



*Rochester Committee
for Scientific Information
Rochester, NY*

*RCSI Bulletin 59
Survey of Sandy Creek (Western Monroe County)*

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November 1969*

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Summary

Sandy Creek flows northward from headwaters south of Redman Road, receives the effluent of the Hamlin sewage treatment plant and after passing beneath the Lake Ontario Parkway, enters Lake Ontario at the Brockport Yacht Club, which has a beach adjacent to the mouth. Fourteen stations from the Redman Road to the Lake Ontario beach were sampled on July 12, 1969. The principal conclusions reached after a study of microbiological and chemical conditions were:

1. Sandy Creek is highly fertilized in terms of phosphate; the amount of nitrate is uncertain on the basis of these determinations, but it does not appear to be as significant as the phosphate content.
2. The oxygen level of the stream is below the lethal limit in the slack water of the stream estuary below the Parkway bridge. At most other places, the level is relatively high and satisfactory for aquatic insects, plants and fish.
3. No heavy pollution by untreated human sewage (based on the coliform count) was detected. Counts of a few thousand at three sites may indicate local septic tanks which are not functioning properly. The point of most concern is the mouth of the creek adjacent to the Brockport Yacht Club beach.
4. The Hamlin treatment plant appears to be doing an excellent job of secondary treatment, but it is a major contributor of phosphate to the stream and the adjacent lake. In addition, some time and distance is required before the organic matter from the plant (measured as BOD) is consumed or settled; meanwhile the oxygen level of the stream is reduced. During low water the condition could be harmful.
5. Unsightly trash and litter were observed at several stations, including the Hamlin dump.

Condition of Sandy Creek

<u>Station</u>	<u>coliform/100 ml</u>	<u>phosphate*</u> <u>ppm</u>	<u>nitrate</u> <u>ppm</u>	<u>O₂</u> <u>ppm</u>
Redman Road	2 x 10 ³	1.1		
Brick Schoolhouse Road (Hamlin Dump) suds, trash, leaching from dump	less than 1 x 10 ³	1.1	.03	
Outflow Hamlin treatment plant (clearer than stream)	less than 1 x 10 ²	more than 10.0		

<u>Station</u>	<u>coliform/100 ml</u>	<u>phosphate*</u> <u>ppm</u>	<u>nitrate</u> <u>ppm</u>	<u>O₂</u> <u>ppm</u>
5 yards downstream	2×10^3	2.6		
Church Road	1×10^3	.95	0.6	
North Hamlin Road (upstream).	8×10^3	.9	0	12.0 (saturated)
North Hamlin Road (downstream)	less than 1×10^2	.80	0	
East Fork, Lake Road (upstream) fenced side clean; public side with cans, bottles, etc.	4×10^3	.6	0	
East Fork, Lake Road (under bridge)	2×10^3	.7	.2	9
Sandy Creek estuary (200 yards down from previous station)	less than 1×10^3	.8	.15	3
Estuary, right bank opposite 338 Westphal Drive shore littered with beer cans	less than 1×10^3	.8	.5	3
Lake Ontario Parkway	3×10^3	.6	0	.6
Outlet of Sandy Creek	9×10^3	.35	0	9
Brockport Yacht Club Beach	less than 1×10^2	.2		

* These figures represent orthophosphate, or unchained phosphates, NOT total phosphate. Some chemical fertilizers contain orthophosphate. For the most part orthophosphate figures represent only the part of the chained phosphates which are present in superphosphate fertilizer, detergents and in organic matter, but it is an index of the amount readily available for growth. Hence, the phosphate pollution of Sandy Creek is probably worse than the survey method indicates.

The result of phosphate fertilization is luxuriant plant growth, which in time may decay and this organic matter cause a consumption of dissolved oxygen in the decay process.

The full report of survey is available in the files of the Water Pollution¹¹ Sub-Committee of the R.C.S.I.