

# Swimming Water Quality Reassuring Thank You Volunteers!

BY JUDITH GRANT

Many individuals contributed time and effort to make this summer's volunteer investigation into the quality of swimming water in Tiny Township a success. Brenda Armstrong, the Simcoe Muskoka District Health Unit's Safe Water Program Manager attended the training session at Balm Beach at the end of June, and provided insightful answers to queries. Susan Peterson (Kettle's Beach) distributed each week's results to participating associations and managed invoicing in September; Linda Andrews (the Federation's Treasurer) kept financial records; Judith Grant got in touch with associations about participation; and several captains picked up the sample bottles from volunteers' coolers and refrigerators along the shore and transported them to the Township Offices (Stan and Pat Seymour of Carusoe Bay; Linda Andrews, Mike Bradley, and Klaus Beecker of Wahnekeewening; and Linda Rudics at Thunder Beach). As it has for a number of years, Tiny Township's Water Department kindly transported the large coolers of sample bottles from the Township Offices to the Laboratory for analysis.

All along the shore, volunteers from roughly twenty beach associations waded into sometimes very chilly water first thing on the morning after the weekend to collect samples according to the Health Unit's protocol:

**Addison** – Shan Atkins, Christine Dow, Hamish Grant, Judith Grant, Heidi Lauridsen, Sally Martin, Rebecca Rice

**Ardmore** – Jane Hellyer

**Bluewater Georgina Wendake** – Ian Ferguson

**Carusoe Bay** - Rick Bennett, Tyler Doyle, Kyla Dolan, Lesley Kerr

**Cawaja** – Richard Hinton

**Cedar Point** – Jan MacIntyre

**Deanlea** – Christine Gaiotto, Carlotta Lee

**Edmor/Georgian Heights** - Anette Krajewski

**Farlain Lake** – Bill Sweenie

**Kettle's** – Jim Alexander

**Kingswood Acres** – Al Taylor

**Maurice Point** – Bill Stoner

**Nottawaga** - Lynne Archibald, Elizabeth Sawyer

**Pennorth** - Noel Coates, Mary Ellis, Charlene Lowes, Barbara Roberts

**Sand Castle** – Thom Henrickson

**Thunder Beach** – Devon Mitchell, Sara Lankshear, Barbara Trubic

**Woodland Beach** - Denise Gardian, D. Hancey, Linda Lockyer

**Wymbolwood** – Jeff Conron, Patricia Dorman, David Henderson, Steve Himel, Robert McBride, Jane Pashby

Clearly shore associations had different strategies for recruiting water samplers: many depended on a single individual, others mustered a series of volunteers as cottage occupants shifted week by week or month by month. The palm for the greatest number of samples taken by one individual from a long stretch of shore goes to Devon Mitchell who sampled swimming water and streams along West Shore Drive and the full extent of centre beach at Thunder Beach every one of the nine summer weeks, taking a total of 68 samples. The prize for the greatest number of volunteers goes to Addison, whose four samples were taken each week by a succession of seven individuals, each turning out once or twice, just nosing out Wymbolwood, whose single sample was taken by six volunteers.

The statistics gathered this year differ somewhat from those in earlier years. As always, the samples were analyzed for E. coli, a useful indicator of water quality, not because it is dangerous itself (only rarely is that the case), but because its presence indicates the possible presence of dangerous pathogens. However, the upper limit of the numbers of E. coli counted precisely was much higher this year because the Aquatic & Environmental Laboratory uses a different method of analysis than the laboratory we used to use. Where in earlier years, the range went from <10 to >600 (less than 10 to more than 600), this year it went from <10 to >1500 (and, occasionally, higher). This gave much more precise information about modestly polluted streams whose E. coli counts fell between 600 and 1,500. In the

past, when such streams showed a count of >600, we had no idea whether the actual number was 605 or something dramatically higher.

As soon as the Health Unit and Awenda Park release their sampling results for public beaches and Tiny's Provincial Park, a spreadsheet of this year's numbers will appear under Water Reports on [tinycottager.org](http://tinycottager.org). There you'll see that most of the summer's high E. coli numbers occur in streams, not in the bay or lake, a useful reminder to steer clear of such streams as they arrive at the shore. Since children love to create dams, diversions, bridges and the like in creeks on the beach, they should be reminded to wash their hands before touching food.

Also noticeable in the spreadsheet is the fact that E. coli numbers in streams are immensely variable – and, as samplers will have noted (since they record conditions at the time they take samples), they are often highest when it has rained recently, since rain washes pollutants into creeks and streams. Since residents at a beach might well wish to know just how long after a rainstorm stream numbers remain high, a beach association might choose to sample its stream every day for a week or two after a major rainfall. Now that our laboratory is relatively close (on Horseshoe Valley Road at Highway 93), this wouldn't be impossible, even if volunteers had to drive the samples there.

A noticeable aspect of Lake and Bay samples is that high wind and waves usually produce high E. coli numbers. Sunday August 21 was such a day at many points along the shore. Even the next day, a sampling Monday, those areas directly affected (some in protected areas weren't affected) had much higher counts than usual.

In conclusion, it is interesting to note that a comparison of the geometric means of E. coli numbers in samples taken at particular points along the shore in 2001 (the first year of the water program) with those taken in 2016 reveals that this year's results were generally better.

For an overview of the Federation's water sampling program see "Time to Check the Quality of Our Swimming Water! The Volunteer Water Program Has Brought Us Many Benefits," *Tiny Cottager*, No. 43 (Spring/Summer 2014), p. 3, 17. That article, along with a series of reports on the water program from 2002 to the present is available in "Issue Archives" on <http://tinycottager.org>.

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