

## 2006 Water Quality Report

Water quality monitoring on the lake has been significantly increased for the past seven summers (2000-2006), including biweekly bacteriological testing of 6 selected sites from late June until mid September. This additional testing has been made possible with financial assistance from the Township of Georgian Bay, District of Muskoka, and the GBA Foundation. The monitoring program measures Total Coliforms (TC), Escherichia coli (E. coli) and water clarity (Secchi depth) at each of the 6 sites 7 times over the summer.

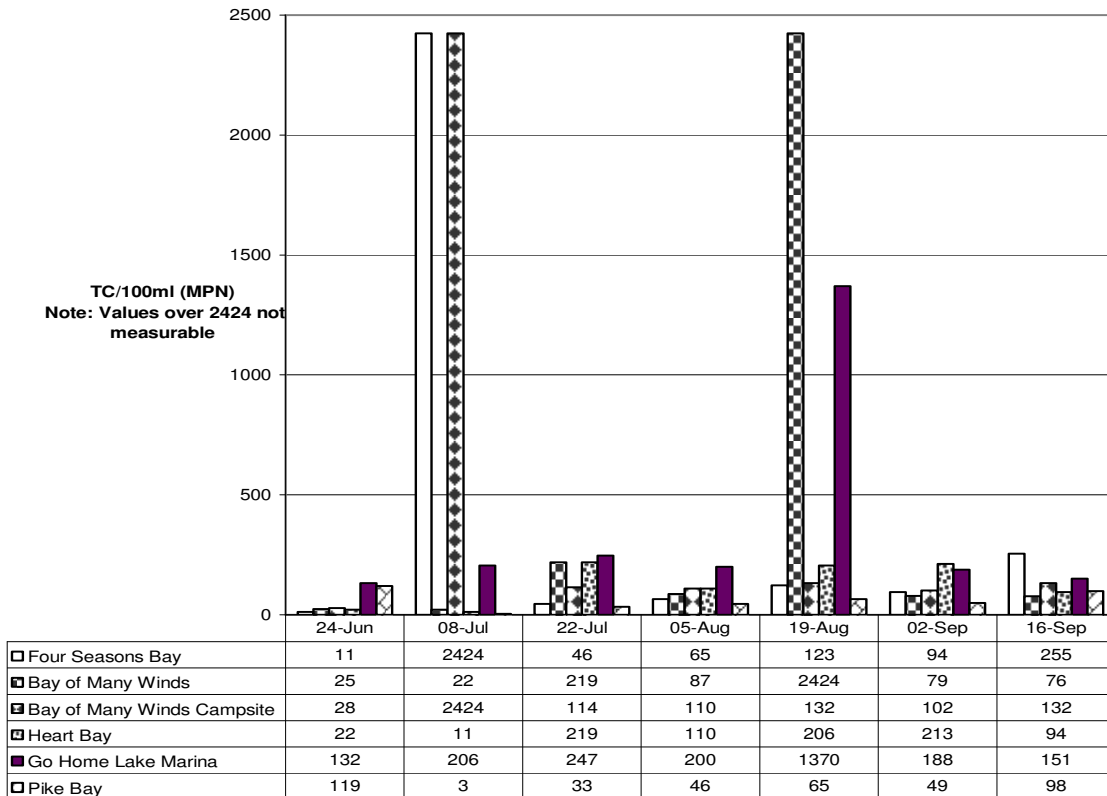
Once again this year, with the kind assistance of Paul Wiancko of Six Mile Lake, depth profiles to analyze water temperature, dissolved oxygen, conductivity (a measure of water source and circulation patterns), clarity and total phosphorus were conducted at 7 locations (southern Control Dam outlet, Blue Lagoon, Four Seasons Bay, Bay of Many Winds, Crystal Bay, Manning Bay and the inflow at Swallow Bay) in September.

### Total Coliforms

Total Coliform readings during the summer of 2006 were once again significantly lower than prior year averages, with only four samples exceeding the Ontario recreational waters guideline of 1000 TC/100ml. These results were essentially identical to those obtained in 2005.

The majority of organisms measured by the TC test occur naturally in the environment, and enter the lake through soil runoff and decaying organic matter. There is little evidence that human activity contributes significantly to TC readings.

Go Home Lake Total Coliforms 2006

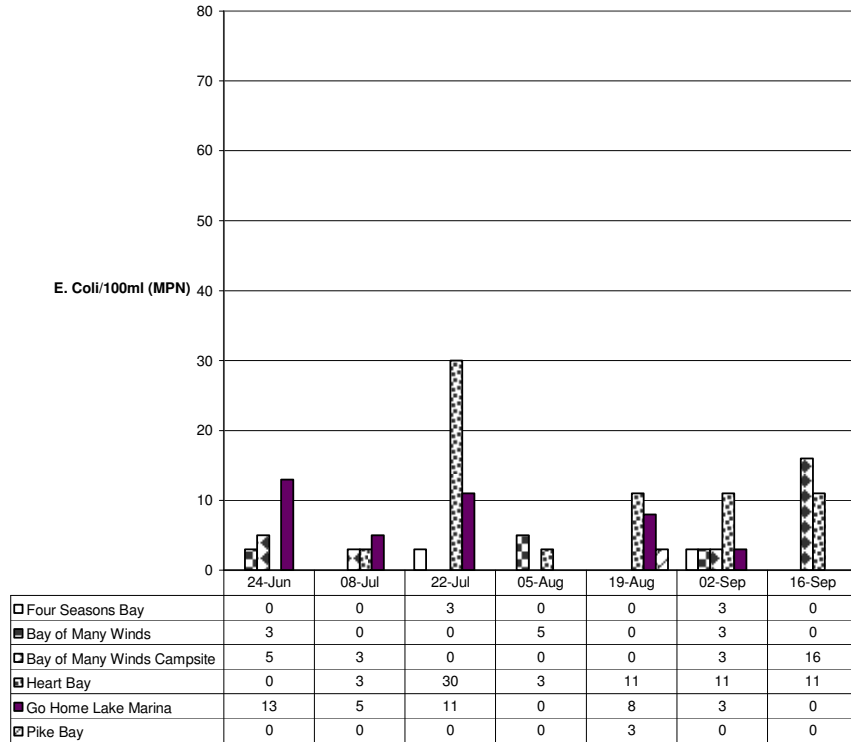


### E. Coli

E. Coli, an organism which is abundant in human and animal excreta is now favoured as an indicator of fecal contamination. Studies have shown that illness rates among recreational water users increase with fecal-associated bacteria levels in the water. Health Canada has established a guideline of 0 E. Coli/100ml for drinking water, while Ontario uses 100 E. Coli/100ml as the recreational water guideline. Because children typically ingest quantities of lake water while swimming or playing, the GBA has proposed an objective of 10 E. Coli/100ml for our recreational waters.

E. Coli readings during the summer of 2006 showed marginal improvement compared to the poor results obtained in 2005, but remain above prior year averages. Although E. Coli counts on Go Home Lake never reached the provincial guideline during the summer, seven results spanning three sites (compared to ten in 2005 and an average of three in prior years) exceed the GBA objective.

Go Home Lake E. Coli 2006



### Summary

In summary, water quality conditions were generally quite good in Go Home Lake during the summer of 2006. The recent trend toward lower Total Coliform readings continued, however the significant upward trend in average seasonal E. Coli levels first observed in 2005 continued and remains cause for concern.

Results obtained from September's depth profile analysis are too lengthy to report in detail, but overall were very good this year and improved over last year where thermoclines occurred in more bays with Total Phosphorus in the bottom depths of 25-48 µg/L. Surface levels of Total Phosphorus were similar in to those recorded in 2005.

Conductivity and mixing throughout the lake was very good with values at the inlet (Swallow Bay) of 55.0 µS/cm and outfall (Control Dam) of 56.7 µS/cm. As expected, Manning Bay had less mixing (49 µS/cm) due to its isolation from the main north to south flow pattern.

Water clarity was generally good throughout the lake with visibility depth ranging from 6.4 meters in Blue Lagoon to 4.2 meters in Manning Bay and at the Control Dam.

It is also worth noting that the surface levels of Total Phosphorus at Swallow Bay (north end) and the Control Dam (south end) were very similar at a level of 9-11 µg/L. This is probably a good indicator that the water flows through Go Home Lake in 2006 were able to flush out the normal shoreline runoff of nutrients that occurs over the summer.

We hope to continue the water quality monitoring program in future years to enable us to track the effectiveness of our efforts to preserve this important natural resource. For further information on the program, contact Simon Edwards at 705 756 3445, 416 492 7696, or [simon@tipperlinne.com](mailto:simon@tipperlinne.com)