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THE

ONTARIO WATER RESOURCES

COMMISSION

WATER POLLUTION SURVEY

of the

VILLAGE OF SUTTON

COUNTY OF YORK

VILLAGE OF SUTTON 1966  
COUNTY OF YORK

1966

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Report on a water pollution  
survey of the village of Sutton,  
county of York /

80500

ONTARIO WATER RESOURCES COMMISSION

REPORT

on a

WATER POLLUTION SURVEY

of the

VILLAGE OF SUTTON

County of York

February 1966

Prepared By

DIVISION OF SANITARY ENGINEERING

## INDEX

	<u>PAGE NO.</u>
INTRODUCTION	1
I GENERAL	1
II WATER USES	2
(1) Municipal Water Works	2
(2) Recreational	3
III WATER POLLUTION	3
(1) Sanitary Waste Disposal	3
(2) Refuse Disposal	4
(3) Industrial Waste Disposal	4
(4) Discussion of Laboratory Results	5
IV SUMMARY	5
V RECOMMENDATIONS	6
TABLE I - BLACK RIVER SAMPLES	
TABLE II - LAKE SIMCOE SAMPLING POINT	
TABLE III - OUTFALL LOCATIONS AND SAMPLE RESULTS	
MAP	

# ONTARIO WATER RESOURCES COMMISSION

## REPORT

### INTRODUCTION

The field investigations necessary to accomplish a water pollution survey of the Village of Sutton, were made on March 19 and October 19, 1965. The purpose of the survey was to locate and record all significant sources of water pollution within the Village of Sutton. Surveys of this nature are conducted routinely and upon request throughout the Province of Ontario by the Ontario Water Resources Commission as a basis for evaluating any existing or potential sources of pollution.

Recommendations are made pertaining to water pollution abatement and the Commission expects that corrective measures will be taken by those concerned.

### I GENERAL

The Village of Sutton with an assessed population according to the Ontario Department of Municipal Affairs 1965 Municipal Directory of 1,423 is situated on the south shore of Lake Simcoe approximately 55 miles north of Metropolitan Toronto.

Two main top soils Emily loam and Tecumseth sandy loam prevail in the municipality. The Emily series is the imperfectly drained member of the Otonabee catena. Profiles having both Brown Forest and Grey-Brown Podzolic characteristics are common. Emily loam occurs in the Sutton area. Although water percolation is moderate,

runoff is slow, resulting in an imperfectly drained soil.

A fairly large proportion of the soils of York County has developed on well sorted sandy materials deposited by still or slowly moving water. These outwash materials assume the form of sand bars, outwash plains or beaches. The Brighton catena has developed on high lime sands and consists of well drained Brighton series, the imperfectly drained Tecumseth series and the poorly drained Granby series. Tecumseth sandy loam is characteristic of the Grey-Brown Podzolic soils. Water percolates at a fair rate through the profile but runoff is low.

Drainage for the village is provided by the Black River which empties to Lake Simcoe.

Economically small industry and business enterprises in addition to the tourist trade are the main sources of revenue for the municipality.

## II WATER USES

### (1) Municipal Water Works

The village is serviced by a municipal water works system. Water is obtained from Lake Simcoe and is treated by chemical coagulation, settling, filtration, and chlorination prior to distribution. The clear water well at the treatment plant has a capacity of approximately 30,000 gallons and in addition a 200,000 gallon stand-pipe rides on the distribution system.

Water pumpages for the year 1964 indicated a total consumption of 40,857,500 gallons and an average daily usage of 111,632 gallons.

The chemical and bacteriological quality of the water and the plant operation is generally satisfactory.

(2) Recreational

Extensive recreational use is made of Lake Simcoe and to a minor extent the Black River. The waters appear ideally suited for all sorts of water sports.

III WATER POLLUTION

(1) Sanitary Waste Disposal

The Village of Sutton is serviced in part by a sanitary sewer system with treatment of the wastes provided in a waste stabilization pond. The pond effluent is discharged to a small watercourse which is tributary to Lake Simcoe.

That part of the village not serviced by sanitary sewers depends on private individual sewage disposal systems. These systems usually take the form of a septic tank and subsurface tile field. The York County Health Unit reports that the sewage disposal systems installed under their supervision have continued to operate satisfactorily.

Storm sewers and open ditches provide drainage for surface runoff water within the village. There were no dry-weather flows noted in the storm sewers and a macroscopic examination of the



ditches revealed the liquid contents to be clear and innocuous.

Future Extension - Presently a very limited area of the village is serviced by sanitary sewers. Municipal officials should give consideration to providing extensions to the sewer system. Future development within the municipal unit should only be approved where sanitary sewers are available.

(2) Refuse Disposal

Refuse from the village is disposed of at the Township of North Gwillimbury refuse disposal site. This site appears satisfactory from a water pollution perspective but the York County Health Unit reports that it is not satisfied with the sanitary qualities of the site.

(3) Industrial Waste Disposal

There is no heavy industry established in the Village of Sutton therefore industrial wastes do not present a critical pollution problem. However, one industry, Briar's Dairy Limited has recently corrected a pollution problem caused by the discharge of dairy wastes to the Black River. The dairy has secured a connection to the sanitary sewers eliminating this pollution problem. Cooling water from this industry is discharged to the Black River. The chemical quality of this water is within the Commission's wastewater objectives and therefore is suitable for discharge to a watercourse.

#### (4) Discussion of Laboratory Results

The chemical analyses and bacteriological examination of the samples collected from the Black River have shown the water quality to be within the Commission's objective, which is satisfactory. The York County Health Unit collected samples from Lake Simcoe at Jackson's Point Park. The bacteriological examination of these samples reveal the water quality to be satisfactory.

Samples were obtained from the Village of Sutton Waste Stabilization Pond final effluent and submitted to the OWRC Laboratory for chemical analyses and bacteriological examination. The chemical quality of the effluent was satisfactory. There were 22,700 coliform organisms per 100 ml in the sample which may indicate the need for chlorination of the final effluent for disinfection purposes.

#### IV SUMMARY

A water pollution survey was made of the Village of Sutton. The field investigations were made on March 19 and October 19, 1965.

The village is serviced by a municipally owned water and sewage works system. The chemical and bacteriological quality of the water and the operation of the water works appears satisfactory. The lagoon used to stabilize the sanitary wastes from the village appears to be achieving a satisfactory reduction in 5-Day BOD and suspended solids. The bacteriological quality of the effluent may indicate the need for chlorination for disinfection purposes.

The water quality of Lake Simcoe and the Black River is a reflection of the satisfactory degree of pollution control exercised in the village. Municipal officials should continue their efforts in this regard by giving consideration to the extension of the sanitary sewer system. This sewer system should be provided future development within the Village of Sutton.

V RECOMMENDATIONS

1. The Village of Sutton should give consideration to the extension of the sanitary sewer system.
2. The Village of Sutton should continue its efforts at water pollution prevention.

All of which is respectfully submitted,

/elb

Approved by \_\_\_\_\_  
C.E. McIntyre, P.Eng.,  
District Engineer,  
Div. of Sanitary Engineering.

Prepared by: Mr. D.A. Murray Wilson,  
Engineer's Assistant.

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TABLE I

BLACK RIVER SAMPLES

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ML</u>
BR-2.2	Black River up-stream from the Village of Sutton at Dalton Road.	Oct.19/65	1.8	228	2	226		76
BR-2.0	Black River at High Street.	Sept.19/62	3.1	188	-	-	3.6	730
		May 30/63	2.5	282	-	-	3.8	1,820
		Nov.16/64	1.3	234	3	231		1,200
		Oct.19/65	1.2	246	2	244		94
BR-0.2	Black River at Hedge Road.	Sept.19/62	3.8	174	-	-	4.5	150
		May 30/63	2.5	312	-	-	3.1	330
		Nov.16/64	1.5	238	1	237		2,000
		Oct.19/65	1.5	244	4	240		134

TABLE II

LAKE SIMCOE SAMPLING POINT

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>MPN per 100 c.c.</u>	
			<u>Total Coliforms</u>	<u>E. coli</u>
S-1	Lake Simcoe at	July 13/65	93	23
	Jackson's Point	July 19/65	43	23
	Park (York County	July 27/65	750	23
	Health Unit	Aug. 5/65	230	0
	Collecting Agency).	Aug. 12/65	230	230
		Aug. 16/65	230	230

TABLE III

OUTFALL LOCATIONS AND SAMPLE RESULTS

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Solids Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ML</u>
BR-2.2 D	Ditch Draining South-East Section of Sutton.	Oct.19/65	No Flow Noted					
BR-2.2 W	12" Ø Concrete Storm Sewer at Dalton Road East of the Base Line.	Oct.19/65	No Flow Noted					
BR-2.1 D	Ditch Discharging to the Black R.	Oct.19/65	No Flow Noted					
BR-2.0 S	Overflow Sewer from Sewage Pumping Station.	Mar.19/65	No Flow Noted					
		Oct.19/65	No Flow Noted					
BR-2.0 W	24" Ø Concrete Storm Sewer at High Street.	Mar.19/65	Flow Insufficient For Sampling					
		Oct.19/65	Flow Insufficient For Sampling					
BR-1.9 P	6" Ø Glazeatle at Market Street.	Mar.19/65	No Flow Noted					
		Oct.19/65	No Flow Noted					
BR-1.8 D	Ditch Draining East Section of Sutton.	Mar.19/65	Flow Insufficient For Sampling					
		Oct.19/65	Flow Insufficient For Sampling					
BR-1.7 I	8" Ø Cast Iron Industrial Waste Outlet.	Oct.19/65	Cooling Water Only					

TABLE III -2

OUTFALL LOCATIONS AND SAMPLE RESULTS

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>Solids Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Turbidity in Silica Units</u>	<u>M.F. Coliform Count/100 ML</u>	
S-2	12" $\emptyset$ Concrete Storm Sewer Just East of Sedore Ave. at Lake Simcoe.	Oct.19/65	No Flow Noted						
S-3	10" $\emptyset$ Concrete Storm Sewer at Sedore Ave. and Lake Simcoe.	Oct.19/65	No Flow Noted						
S-4 T	Sutton Waste Stabilization Pond final effluent.	Oct.19/65	3.8	599	14	580		22,700	