

**DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau**

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	MASCOMA LAKE, STN 1	Lake Area (ha):	451.18
Town:	ENFIELD	Maximum Depth (m)	20.1
County:	GRAFTON	Mean Depth (m):	8.7
River Basin:	CONNECTICUT	Volume (m³):	39458000
Latitude:	43°37'36" N	Relative depth:	0.9
Longitude:	72°08'40" W	Shore Configuration:	2.01
Elevation (ft):	751	Areal water load (m/yr):	40.1
Shore length (m):	15100	Flushing Rate (yr⁻¹):	4.6
% Watershed Poned:	2.2	P retention coeff.:	0.39
Watershed Area (ha)	39627	Lake Type	natural w/dam

BIOLOGICAL:

		04-Mar-09	10-Jul-08
DOM. PHYTOPLANKTON (% TOTAL)	#1	COELOSPHAERIUM 45%	DINOBYRON 40%
	#2	TABELLARIA 20%	CERATIUM 20%
	#3	ASTERIONELLA 20%	ANABAENA 15%
CHLOROPHYLL-A (ug/L)			3.43
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 31%	NAUPLIUS LARVA 31%
	#2	NAUPLIUS LARVA 15%	POLYARTHRA 17%
	#3	CYCLOPOID COPEPODS 15%	DAPHNIA 17%
ROTIFERS/LITER		7	50
MICROCRUSTACEA/LITER		5	86
ZOOPLANKTON ABUNDANCE (#/L)		13	150
VASCULAR PLANT ABUNDANCE			Scattered
SECCHI DISK TRANSPARENCY (m)			2.5
BOTTOM DISSOLVED OXYGEN (mg/L)		6.5	4
BACTERIA (E. coli, #/100ml)	#1		<10
	#2		<10
	#3		10

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 5
Hypolimnion volume (m³):
Anoxic Volume (m³): None

CHEMICAL:

Lake: MASCOMA LAKE, STN 1

Town: ENFIELD

	04-Mar-09		10-Jul-08		
DEPTH (M)	7.0	14.0	2.0	8.0	17.0
pH (units)	6.0	5.9	6.7	6.4	6.1
A.N.C. (Alkalinity)	7.2	7.0	7.7	5.9	5.5
NITRATE NITROGEN	0.09	0.10	< 0.05		0.15
TOTAL KJELDHAL NITROGEN	0.33	0.34	< 0.25	0.36	< 0.25
TOTAL PHOSPHORUS	0.011	0.015	0.011	0.010	0.017
CONDUCTIVITY (umhos/cm)	60.3	59.6	63.0	58.7	55.5
APPARENT COLOR (CPU)	34	34	40	35	41
MAGNESIUM			0.73		
CALCIUM			4.6		
SODIUM			5.6		
POTASSIUM			0.68		
CHLORIDE	7	7	11		10
SULFATE	4	4	4		4
TN : TP	38	29	14		16
CALCITE SATURATION INDEX					

All results in mg/L unless indicated otherwise

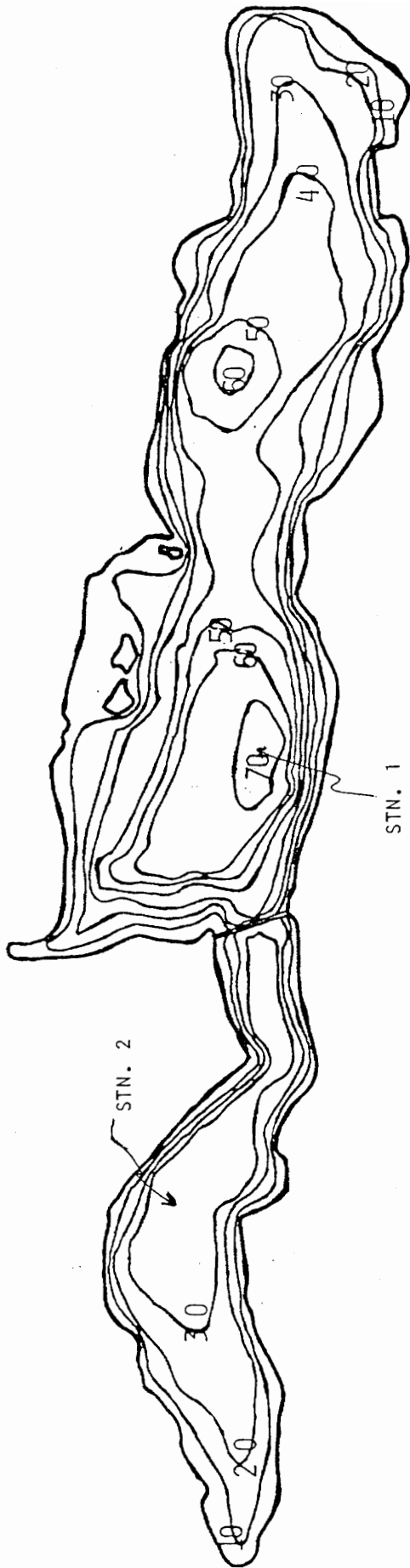
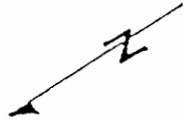
TROPHIC CLASSIFICATION: 2008

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
2	3	1	0	6	OLIGO

COMMENTS:

1. Ski craft banned on week-ends.
2. Previously surveyed in 1976, 1985 and 2000; rated mesotrophic in these three years but was oligotrophic in 2008. The cause for the classification change was increased summer bottom dissolved oxygen levels in 2008.
3. Participant in VLAP since 1991. Data show a decreasing (worsening) trend for Secchi transparency but no trends for chlorophyll or phosphorus.
4. Summer phytoplankton was greater than 20% cyanobacteria species. Cyanobacteria was dominant in the winter but was very sparse.
5. Sodium, chloride and conductivity have increased somewhat over the 32 years of surveys but values are not excessive.

LAKE MASCOMA
ENFIELD



BATHYMETRIC CHART

U.S. CORPS. OF ENGINEERS - 1937

FIELD DATA SHEET

LAKE: MASCOMA LAKE,

TOWN: ENFIELD

DATE: 7/10/2008

WEATHER:

	DEPTH (M)	TEMP (°C)	DISSOLVED OXYGEN (mg/L)	PERCENT SATURATED
	0.0	25.2	8.6	104.9
	1.2	25.2	8.7	105.1
	2.0	23.5	8.6	101.5
	3.0	20.2	7.7	85.1
	4.0	18.7	7.2	77.1
	5.0	18.3	6.6	70.1
	6.0	15.3	6.2	61.7
	7.1	13.0	6.0	57.2
	8.0	11.8	6.2	57.1
	9.0	11.1	6.2	56.2
	10.0	10.2	6.3	55.9
	11.1	9.4	6.2	54.2
	12.1	9.0	6.2	53.3
	13.1	8.6	6.1	52.4
	14.0	8.2	6.1	51.6
	15.0	7.8	6.2	51.7
	16.1	7.6	6.0	50.3
	17.1	7.4	5.8	48.2
	18.1	7.3	5.4	44.8
	19.0	7.2	4.9	40.5
	20.0	7.0	4.0	33.0

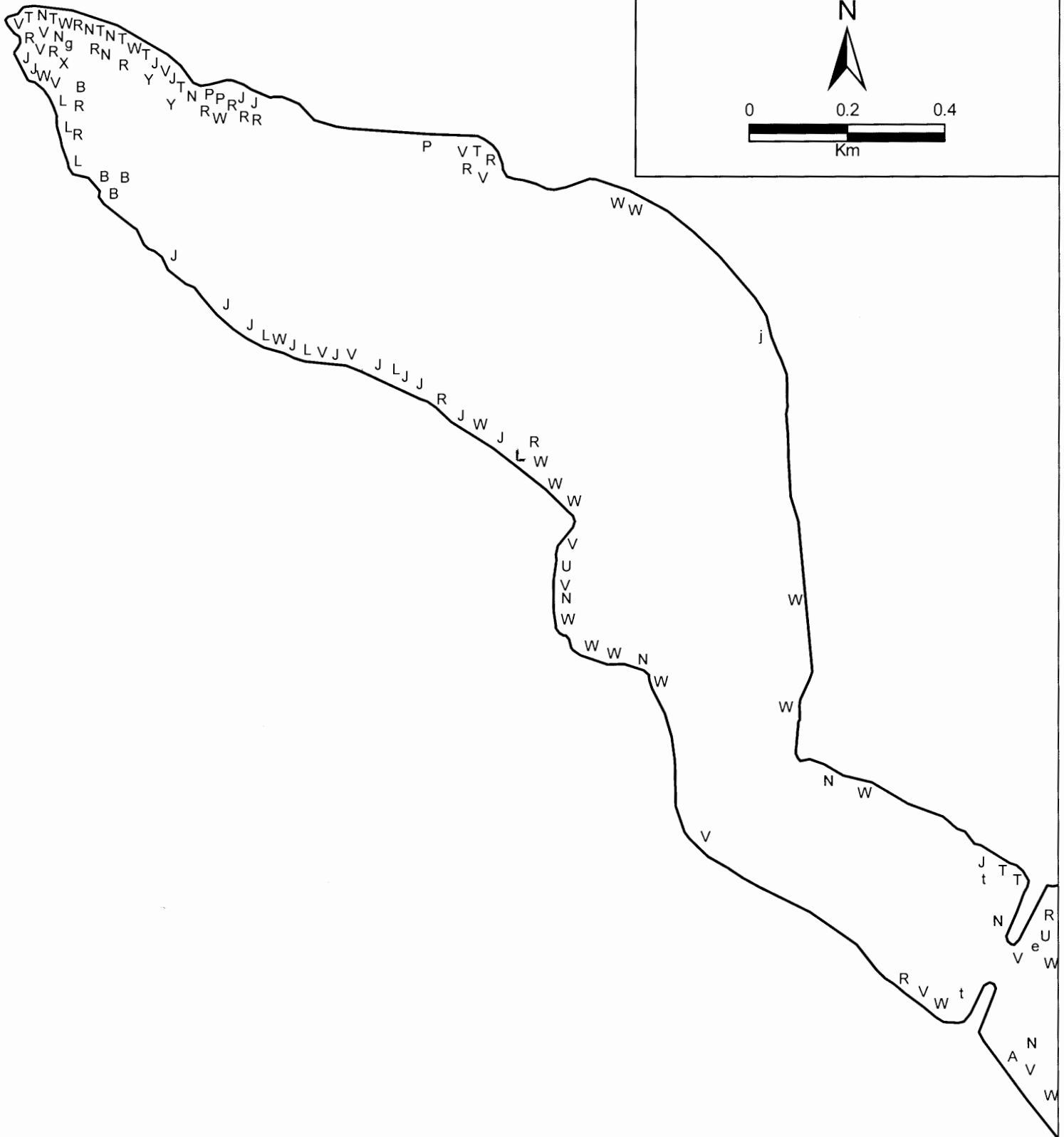
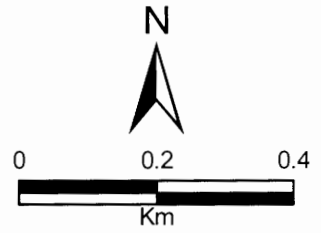
SECCHI DEPTH (m) : 2.5
BOTTOM DEPTH (m) : 21.0
TIME: 10:39

COMMENTS:

Mascoma Lake, North

Enfield

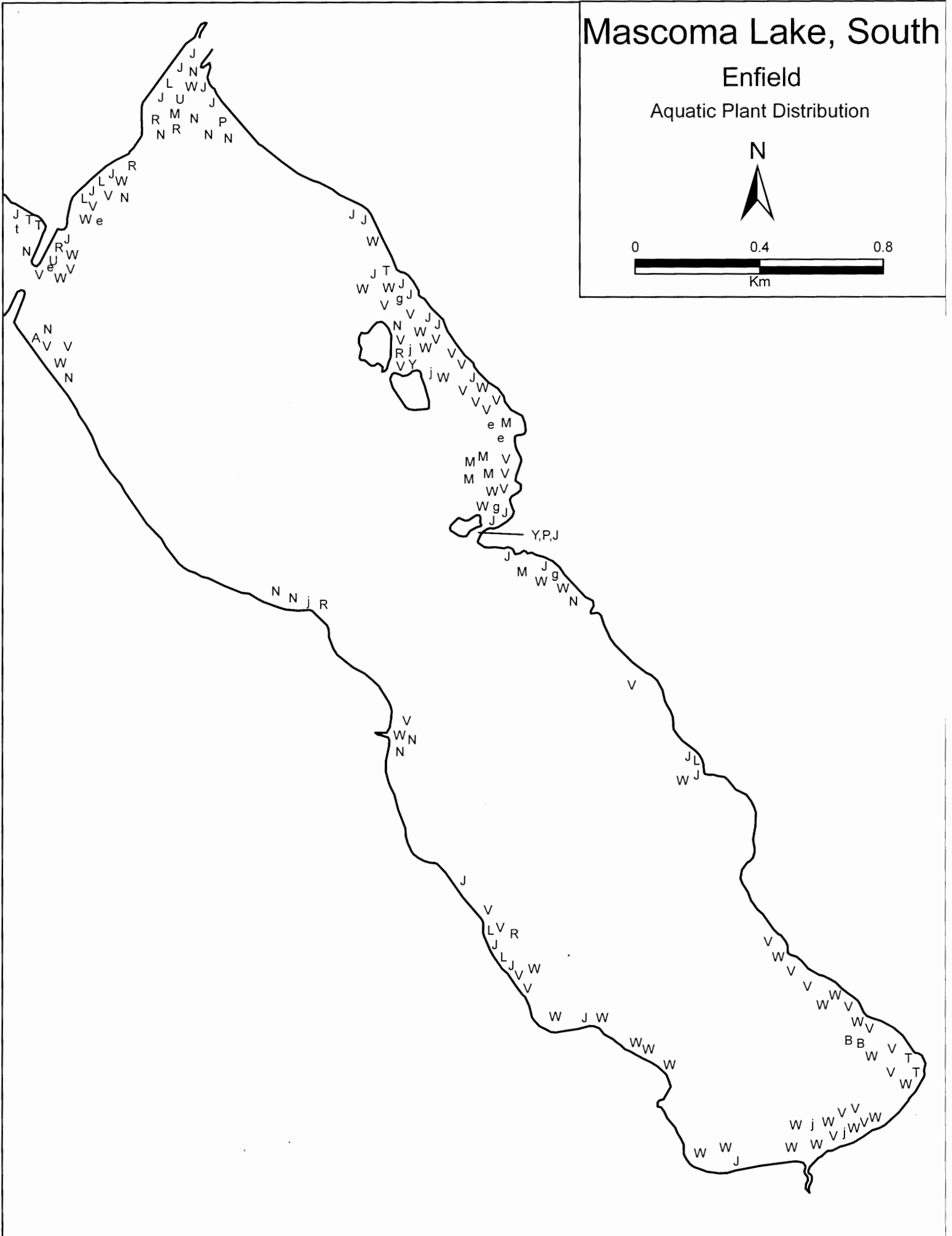
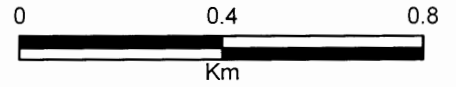
Aquatic Plant Distribution



Mascoma Lake, South

Enfield

Aquatic Plant Distribution



AQUATIC PLANT SURVEY

LAKE: MASCOMA LAKE,

TOWN: ENFIELD

DATE: 7/10/2008

KEY	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
M	Myriophyllum spicatum	Eurasian water milfoil	Scattered
U	Utricularia	Bladderwort	Scattered
R	Potamogeton robbinsii	Robbins pondweed	Common
N	Nymphaea	White water lily	Scattered
V	Vallisneria americana	Tape grass	Common
W	Potamogeton	Pondweed	Scattered
j	Najas	Bushy pondweed	Scattered
t	Potamogeton perfoliatus	Clasping-leaved pondweed	Scattered
P	Pontederia cordata	Pickerelweed	Scattered
L	Lythrum salicaria	Purple loosestrife	Sparse
J	Juncus	Rush	Scattered
Y	Nuphar	Yellow water lily	Scattered
g	Megalodonta Beckii	Water marigold	Scattered
e	Elodea	Waterweed	Scattered
T	Typha	Cattail	Scattered
A	Sagittaria	Arrowhead	Scattered
B	Brasenia schreberi	Water shield	Scattered

OVERALL ABUNDANCE : Scattered

GENERAL OBSERVATIONS :

1. Plant growth was scattered but locally common near the dam and in small, shallow inlet coves.
2. Non-native Eurasian milfoil was present but is kept under control by local divers.