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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	SIMMONS POND	Lake Area (ha):	8.26
Town:	WARNER	Maximum depth (m):	12.2
County:	Merrimack	Mean depth (m):	4.6
River Basin:	Merrimack	Volume (m^3):	379500
Latitude:	43°17'00" N	Relative depth:	3.8
Longitude:	71°54'45" W	Shore configuration:	1.28
Elevation (ft):	849	Areal water load (m/yr):	4.70
Shore length (m):	1300	Flushing rate (yr^{-1}):	1.00
Watershed area (ha):	80.3	P retention coeff.:	0.67
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:	29 January 1990	12 July 1989
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 95%	COLONY OF SMALL GREEN
#2		COCCOID CELLS 45%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		2475.0
CHLOROPHYLL-A (µg/L)		2.25
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 49%	ACTINOPHYRS 57%
#2		KERATELLA 19%
#3		
ROTIFERS/LITER	74	102
MICROCRUSTACEA/LITER	15	59
ZOOPLANKTON ABUNDANCE (#/L)	89	375
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		3.5
BOTTOM DISSOLVED OXYGEN (mg/L)	9.2	5.2
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.8
Hypolimnion volume (m^3): 42500

CHEMICAL:

Lake: SIMMONS POND
Town: WARNER

	29 January 1990		12 July 1989		
DEPTH (m)	3.5	6.5	1.0	5.0	9.0
pH (units)	6.2	6.2	6.5	6.4	5.9
A.N.C. (Alkalinity)	3.6	3.7	2.5	2.7	4.6
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		
TOTAL KJELDAHL NITROGEN	0.29	0.36	0.19	1.05	0.65
TOTAL PHOSPHORUS	0.005	0.006	0.007	0.010	0.013
CONDUCTIVITY (μ mhos/cm)	17.1	25.8	22.6	23.3	27.2
APPARENT COLOR (cpu)	12	13	17	15	23
MAGNESIUM			0.26		
CALCIUM			5.0		
SODIUM			4.0		
POTASSIUM			0.70		
CHLORIDE	< 2	< 2	< 2		
SULFATE	4	4	4		
TN : TP	58	60	27		
CALCITE SATURATION INDEX			3.7		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1989

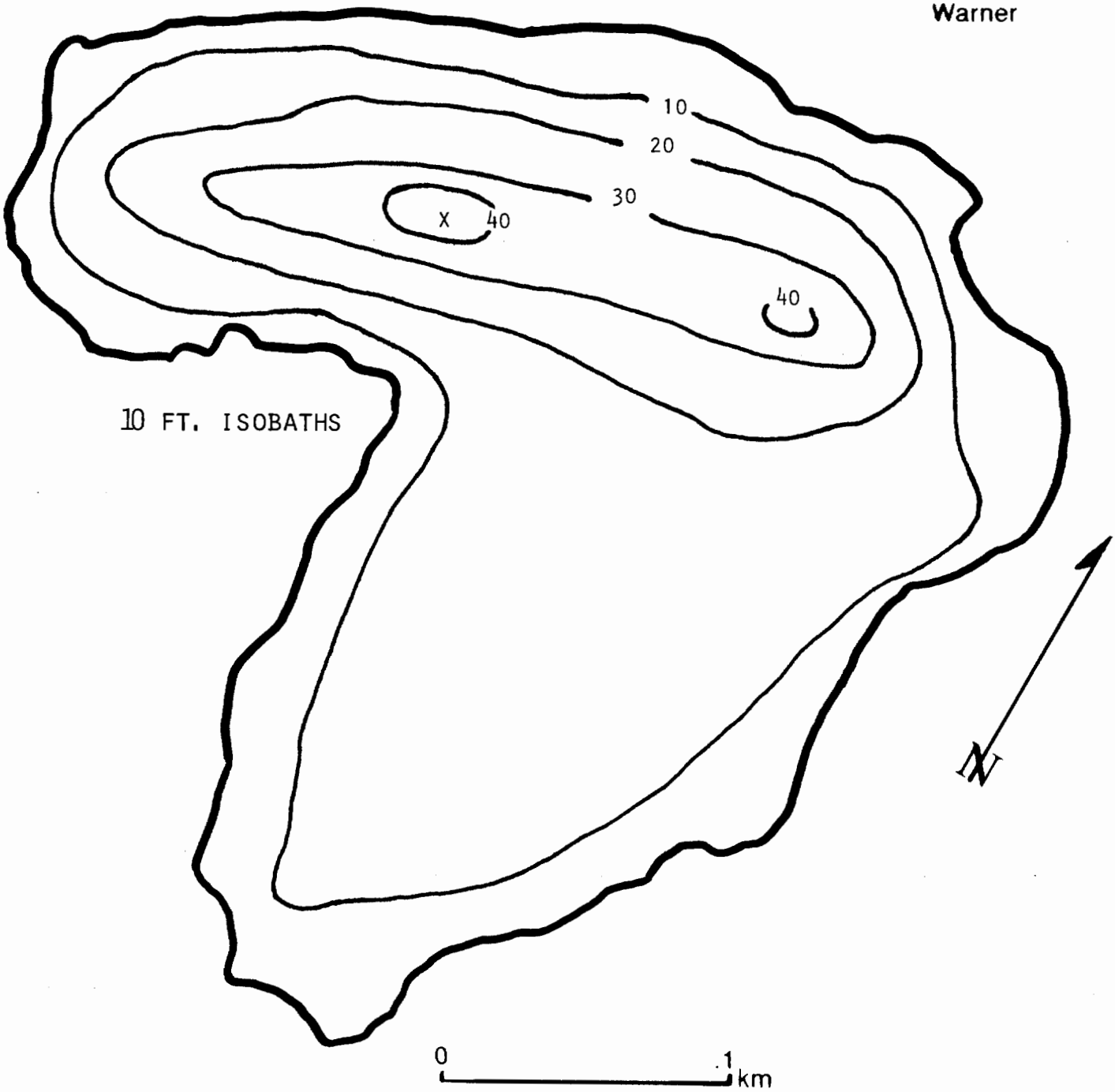
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
0	2	3	0	5	Oligo.

COMMENTS:

1. No public access. Two rough, difficult to find, 4-wheel drive roads to the pond.
2. No cottages on the pond.
3. Merismopedia (65%) and tiny green flagellates (10%) were the dominant whole-water phytoplankton genera.

Simmons Pond

Warner



ROUGH BATHYMETRIC CHART
SOUNDED BY FATHOMETER
DES - 1989

FIELD DATA SHEET

LAKE: SIMMONS POND
DATE: 07/12/89

TOWN: WARNER
WEATHER: PARTLY CLOUDY; WARM; LT BREEZE

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	23.2	9.5	110 %
	1.0	23.0	9.5	110 %
	2.0	22.5	9.5	108 %
	3.0	21.2	9.8	108 %
	4.0	16.0	13.0	132 %
	5.0	12.0	13.0	121 %
	6.0	9.0	12.0	104 %
	7.0	7.1	11.2	92 %
	8.0	6.1	9.0	72 %
	9.0	5.9	6.5	50 %
	10.0	5.0	5.2	41 %
	11.0	5.0	5.2	41 %

SECCHI DISK (m): 3.5

BOTTOM DEPTH (m): 11.5

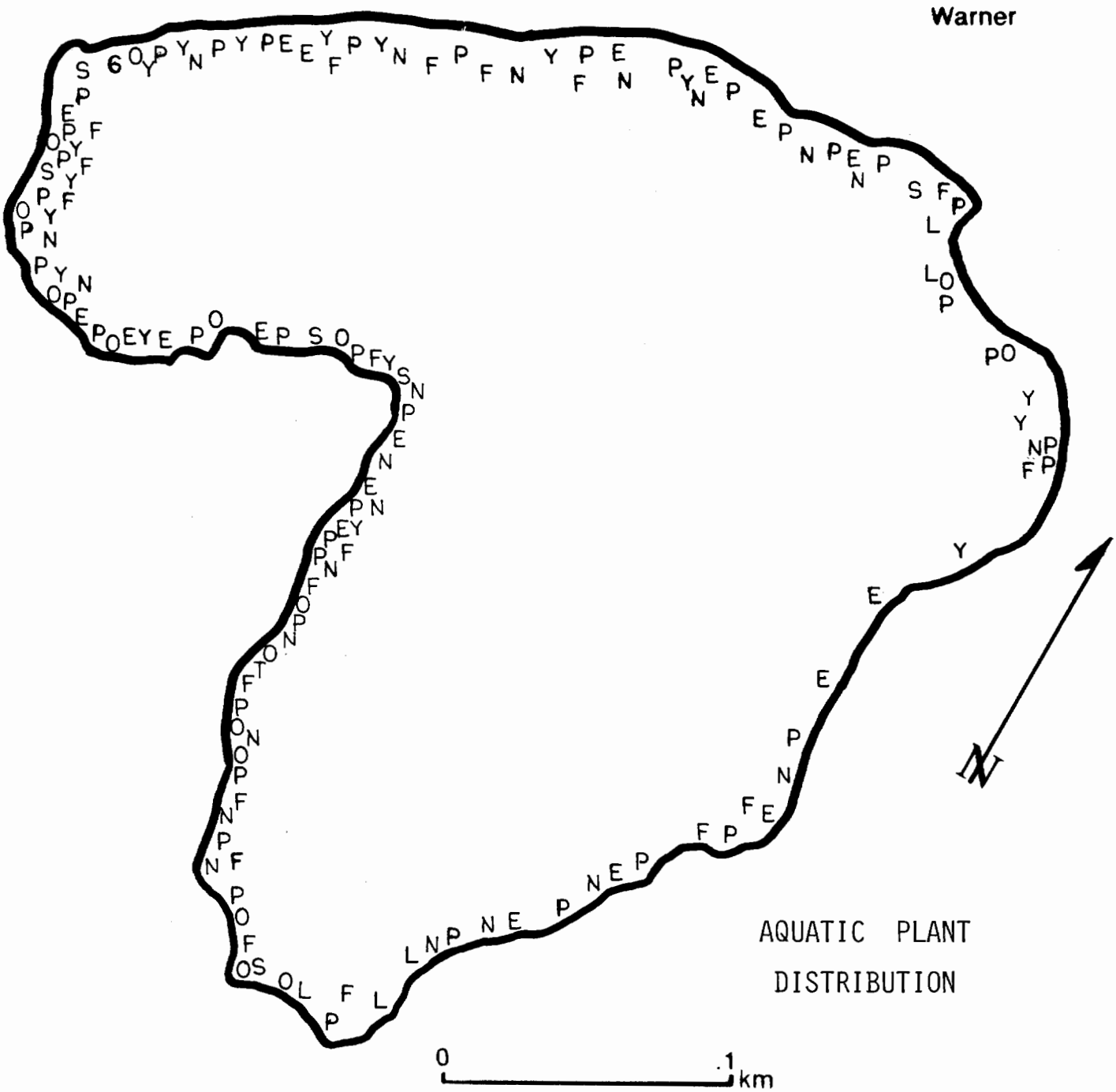
TIME: 1230

COMMENTS:

*Dissolved oxygen values are in mg/L

Simmons Pond

Warner



AQUATIC PLANT SURVEY

LAKE: SIMMONS POND TOWN: WARNER DATE: 07/12/89

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
E	Eriocaulon septangulare	Pipewort	Scattered
P	Pontederia cordata	Pickerelweed	Common
Y	Nuphar	Yellow water lily	Common
F	Nymphoides cordatum	Floating heart	Common
S	Sparganium	Bur reed	Sparse
N	Nymphaea	White water lily	Common
T	Typha	Cattail	Sparse
O	Sphagnum	Peat moss	Common
L	Lobelia dortmanna	Water lobelia	Sparse
G	Spongilla	Freshwater sponge	Sparse

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

1. This pond is stocked with brook trout by helicopter each spring.

2. Many golden shiners were noted in the pond; also, many frogs and salamanders were observed along the shores.