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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	KIAH POND	Lake Area (ha):	2.43
Town:	SANDWICH	Maximum depth (m):	5.5
County:	Carroll	Mean depth (m):	2.9
River Basin:	Merrimack	Volume (m^3):	70500
Latitude:	43°51'26" N	Relative depth:	3.1
Longitude:	71°31'02" W	Shore configuration:	1.70
Elevation (ft):	1420	Areal water load (m/yr):	51.62
Shore length (m):	940	Flushing rate (yr^{-1}):	17.80
Watershed area (ha):	197.5	P retention coeff.:	0.35
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:		29 January 1996	28 August 1995
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 80%	RHIZOSOLENIA 45%
	#2	(ALL ALGAE SPARSE)	LYNGBYA 15%
	#3		ANABAENA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (μg/L)			13.61
DOM. ZOOPLANKTON (% TOTAL)	#1	NONE OBSERVED	KELLICOTTIA 50%
	#2		BOSMINA 25%
	#3		NAUPLIUS LARVA 17%
ROTIFERS/LITER		<1	196
MICROCRUSTACEA/LITER		<1	159
ZOOPLANKTON ABUNDANCE (#/L)		<1	355
VASCULAR PLANT ABUNDANCE			Scat/Common
SECCHI DISK TRANSPARENCY (m)			1.7
BOTTOM DISSOLVED OXYGEN (mg/L)		12.8	1.0
BACTERIA (E. coli, #/100 ml)	#1		4
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

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

CHEMICAL:

Lake: KIAH POND
Town: SANDWICH

	29 January 1996		28 August 1995		
DEPTH (m)	1.0	3.0	1.0		4.0
pH (units)	4.9	5.1	6.1		5.9
A.N.C. (Alkalinity)	-0.3	0.2	2.4		4.5
NITRATE NITROGEN	0.06	0.08	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.26	0.26	0.46		0.56
TOTAL PHOSPHORUS	0.007	0.008	0.016		0.028
CONDUCTIVITY (µmhos/cm)	21.3	21.0	23.6		25.2
APPARENT COLOR (cpu)	55	55	55		100
MAGNESIUM			0.42		
CALCIUM			2.4		
SODIUM			1.4		
POTASSIUM			< 0.40		
CHLORIDE	2	2	< 2		< 2
SULFATE			5		4
TN : TP	46	43	29		20
CALCITE SATURATION INDEX			4.4		

All results in mg/L unless indicated otherwise

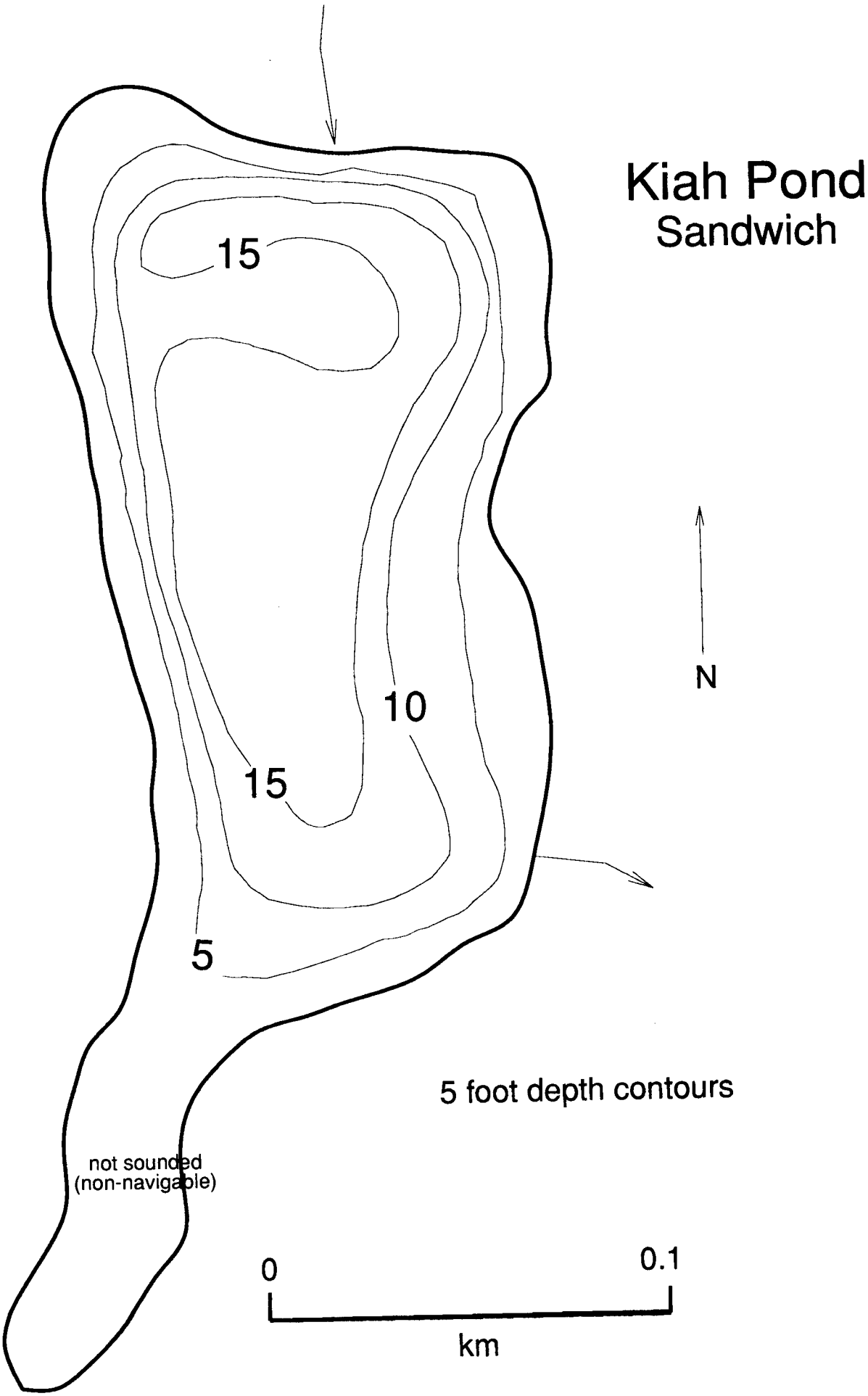
TROPHIC CLASSIFICATION: 1995

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	2	3	9	Meso.

COMMENTS:

1. This is a somewhat remote pond, accessible by a 4-wheel drive road, that was surveyed cooperatively with the Fish and Game Department.

2. It is a mildly acidic, dark tea-colored pond with only fair transparency (6+ feet). Despite its remoteness, it had moderate nutrient levels and higher than expected algae levels. The phytoplankton community had significant occurrences of blue green algae.


Kiah Pond
Sandwich
15
10
15
5
N
5 foot depth contours
not sounded
(non-navigable)
0
0.1
km

FIELD DATA SHEET

LAKE: KIAH POND
DATE: 08/28/95

TOWN: SANDWICH
WEATHER: SUNNY WITH SLIGHT BREEZE

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	18.8	7.6	79 %
	1.0	18.0	7.4	78 %
	2.0	17.8	7.2	74 %
	3.0	16.5	1.6	16 %
	4.0	12.0	1.0	9 %

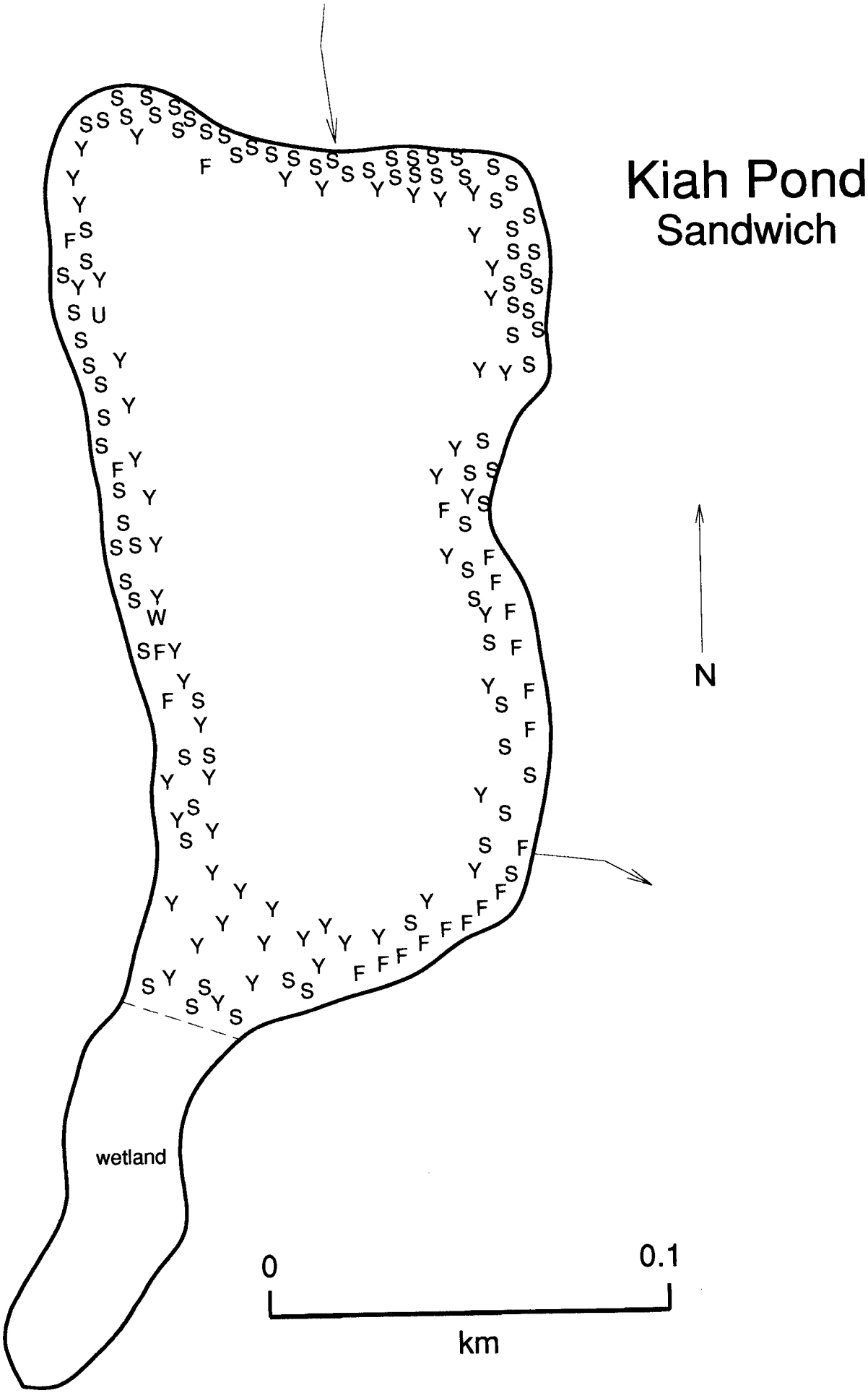
SECCHI DISK (m): 1.7

BOTTOM DEPTH (m): 4.6

TIME: 1030

COMMENTS:

*Dissolved oxygen values are in mg/L


Kiah Pond
Sandwich
N
wetland
0
0.1
km

AQUATIC PLANT SURVEY

LAKE: KIAH POND TOWN: SANDWICH DATE: 08/28/95

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
S	Sparganium	Bur reed	Scattered
Y	Nuphar	Yellow water lily	Scattered
F	Nymphoides cordatum	Floating heart	Sparse
U	Utricularia	Bladderwort	Sparse
W	Potamogeton	Pondweed	Sparse

OVERALL ABUNDANCE: Scat/Common

GENERAL OBSERVATIONS:

1. The southwest cove of the pond was essentially a wetland.
2. Beaver activity was evident in the area.