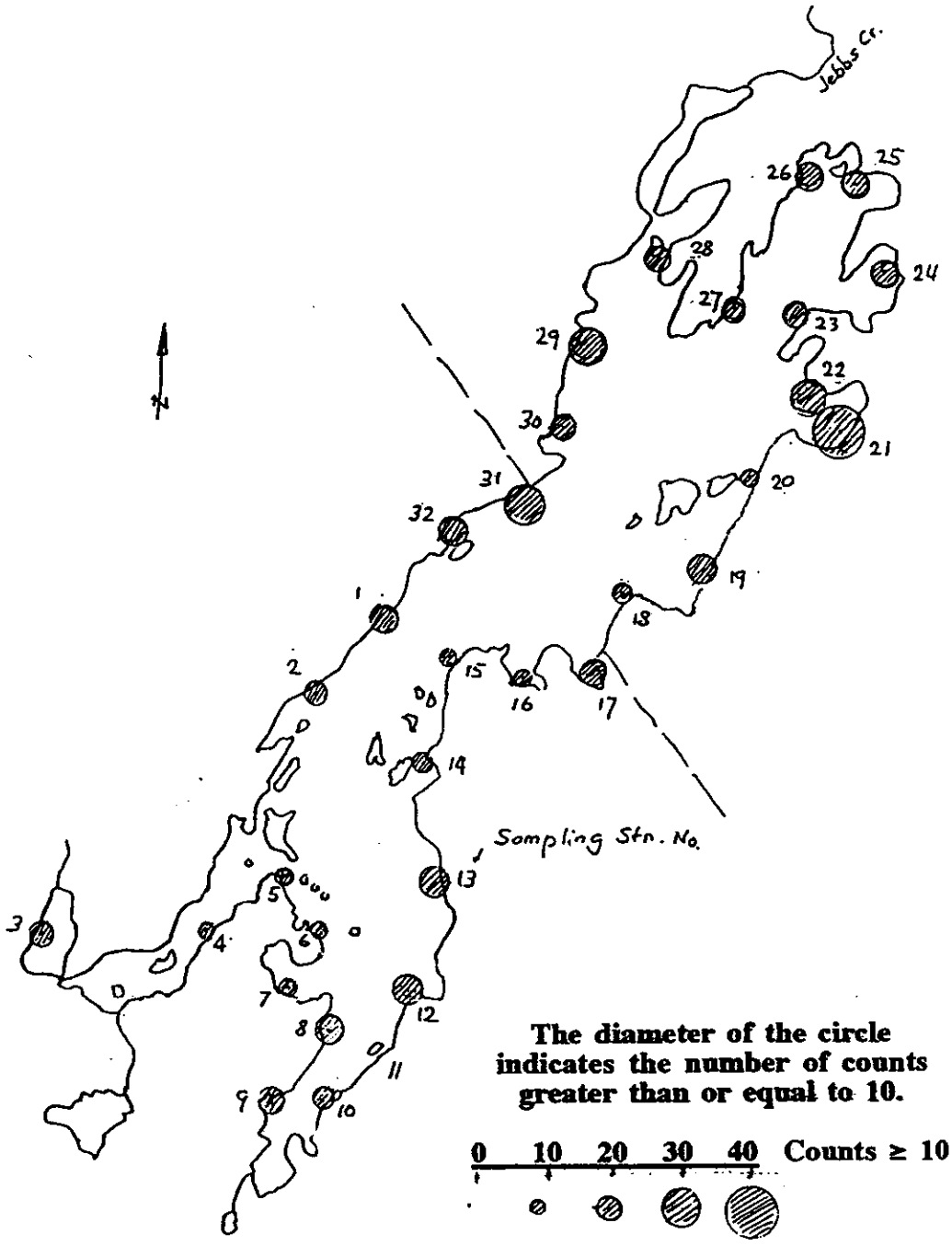

Figure 1

site, therefore, can probably be improved significantly through a cooperative effort of concerned property owners in that area. The results of our fecal coliform measurement program will be brought to the attention of the DNE and BBS township councils. Our Land Use Committee will be working with them on ways to ensure septic systems are inspected and dumped on a regular basis. If you are concerned with the situation in your area, members of the Board of the Otty Lake Association would be pleased to explore with you action that can be taken to improve it.

Lake average number of fecal counts greater or equal to 10 per year per 100 samples

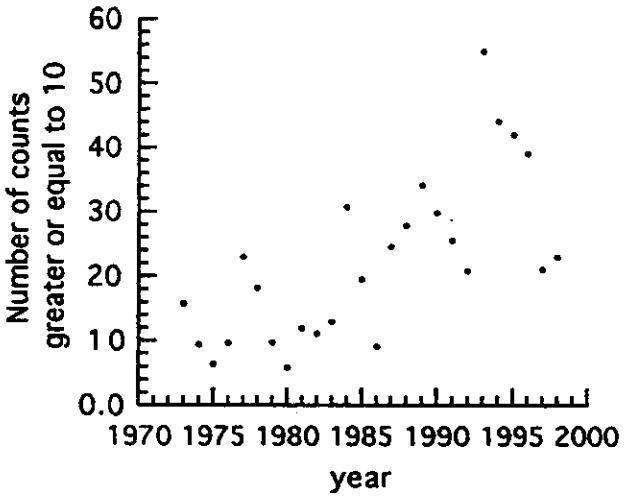

Figure 2

A Historical Note

Have you noticed foam on the surface of the water or the formation of bubble trails when you swim, and wondered if they are due to someone's dish water? This question was raised by the OLA with the Ontario Ministry of the Environment in 1985. The following answer was received.

"The problem of foaming in surface waters as a result of contamination by detergents was widespread until about the mid 1960s. At that time, the detergent industry was required to introduce a biodegradable formulation. The surfactant in packaged detergents now has a short half-life and is readily biodegradable. It rapidly breaks down in septic tanks and sewage treatment plants. Now we are seldom able to attribute a surface water foaming problem to the presence of detergents.

Natural foaming does occur in most surface water and is associated with the decomposition of organic matter. The decomposition process releases a surfactant which has similar properties to that of a crude soap. A surfactant causes foaming by reducing the surface tension of a liquid. When this happens, agitation of the liquid allows the formation of air bubbles and the creation of foam.

Quite often the air bubbles mix with detritus or solids which then tend to hold the foam together and give the mixture temporary stability. We frequently see evidence of this even in remote undeveloped lakes where wind and wave action has deposited foam in windrows along the shoreline.

While we cannot totally discount the possibility of detergents being involved in the foaming problem on Otty Lake, we suspect that the problem you have described it is related to natural lake processes."

High phosphate soaps do cause foaming. So use low to zero phosphate soaps and other cleaning materials in your home and cottage so that any foaming we see will be truly from natural sources.

The Sexton Beetle

Keith Fraser

Several years ago, we had an surfeit of deer mice in the garage at Otty Lake. I declared war after discovering holes in a tent and a large family taking up residence in a Coleman stove. Traps baited with peanut butter were successful and I removed the carcasses and dropped them over the fence onto a pile of leaves. They were invariably gone by the next morning and I puzzled over the reason: raccoons or skunks or foxes would likely find a dead mouse enjoyable, but weasels prefer fresh kill, snakes wouldn't be attracted to a cold carcass, and the site was too well hidden for crows to discover it. I pictured a raccoon visiting the pile of leaves each evening, expecting a new entree. Late one afternoon, checking to see if the repast had already been collected, I noticed that the little carcass was partly buried and while I watched, it moved slightly. A small iridescent dark green beetle with red spots hustled out from beneath the body, made a reconnaissance around it and disappeared underneath. Towards evening, the mouse was scarcely visible and the next morning it had vanished.

I discovered that my beetle helps to clean up the environment by burying and eating the dead bodies of animals, a ghoulish occupation, to be sure, but demonstrating a commendable instinct for recycling. **Carrion beetles** and **burying beetles**, also known as **sexton beetles**, form a family of more than 100 species. They locate their food by scent, most are nocturnal (tho not mine) and are said to be able to fly long distances. They lay eggs near the buried carcass which provides food for the larvae. One of the largest, the *American Burying Beetle*, is reported to be endangered.

Membership *Dick Atkinson*

This is the last Newsletter for this year and the membership year is also drawing to a close. As of September 30, membership is 290, about 40 behind last year. I hope your Counselor was able to meet you this summer and answer questions and forward your concerns to the Board. Feedback on the Information Package and maps would be helpful and we would appreciate a note whenever you next send fees.

If you still have the mailing label from the envelope, please look for a date on the upper right corner. 1998 (or future year) indicates that your fee has been received. A yellow slip inserted with this Newsletter means that your fee has not yet been received.

One of our Lake residents has researched **Captain Otty** and is preparing a very interesting and exciting write-up. The Membership Committee is arranging to make this available to members. More details in the Spring Newsletter. Also, it is planned to publish two photographs from the early 1900s and ask if anyone can identify the people and the locations. If you have old photographs that you think would be of interest, please contact me and possibly the photos could be published in future Newsletters.

PLEASANT AUTUMN COTTAGE ACTIVITIES *Amy Pokorny*

As soon as they are dormant, trees and shrubs can be transplanted, either in the early spring or fall. Maples and birches are known as 'bleeders' and it is most important that they be dormant. If you are to be planting in spring (before the leaves are out), it is a good idea in the fall to tag those you want. Common choices are **Silver Maple** (*Acer saccharinium*), **Red Maple** (*Acer rubrum*) and **Sugar Maple** (*Acer saccharum*). **Norway Maples** (*Acer platonoides*) are often sold as Red Maples because some varieties have purplish red leaves in the spring. Interesting low-growing, shrubby maples are **Striped Maple** (*Acer pensylvanicum*) and Mountain Maple (*Acer spicatum*). See "*Trees of Canada*" or phone Amy 613-267-1626.

Along the roadsides you can find quite a few treasures to incorporate into Christmas decorations. As a base, use **Red Pine**. It has richer foliage than **White Pine**. **Cedar** is all right. **Hemlock** drops its needles early. A mixture works well. If you can find a **Club Moss** (*Lycopodium*) that looks like tiny cedars, it is great in a wreath , a swag, a garland or table centrepiece. **Silver Artemesia** or **Mugwort** spires add texture. For a 'star' or 'rose' in the centre of a swag, use halves of **Milkweed** pods and spray paint in gold (the silken seeds are best removed by the roadside). Place the pointed tips around the circumference. To be whimsical, try **Lily-of-the-Valley** berries or our own **Wild Holly** (*Ilex verticillata*, found in moist areas). If you just want a centre for your rose, use the head of a **Black-Eyed Susan** or **Purple Cone Flower**. To enliven the pine or spruce twigs, glue tiny **Hemlock** cones at the joints or tips of twigs, or use rosettes made from White Pine cones. Use strong secuters or wire cutters and cut through the long cones; each can make several flatbrown flowers. You can also rescue from the squirrels little pairs of acorn cups or the four-pronged husks of beech nuts.

So, enjoy wonderful walks in forest, field or along roadsides as you hunt for treasures to create lovely natural seasonal decorations!

BUILDING PERMITS *Dave Code*

Residents are reminded that they should contact the Township Building Inspector whenever they plan to erect any structure, be it a cabin, an addition to a cottage, a boathouse or any other structure. By doing so they can find out whether a Permit is needed or whether the proposed structure is legally permitted. For any work on the shore, the permission of the Ministry of Natural Resources must also be obtained. Nuumbers to call: NORTH BURGESS Terry Peacock 267 5353 OR 1 800 810 0161 NORTH ELMSLEY Ray Scissons 267 6500 OR 283 2082 MNR in Carleton Place 257 5735

WATER LEVEL REPORT Dave Code

Residents will have noticed the unusual levels in Otty Lake water in 1998. In spring, the level behaved as usual: on April 30 it was at +12", meaning 12 inches above the datum line - the approximate normal for July 1st. During the dry weather of May, it fell rapidly, standing at close to normal (-02") at July 1st.

Then heavy rains on the 11th and 12th resulted in a surge to +10" and it stayed extremely high all summer. Beaches disappeared, docks went under water. At Thanksgiving weekend, it was still high at +5.5" or about one foot higher than normal. If this continues, the autumn rains could push it still higher and result in severe winter ice damage to docks and boathouses.

Tom Foulkes and Roger Nuttall of the OLA Land Use Committee have discovered some fresh beaver dams in the lower end of Jebb's Creek which are holding back the water. Action is planned. Volunteers welcome.

Otty Lake Association

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