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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	GREELEY POND (UPPER)	Lake Area (ha):	0.81
Town:	LIVERMORE	Maximum depth (m):	7.9
County:	Grafton	Mean depth (m):	4.9
River Basin:	Merrimack	Volume (m^3):	39500
Latitude:	44°00'49" N	Relative depth:	7.8
Longitude:	71°30'27" W	Shore configuration:	1.57
Elevation (ft):	2244	Areal water load (m/yr):	86.14
Shore length (m):	500	Flushing rate (yr^{-1}):	17.60
Watershed area (ha):	72.4	P retention coeff.:	0.25
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		1 February 1994	7 September 1993
DOM. PHYTOPLANKTON (% TOTAL)	#1	MELOSIRA 35%	DINOBRYON 65%
	#2	DINOBRYON 30%	SYNURA 25%
	#3	(ALL ALGAE SPARSE)	
PHYTOPLANKTON ABUNDANCE (cells/mL)			65
CHLOROPHYLL-A (µg/L)			0.71
DOM. ZOOPLANKTON (% TOTAL)	#1	CALANOID COPEPOD 79%	CALANOID COPEPOD 48%
	#2		
	#3		
ROTIFERS/LITER		2	6
MICROCRUSTACEA/LITER		31	23
ZOOPLANKTON ABUNDANCE (#/L)		33	29
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			7.9 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		5.4	9.8
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

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

CHEMICAL:

Lake: GREELEY POND (UPPER)
Town: LIVERMORE

	1 February 1994		7 September 1993		
DEPTH (m)	2.0	6.0	2.0		6.0
pH (units)	5.9	5.9	6.2		6.1
A.N.C. (Alkalinity)	4.3	4.9	3.0		4.3
NITRATE NITROGEN	0.41	0.32	0.13		0.11
TOTAL KJELDAHL NITROGEN	0.16	0.11	0.11		0.14
TOTAL PHOSPHORUS	0.004	0.003	0.002		0.005
CONDUCTIVITY (μmhos/cm)	31.9	34.7	28.9		31.8
APPARENT COLOR (cpu)			8		8
MAGNESIUM			0.12		
CALCIUM			3.3		
SODIUM			1.1		
POTASSIUM			0.66		
CHLORIDE	< 2	< 2	< 3		< 3
SULFATE	5	5	5		5
TN : TP	143	143	120		50
CALCITE SATURATION INDEX			4.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1993

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

COMMENTS:

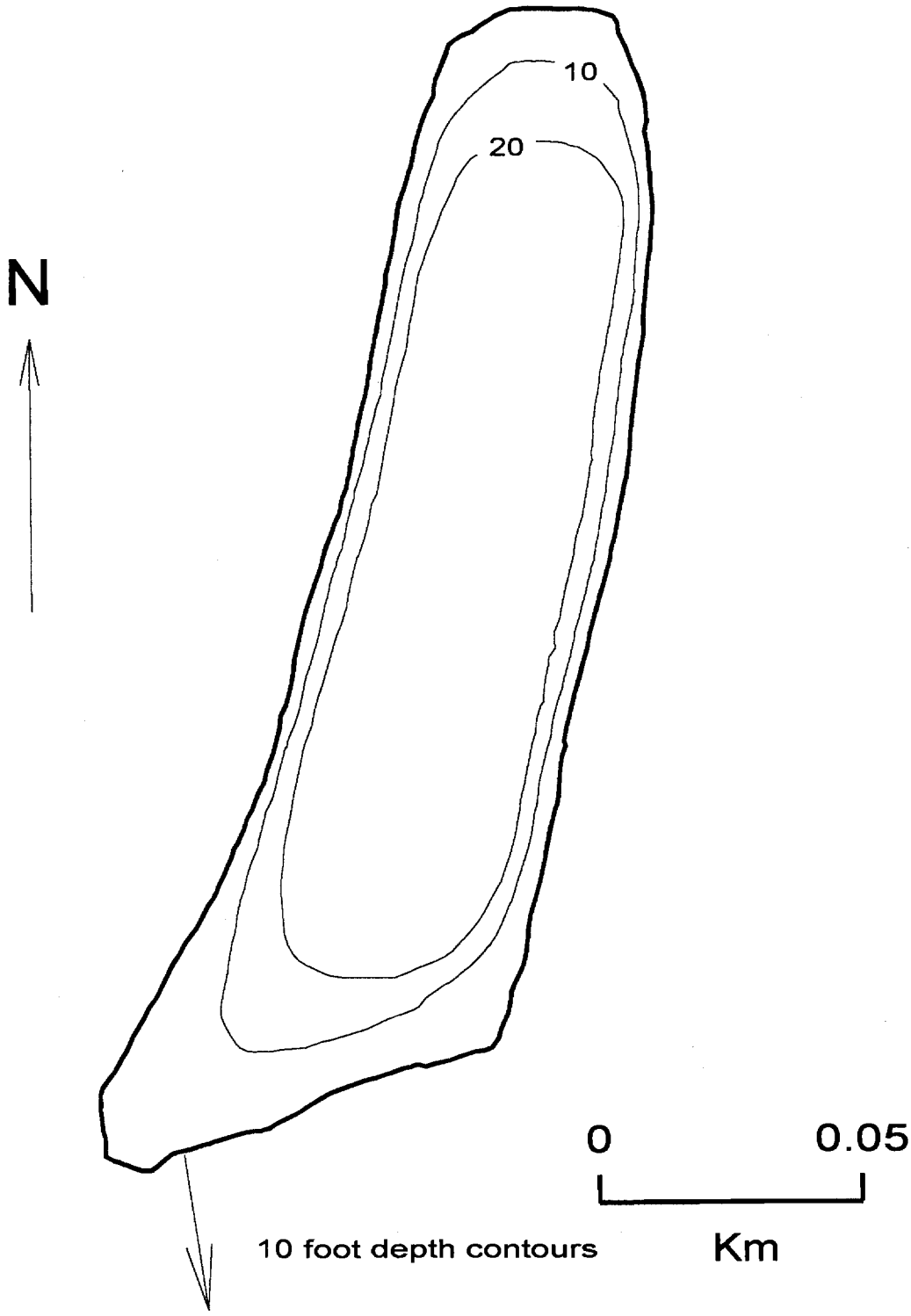
1. This is a remote pond sampled cooperatively with the NH Fish and Game Department. It is located in the White Mountain National Forest. It is the northern-most of the Greeley Ponds. It is steep-sided and relatively deep (26 feet) for such a small (2 acre) pond. Lower Greeley Pond is very shallow and essentially a wetland.

2. This is a very oligotrophic pond: very low nutrient and algae levels and excellent transparency.

3. The dominant genera of wholewater phytoplankton were Cryptomonas (40%) and Mallomonas (40%).

Upper Greeley Pond

Livermore



FIELD DATA SHEET

LAKE: GREELEY POND (UPPER) TOWN: LIVERMORE
DATE: 09/07/93 WEATHER: PARTLY CLOUDY, WARM

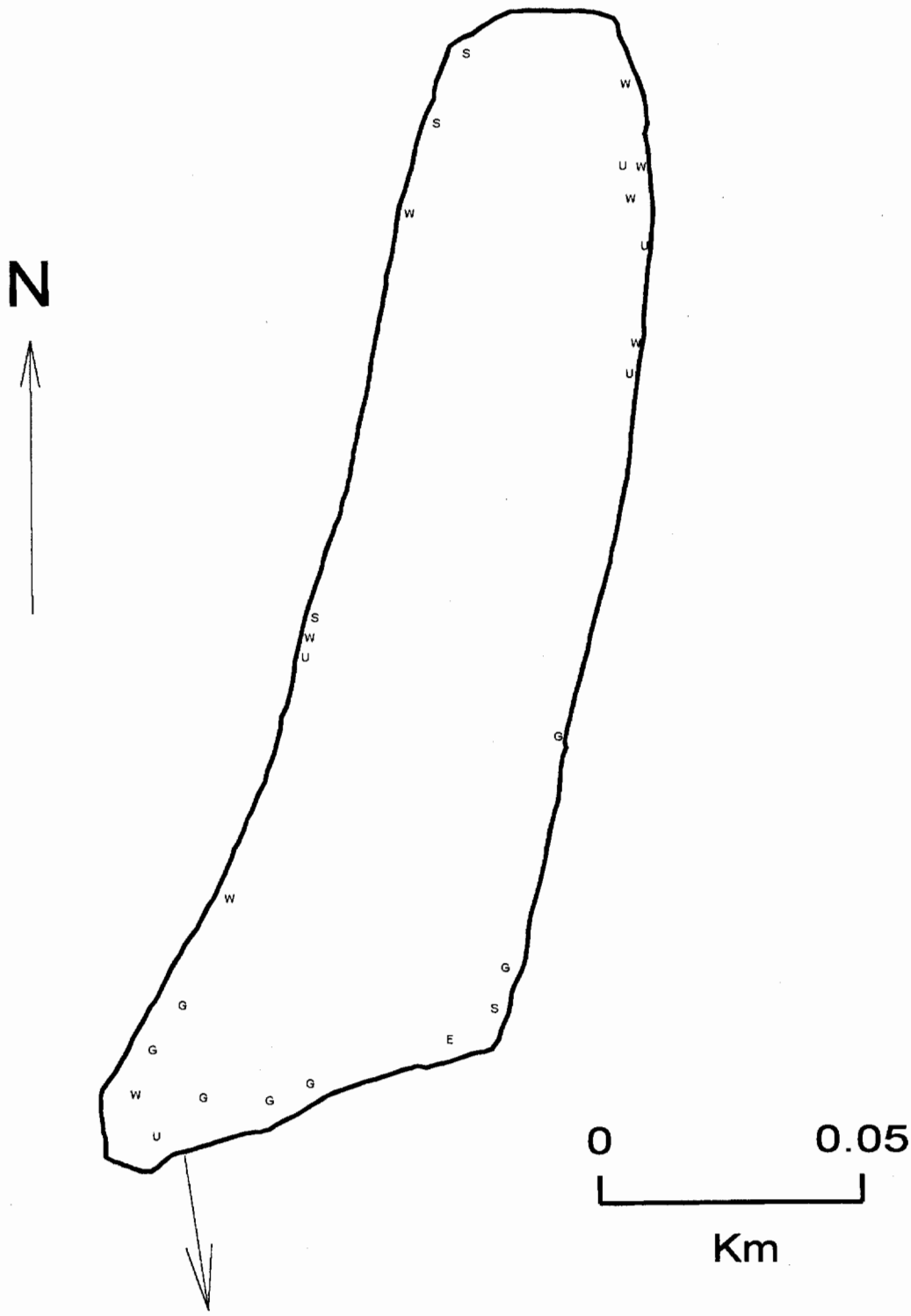
	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	16.5	9.6	96 %
	1.0	16.8	9.6	96 %
	2.0	16.8	9.4	94 %
	3.0	16.2	9.4	94 %
	4.0	15.8	10.0	99 %
	5.0	15.0	10.8	105 %
	6.0	14.1	10.2	99 %
	7.0	13.8	10.0	95 %
	7.5	13.2	9.8	91 %

SECCHI DISK (m): 7.9 VOB COMMENTS:
BOTTOM DEPTH (m): 7.9
TIME: 1150

*Dissolved oxygen values are in mg/L

Upper Greeley Pond

Livermore



III-102

AQUATIC PLANT SURVEY

LAKE: GREELEY POND (UPPER) TOWN: LIVERMORE DATE: 09/07/93

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
S	Sparganium	Bur reed	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
G	Gramineae	Grass family	Sparse
L	Lobelia dortmanna	Water lobelia	Sparse
U	Utricularia	Bladderwort	Sparse
W	Potamogeton	Pondweed	Sparse

OVERALL ABUNDANCE: Sparse

GENERAL OBSERVATIONS:

1. All plant growth was sparse.