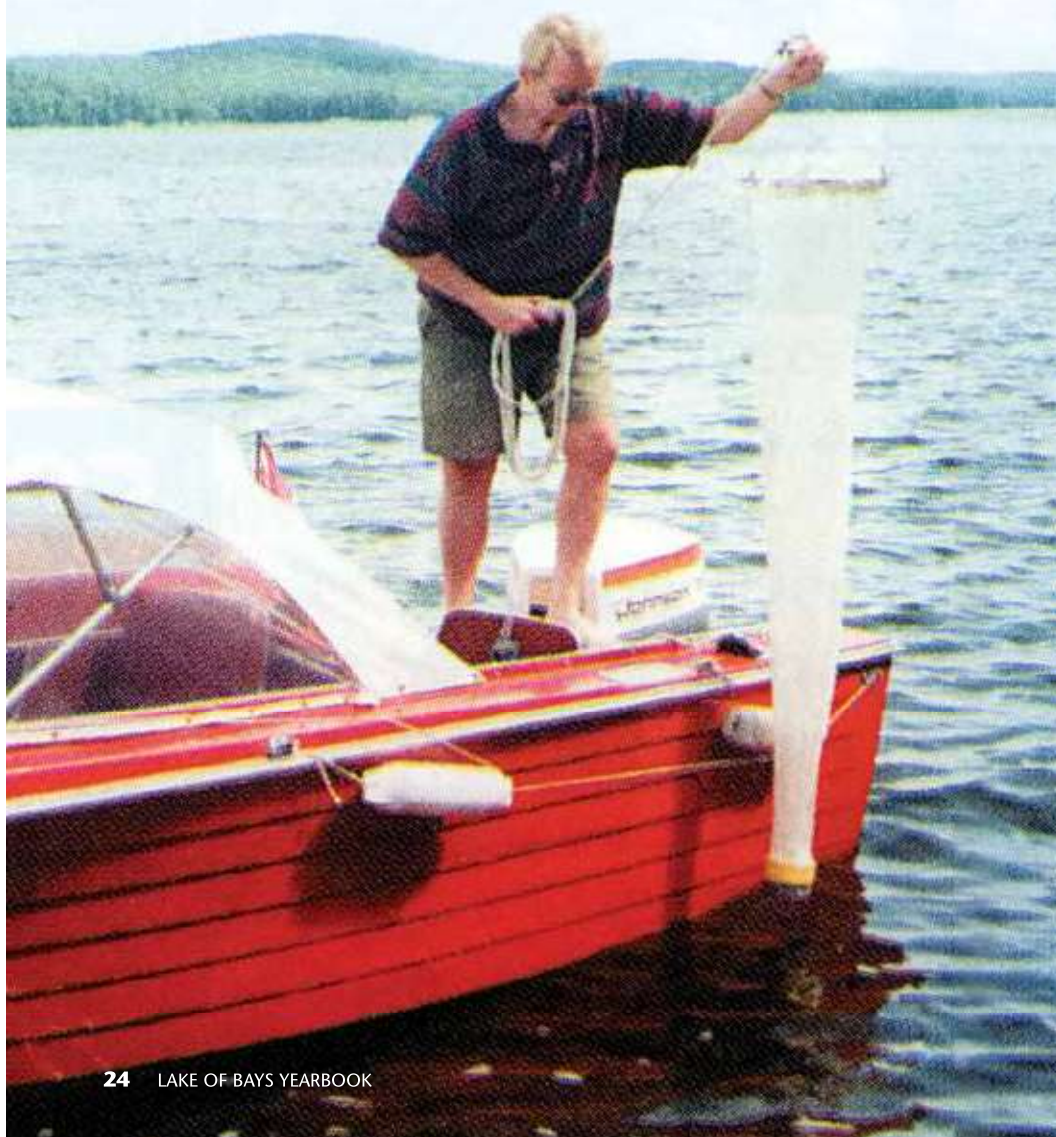


Watching **OUR** Water

by Wendy Gibson

**An interview
with LOBA's
dedicated
water-testing
volunteers**



LOBA has been diligently monitoring the water quality of Lake of Bays since 1970. This is significant because Lake of Bays was the first lake in Muskoka, and quite possibly the province, to initiate a lake-wide volunteer water-testing program. That we have been a leader in water quality monitoring is a point of pride and our water testing remains a core activity of the Association. The annual cost of the program (\$7,300 in 2017) is 100 per cent funded by membership fees, so we have you, our members, to thank for supporting the program.

The success of the program is entirely dependent on an army of dedicated volunteers who have faithfully collected water samples over the last 48 summers. Countless hours have been spent hanging over the side of boats in all weather, recording data and delivering samples.

The value of our water-testing volunteers cannot be overstated. The driving force behind it all has come from four people who each took on responsibility for the program and then gradually passed the baton to their successor.



left to right: Our water-testing volunteers, Deb Cumming, Fraser Govan and Margaret Casey
opposite page: Fraser Govan taking water samples for zebra mussel testing; 1998.

For John Govan, Fraser Govan, Margaret Casey and Deb Cumming, watching our water has been a labour of love and a personal commitment to protect our greatest shared resource—our lake. LOBA interviewed Fraser, Margaret and Deb to gain a better understanding of the roots of LOBA's water-quality program and what lies ahead.

the early years

LOBA: *Your father, John Govan, started the water-testing program in 1970. What prompted him to want to do this?*

Fraser Govan (FG): In the late 1960s there was a growing awareness of pollution generally, and acid rain was a big concern. My dad was a professional engineer working in the air, water and waste management industries. He worked with steel and other manufacturing plants to reduce sulphur dioxide emissions and he got involved with the Canadian Coalition on Acid Rain and other environmental agencies. So naturally he had a curiosity about water quality and felt that we should collect some baseline data for Lake of Bays.

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LOBA: *Can you describe what they did that first summer?*

FG: The Department of Health agreed to have their lab in Orillia analyze our water samples for total coliform and E. coli organisms. The first summer 862 samples were collected between May 24 and Thanksgiving. Four crews were each responsible for 17 sites and other random sites were added at suspect locations. In total 87 sites were monitored. The collection, assembly and delivery of the samples to Orillia within 24 hours was no small job! Nor was the cost. At about \$5 per sample plus equipment costs, the Department of Health maxed out their budget the first

year. The next year the program was scaled back to a more manageable number of sites and a shorter season. At some sites, water temperature was also recorded at depths of up to 100 feet.

LOBA: *How did the program evolve over time?*

FG: Other aspects of water-quality science were emerging such as the impact of nutrient loading from septic systems and the effect of logging and clear cutting. The Ministry of the Environment (MOE) established the Dorset Environmental Research Centre in 1975 to study the effect of acid rain and the MOE Self-Help Program was set up to study phosphorus levels in lakes. By the late 1970s LOBA's water testing involved deep-water phosphorus sampling and secchi depth monitoring (to measure water clarity) under the MOE's Self-Help Program that provided the equipment and analysis through the Dorset Research Centre.

LOBA: *What has been your dad's legacy with the program?*

LOBA: LOBA's water testing was the first of its kind in the province and data from those early years were eagerly received by the Ministries of Health, Environment and Lands and Forest. Our work pre-dated the District's water-testing program. Other than a period of time that Doug Vallery took over when my father was busy with work, he managed the water testing until his passing in 1987. He was always learning and experimenting with the process. Our shed looked like a chemistry lab for most of the summer!

LOBA: *How did you get involved?*

FG: I had been collecting samples with my dad for years, so when he died, I took over coordinating the phosphorus testing for the next 10 years or so. Many new faces came on board to help out including Margaret Casey,



who became Environment Chair in 1993. I continued to do the phosphorus testing until about 2000. By 2001, Deb Cumming was involved and she was very keen. When my wife, Bev and I got busy with planning our move to Lake of Bays permanently, I handed the reins over to Deb.

LOBA: *What were the primary water quality concerns in the 1990s?*

FG: The program expanded to include monitoring for zebra mussels (none thankfully) and spiny water fleas (yes, we have them). Public education about phosphorus loading from septic systems was a huge focus for LOBA under Margaret's direction. An information package called "Septics & Shorelines" was delivered to 1,100 waterfront properties over three years in the mid 1990s. This was followed up by the Township's mandatory septic re-inspection program in 2000. With a few rare exceptions I think contamination from faulty septic systems is no longer a problem on Lake of Bays.

managing changes

LOBA: *You've worn many hats for LOBA, including Chair of the Environment Committee (1993–1995), Vice President (1996) and President (1997–1999). What inspired you to get involved in the water-quality program back when you were busy raising a young family?*

Margaret Casey (MC): We had just finished building our cottage in 1991 and I attended the LOBA AGM. Betty Day was the president and I was so impressed with what she said about the impacts of development, how shorelines were being cleared and the need for standards and controls. There were many things that piqued my

left: John Govan implemented the water-testing program, the first of its kind in the province and managed it until his death in 1987.

environmental awareness around that time, but Betty had a strong influence on my becoming involved with LOBA.

LOBA: *What part did you play in LOBA's water-quality program?*

MC: I helped Fraser with phosphorus testing in 1994 and continued until 2000 and then worked with Deb for a couple of years to help transition the program from Fraser to Deb. By 2002, Deb was off and running with it.

An information package called "Septics & Shorelines" was delivered to 1,100 waterfront properties over three years in the mid 1990s. This was followed up by the Township's mandatory septic re-inspection program in 2000.

LOBA: *And you did the bacterial testing?*

MC: Yes. In 2000 there was concern among LOBA Board members, and likely many cottagers, that focusing exclusively on phosphorous testing was too narrow. However, it wasn't clear what other parameters would be suitable for a volunteer program. Then in May 2000 the Walkerton E. coli outbreak occurred and there was a heightened concern around bacteria levels. We were aware that the Georgian Bay Association (GBA) was doing some bacterial testing (they were having issues with dumping of black and gray water from cruising boats), so we started a small trial of bacterial monitoring with GBA's consultant, which we later refined with guidance from the District of Muskoka. The bacterial testing is very labour intensive and time sensitive. It is best to have the same person doing it year after year if possible. I ran the

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coli-plates for about three years and then Deb took it over. Lake of Bays really has no direct source of E. coli and the District of Muskoka has a good record of sewage and water treatment, so we have had no serious bacteria-related issues. What we did learn was just how much waterfowl could impact bacteria levels. Several people in one area were experiencing an outbreak of pink eye and there was concern about a neighbour who was feeding the ducks. Sure enough there was a 50 per cent increase in E. coli that went back to normal when the feeding stopped and the ducks went away. The lesson here was—don't feed the wildlife!

LOBA: *Favourite memory?*


MC: In the late 1990s everyone was concerned about what was coming down the Hollow River into the lake. Deb and I headed into the woods in search of the tributary so we could take samples above and below a set of falls. We had to wander up a path, across a clearing and climb through an old dumping place—complete with rusty bed-springs—and down the bank of the river. It was ridiculous. We laughed so hard and after all that...the samples were clear.

LOBA: *The MOE cancelled the Self-Help Program in 1997. Where did that leave LOBA?*


MC: The Federation of Ontario Cottagers' Associations in partnership with the MOE replaced the Self Help program with the Lake Partner Program and it's still operating today. Their protocol required one water sample to be collected in May (at spring turnover) and six water clarity tests be submitted over the summer. LOBA participated in the Lake Partner Program for about three years, but ultimately the LOBA Board decided that our more robust protocol using multiple sites throughout the summer was preferred. By 2002, LOBA had established our current self-funded combined bacteria/phosphorus program under the

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guidance of Neil Hutchinson, an environmental consultant in Bracebridge, who was (and still is) working with the District of Muskoka on their Lake System Health Water Quality Monitoring Program.

the program matures

LOBA: *You have been working with Neil Hutchinson since 2001. How has the program changed over the last 17 years?*

Deb Cumming(DC): Neil has remained very interested and supportive of our program. We were the first lake association he had worked with where the focus moved from one-off sampling to a comprehensive program over the summer season and sought to establish impacts of human activity on both bacteria and phosphorus. The focus certainly has changed over 17 years—or perhaps matured is a better way of saying it. Initially we were all fired up to find problem areas (resorts, golf courses, old cottages) and ‘save the lake’, but as our understanding of lake health has grown, we’ve refined the program to provide us with the most meaningful and useful data we can with a volunteer driven program. We have evolved to a sampling model that has deep water and nearshore undisturbed sites in all of our big bays and source waters (Oxtongue and Hollow Rivers), and we also focus on areas where lake water from the north and east arms mix. We have periodically added other indicators to broaden our knowledge, such as benthic invertebrates (bugs) and paleolimnology (lake bottom) sampling. The focus of the program has shifted from reactive to proactive. Although we still sample around a few potential problem areas just to be cautious, we are no longer looking for problems to fix, but are focused on providing a background of information and understanding of our lake science so that we can proactively react should anything challenge lake health.

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LOBA: *Have there been any issues or concerns in recent years?*

DC: Lake of Bays water quality is excellent and holding its own. One of the challenges I've had has been hanging on to nearshore undeveloped sampling sites. Sadly, but perhaps inevitably, there are fewer and fewer stretches of undeveloped shoreline on this lake and I have had to discard sites that no longer qualify as undisturbed.

As lakes grow warmer it's going to change the chemistry of the water. No one has figured out why algae are changing, and we need to stay in front of it.

LOBA: *What have been the rewards of leading the water quality program?*

DC: While I groan on windy, wet mornings, there is nothing lovelier than to have a really good reason to get up and be out on the lake early on a summer morning. Working with great volunteers, especially the kids, who feel exactly about the lake as I do, has been particularly rewarding.

LOBA: *What is the biggest challenge to our water quality going forward?*

FG: Our water is changing. We are seeing more algae and aquatic plants and fewer crayfish. Is this a result of lower calcium? Higher temperatures? Climate change is likely our biggest challenge going forward.

MC: Climate change. As lakes grow warmer it's going to change the chemistry of the water. No one has figured out why algae are changing, and we need to stay in front of it.

DC: My emerging concerns centre around climate change and its potential impact on algae growth and the cold-water fishery, which is important to lake health and biodiversity.^{LOBA}