

OTTY LAKE

1976 - 2

POLLUTION CONTROL COMMITTEE

Dear Member and Neighbour;

Newsletter - March 76

Condition of the Lake

The most important development for Otty Lake in 1975 was the production of the Gold-Rogers-Beesley report we mentioned in the January newsletter. This report provided a bringing-together of a great deal of the data on the lake: just what was needed. Some of the observations in it are very sobering. For example:

"Total phosphorous values showed an increase from the 1971 survey " p. 33

"...may be classed as a mesotrophic lake" p. 35

"...threatened by further deterioration..." p. 38

The chart on page 32 indicates that, if the phosphorous values continue to rise from 1974 to 1977 at the same rate they rose from 1971 to 1974, Otty would be by 1977 in the same eutrophic state as Lake Erie is now.

Biology and Detergents

It is now plain that the biological (not the bacterial) health of Otty Lake is in a precarious condition, and that some drastic measures will be needed at once. This will come as no surprise to those of you who have known the lake for many years and who have been disturbed by the increasing evidence of weeds and slime in places where these were not found before. The cause of it is **PHOSPHOROUS** enrichment, and that comes from sewage and from detergents. The most harmful of all the detergents is dishwasher detergent, as its phosphate content is very high. So if anyone has a dishwasher at the lake, your executive advises : please take it back to the city at once. Carol Liberty is preparing some up-to-date information on detergents and expects to have it ready for distribution through the area counsellors early this summer.

Sewage Systems

As for the sewage systems, it is increasingly agreed that the worst of all types - at least in rocky cottage country - is the standard septic system. It does nothing to filter out phosphates, and so all of these find their way into the lake. Septic systems are easily overloaded on weekends and holidays, and the bacteria tend to starve in the mid week and, of course, during the winter.

Bill Schriever and Fred Green have completed their list of alternate systems. It is attached to this letter, and we urge everyone to study it and decide whether our own present systems are good enough. If you feel you cannot afford the safer systems that use a flush toilet, then perhaps you really ought to be using an outhouse. It is still one of the best, in terms of environmental compatibility, and offers considerable scope for architectural flair and individuality. (Perhaps we ought to have an annual contest for the best looking privy on the lake.)

It is still good advice to say to anyone who lives on the shore of a lake : MAKE LESS WASTE WATER !!!

Action from Governments

As most of you are well aware, authority is still spread among a large number of government departments and agencies. Your executive has been actively ensuring that all of them are fully aware of the biological health of Otty Lake, and seeking their support in concrete ways. We continue to receive strong support from the Lanark Land Division Committee and from the Rideau Valley Conservation Authority, whose chairman recently wrote that he " shares your concern in the serious deterioration ...the problem is simply one of overcrowding and inadequate sewage disposal."

But the powers that could be brought into play most easily to help Otty are possessed by the Ministry of the Environment and by the Township Councils. Your Chairman went to Toronto in January and saw the Minister, explained the nature of the problem, and requested assistance. The Townships of North Burgess and North Elmsley have also been contacted and had their attention drawn to the 1975 study and report.

We know what has to be done, and we also know that it will not be easy for some elected officials to seize the nettle. Briefly summarized, these are the needs:

1. A temporary pause in building within 300 meters of the shore, until means can be found for the lake to support our present or larger population.
2. Strict enforcement of the 50' regulation (all sewage systems at least 50' from the water).
3. Require new septic systems to be at least 100' from the water, and farther if rock and soil conditions indicate.
4. Consider a long range plan for the eventual elimination of septic systems.
5. Local governments should adopt and use minimum standards by-laws for sanitation.
6. Property Standards committees should be appointed in each township with OLPCC represented.
7. Sanitary inspectors should be appointed by the townships for Otty and other lakes.

With the exception of item 7, none of these would cost a cent to the townships or to the Ministry.

Your executive intends to pursue these requests with the two Townships this spring. Burgess meets the first Monday each month at Stanleyville, 8:00 p.m., and Elmsley, the first Tuesday, at Port Elmsley. See you there soon ?

Further News

The next newsletter will be due in May.

Membership dues for 1976 are being received by the Secretary-Treasurer, Anne Atkinson, at 885 Melwood Ave., Ottawa, K2A 3C4.

David E. Code,
Chairman, OLPCC.

SUMMARY OF

SEWAGE AND WASTE DISPOSAL SYSTEMS FOR COTTAGES

by F. D. Green and W. R. Schriever

There are many sewage and waste water disposal systems available today but only a few are capable of handling all the sewage output from a home or cottage on a fairly long-term basis. Others are portable and are limited to short-term (weekend) use and must be emptied frequently into a large sewage system. Any permanent system used in Ontario must be approved by the Ontario Ministry of the Environment.

The attached list, with comments and references where available, is divided into three sections. The first is a list of complete sewage systems - they handle all the sewage and waste water. The second section lists those units which handle human toilet wastes only - waste and wash water must be disposed of separately. This section includes both fixed and portable units such as can be used in a boat or trailer. The final section lists low water consumption toilets and transfer systems - systems to move waste water and sewage to a higher level and to a distant tank or settling bed.

The water sampling program of the last few years has shown that nutrient pollution (mainly from phosphates in phosphates and in human and animal wastes) presents a greater threat to our lake than bacteriological pollution. Although the permitted percentage of phosphates in laundry detergents have gradually been reduced and is now, by law, less than 5%, this is not the case for dishwasher detergents which are allowed to be high in phosphates. The use of dishwashers is therefore discouraged in any cottage or home on Otty Lake.

The list, although compiled to the best of our knowledge, is not necessarily complete or up-to-date. It is intended to serve as a guide only. Perhaps the reader will be able to supplement the information. Suggestions of corrections or additions to the lists and other comments will be welcomed by Fred Green (232-5950) and Bill Schriever (746-8040).

REFERENCES

1. Sanitation Manual for Isolated Regions, Fifth Edition, Dept. of Health and Welfare, Canada. Environmental Health Directorate, Health Protection Branch, Ottawa, 64 p. (free).
2. Septic Tank Systems, Ministry of the Environment, Information Services, 135 St. Clair Avenue, W., Toronto, Ontario, M4V 1P5. (free).
3. Keep It Clean. A manual for the preservation of the cottage environment. Pollution Probe, University of Toronto, Toronto 181, Ont. 47p. (free).
4. Guidelines for Steel and Reinforced Concrete Holding Tank. Private Waste and Water, Management Branch, Ministry of the Environment, Toronto, 6p. (free).
5. The Algal Bowl. Dr. John R. Vallentyne, Environment Canada, Fisheries and Marine Service. Available from Information Canada, (\$3.00).

Type	Approximate Cost	Energy Required and other details	Capacity	Remarks	Source or Reference
<u>SECTION I COMPLETE SEWAGE AND WASTE WATER SYSTEMS</u>					
<u>For individual Cottages or Homes</u>					
1. Aquarobic System (Accepted by Min. of Environment).	\$3000 or more + approx. \$100 service charge/year (prepaid for 10 years).	1000 watts motors and pumps	1000 gal. fibre-glass	Aerobic bubbler system supplied as a complete system with 10' x 12' filter bed. Has provision for phosphate removal	Waltec Industries Ltd., Wallaceburg, Ont. M8A 4L9
2. Monopure Cromaglas CA5 (Accepted by Min. of Environment).	\$2800 - \$3500 + service charge (\$100/year	1150 watts motors and pumps	380 gal. fibre-glass	Aerobic bubbler system-filter bed must be provided by owner. (Reduction in filter bed up to 2/3 of septic tile bed).	1. Northern Purification Services, Eastern Ltd., Box 854, Sta. B Willowdale, 2. G.H. Patterson, R.R. No. 2, Metcalfe, Ontario
3. Holding tank (Accepted by Min. of Environment, only to solve existing problems or under special conditions	\$600 - \$1000, buried \$1500.	50 watts (warning alarms)	2000 gal. steel or concrete	Must have warning alarm and be emptied when full; must be emptied in fall if not buried (\$30 to \$100 per time).	Refs. 2,3,4. Various Septic tank firms in Smith's Falls-Perth area. e.g. H. W. Anderson -Portland J. Martin - Westport J. Rogers - Perth
4. Standard Septic Tank (will be approved only if local conditions suitable	\$1000-\$2500	None	1000 gal. concrete or fibre-glass.	Slow-acting system - good filter bed must be provided (not recommended for rocky areas).	See Refs. 1 and 2 and sources under item 3 above.
<u>For groups of cottages there are larger aerobic systems, e.g. Biopure and N.P.S. Batch Pure (phone Fred Green)</u>					

Type	Approximate Cost	Energy required and other details	Remarks	Source or Reference
<u>SECTION II</u>				
<u>For Disposal of Human Waste Only (washwater from sinks and showers to be disposed of separately, e.g. by leaching pit).</u>				
1. Privy (outdoor)	Under \$100	Earth pit	One of the safest and least polluting systems if properly located and built.	See Ref. 2 and 3.
2. Humus toilet	About \$800	180 watts	Semi-dry, aerobic - reduces waste to dry powder. From Sweden	1. R.St. Amour, 1 Ste Ursule, Hull, Quebec 2. FDH Distributors, 2 - 192 Bank St., Ottawa, Ont.
3. Destroilet	About \$900	Bottled natural gas burner + 300 watts elec. power.	Indoor gas incinerator - needs good vent. Uses 1/5 lb. gas per burning cycle. May cause odors.	1. P.O. Box 5430, Postal St. A, 141-71st Ave., S.E., Calgary, 9, Alta. 2. Mannion Gas, 384 Montreal Rd., Vanier, Ont.
4. Incinolet	About \$800	Electric ($\frac{3}{4}$ to 1 kw hr per use)	Indoor electric incinerator. Ash emptied weekly to monthly. May cause odors.	Blankenship of Canada Ltd., 18 Canso Rd., Rexdale, Ont.
5. Bio-Flo Four (Sears, U. S. A.)	\$300-\$400	Said to be biological.	Bio-Flo cultures operate down to 50°F and can be shut down for long periods and restarted.	
6. Perdisan	\$150	Chemical (liquefies and deodorizes wastes and paper).	A chemical toilet must be emptied after 35-50 flushes into a standard sewer. It can sometimes be emptied into a cesspool if this is far enough from water and if soils are suitable.	1. James Brothers Hardware, Perth 2. San-Man Distributors, 1356 Princess, Kingston, Ont.

Type	Approximate Cost	Energy required and other details	Remarks	Source or Reference
<u>SECTION II (Cont.)</u>				
7. Aqua Magic III	\$70. U.S.A.	Chemical liquid	See No. 6	See No. 6
8. Pak-a-Potti (Sears)	\$90	Chemical liquid	"	"
9. Handi-Head	\$100	Chemical liquid	"	"
<u>SECTION III</u>				
<u>Minimum Flushwater Toilets, Transfer Systems and Miscellaneous Information</u>				
Flushomatic	\$90	Toilet only	A low water consumption flush closet, uses 1 qt water. Can be used on all standard water flush septic systems.	Sanitation Equipment Ltd., Rexdale, Ont. Sold by Canadian Tire and many others.
Suburban	\$100	Toilet only	Water saver toilet, flushes on 1 qt.	Rural Toilet Specialty Co.Ltd. 2615 Wharton Glen Ave., Cooksville, Ont.
Gauth Rid-All Transfer System	\$400	Sewage transfer tank and pump	Transfers all sewage under pressure to septic tank up to 100' higher and 500' away.	Gauth Sales & Service, 732 Kingston Rd., Toronto (698-3141)
Vacusan	\$600-\$1000	Sewage and waste water transfer	Can lift waste 500' and to over one mile distant.	Inquiries- Health Unit, P.O. Box 183, Perth, Ont. K7H 3E3.
Pressure Sewer		Grinder pump and transfer system	Can lift waste to large heights and distances, chops solids and delivers direct to tile bed.	Described in Civil Engineering (ASCE) May 1974.
Tile Bed	\$300-\$1000	For wash water and effluent.	Must be built according to recommendations.	Ref. 2, 3.
Leaching Pit	Under \$100	For wash water only	If built according to recommendations will not pollute bacteriologically.	Ref. 2, 3.