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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	SIP POND	Lake Area (ha):	47.67
Town:	FITZWILLIAM	Maximum depth (m):	2.4
County:	Cheshire	Mean depth (m):	1.2
River Basin:	Connecticut	Volume (m^3):	555500
Latitude:	42°43'59" N	Relative depth:	0.3
Longitude:	72°06'12" W	Shore configuration:	1.18
Elevation (ft):	884	Areal water load (m/yr):	13.42
Shore length (m):	2900	Flushing rate (yr^{-1}):	11.50
Watershed area (ha):	1210.8	P retention coeff.:	0.52
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		2 March 1994	8 September 1993
DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	APHANIZOMENON 30%
	#2		STAURASTRUM 20%
	#3		DINOBRYON 15%
PHYTOPLANKTON ABUNDANCE (cells/mL)			280
CHLOROPHYLL-A (µg/L)			5.28
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 50%	KERATELLA 24%
	#2	KERATELLA 23%	NAUPLIUS LARVA 20%
	#3		CALANOID COPEPOD 20%
ROTIFERS/LITER		20	56
MICROCRUSTACEA/LITER		6	75
ZOOPLANKTON ABUNDANCE (#/L)		26	156
VASCULAR PLANT ABUNDANCE			Very abundant
SECCHI DISK TRANSPARENCY (m)			2.3 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		5.0	8.2
BACTERIA (E. coli, #/100 ml)	#1		9
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

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

CHEMICAL:

Lake: SIP POND
Town: FITZWILLIAM

	2 March 1994		8 September 1993		
DEPTH (m)	1.5		1.0		2.0
pH (units)	5.3		5.8		5.4
A.N.C. (Alkalinity)	1.3		0.8		0.4
NITRATE NITROGEN	0.14		< 0.02		< 0.02
TOTAL KJELDAHL NITROGEN	0.22		0.48		1.11
TOTAL PHOSPHORUS	0.007		0.021		0.084
CONDUCTIVITY (μmhos/cm)	66.3		45.6		44.9
APPARENT COLOR (cpu)	46		32		38
MAGNESIUM			0.36		
CALCIUM			1.6		
SODIUM			5.4		
POTASSIUM			< 0.40		
CHLORIDE	12		9		9
SULFATE	7		5		5
TN : TP	51		23		13
CALCITE SATURATION INDEX			5.4		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1993

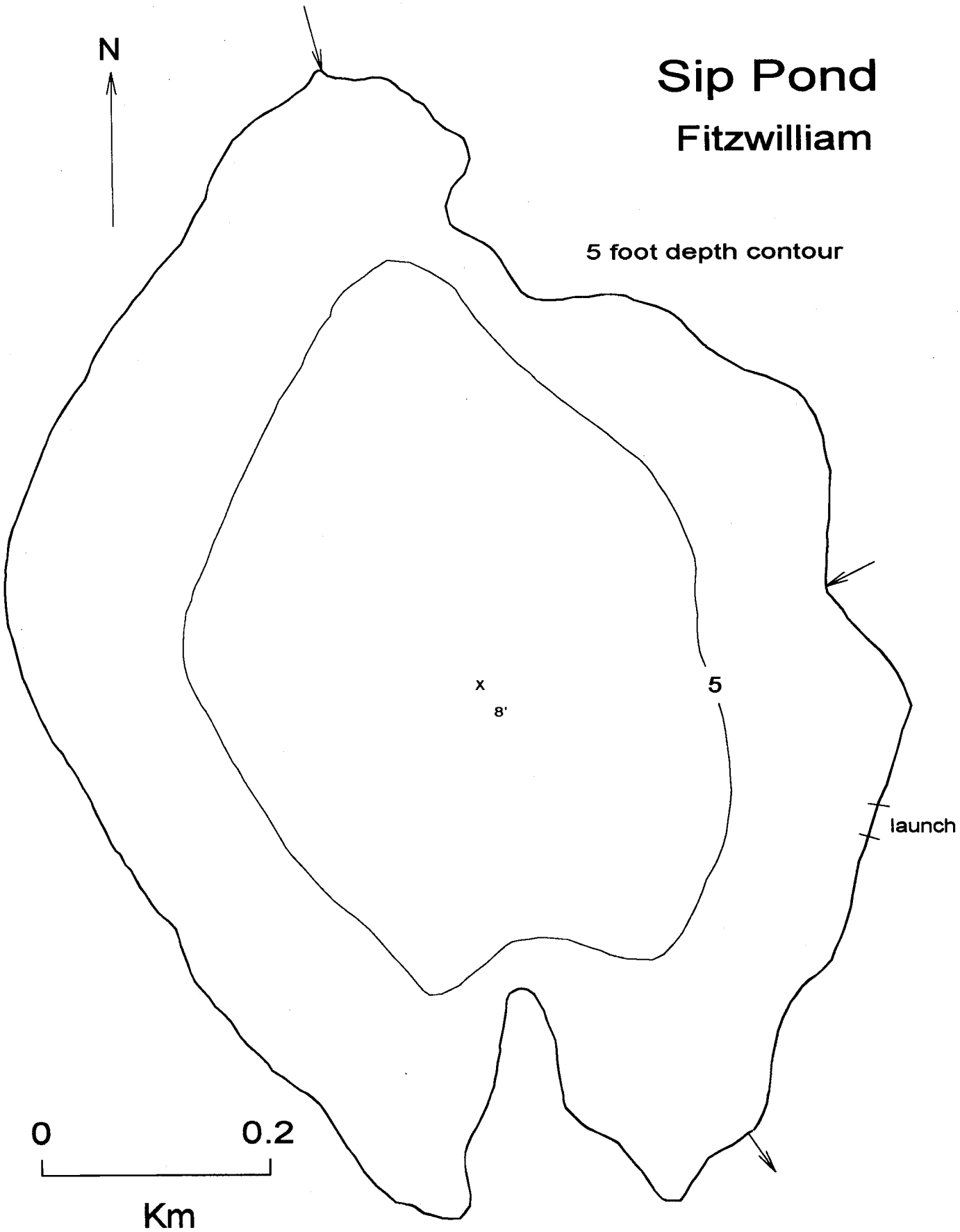
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	6	1	9	Meso.

COMMENTS:

1. This pond was previously surveyed and classified in 1979. There was little change in water quality between the two dates.

2. This is a shallow, tea-colored moderately acid pond with very little buffering capacity (ANC) and very abundant plant growth. It is borderline mesotrophic/eutrophic.

3. Dominant genera of wholewater phytoplankton were Mallomonas (30%), Closterium (20%) and Cryptomonas (20%).


N
Sip Pond
Fitzwilliam
5 foot depth contour
x
8'
5
launch
0
0.2
Km

FIELD DATA SHEET

LAKE: SIP POND
DATE: 09/08/93

TOWN: FITZWILLIAM
WEATHER: CLOUDY & COOL

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	22.0	8.1	92 %
	0.5	22.0	8.1	92 %
	1.0	21.9	8.1	91 %
	1.5	21.9	8.1	91 %
	2.0	21.9	8.2	92 %

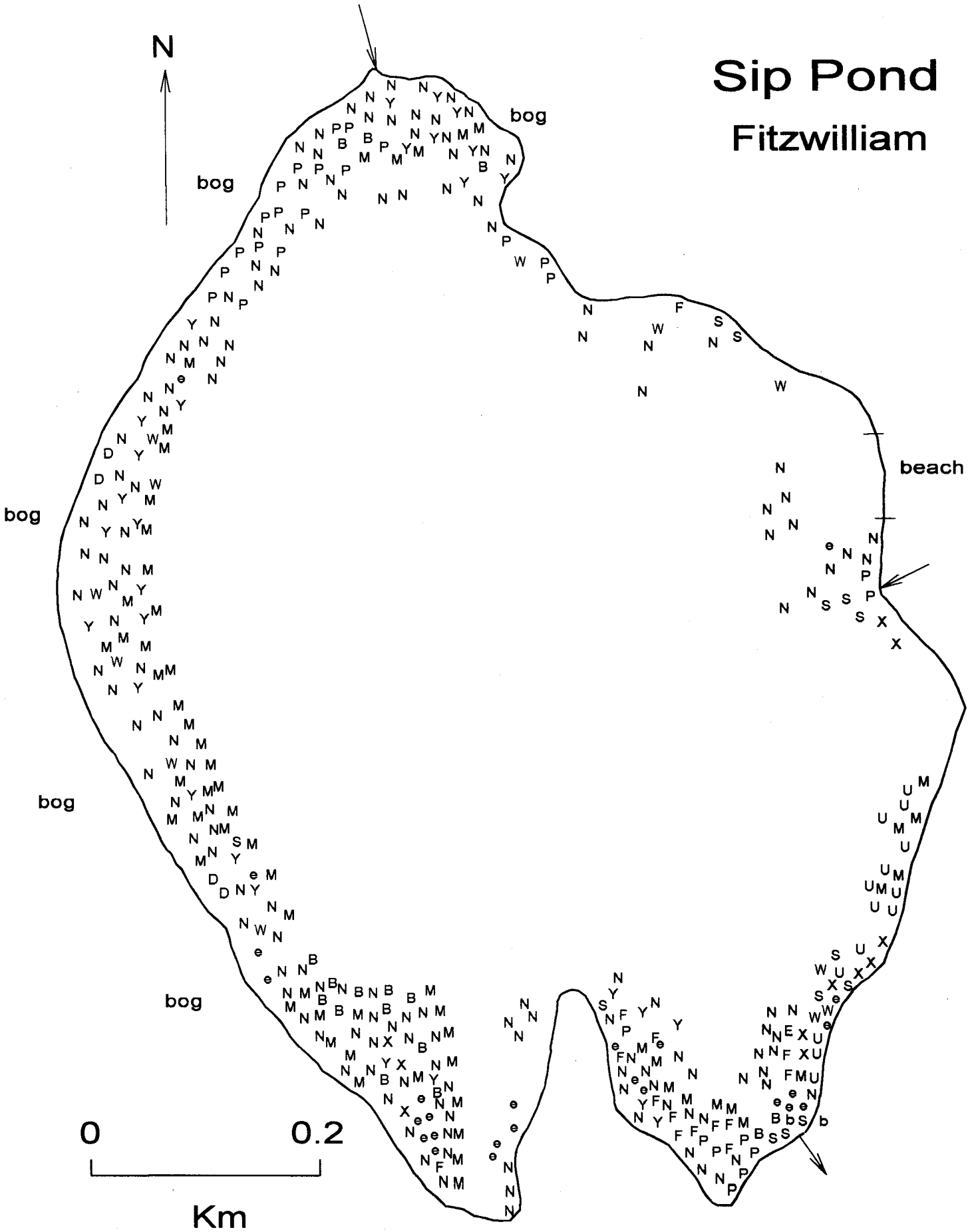
SECCHI DISK (m): 2.3 VOB

BOTTOM DEPTH (m): 2.3

TIME: 1200

COMMENTS:

*Dissolved oxygen values are in mg/L


Sip Pond
Fitzwilliam
N
bog
bog
bog
bog
bog
beach
0
0.2
Km

AQUATIC PLANT SURVEY

LAKE: SIP POND TOWN: FITZWILLIAM DATE: 09/08/93

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
M	Myriophyllum humile	Water milfoil	Very abundant
U	Utricularia	Bladderwort	Very abundant
X		Sterile thread-like leaf	Common
W	Potamogeton natans	Floating-leaf pondweed	Scattered
S	Sparganium	Bur reed	Scattered
e	Eleocharis	Spike rush	Scattered
N	Nymphaea	White water lily	Very abundant
E	Eriocaulon septangulare	Pipewort	Sparse
F	Nymphoides cordatum	Floating heart	Scattered
b	Scirpus	Bulrush	Sparse
B	Brasenia schreberi	Water shield	Common
P	Pontederia cordata	Pickerelweed	Common
Y	Nuphar	Yellow water lily	Abundant
D	Decodon verticillatus	Swamp loosestrife	Sparse

OVERALL ABUNDANCE: Very abundant

GENERAL OBSERVATIONS:

1. The entire western shoreline was a bog wetland with sundew and pitcher plants. Sweet gale and leatherleaf were also common along this boggy shoreline.
2. Filamentous algae were abundant.
3. Bladderwort was very common over all the visible pond bottom.
4. Large bryozoan colonies were observed along the bottom.