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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	BLAKE POND	Lake Area (ha):	5.66
Town:	PITTSFIELD	Maximum depth (m):	3.6
County:	Merrimack	Mean depth (m):	2.2
River Basin:	Merrimack	Volume (m^3):	122000
Latitude:	43°15'43" N	Relative depth:	1.4
Longitude:	71°17'25" W	Shore configuration:	1.30
Elevation (ft):	718	Areal water load (m/yr):	48.02
Shore length (m):	1100	Flushing rate (yr^{-1}):	22.20
Watershed area (ha):	486.9	P retention coeff.:	0.36
% watershed ponded:	1.4	Lake type:	natural w/dam

BIOLOGICAL:		9 January 1995	24 August 1994
DOM. PHYTOPLANKTON (% TOTAL)	#1	MELOSIRA 75%	TABELLARIA 55%
	#2	DINOBRYON 25%	MELOSIRA 35%
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			12.23
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 41%	KERATELLA 31%
	#2	LG PERITR. CILIATE 28%	TRICHOCERCA 20%
	#3		POLYARTHRA, NAUPLII 12%
ROTIFERS/LITER		192	272
MICROCRUSTACEA/LITER		<1	109
ZOOPLANKTON ABUNDANCE (#/L)		317	381
VASCULAR PLANT ABUNDANCE			Abundant
SECCHI DISK TRANSPARENCY (m)			1.6
BOTTOM DISSOLVED OXYGEN (mg/L)		7.1	4.5
BACTERIA (E. coli, #/100 ml)	#1		2
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

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

CHEMICAL:

Lake: BLAKE POND
Town: PITTSFIELD

	9 January 1995		24 August 1994		
DEPTH (m)	1.5	3.0	1.0		2.5
pH (units)	5.3	5.5	6.0		5.8
A.N.C. (Alkalinity)	0.5	1.3	4.1		1.8
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.33	0.54	0.34		0.49
TOTAL PHOSPHORUS	0.012	0.013	0.015		0.040
CONDUCTIVITY (μmhos/cm)	70.7	70.6	60.8		61.6
APPARENT COLOR (cpu)	60	58	43		46
MAGNESIUM			0.62		
CALCIUM			1.6		
SODIUM			7.9		
POTASSIUM			0.31		
CHLORIDE	16	16	13		12
SULFATE	4	4	4		4
TN : TP	28	42	23		12
CALCITE SATURATION INDEX			4.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

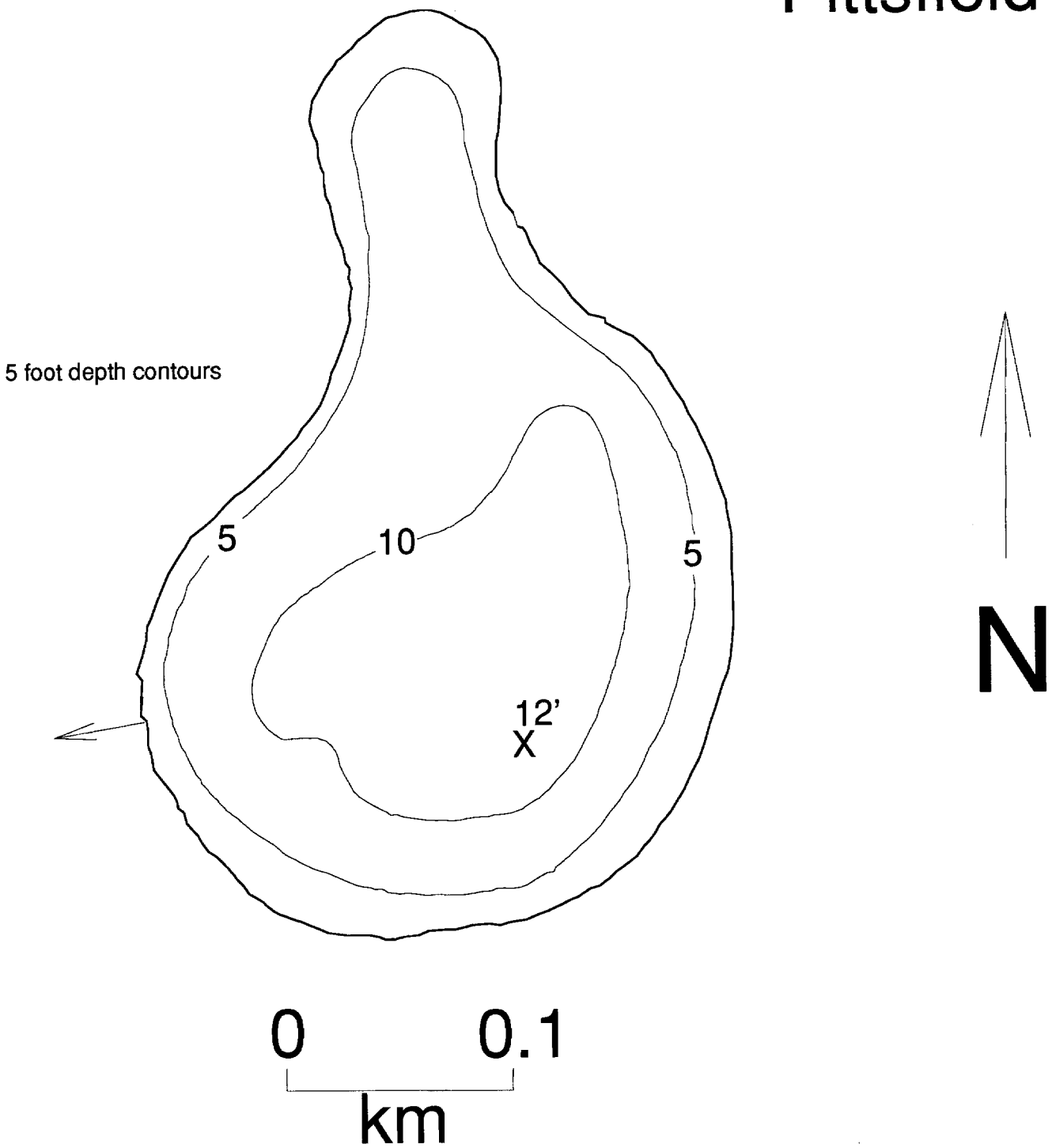
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	5	3	12	Eutro.

COMMENTS:

1. Access by canoe only via a trail.
2. This is a tea-colored, somewhat acid pond, more so in the winter when pH was not raised by high photosynthesis.
3. Diatoms dominated the net phytoplankton, both winter and summer.
4. The chloride levels suggest that salted runoff from Rt.. 107 drains to the lake.
5. Trash was observed along the access road.

Blake Pond

Pittsfield



FIELD DATA SHEET

LAKE: BLAKE POND
DATE: 08/24/94

TOWN: PITTSFIELD
WEATHER: CLEAR & CALM; MODERATE TEMP.

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	21.8	6.3	70 %
	0.5	21.8	6.3	70 %
	1.0	21.0	6.3	70 %
	1.5	20.8	6.3	69 %
	2.0	20.8	6.4	70 %
	2.5	20.5	5.5	60 %
	3.0	20.0	4.5	49 %

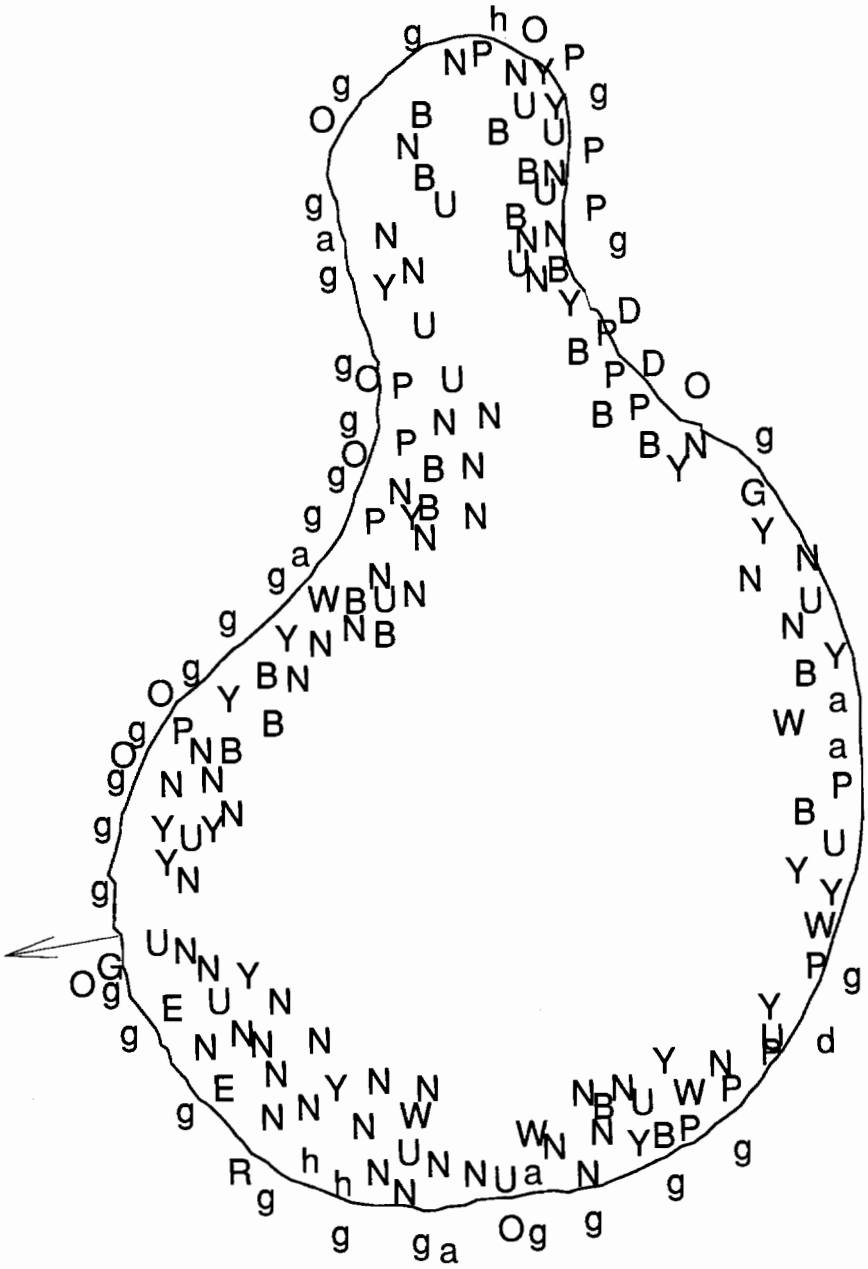
SECCHI DISK (m): 1.6
BOTTOM DEPTH (m): 3.4
TIME: 1100

COMMENTS:

*Dissolved oxygen values are in mg/L

Blake Pond

Pittsfield



N

0 0.1

km

AQUATIC PLANT SURVEY

LAKE: BLAKE POND TOWN: PITTSFIELD DATE: 08/24/94

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerelweed	Common
D	Decodon verticillatus	Swamp loosestrife	Sparse
N	Nymphaea	White water lily	Abundant
G	Gramineae	Grass family	Sparse
Y	Nuphar	Yellow water lily	Common
g	Myrica gale	Sweet gale	Common
B	Brasenia schreberi	Water shield	Scattered
U	Utricularia	Bladderwort	Abundant
h	Hypericum	St. John's-wort	Scattered
O	Cephalanthus occidentalis	Buttonbush	Scat/Common
W	Potamogeton	Pondweed	Sparse
a	Peltandra virginica	Arrow arum	Scattered
d	Dulichium arundinaceum	Three-way sedge	Sparse
R	Sarracenia purpurea	Pitcher-plant	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse

OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

1. Pond was surrounded by a marsh containing cattails, sweet gale, button bush, sphagnum, arrow arum, pickerelweed and grasses.

2. At least two species of bladderwort were present: U. inflata and U. purpurea.