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Seneca Creek and Adjacent Waters of Canandaigua Lake*

*By: Herman Forest, William Gavett, Regina Stewart, & David Wilson
November 1969*

THE ROCHESTER COMMITTEE FOR SCIENTIFIC INFORMATION
P. O. Box 5236, River Campus Station
Rochester, New York 14627

Water Pollution #10

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Note

R.C.S.I. Bulletin of August, 1969 discussed the issues involved in the preservation of environmental standards of Canandaigua Lake. The focal point of current controversy is the effluent from a proposed treatment plant for Bristol Harbour Village (ultimately about 1300 people), but the more comprehensive question is the conflict for resource use in the entire lake basin during the next generation.

R.C.S.I. feels that this is an important opportunity for the education of the public to participate in decisions on broad and long-range environmental issues. Therefore, reconnaissance was undertaken of Seneca Creek and adjacent waters of Canandaigua Lake. This limited report is intended to establish the condition as it is now.

Summary

Seneca Creek is an intermittent stream, which is dry from late summer to late fall. During this time the effluent from the proposed plant would constitute the entire visible flow of the stream (a small amount of water flows underground through the loose bed of the stream). At the height of flow, in late spring for example, the stream is in excellent condition: low in nutrients, free of fecal contamination and high in oxygen level.

Canandaigua Lake at the outlet has a very steep bottom except for a narrow shelf area, particularly to the south. Vegetation in the small embayment to the south is quite varied but not luxuriant, and deeper bottom muds show evidence of fertility. The water in fall was in good condition, biologically, chemically and physically.

Seneca Creek May 25, 1969

100 ft. west of bridge by Walter Benham's residence

<u>Biota</u>	<u>Coliform</u>	<u>Ortho-phosphate</u>	<u>nitrate</u>	<u>oxygen</u>
insect larvae (mayflies, caddis flies) crustacea (crawfish, etc.) small fish up to 2"	less than 2×10^2	0.2 ppm	negative	10 ppm
Mouth of Seneca Creek	less than 4×10^2			9 ppm

Canandaigua Lake October 11, 1969

Summary of 10 stations within 100 yards of outlet

<u>Biota</u>	<u>Coliform</u>	<u>Ortho-phosphate</u>	<u>Nitrate</u>	<u>Oxygen</u>
rooted aquatics, about 1 plant/sq. yard depth 5-14 feet at least 6 species	negative	.25 ppm (est.)		10 ppm
coating of blue-green algae 10-25 feet*				

No suspended solids were present, transparency was good (Secchi disc reading, 22 feet), and no odor, taste or turbidity were detected.

*The vegetation is not abundant in comparison with a very fertile lake such as Conesus, but it is relatively well developed for Canandaigua. Two physical conditions should be noted:

1. There is extremely little plant growth near shore because the combination of gravelly base and wave action simply "chews them up".
2. Seneca Point is a small delta extending into the very deep lake so that waters discharged by the stream would probably be dispersed rapidly by wind and current. However, there appears to be a small embayment area just to the south of the stream mouth.

The green alga Cladophora, which appears to be one of the best single indicators of over fertilization, is entirely absent from both the Creek and the Lake area adjacent to its mouth.