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Our Beaches in 1968*

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Water Pollution #44

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Our Beaches in 1968

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Background

Since 1965, there has been controversy about the subject of coliform bacteria in the water of the Lake Ontario beaches in the vicinity of Rochester. Until this summer, however, there has been general agreement about one aspect of this subject: the range of numerical values of the actual coliform counts. Whether data were obtained by the Federal Water Pollution Authority, the New York State Department of Health, the Monroe County Health Department, or the R.C.S.I., the pattern was the same: the counts fluctuated greatly from day to day, and even from spot to spot on a given beach and a given day; a substantial proportion of the counts have exceeded 2400. and counts in the tens of thousands have not been rare.

Conflicting Claims in 1968

This summer, however, conflicting results on coliform counts from Ontario Beach have been reported in the local press. The Monroe County Health Department has stated that the counts are much lower this year than in previous summers. Their highest single value was said to be 9000. The Monroe County Conservation Council, on the other hand, has reported much higher counts, with counts running in the tens of thousands, and has demanded strict enforcement of the closing of the beaches.

R.C.S.I. Results

We had not planned to do any beach monitoring this year. The beaches are officially closed, and we felt that the public was as well informed about the local pollution problems in the lake as could be expected. Late in the summer, however, because of the conflicting reports, we decided to make a series of observations. The results are presented in the accompanying table.

During the period of our observations, the coliforms were running strong at the beaches, especially during the later part of August. Grease balls were fairly common at Durand-Eastman. The Genesee River was found to be heavily contaminated on every occasion tested. Slater Creek, on the one date tested, was also heavily contaminated and we have doubts about the efficacy of chlorination at the Latta Road Sewage Disposal Plant (Town of Greece), which discharges into this creek. Slater Creek in turn discharges into the lake one mile west of Ontario Beach.

Discussion

Clearly, our results continue to follow the pattern of previous years. We do not find the improvement reported by the county authorities. We do not, however, have data for the earlier part of the summer.

We do not know how many tests the county has made, nor the dates of their tests. On several occasions, we have asked Dr. Wendell Ames, Director of Health, and Mr. Van Buren, the public relations representative, for a full report on the County's results. Each time, we have been promised the reports. So far, we have received nothing from them.

One point perhaps deserves some comment. The county uses the time-honored multiple tube dilution method to measure coliform organisms. We have used the newer membrane filter technique because it is faster and requires less equipment. Both methods are approved by the American Public Health Association. Both methods are subject to a number of recognized errors, and possibly some unrecognized ones. A number of studies have been done comparing the results of the two methods under a wide variety of field conditions. A great majority of these have reported favorably on the membrane filter method and have found it to have greater precision than the classical approach.

In one situation, the membrane filter method does give erroneously high results. Certain well waters have been found to contain a type of non-coliform organism (Aeromonas) which gives a false positive test. (Incidentally, there are other organisms which give false positives by the older method.) We are not aware that this type of organism has ever caused any problems in the testing of surface waters. We are planning, however, to examine this point by laboratory testing on local waters.

Conclusions

According to our results, high coliform counts still occur on Lake Ontario beaches. Tributary waters continue to show massive coliform pollution. Grease balls continue to wash up on our shores.

Recently, Dr. Ames has suggested that sea gulls are responsible for the coliforms in Lake Ontario. (In 1965, he thought it was swimmers, but we later found high counts during a cold spring season, where there had been no swimmers in the water for months.)

We note that sea gulls are not known to deposit grease balls at the waters edge, and that sewage plants do produce grease balls. Furthermore, it would take a heap of sea gulls to outproduce the hundreds of thousands of us humans whose coliform contributions are more or less directly piped into the waters of Lake Ontario in the Rochester embayment.

COLIFORM COUNTS ON LAKE ONTARIO BEACHES AND TRIBUTARY WATERS - 1968

<u>Date</u>	<u>Mouth of Slater Creek</u>	<u>Ontario Beach</u>	<u>Mouth of Genesee River</u>	<u>Durand-Eastman Beach</u>	<u>Shore west of Iron. Bay Mouth</u>	<u>North End of Iron. Bay</u>
Apr. 21				extensive grease balls		
Aug. 27		ca. 4,000	550,000	74,000		
Aug. 9 calm		swimmers 1,500	70,000	190,000		
Aug. 11 very windy		20,000	290,000	14,000		
Aug. 13		2,200	12,000	1,200		
Aug. 15		lots of algae 10,000	patches of foam 330,000	6,000		
Aug. 16		33,000	350,000	grease balls 1,500		
Aug. 24				swimmers East end: 25,000 28,000 West end: 37,000 50,000	5,400 6,900	11,000 10,000
Sept. 2	plates overgrown: much more than 100,000	samples at 40 yard intervals: 13,000 15,000 10,500 11,000	250,000 100,000	East end: grease balls ca. 1,400 31,000 West end: no grease balls 21,000 40,000	grease balls ca. 1,100	900 5,600