

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GREAT EAST LAKE	Lake Area (ha):	690.68
Town: WAKEFIELD	Maximum depth (m):	31.0
County: Carroll	Mean depth (m):	10.9
River Basin: Coastal	Volume (m ³):	75589500
Latitude: 43°34'51" N	Relative depth:	1.0
Longitude: 70°58'28" W	Shore configuration:	3.11
Elevation (ft): 573	Areal water load (m/yr):	3.40
Shore length (m): 29000	Flushing rate (yr ⁻¹):	0.30
Watershed area (ha): 4273.5	P retention coeff.:	0.73
% watershed ponded: 1.5	Lake type:	natural w/dam

BIOLOGICAL:

27 January 1993

28 August 1992

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 65%	ASTERIONELLA 35%
	#2	ASTERIONELLA 30%	MICROCYSTIS 30%
	#3		SYNURA 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)			340
CHLOROPHYLL-A (µg/L)			1.82
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	NAUPLIUS LARVA 39%
	#2		DAPHNIA 35%
	#3		
ROTIFERS/LITER		3	3
MICROCRUSTACEA/LITER		6	28
ZOOPLANKTON ABUNDANCE (#/L)		11	31
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			9.6
BOTTOM DISSOLVED OXYGEN (mg/L)		12.6	5.6
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 9.2
Hypolimnion volume (m³): 22570500
Anoxic volume (m³): None

CHEMICAL:

Lake: GREAT EAST LAKE

Town: WAKEFIELD

	27 January 1993		28 August 1992		
DEPTH (m)	7.0	14.0	3.5	9.5	26.0
pH (units)	7.1	6.8	6.9	6.8	6.2
A.N.C. (Alkalinity)	7.5	7.1	7.2	7.1	7.4
NITRATE NITROGEN	< 0.02	0.03	< 0.02	0.03	0.05
TOTAL KJELDAHL NITROGEN	< 0.10	0.12	0.25	0.19	0.13
TOTAL PHOSPHORUS	0.005	0.004	0.008	0.009	0.006
CONDUCTIVITY (μ mhos/cm)	56.0	55.2	53.9	54.0	56.1
APPARENT COLOR (cpu)	32	35			
MAGNESIUM			0.60		
CALCIUM			3.3		
SODIUM			5.5		
POTASSIUM			0.43		
CHLORIDE	9	10	9	9	9
SULFATE	4	4	4	4	4
TN : TP		38	31	24	30
CALCITE SATURATION INDEX			3.0		

All results in mg/L unless indicated otherwise

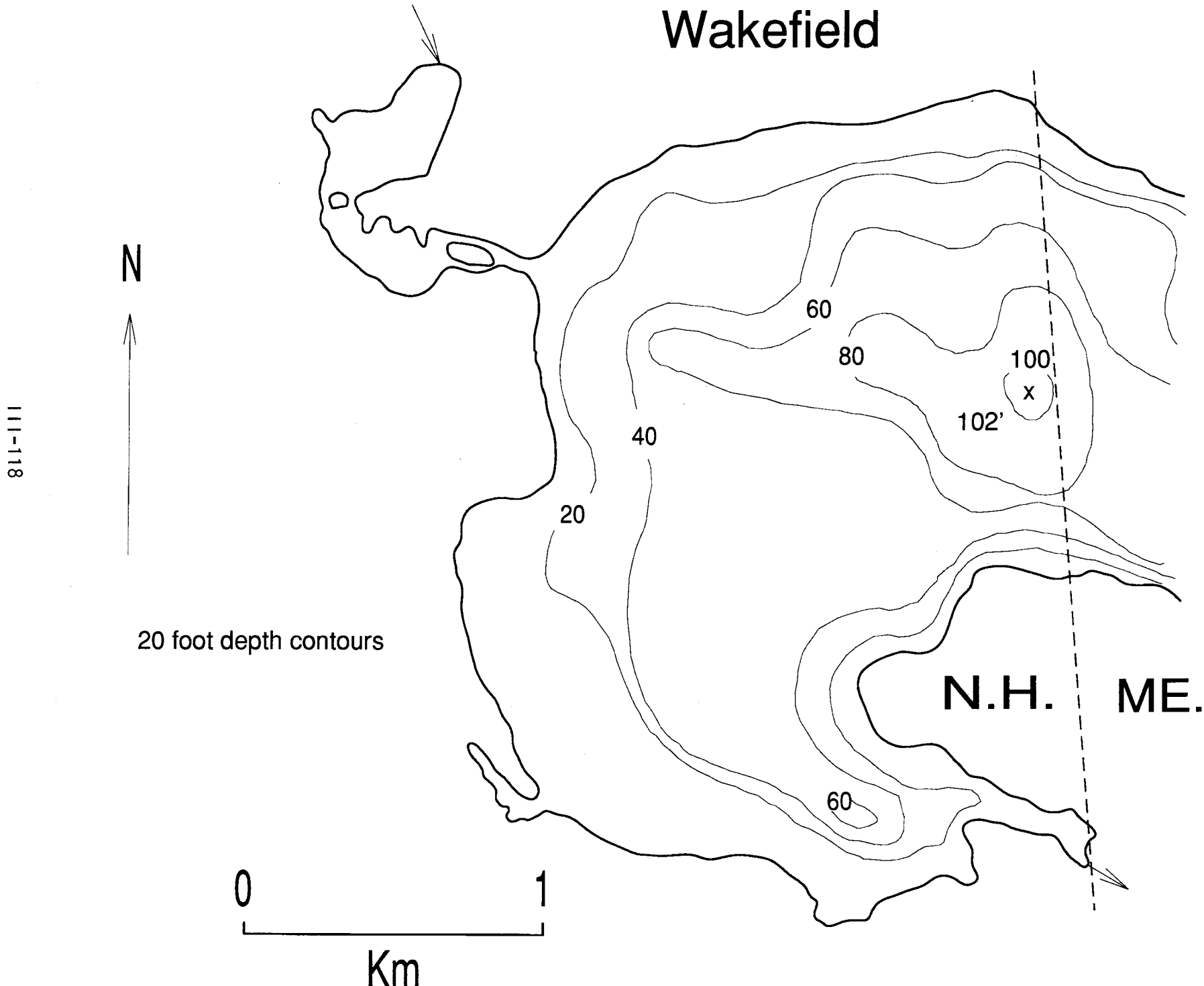
TROPHIC CLASSIFICATION: 1992

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

COMMENTS:

1. Good launch site at dam (in Maine).
2. Numerous large rocks around the shoreline.
3. Lake was not sounded in 1992; 1950 Fish and Game soundings were used.
4. Lake was previously surveyed and classified in 1978. There was no change -- the lake received zero trophic points in both years.
5. Dominant wholewater phytoplankton genera were Chroomonas (45%), tiny green flagellates (20%) and Cryptomonas (15%).

Great East Lake Wakefield



FIELD DATA SHEET

LAKE: GREAT EAST LAKE
DATE: 08/28/92

TOWN: WAKEFIELD
WEATHER: CLOUDY, WARM AND BREEZY

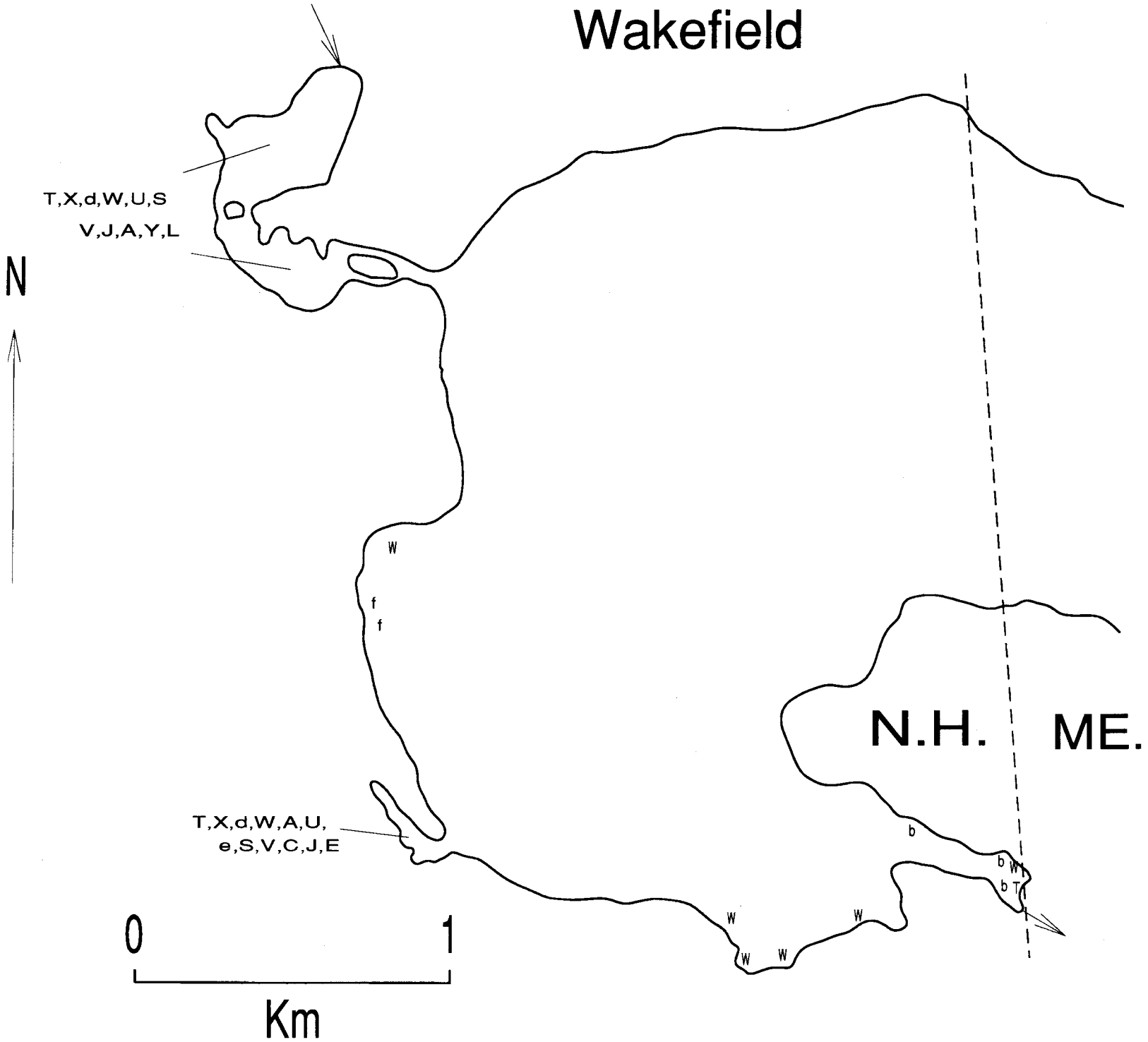
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	24.0	8.8	103 %
	1.0	24.0	8.8	103 %
	2.0	23.8	8.9	102 %
	3.0	22.8	9.0	103 %
	4.0	21.8	9.1	102 %
	5.0	21.5	9.1	102 %
	6.0	21.0	9.1	102 %
	7.0	20.5	8.9	96 %
	8.0	19.8	8.9	94 %
	9.0	17.0	9.5	97 %
	10.0	12.2	9.2	85 %
	11.0	10.6	9.8	85 %
	12.0	9.2	9.0	78 %
	13.0	9.0	9.0	78 %
	14.0	8.5	8.0	68 %
	15.0	8.2	7.8	65 %
	16.0	8.0	7.2	61 %
	18.0	7.5	7.2	59 %
	20.0	7.2	6.7	54 %
	25.0	7.0	5.6	45 %
	30.0	7.0	5.6	45 %

SECCHI DISK (m): 9.6
BOTTOM DEPTH (m): 30.6
TIME: 1330

COMMENTS:

***Dissolved oxygen values are in mg/L**

Great East Lake Wakefield



111-120

AQUATIC PLANT SURVEY

LAKE: GREAT EAST LAKE

TOWN: WAKEFIELD

DATE: 08/28/92

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
f	Chlorophyceae	Filamentous green algae	Sparse
T	Typha	Cattail	Sparse
W	Potamogeton	Pondweed	Sparse
b	Cyperaceae	non-flowering sedge	Sparse
X		Sterile thread-like leaf	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
A	Sagittaria	Arrowhead	Sparse
U	Utricularia	Bladderwort	Sparse
e	Elodea nuttallii	Waterweed	Sparse
S	Sparganium	Bur reed	Sparse
V	Vallisneria americana	Tape grass	Sparse
C	Callitriche	Water starwort	Sparse
J	Juncus	Rush	Sparse
E	Eleocharis	Spike rush	Sparse
L	Chamaedaphne calyculata	Leatherleaf	Sparse
Y	Nuphar	Yellow water lily	Sparse

OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

1. Plants were very abundant in two coves, and practically non-existent elsewhere.
2. The two coves were essentially wetlands with the bottom of open-water areas covered with sterile, thread-like leaves.