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Fecal Pollution of Densmore Creek and Streams in the Town of Greece*

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### FECAL POLLUTION OF DENSMORE CREEK AND STREAMS IN THE TOWN OF GREECE

We demonstrated previously the fecal pollution of Densmore Creek from a storm-sanitary sewer overflow owned by the City of Rochester; data presented in this report show that the pollution of the upper reach of Densmore Creek continues unabated, but that the Norton Street chlorination station and Irondequoit's Southeast Plant on Densmore Creek do not appear to be sources of bacterial pollution. Earlier reports showed massive fecal pollution of Slater Creek by the Latta Road sewage treatment plant of the Town of Greece; we find at present that the lower reaches of Slater Creek are heavily polluted with phosphate and sludge, that this portion of the creek is plagued with nuisance odors, and that it is sporadically polluted with undisinfected sewage. Furthermore, total coliform counts in the upper reaches of Slater Creek and in several other streams in the Town of Greece are in excess of the maximum regarded as permissible by public health authorities. Greece's Island Cottage Plant on Round Pond Creek was not found to be a source of bacterial pollution.

#### Background

Total coliform (fecal bacteria) counts were taken by the membrane filter method. Counts appreciably in excess of 2400 per 100 ml. are regarded by New York State law as indicating the presence of undisinfected fecal matter in the water from which the samples were taken. The discharge of high concentrations of phosphate (a plant fertilizer) into Lake Ontario is believed to be the major factor responsible for "pea soup" growths of algae in the lake and massive algae wash-ins on area beaches. The principal source of phosphate in area waters is sewage which has not been treated to remove this plant nutrient. We use the molybdenum blue colorimetric method for the determination of phosphate.

#### Data and Observations

Tests were run on samples taken at the following sites on the dates indicated.

Location	Date	Coliforms/100 ml	Other tests
Densmore Creek at Culver Road, upstream from Norton St. chlorinator	29 Oct 67	10,000	Ortho PO <sub>4</sub> 0.5 ppm
		20,000	" " 0.3
	4 Nov	170,000	" " 1.4
Densmore Creek just downstream from Norton St. chlorinator	29 Oct	0	Free chlorine positive
	4 Nov	0	" " "
Densmore Creek at Bayshore Rd., downstream from Irondequoit's SE plant	29 Oct	0	Ortho PO <sub>4</sub> 0.5 ppm
Slater Creek at English Rd.	3 Dec	1,400	
Slater Creek at McGuire Rd.	3 Dec	11,000	

Location	Date	Coliforms/100 ml	Other tests
Slater Creek at Dewey Ave., upstream from Greece's Latta Rd. plant	11 Nov	1.5 million	Dissolved oxygen 10 ppm
	14 Nov	19,000	
		18,000	
Slater Creek at Ling Rd., downstream from Greece's Latta Rd. plant	3 Dec	13,000	
	4 Nov	79,000	Dissolved oxygen 7 ppm
	11 Nov	0	Ortho PO <sub>4</sub> 5.0 ppm Dissolved oxygen 6 ppm
Slater Creek at railroad bridge near Russell Station	3 Dec	0	
	11 Nov	0	
Mouth of Slater Creek at Little Pond	4 Nov	0	
	11 Nov	3,400	
	3 Dec	0 300	
Round Pond Creek at English Rd.	3 Dec	5,300	
Round Pond Creek at Island Cottage Rd.	11 Nov	4,000	
Round Pond Creek at Expressway (downstream from Island Cottage plant)	11 Nov	0 0	
Paddy Hill Creek at Maiden Lane	3 Dec	3,600	
Paddy Hill Creek at English Rd.	3 Dec	14,000	
Kirk Creek at English Rd.	3 Dec	62,000	
Genesee River, mouth at base of West Jetty	3 Dec	39,000	

Foul, fetid odors were noted at both Slater and Densmore Creeks. On 4 November Slater Creek was black with suspended sludge, and pulped toilet paper and grease balls were seen in the water. On 11 November and again on 3 December numbers of small grease balls were seen in the creek and the turbidity was high downstream from the Latta Road plant; upstream the water was clear and free from grease balls. Samples of water taken from Slater Creek downstream from this plant were shaken; a good "head" of suds developed, indicating the presence of detergents which had not been removed by the plant. The creek is choked with beds of black, foul-smelling sludge. No aquatic life was evident.

On 29 October and 4 November toilet paper was seen in the water and on the bushes at Densmore Creek.

#### Conclusions and Comments

Slater Creek is massively polluted with sludge, bacteria (sporadically), grease balls, and phosphate discharged from Greece's Latta Road plant. The creek

discharges into Lake Ontario in the immediate vicinity of a Monroe County Water Authority plant and 1.2 miles west of Ontario Beach. (This beach was closed last summer because of sewage pollution.) The polluted reaches of the creek pass near a children's playground, and the creek waters (much diluted by RG & E cooling water) at the outlet to the lake are fished extensively.

It is of interest that over a year ago the County Health Department ruled that the Latta Road plant could not take any more sewer line connections because it was overloaded. (Democrat and Chronicle, 13 May, 1967) Greece's two sewage plants (Latta Road and Island Cottage) have a total capacity of 3.9 million gallons per day. (Report on Sewage Treatment Facilities for City of Rochester, New York, Black and Veatch, 1967) Engineers generally figure on an average per capita volume of sewage of 100 gallons per day. The present population of Greece is about 70,000. Thus, on an average day a flow of about 7 million gallons could be expected if all the population were sewered.. Some, of course, are on septic tanks, and must continue with this type of treatment until adequate sewage plants are available. The use of septic tanks is not advisable in populous areas. The samples taken from Slater Creek upstream from the Latta Road plant, and from Paddy Hill Creek, Round Pond Creek, and Kirk Creek, indicate the presence of undisinfected fecal pollution. Probable sources are leaky sewer lines, illegal hook-ups to storm sewers, and/or faulty septic tanks. The sizes of some of the counts, the fact that portions of these streams flow through residential areas, and the fact that the water does not appear polluted to the casual observer make the situation a cause for some concern.

We note that George Badgerow, Supervisor of the Town of Greece, is a member of the County Pure Waters Agency.

The City of Rochester continues to pollute Densmore Creek from Culver Road to Norton Street with sewage bacteria, and we believe that parents should keep their children from playing in the water in this reach of the creek.

The high coliform count obtained at the mouth of the Genesee is presumably due to discharges from the thirty overflows to Rochester's combined storm-sanitary sewer system which discharge into the Genesee River.

What evidence we have indicates that the Norton Street Chlorinator and Irondequoit's Southeast Plant on Densmore Creek, and Greece's Island Cottage Plant on Round Pond Creek are functioning effectively.

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Water Pollution Subcommittee