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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	FORT EDDY POND	Lake Area (ha):	8.09
Town:	CONCORD	Maximum depth (m):	5.5
County:	Merrimack	Mean depth (m):	2.2
River Basin:	Merrimack	Volume (m^3):	174500
Latitude:	43°13'10" N	Relative depth:	1.7
Longitude:	71°31'54" W	Shore configuration:	1.79
Elevation (ft):	235	Areal water load (m/yr):	12.90
Shore length (m):	1800	Flushing rate (yr^{-1}):	6.00
Watershed area (ha):	256.9	P retention coeff.:	0.52
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:		13 January 1993	29 July 1992
DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	CERATIUM 60%
	#2		SYNURA 30%
	#3		DINOBRYON 5%
PHYTOPLANKTON ABUNDANCE (cells/mL)			2365
CHLOROPHYLL-A (µg/L)			4.91
DOM. ZOOPLANKTON (% TOTAL)	#1	NAUPLIUS LARVA 45%	KERATELLA 57%
	#2	KERATELLA 27%	KELLICOTTIA 23%
	#3		
ROTIFERS/LITER		26	465
MICROCRUSTACEA/LITER		58	73
ZOOPLANKTON ABUNDANCE (#/L)		98	581
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			3.5
BOTTOM DISSOLVED OXYGEN (mg/L)		4.8	0.6
BACTERIA (E. coli, #/100 ml)	#1		22
	#2		3
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : 500

CHEMICAL:

Lake: FORT EDDY POND
Town: CONCORD

	13 January 1993		29 July 1992		
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	6.5	6.4	7.1		6.6
A.N.C. (Alkalinity)	14.2	15.4	11.9		14.0
NITRATE NITROGEN	0.31	0.39	< 0.02		0.06
TOTAL KJELDAHL NITROGEN	0.54	0.62			
TOTAL PHOSPHORUS	0.014	0.012	0.014		0.021
CONDUCTIVITY (µmhos/cm)	849.0	878.0	629.0		685.0
APPARENT COLOR (cpu)	12	14	15		22
MAGNESIUM			1.45		
CALCIUM			9.4		
SODIUM			108.0		
POTASSIUM			1.85		
CHLORIDE	230	240	190		193
SULFATE	13	13	9		9
TN : TP	61	84			
CALCITE SATURATION INDEX			2.2		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1992

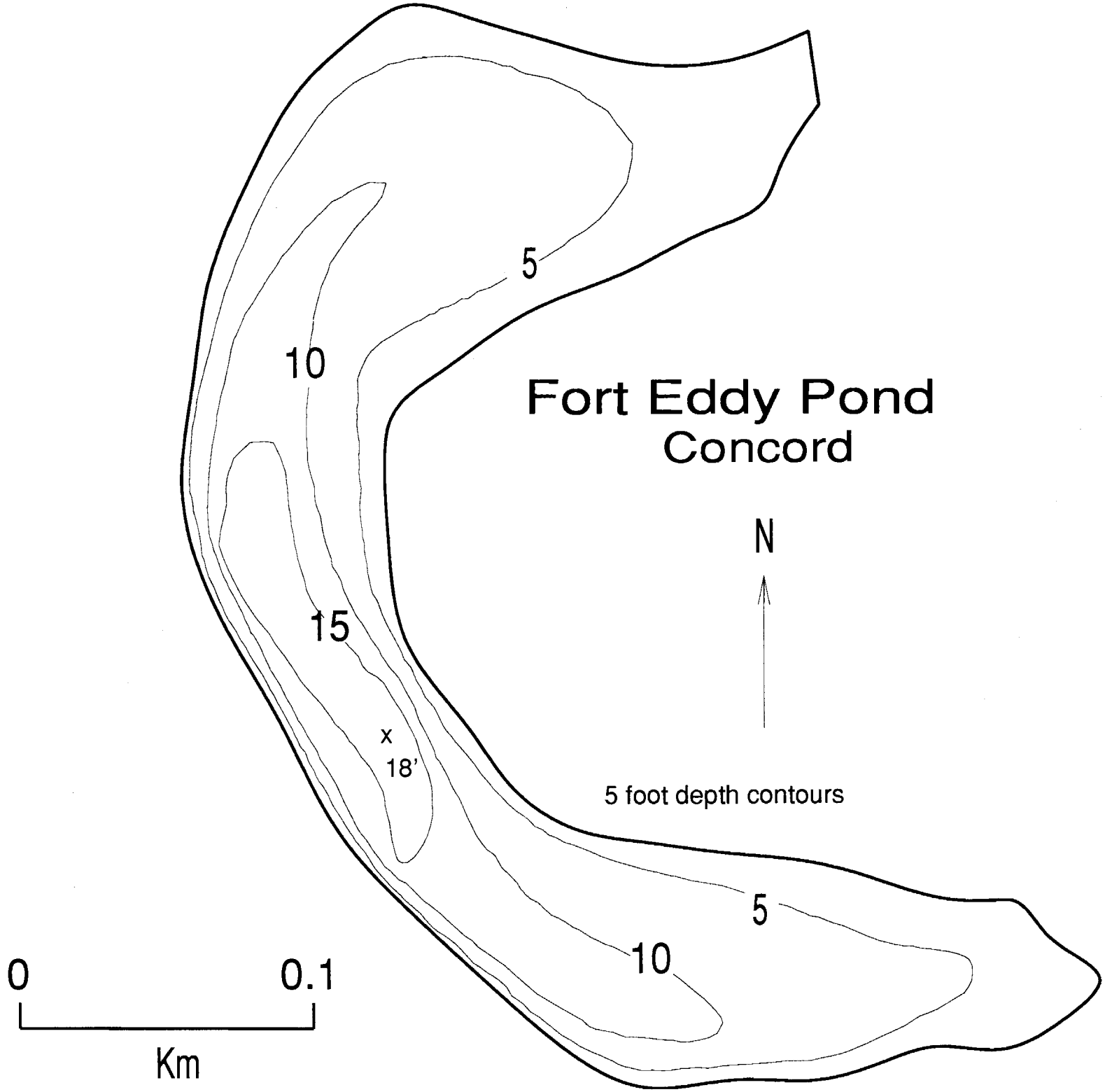
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	4	1	7	Meso.

COMMENTS:

1. This is an old ox-bow pond from the Merrimack River.

2. Canoe access only; walk-in from state Technical Institute parking lot.

3. Dominant genera of wholewater phytoplankton were Aphanocapsa (20%), filamentous blue-green spp. (15%) and Ophiocytium (15%). Blue-greens (40%) and greens (40%) were co-dominant classes.


Fort Eddy Pond
Concord
N
5
10
15
x
18'
5 foot depth contours
5
10
0
0.1
Km

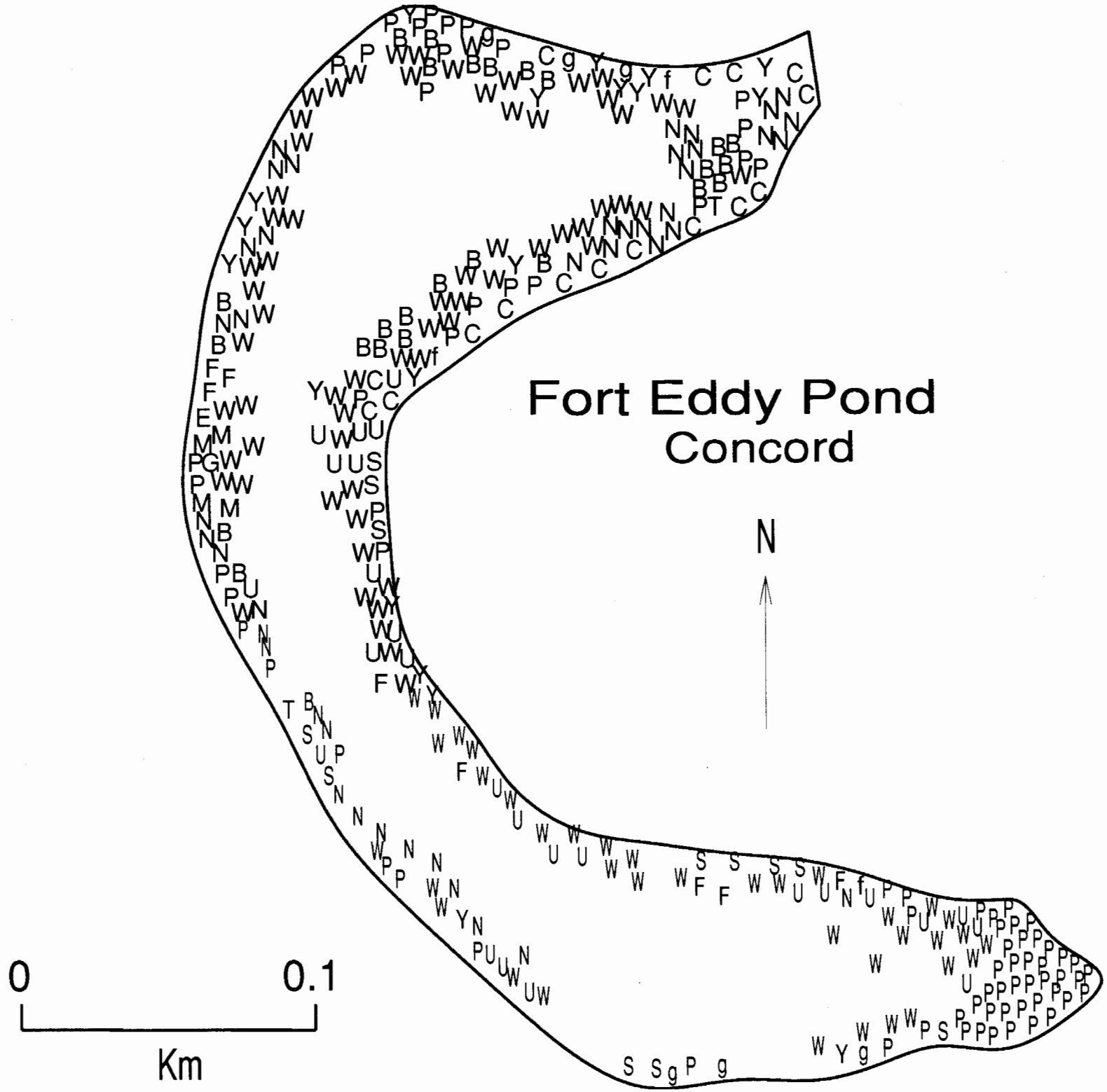
FIELD DATA SHEET

LAKE: FORT EDDY POND TOWN: CONCORD
DATE: 07/29/92 WEATHER: SUNNY, WARM

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	24.5	8.6	101 %
	1.0	24.0	8.6	101 %
	2.0	23.9	8.3	96 %
	3.0	22.5	7.2	82 %
	4.0	19.5	3.5	37 %
	5.0	16.8	0.6	6 %

SECCHI DISK (m): 3.5 COMMENTS:
BOTTOM DEPTH (m): 5.5
TIME: 1020

*Dissolved oxygen values are in mg/L


Fort Eddy Pond
Concord
N
0
0.1
Km

AQUATIC PLANT SURVEY

LAKE: FORT EDDY POND TOWN: CONCORD DATE: 07/29/92

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
U	Utricularia	Bladderwort	Scat/Common
N	Nymphaea	White water lily	Scattered
Y	Nuphar	Yellow water lily	Sparse
W	Potamogeton	Pondweed	Common
P	Pontederia cordata	Pickerelweed	Scat/Common
B	Brasenia schreberi	Water shield	Scat/Common
g	Polygonum	Smartweed	Scattered
f	Chlorophyceae	Filamentous green algae	Sparse
T	Typha	Cattail	Sparse
S	Sparganium	Bur reed	Scattered
F	Nymphoides cordatum	Floating heart	Sparse
C	Cyperaceae	non-flowering sedge	Sparse
E	Elodea nuttallii	Waterweed	Sparse
M	Megalodonta Beckii	Water marigold	Sparse
G	Gramineae	Grass family	Sparse

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS: