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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	NEWELL POND	Lake Area (ha):	5.50
Town:	ALSTEAD	Maximum depth (m):	8.6
County:	Cheshire	Mean depth (m):	4.9
River Basin:	Connecticut	Volume (m^3):	271500
Latitude:	43°08'20" N	Relative depth:	3.2
Longitude:	72°15'45" W	Shore configuration:	1.20
Elevation (ft):	1399	Areal water load (m/yr):	6.68
Shore length (m):	1000	Flushing rate (yr^{-1}):	1.40
Watershed area (ha):	76.0	P retention coeff.:	0.61
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		15 January 1992	16 August 1991
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 95%	ASTERIONELLA 40%
	#2		DINOBRYON 20%
	#3		CHRYSOSPHAERELLA 15%
PHYTOPLANKTON ABUNDANCE (cells/mL)			1190
CHLOROPHYLL-A (μg/L)			4.06
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 35%	NAUPLIUS LARVAE 22%
	#2	CILIATE SPP. 20%	KERATELLA 22%
	#3	KELLICOTTIA 17%	CYCLOPOID COPEPODS 17%
ROTIFERS/LITER		533	29
MICROCRUSTACEA/LITER		54	43
ZOOPLANKTON ABUNDANCE (#/L)		738	83
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			4.7
BOTTOM DISSOLVED OXYGEN (mg/L)		7.3	0.6
BACTERIA (fecal col., #/100 ml)	#1		10
	#2		< 10
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 5.9
Hypolimnion volume (m^3) : 1500
Anoxic volume (m^3) : 1500

CHEMICAL:

Lake: NEWELL POND
Town: ALSTEAD

	15 January 1992		16 August 1991		
DEPTH (m)	3.0	6.0	2.0	5.5	8.0
pH (units)	5.9	6.0	6.8	6.3	6.0
A.N.C. (Alkalinity)	2.5	2.8	3.6	3.8	6.7
NITRATE NITROGEN	0.03	0.03	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.006	0.005	0.007	0.009	0.047
CONDUCTIVITY (µmhos/cm)	31.6	32.5	29.0	28.9	32.3
APPARENT COLOR (cpu)	12	12	27	31	41
MAGNESIUM			0.62		
CALCIUM			2.3		
SODIUM			1.2		
POTASSIUM			0.49		
CHLORIDE	< 3	< 3	< 2		< 2
SULFATE	8	8	7		5
TN : TP					
CALCITE SATURATION INDEX			3.6		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	2	1	1	8	Meso.

COMMENTS:

1. This pond has a motorboat restriction of 5 horsepower or less and a speed restriction of 6 mph or less.

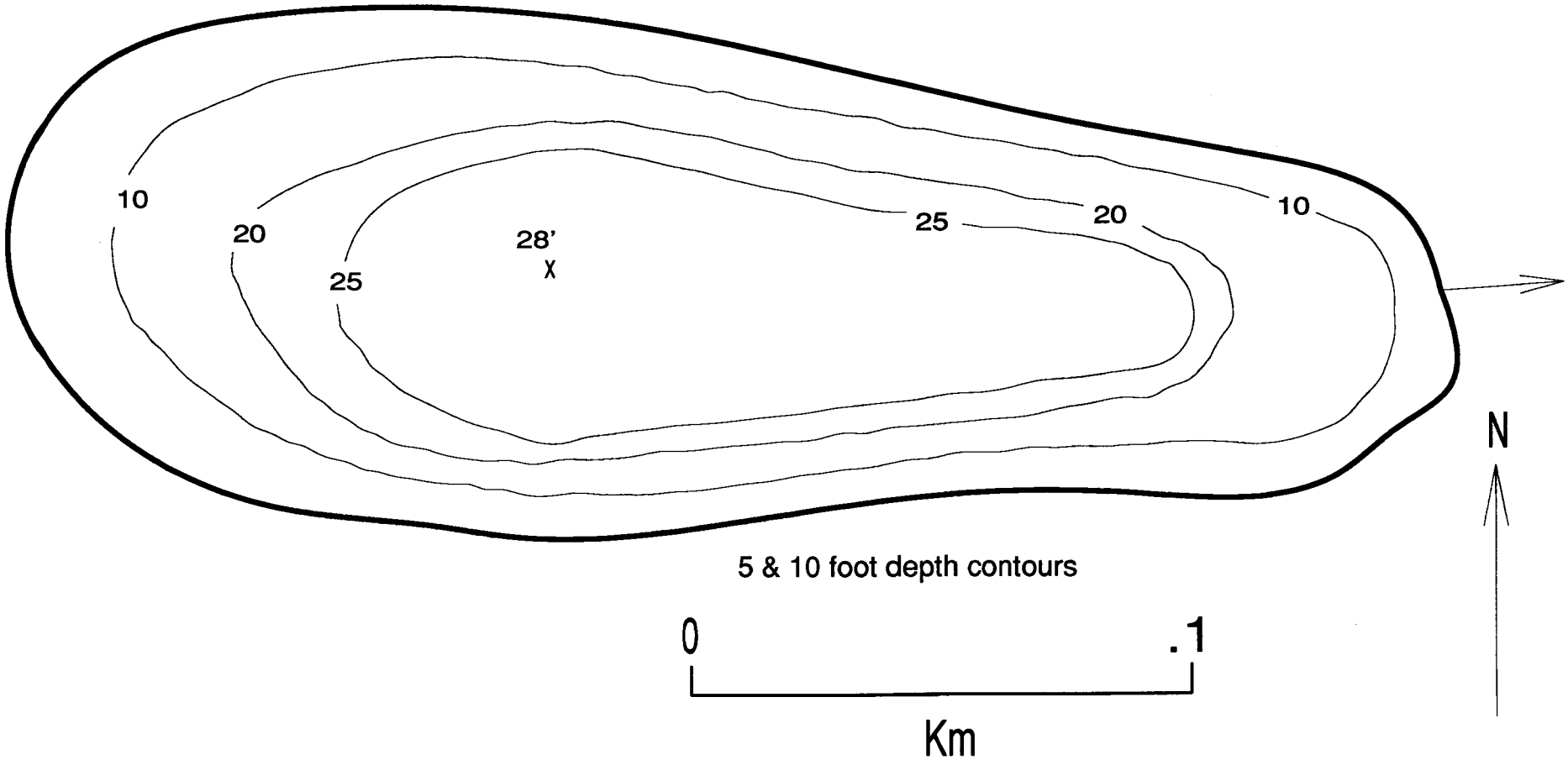
2. A shallow but adequate boat launch site was located off a dirt road at the eastern (outlet) end of the pond; parking area was limited.

3. Approximately 16 cottages were present along the shoreline.

4. The dominant genera of wholewater plankton were Merismopedia (30%) and Chroococcus (15%). Blue-greens (50%) and greens (25%) were the dominant classes.

Newell Pond

Alstead



FIELD DATA SHEET

LAKE: NEWELL POND
DATE: 08/16/91

TOWN: ALSTEAD
WEATHER: PARTLY CLOUDY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	23.8	8.6	99 %
	1.0	23.0	8.6	99 %
	2.0	22.9	8.5	96 %
	3.0	22.7	8.5	96 %
	4.0	22.2	8.5	96 %
	5.0	20.8	7.6	83 %
	6.0	16.6	4.4	44 %
	7.0	12.5	1.1	10 %
	8.0	10.1	0.2	2 %
	8.3	10.0	0.6	5 %

SECCHI DISK (m): 4.7

BOTTOM DEPTH (m): 8.6

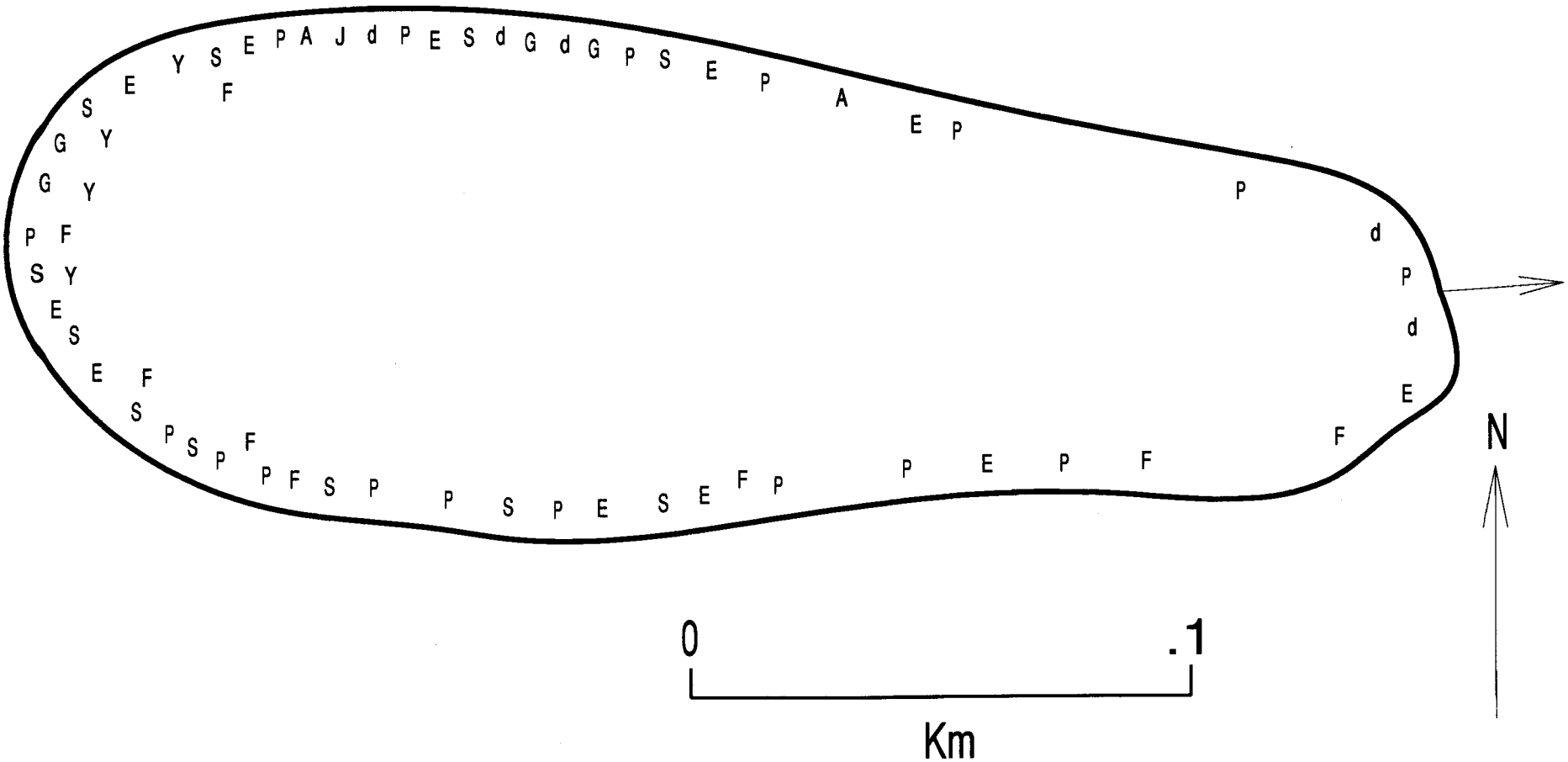
TIME: 1100

COMMENTS:

*Dissolved oxygen values are in mg/L

Newell Pond

Alstead



AQUATIC PLANT SURVEY

LAKE: NEWELL POND TOWN: ALSTEAD DATE: 08/16/91

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
S	Sparganium	Bur reed	Scattered
Y	Nuphar	Yellow water lily	Sparse
P	Pontederia cordata	Pickerelweed	Scattered
F	Nymphoides cordatum	Floating heart	Scattered
G	Gramineae	Grass family	Scattered
E	Eriocaulon septangulare	Pipewort	Scattered
W	Potamogeton spp.	Thin-leaved pondweed	Sparse
J	Juncus	Rush	Sparse
A	Sagittaria	Arrowhead	Sparse
d	Dulichium arundinaceum	Three-way sedge	Scattered

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

1. Plants were located immediately adjacent to the shoreline, and were not a hindrance to boating.