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Coliforms on Area Beaches - Spring 1967*

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COLIFORMS ON AREA BEACHES - SPRING 1967

In view of the continuing controversy over the pollution of the water at the local beaches, the Water Pollution Subcommittee has continued to take coliform counts at various locations on Lake Ontario and tributary waters. Results for the first five months of the year are summarized in the two accompanying tables.

During the late winter and early spring, the counts were consistently low. We felt that this might be due to improvements at the Pattonwood plant, (conversion to complete secondary treatment), and at the Durand-Eastman plant, (added chlorinating machines), and we were cautiously optimistic about the counts which might be expected this summer. It turns out that the caution was more justified than the optimism, since a considerable number of high counts have turned up during April and May. Based on the counts during these two months, it seems questionable, at best, whether the water at the beaches will meet legal standards for coliform counts, even though the standards have been somewhat relaxed by the recent amendments to the law.

These counts, made when the beaches were closed, should lay to final rest the hypothesis, originating from the County Health Department, that the high counts at the beaches were of "bather origin".

With one exception, the counts at the mouth of the Genesee River have been low to moderate. The same is true of the mouth of Little Pond. It is unfortunate that sampling from the vicinity of the Durand-Eastman sewage outfall is so inconvenient. On the one day tested, however, it is clear that the counts several hundred yards out from the shore, and downwind from the outfall, were of the same general magnitude as the counts at the shoreline. Again, the data agree with the idea that the coliforms at the beach come from the sewage outfall.

Conclusions and Comment. By now, it seems to us quite clear that the only credible source for the sporadic high coliform counts at the local beaches is the sewage that is discharged into the lake and tributary waters. By far the largest volume contributor in the vicinity is the Durand-Eastman plant. Furthermore, this plant provides only primary treatment, supplemented with chlorination.

Whether this level of sewage pollution constitutes a significant health hazard to swimmers is a question which, from a scientific standpoint, is still undecided. We continue to be concerned, however, about individuals swimming in water that gives coliform counts of the order of magnitude of 100,000, even though scientific evidence of disease resulting from this kind of exposure is lacking. (So far as we know, there are no studies that would give an estimate of any hazard that might be associated with swimming in water of this order of pollution.)

The New York State Department of Health has apparently decided that, scientific evidence or no, the beaches are likely to be unsuitable for swimming according to the legal standards, and that they therefore must not be opened. This represents a change in attitude on their part. Local authorities are reluctant to accept this decision, but seemingly have little choice in the matter.

We will continue to follow both the scientific and political developments on this matter, though we will continue to confine our announced judgments to the former.

Table 1

Date	Hamlin Beach	Mouth of Slater Creek (Little Pond Outlet)	Ontario Beach	Mouth of Genesee River**	Summerville Beach	Rock Beach	Durand-Eastman Beach west end	Durand-Eastman Beach east end	Irondequoit Bay Outlet	Webster Beach
Jan. 11					10				10	
Mar. 11			450				130		30	740
Mar. 12		190		8,500	580		290	30		
Mar. 18		0		2,900				2,500	0	
Mar. 25			30				70	30	30	
Apr. 22		360	3,800					4,300	42,000	
Apr. 29		80	3,500	12,000				3,400	1,600	
May 4		13,800	3,000	117,000	112,000			18,200	16,500	
May 20	730*	254,000	5,500*	12,000			3,400	5,200	900	
May 25			1,300	9,000	100,000***		19,000	14,400	700	

* average of two samples

** at the base of either the east or the west jetty

*** heavy grease ball deposits

Comments: Through March, the counts tended to run quite low, even in the places subject to more or less direct sewage pollution (mouth of Slater Creek, Genesee River, and Irondequoit Bay Outlet). In April and May, however, the counts have been much higher, both for the waters entering Lake Ontario and on the beaches themselves. On the basis of two low counts on the same day, Hamlin Beach is an exception. Over the years, the Monroe County Health Department records have quite consistently found low counts at Hamlin Beach. The sporadic high counts on Slater Creek, the Genesee River, and at the mouth of Irondequoit Bay would seem to indicate somewhat erratic disinfection of the sewage effluents discharged into these waters.

Table 2

Offshore waters. The following samples were collected on the 29th of April with the use of a boat. All are surface samples.

Irondequoit Bay

½ mile off NW shore	0
NE arm of Bay	100

Lake Ontario, off Durand-Eastman Beach. Slight NW breeze.

200 yards upwind from Durand-Eastman outfall	6,000
1 mile N of west end of beach (well upwind from outfall)	100
½ mile from beach	5,500
200 yards from beach	3,400
100 yard from beach	3,000
30 yards from beach	100

Lake Ontario, 2½ miles N of Ontario Beach < 100

Tributary streams (c.f. counts in Table 1 at the stream mouths)

Genesee River, at upwelling from Pattonwood Plant

Mar. 11	0
Mar. 12	200
May 20	100

Slater Creek, at Ling Rd. or Kirkwood Rd.

Apr. 22	0
Apr. 29	0
May 4	80
May 25	0

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