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Sewage Pollution of the Beaches of Lake Ontario*

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SEWAGE POLLUTION OF THE BEACHES OF LAKE ONTARIO

Past reports issued by the Committee have established the following facts: (1) The discharge of raw sewage containing solids by Rochester's Durand-Eastman plant and Irondequoit's Pattonwood and Summerville plants. (2) The sporadic occurrence of extremely high coliform counts on the public beaches on Lake Ontario. (3) The existence of wind and current patterns which carry floats from the vicinities of these outfalls onto the beaches. (4) The frequent appearance on the beaches of grease balls identical in appearance to those discharged in the effluents of the sewage treatment plants. In view of these facts, and in view of the recent decision of the County Health Director to permit opening of the beaches, it was felt that continued surveillance of the beaches and the sewage effluents was necessary. This report presents results obtained between May 19 and June 12.

The Summerville and Pattonwood sewage treatment plants have continued to discharge effluents which generally contain sewage solids and which generally contain no residual free chlorine. (Our previous reports have demonstrated that such sewage from these plants was not properly disinfected and contained living bacteria)

Float tests carried out during this period confirmed our previous conclusion that floating material carried by the Genesee River into the lake is very often returned to the beach.

Sewage grease balls in small amounts are found routinely on all of the beaches from Charlotte east beyond Webster. When the wind is onshore (NW to E), massive deposits of grease balls can be found; such deposits have been observed at Ontario Beach, Summerville Beach, the west end of Durand-Eastman Beach, and at Sea Breeze during the period covered by this report. Discharge of grease balls in large numbers from the Durand-Eastman plant continues. Chlorination of sewage containing solids does not result in reliable disinfection.

We conclude that the pollution of area beaches continues essentially unchanged; and that the principal sources of this pollution continue to be Rochester and Irondequoit, which discharge raw sewage and sewage solids into the Genesee River and Lake Ontario.

The material upon which the above statements are based is summarized in the technical appendix which follows.

TECHNICAL APPENDIX

A. Residual Free Chlorine Tests

Pattonwood Plant

- 20 May. Positive. Slight flow, a few grease balls
- 21 May. Negative. No visible upwelling; possibly not discharging.
- 22 May. Negative. Heavy flow, 3 condoms, lots of grease, paper, dung.
- 24 May. Positive. Grease balls, gray sediment.
- 26 May. Negative. Heavy flow, grease, gray sediment, particles.
- 28 May. Negative. Some sediment, paper, grease.
- 1 June. Negative. Gray sediment, heavy flow, some grease.
- 8 June. Negative. Foul smell, grease balls.
- 11 June. Negative. Gray sediment.
- 12 June. Negative. Light discharge, gray sediment.
- 14 June. Positive. Light discharge, grey sediment.

Summerville Plant

- 20 May. Positive. 4 condoms, grease balls as large as 1 inch in diameter.
- 21 May. Positive. Some grease.
- 24 May. Negative. No sign of flow. Some grease balls, no sediment.
- 1 June. Positive. Grease balls, dung present.
- 8 June. Positive. Foul smell, greaseballs.
- 11 June. Negative. Dung, condom, grease balls, toilet paper, grey sediment.
- 12 June. Positive. Heavy discharge of grey sediment, grease, small pieces of paper.

Durand-Eastman Plant.

- 14 June. Negative. (Tests made in lake water above outfall.) Numerous grease balls.

B. Float Tests

- 20 May. Put floats into river channel at ends of east and west jetties. Wind from 10°, mild. Grease balls were seen in the river channel. Most of these floats were recovered on Summerville beach on 21 May.
- 21 May. Floats put into river channel at base of east jetty. Wind from 340°. 2 condoms, grease balls in channel. On 22 May the wind was from 100°, and none of these floats were recovered.
- 22 May. Floats put into river channel at end of east jetty. Wind from 70°. Most of these floats were recovered on Summerville Beach on May 24.
- 22 May. Floats placed on sand near water's edge on Ontario Beach. These floats were not found on 24 May. Therefore failure to find floats on Ontario Beach does not establish that none reached the beach, since these floats were removed.
- 24 May. Floats placed in channel from west jetty. Wind from 280°. Noted 5 condoms, some grease balls in channel. These floats were not recovered.
- 11 June. Floats placed in channel from east jetty. Wind from 40°. 13 condoms, grease balls noted in channel. Most of these floats were recovered on Summerville Beach on 13 June.

C. Grease Balls on Beaches

- 19 May. Beach at Forest Lawn, Town of Webster. Grease balls found. Webster Park Beach, in front of bath house. Found several rice-grain size grease balls.
- 20 May. Summerville Beach. Very sparse deposit of small grease balls.
- 21 May. Ontario Beach. No grease. $\frac{1}{2}$ mile east of Webster Park Beach, $1\frac{1}{2}$ miles east of Webster Park Beach, $2\frac{1}{2}$ miles east of Webster Park Beach, and Ontario-on-the-Lake. Small deposits of grease balls were found on all these beaches among the pebbles and rocks. A half mile downwind from the Durand-Eastman outfall, about $\frac{3}{4}$ mile off the beach. A drifting band of grease balls and fecal matter was found. This band varied in width from 4 inches to about 2 feet, and was populated by grease balls sometimes 3 and 4 deep. Samples taken smelled strongly of raw sewage. Residual free chlorine tested negative. This band of grease balls was followed for about 2 miles east before it petered out. 16 condoms and numerous shreds of toilet paper were observed.
- 22 May. Summerville Beach. Small particles of grease at water's edge.
- 24 May. Ontario Beach. Sparse deposit of grease at water's edge.
- 28 May. Summerville Beach. Condom, a few grease balls. Water extremely turbid.
- 1 June. Ontario Beach. Some grease balls at water's edge. Very turbid water. Wind from 10° . Durand-Eastman Beach, west end. Grease

balls. Sea Breeze, 100 yards west of the mouth of Irondequoit Bay. Massive deposits of grease balls of all sizes. Grease balls seen in large numbers in the water.

- 8 June. Sea Breeze. Light deposit of grease balls about 3 feet from water's edge. Wind from 180° . Durand-Eastman Beach, west end. Sparse deposit of grease 3-5 feet from water's edge.
- 11 June. Sea Breeze. Wind from 40° . A few grease balls, some as large as marbles. Durand-Eastman Beach, bath house. A few grease balls, mostly rather small. Durand-Eastman Beach near Titus Ave., King's Highway sign. Quite a few grease balls back about 20-30 feet from water's edge, a few at the water's edge. Durand-Eastman Beach, west end. A dense, broad drift of grease about 40 feet from water's edge, lots of other deposits nearer the water. Summerville Beach near Harbor Square. Large drifts of grease balls about 40 feet from the water's edge.
- 12 June. Ontario Beach. Large drifts of grease balls much of the length of the beach. Much of the beach had been raked in the areas where small grease balls were found. Wind from 200° . Water turbid.
- 13 June. Summerville Beach. Extensive mass of floating grease balls and dead fish at base of east jetty directly in front of Coast Guard Station.

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