DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	ROCHESTER RESERVOIR	Lake Area (ha):	22.66
Town:	ROCHESTER	Maximum depth (m):	6.8
County:	Strafford	Mean depth (m):	3.9
River Basin:	Coastal	Volume (m^3):	894000
Latitude:	43°17'20" N	Relative depth:	1.3
Longitude:	71°02'32" W	Shore configuration:	1.72
Elevation (ft):	375	Areal water load (m/yr):	68.40
Shore length (m):	2900	Flushing rate (yr^{-1}):	17.30
Watershed area (ha):	2654.7	P retention coeff.:	0.30
% watershed ponded:	1.8	Lake type:	artificial

BIOLOGICAL:		12 March 2001	12 July 2000
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 80%	SYNURA 52%
	#2		TABELLARIA 21%
	#3		ASTERIONELLA 14%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			2.70
DOM. ZOOPLANKTON (% TOTAL)	#1	ROTIFER SPP. 44 %	VORTICELLA 67%
	#2		KELLICOTTIA 10%
	#3		HOLOPEDIUM 8%
ROTIFERS/LITER			74
MICROCRUSTACEA/LITER			109
ZOOPLANKTON ABUNDANCE (#/L)			555
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			2.4
BOTTOM DISSOLVED OXYGEN (mg/L)		8.0	0.4
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.8
Hypolimnion volume (m^3) : 87500
Anoxic volume (m^3) : 2750

CHEMICAL:

Lake: ROCHESTER RESERVOIR
Town: ROCHESTER

	12 March 2001		12 July 2000		
DEPTH (m)	2.0	4.0	1.0	4.0	6.0
pH (units)	5.6	5.4	6.0	5.8	5.4
A.N.C. (Alkalinity)	1.8	1.6	1.3	1.2	1.2
NITRATE NITROGEN	0.12	0.07	< 0.05	< 0.05	< 0.05
TOTAL KJELDAHL NITROGEN	0.18	0.17	0.29	0.32	0.34
TOTAL PHOSPHORUS	0.008	0.008	0.008	0.006	0.090
CONDUCTIVITY (μmhos/cm)	53.1	51.3	46.1	48.1	54.7
APPARENT COLOR (cpu)	55	55	28	28	27
MAGNESIUM			0.47		
CALCIUM			1.5		
SODIUM			5.2		
POTASSIUM			0.41		
CHLORIDE	9	8	8	9	11
SULFATE	5	5	3	3	4
TN : TP	38	30	36	53	4
CALCITE SATURATION INDEX					

All results in mg/L unless indicated otherwise

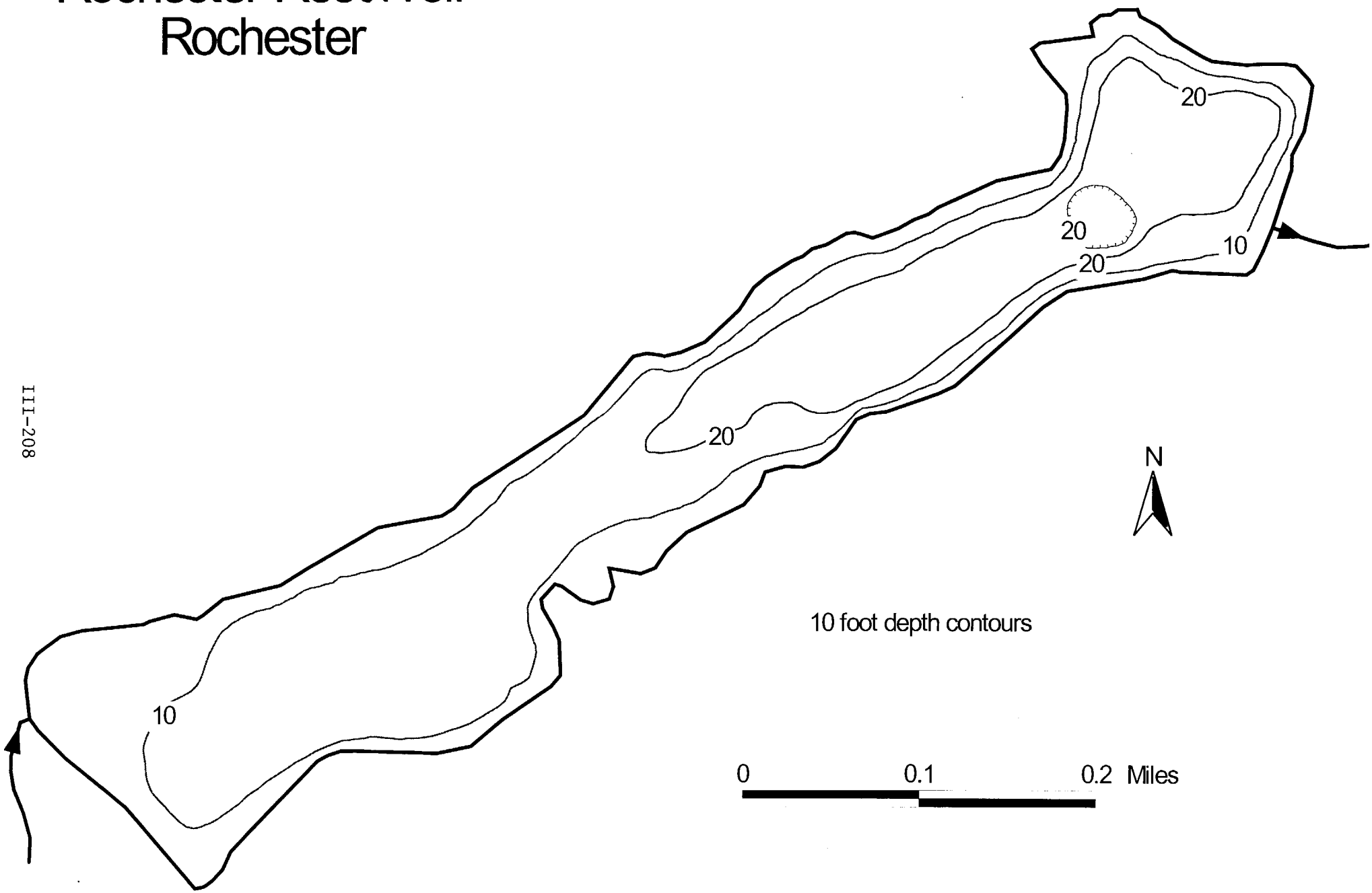
TROPHIC CLASSIFICATION: 2000

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
3	3	0	0	6	Oligo.

COMMENTS:

1. This reservoir is part of the water supply system for the City of Rochester.
2. No motors allowed.
3. At the time of the summer sampling the water had a musty taste and odor, probably due to the dominant net phytoplankter *Synura*. The next most abundant algal genera included *Tabellaria*, *Asterionella* and *Anbaena*, all taste and odor producing algae.
4. No development around the reservoir except the water filtration plant.

Rochester Reservoir
Rochester



FIELD DATA SHEET

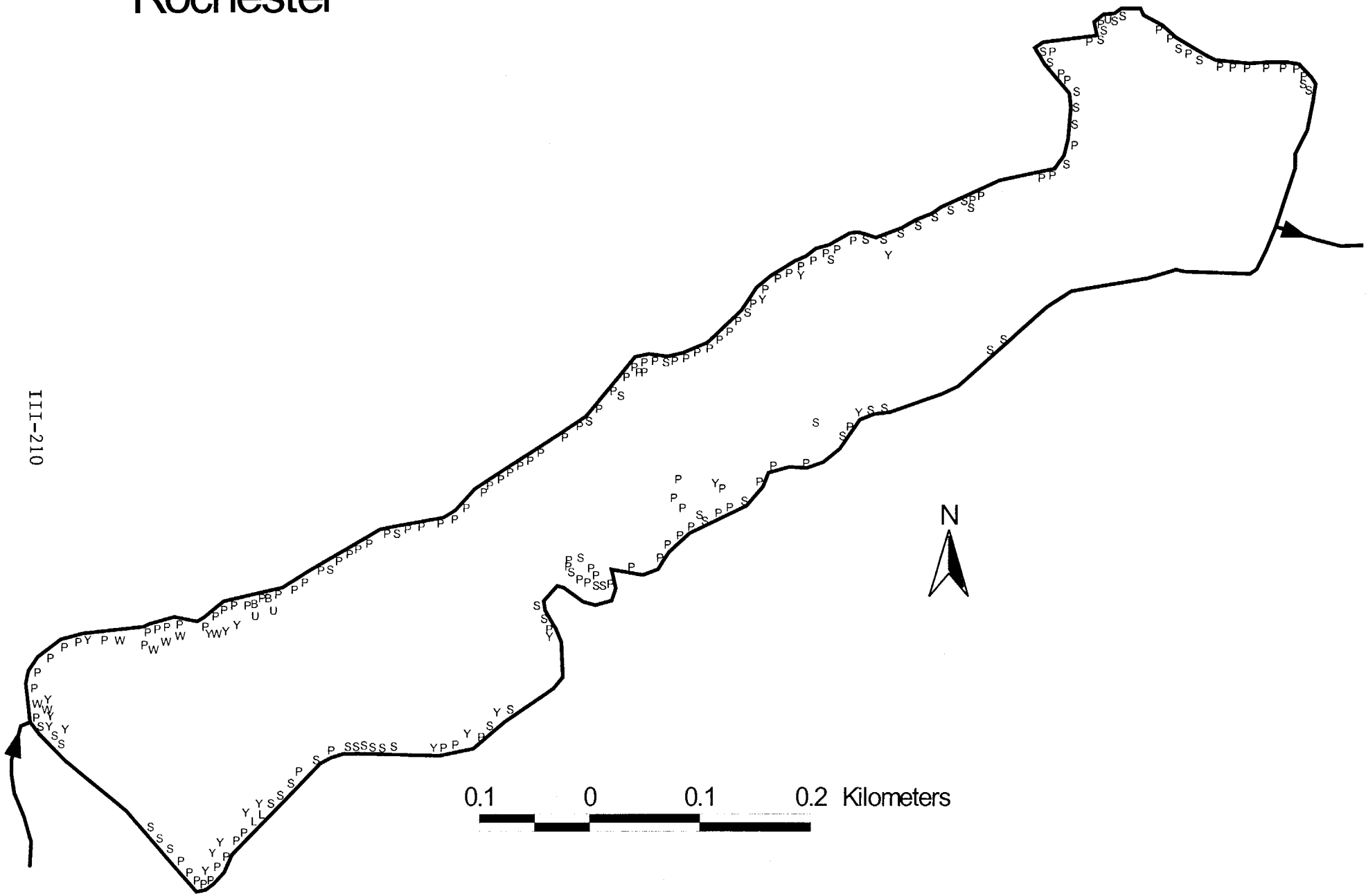
LAKE: ROCHESTER RESERVOIR TOWN: ROCHESTER
DATE: 07/12/2000 WEATHER: sunny, windy

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	24.4	7.0	84 %
	1.0	23.9	7.0	83 %
	2.0	23.4	6.9	81 %
	3.0	21.6	5.9	67 %
	4.0	16.8	4.2	44 %
	5.0	13.5	3.2	31 %
	6.0	12.1	1.8	17 %
	6.5	11.7	0.4	4 %

SECCHI DISK (m): 2.4 COMMENTS:
BOTTOM DEPTH (m): 6.8
TIME: 1130

*Dissolved oxygen values are in mg/L

Rochester Resevoir
Rochester



AQUATIC PLANT SURVEY

LAKE: ROCHESTER RESERVOIR TOWN: ROCHESTER DATE: 07/12/2000

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerelweed	Sparse
S	Sparganium	Bur reed	Sparse
U	Utricularia	Bladderwort	Sparse
Y	Nuphar	Yellow water lily	Sparse
B	Brasenia schreberi	Water shield	Sparse
T	Typha	Cattail	Sparse
W	Potamogeton	Pondweed	Sparse
L	Lobelia dortmanna	Water lobelia	Sparse
	Myriophyllum	Native milfoil	Sparse

OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

1. Bladderwort was probably more common along the bottom than indicated on the map. It was a windy day and difficult to see into the water.