DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	MELENDY POND	Lake Area (ha):	6.76
Town:	BROOKLINE	Maximum depth (m):	6.8
County:	Hillsborough	Mean depth (m):	2.7
River Basin:	Merrimack	Volume (m^3):	180000
Latitude:	42°46'53" N	Relative depth:	2.0
Longitude:	71°39'34" W	Shore configuration:	1.41
Elevation (ft):	412	Areal water load (m/yr):	5.80
Shore length (m):	1300	Flushing rate (yr^{-1}):	2.20
Watershed area (ha):	82.9	P retention coeff.:	0.63
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		23 January 2002	21 June 2001
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 98%	DINOBRYON 30%
	#2		CHRYSOSPHAERELLA 30%
	#3		SYNURA 13%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (μg/L)			4.55
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 41%	KELLICOTTIA 28%
	#2	ASPLACHNA 22%	KERATELLA 16%
	#3	NAUPLIUS LARVA 8%	NAUPLIUS LARVA 15%
ROTIFERS/LITER		373	163
MICROCRUSTACEA/LITER		70	86
ZOOPLANKTON ABUNDANCE (#/L)		456	253
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			3.5
BOTTOM DISSOLVED OXYGEN (mg/L)		12.4	1.0
BACTERIA (E. coli, #/100 ml)	#1		2
	#2		1
	#3		7

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.3
Hypolimnion volume (m^3) : None
Anoxic volume (m^3) : None

CHEMICAL:

Lake: MELENDY POND
Town: BROOKLINE

	23 January 2002		21 June 2001		
DEPTH (m)	1.5	3.0	2.0		4.0
pH (units)	6.3	6.3	6.5		6.6
A.N.C. (Alkalinity)	4.5	4.4	4.1		3.9
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.30	0.40	0.46		0.44
TOTAL PHOSPHORUS	0.009	0.012	0.010		0.009
CONDUCTIVITY (µmhos/cm)	49.0	49.1	44.6		44.3
APPARENT COLOR (cpu)	11	12	23		23
MAGNESIUM			0.46		
CALCIUM			2.1		
SODIUM			4.8		
POTASSIUM			0.53		
CHLORIDE	8	9	7		7
SULFATE	4	4	4		4
TN : TP	33	33	46		49
CALCITE SATURATION INDEX			3.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2001

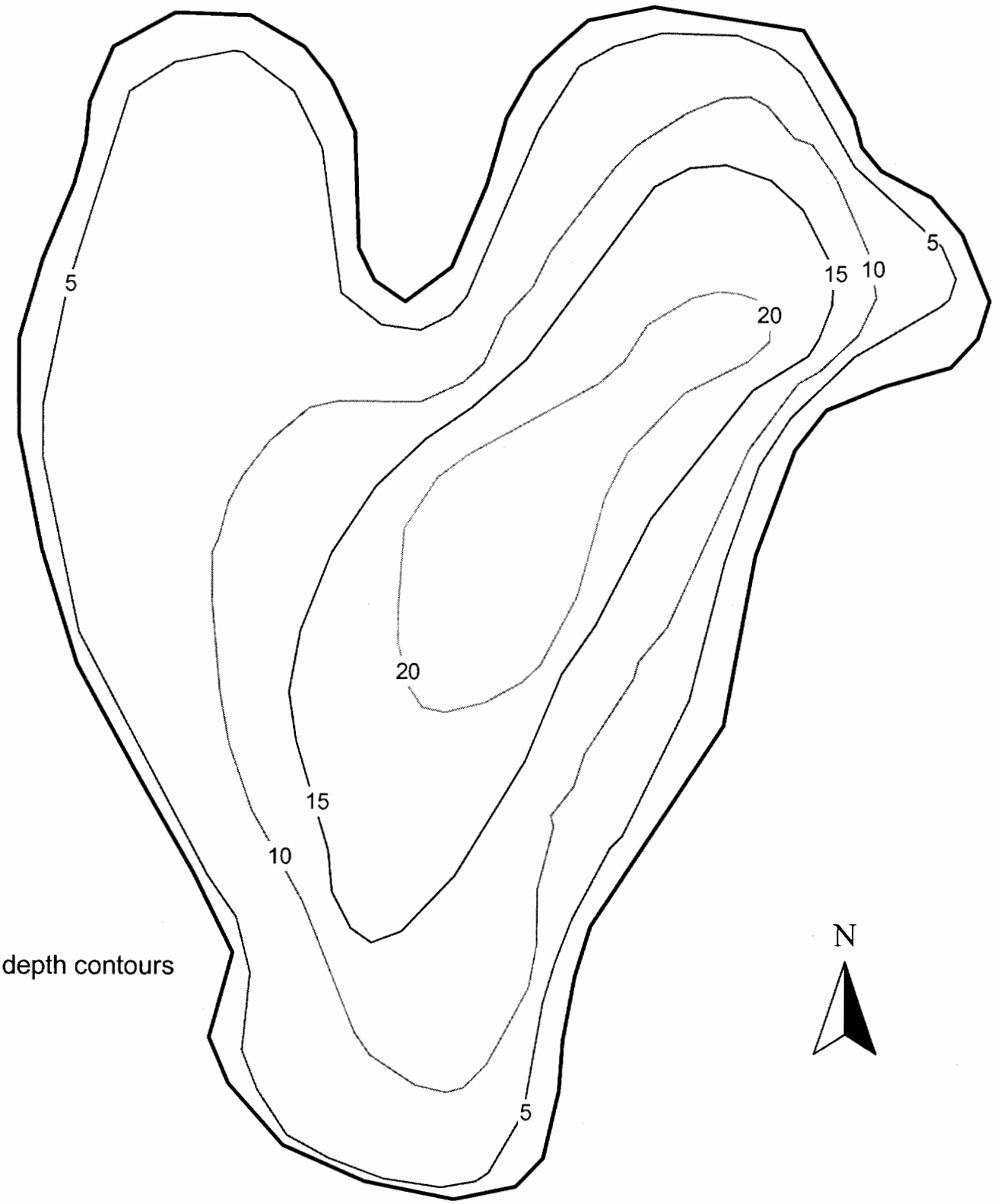
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	4	1	7	Meso.

COMMENTS:

1. Previously surveyed in 1977 and 1991.
2. 10 mph speed limit.
3. The enclosed bathymetric map is from the 2001 survey but the lake volume, flushing rate and related values are from a more detailed sounding effort in 1983.
4. Plankton were abundant in the winter with the phytoplankton strongly dominated by *Dinobryon*.

Melendy Pond

Brookline



5 foot depth contours

0 0.05 0.1 Kilometers

FIELD DATA SHEET

LAKE: MELENDY POND
DATE: 06/21/2001

TOWN: BROOKLINE
WEATHER: Cloudy & showers; light breeze

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	25.4	6.3	76 %
	1.0	25.3	4.7	57 %
	2.0	24.8	4.3	52 %
	3.0	20.9	5.3	59 %
	4.0	15.2	4.6	46 %
	5.0	10.7	1.0	9 %

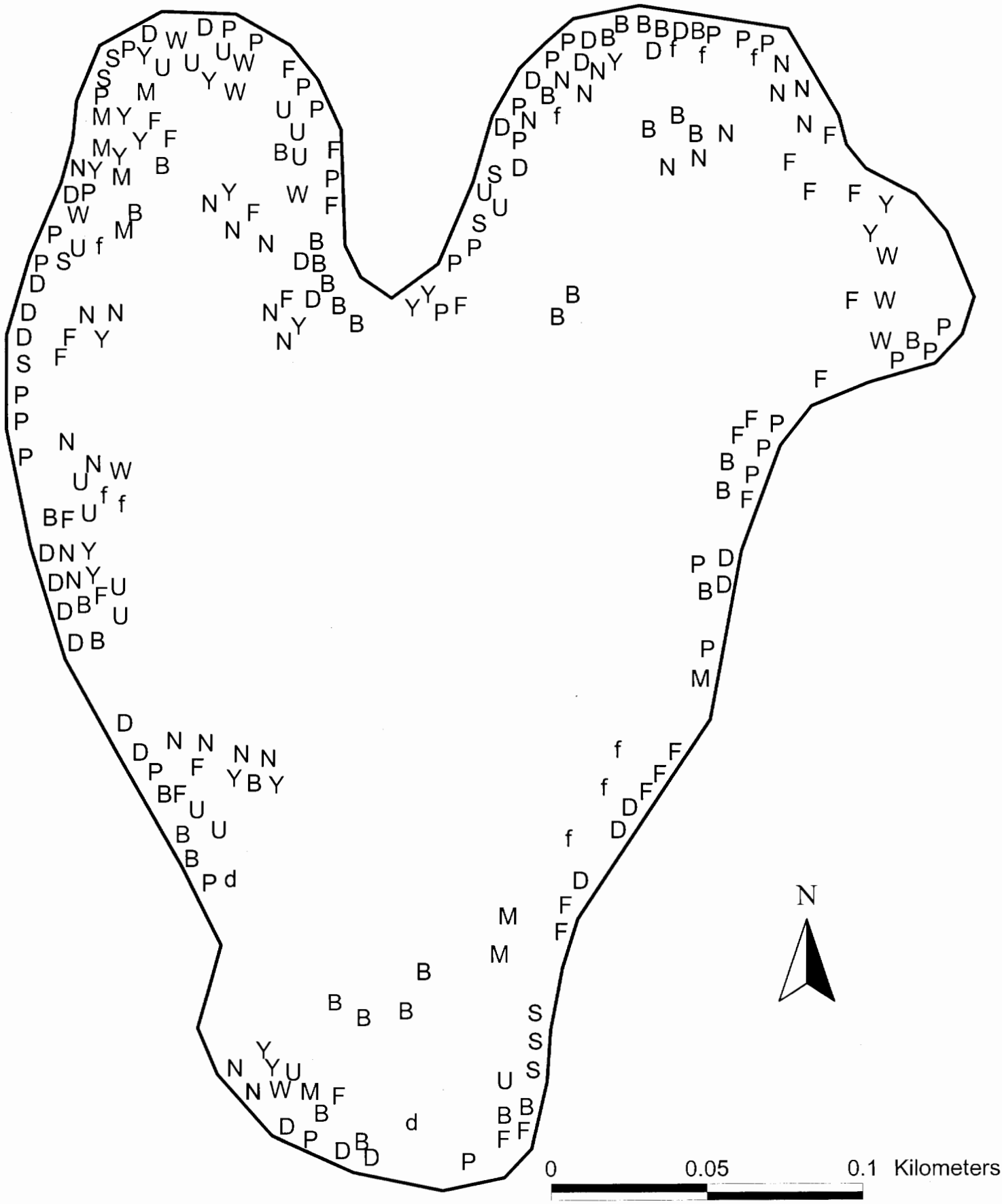
SECCHI DISK (m): 3.5
BOTTOM DEPTH (m): 5.3
TIME: 1225

COMMENTS:

*Dissolved oxygen values are in mg/L

Melendy Pond

Brookline



AQUATIC PLANT SURVEY

LAKE: MELENDY POND TOWN: BROOKLINE DATE: 06/21/2001

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Common
B	Brasenia schreberi	Water shield	Common
F	Nymphoides cordatum	Floating heart	Common
P	Pontederia cordata	Pickerelweed	Scattered
S	Sparganium	Bur reed	Sparse
U	Utricularia	Bladderwort	Common
f		Filamentous algae	Scattered
D	Decodon verticillatus	Swamp loosestrife	Common
W	Potamogeton natans	Floating-leaf pondweed	Sparse
M	Myriophyllum	Non-flowering milfoil	Scattered
d	Dulichium arundinaceum	Three-way sedge	Sparse

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

1. The milfoil listed above was later determined to be the exotic species of milfoil (*M. heterophyllum*).
2. Milfoil was not observed in the 1977 or 1991 surveys.
3. The overall plant abundance appeared to be more abundant in 2001 than in the previous surveys.