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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	COLDRAIN POND	Lake Area (ha):	11.01
Town:	NEW DURHAM	Maximum depth (m):	4.9
County:	Strafford	Mean depth (m):	1.7
River Basin:	Coastal	Volume (m^3):	182000
Latitude:	73°27'10" N	Relative depth:	1.3
Longitude:	71°08'45" W	Shore configuration:	1.00
Elevation (ft):	660	Areal water load (m/yr):	10.45
Shore length (m):	1100	Flushing rate (yr^{-1}):	6.30
Watershed area (ha):	251.2	P retention coeff.:	0.54
% watershed ponded:	0.0	Lake type:	natural

BIOLOGICAL:		6 March 1991	18 July 1990
DOM. PHYTOPLANKTON (% TOTAL)	#1	SYNURA 95%	MALLOMONAS 20%
	#2		ASTERIONELLA 15%
	#3		MELOSIRA 15%
PHYTOPLANKTON ABUNDANCE (cells/mL)			455.0
CHLOROPHYLL-A (μg/L)			5.08
DOM. ZOOPLANKTON (% TOTAL)	#1	SYNCHAETA 48%	CALANOID COPEPOD 35%
	#2	KERATELLA 24%	KERATELLA 23%
	#3	LG GRN CILIATE 24%	POLYARTHRA 20%
ROTIFERS/LITER		106	37
MICROCRUSTACEA/LITER		0	40
ZOOPLANKTON ABUNDANCE (#/L)		138	81
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			1.5
BOTTOM DISSOLVED OXYGEN (mg/L)		6.4	0.6
BACTERIA (fecal col., #/100 ml)	#1		< 10
	#2		< 10
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	2.0
Hypolimnion volume (m^3) :	13000
Anoxic volume (m^3) :	33000

CHEMICAL:

Lake: COLDRAIN POND
Town: NEW DURHAM

	6 March 1991		18 July 1990		
DEPTH (m)	1.0	3.0	1.5		3.0
pH (units)	5.6	5.6	6.0		5.6
A.N.C. (Alkalinity)	2.2	2.6	2.1		2.3
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.29	0.46	0.42		0.37
TOTAL PHOSPHORUS	0.036	0.031	0.018		0.021
CONDUCTIVITY (μmhos/cm)	20.2	21.6	16.7		18.1
APPARENT COLOR (cpu)	74	76	120		126
MAGNESIUM			0.23		
CALCIUM			1.0		
SODIUM			1.7		
POTASSIUM			0.50		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	3	3	1		2
TN : TP	8	15	23		18
CALCITE SATURATION INDEX			4.9		

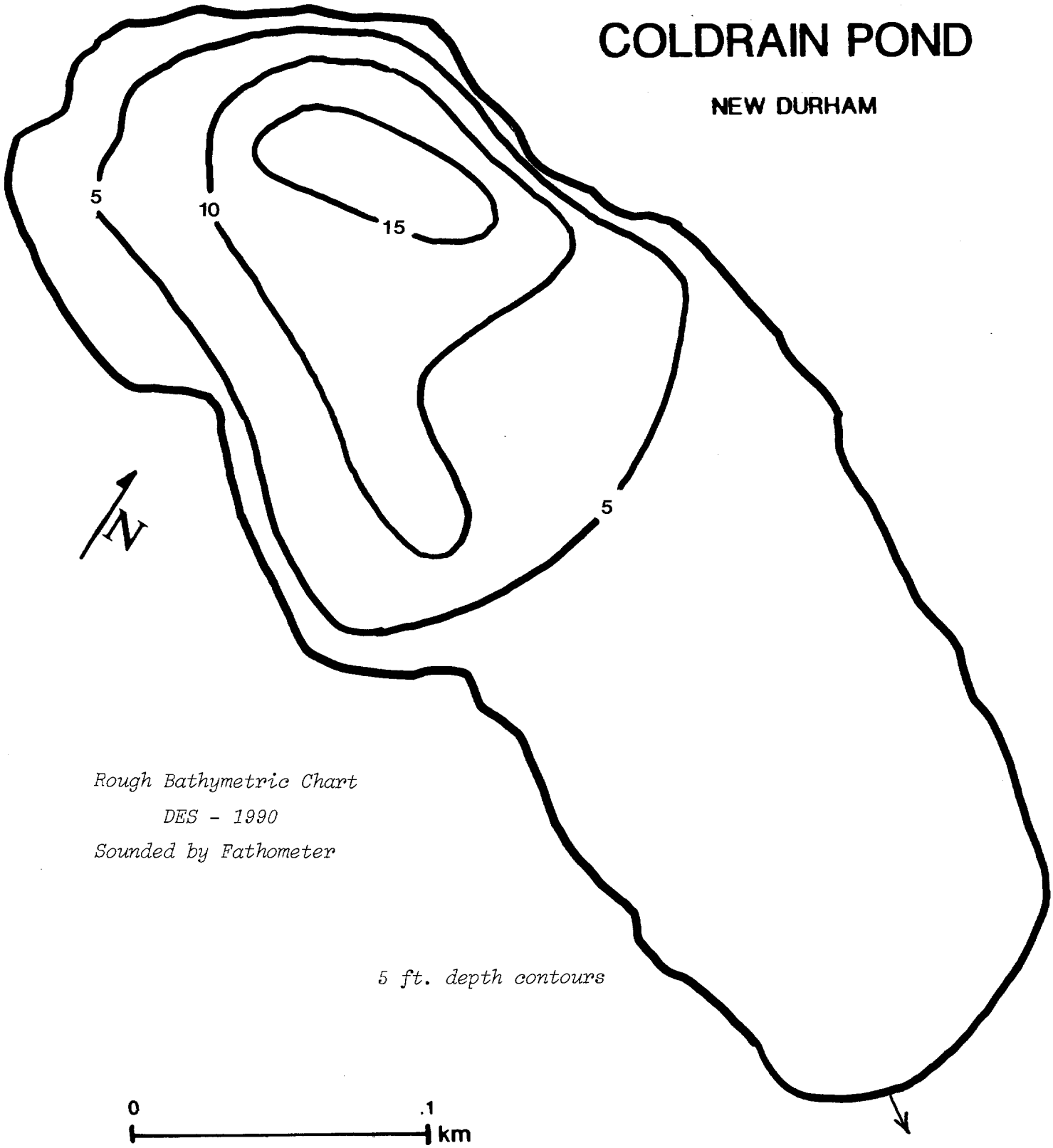
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1990

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	4	4	1	13	Eutro.

COMMENTS:

1. No boat access; walk-in access only.
2. This is a fly fishing only trout pond (despite no dissolved oxygen below 2 meters).
3. Dominant wholewater phytoplankton genera were Schroederia (30%), Chroomonas (20%) and tiny green flagellates (20%).
4. No cottages were along the shore.


COLDRAIN POND
NEW DURHAM
5
10
15
5
N
Rough Bathymetric Chart
DES - 1990
Sounded by Fathometer
5 ft. depth contours
0
.1
km

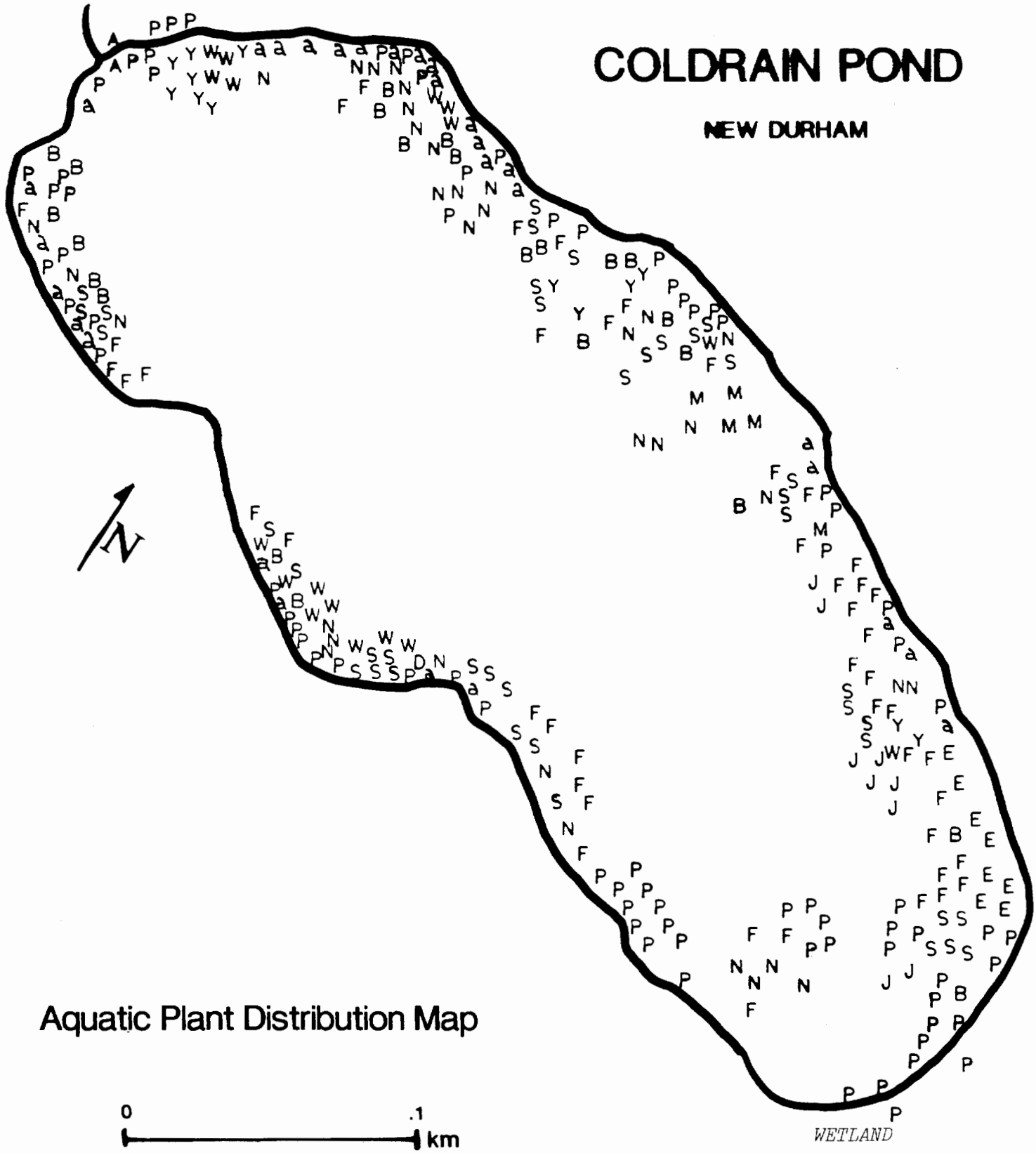
FIELD DATA SHEET

LAKE: COLDRAIN POND TOWN: NEW DURHAM
DATE: 07/18/90 WEATHER: SUNNY, WARM & BREEZY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	26.0	7.5	92 %
	1.0	26.0	7.4	91 %
	2.0	20.0	1.7	18 %
	3.0	14.5	0.4	4 %
	4.0	11.5	0.6	5 %
	4.5	11.0	0.6	5 %

SECCHI DISK (m): 1.5 COMMENTS:
BOTTOM DEPTH (m): 4.6
TIME: 1250

*Dissolved oxygen values are in mg/L



Aquatic Plant Distribution Map

AQUATIC PLANT SURVEY

LAKE: COLDRAIN POND TOWN: NEW DURHAM DATE: 07/18/90

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerelweed	Common/Abun
a	Peltandra virginica	Arrow arum	Common
A	Sagittaria	Arrowhead	Sparse
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Common
F	Nymphoides cordatum	Floating heart	Common
B	Brasenia schreberi	Water shield	Common
S	Sparganium	Bur reed	Common
W	Potamogeton	Pondweed	Common
J	Juncus	Rush	Scattered
M	Myriophyllum	Water milfoil	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

1. Although not listed on this sheet or on the map, bladderwort was very abundant over the entire bottom of the pond, except in the deepest area.

2. A wetland surrounds the southeastern end of the pond.