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

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	ONWAY LAKE	Lake Area (ha):	77.70
Town:	RAYMOND	Maximum depth (m):	8.5
County:	Rockingham	Mean depth (m):	3.2
River Basin:	Coastal	Volume (m^3):	2509000
Latitude:	43°02'20" N	Relative depth:	0.9
Longitude:	71°13'15" W	Shore configuration:	1.25
Elevation (ft):	265	Areal water load (m/yr):	14.72
Shore length (m):	3900	Flushing rate (yr^{-1}):	4.60
Watershed area (ha):	2374.3	P retention coeff.:	0.51
% watershed ponded:	0.0	Lake type:	natural w/dam

BIOLOGICAL:	21 February 1990	5 September 1989
DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	OSCILLATORIA 90%
#2		
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		1460.0
CHLOROPHYLL-A (µg/L)		5.81
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 69%	KELLICOTTIA 48%
#2		NAUPLIUS LARVA 17%
#3		CALANOID COPEPOD 15%
ROTIFERS/LITER	31	40
MICROCRUSTACEA/LITER	4	29
ZOOPLANKTON ABUNDANCE (#/L)	35	81
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		3.5
BOTTOM DISSOLVED OXYGEN (mg/L)	7.1	1.2
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 6.0
Hypolimnion volume (m^3): 39000

CHEMICAL:

Lake: ONWAY LAKE
Town: RAYMOND

	21 February 1990		5 September 1989		
DEPTH (m)	2.5	5.0	2.5	6.5	8.0
pH (units)	6.2	6.2	6.9	6.4	6.6
A.N.C. (Alkalinity)	8.2	9.1	7.0	10.7	20.9
NITRATE NITROGEN	0.10	0.10	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.41	0.41	0.38	0.50	0.90
TOTAL PHOSPHORUS	0.012	0.012	0.014	0.026	0.027
CONDUCTIVITY (µ mhos/cm)	160.1	156.0	142.9	140.7	162.3
APPARENT COLOR (cpu)	38	38	37	44	168
MAGNESIUM			1.08		
CALCIUM			4.8		
SODIUM			21.0		
POTASSIUM			1.10		
CHLORIDE	36	35	32		32
SULFATE	7	7	4		3
TN : TP	43	43	27		33
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1989

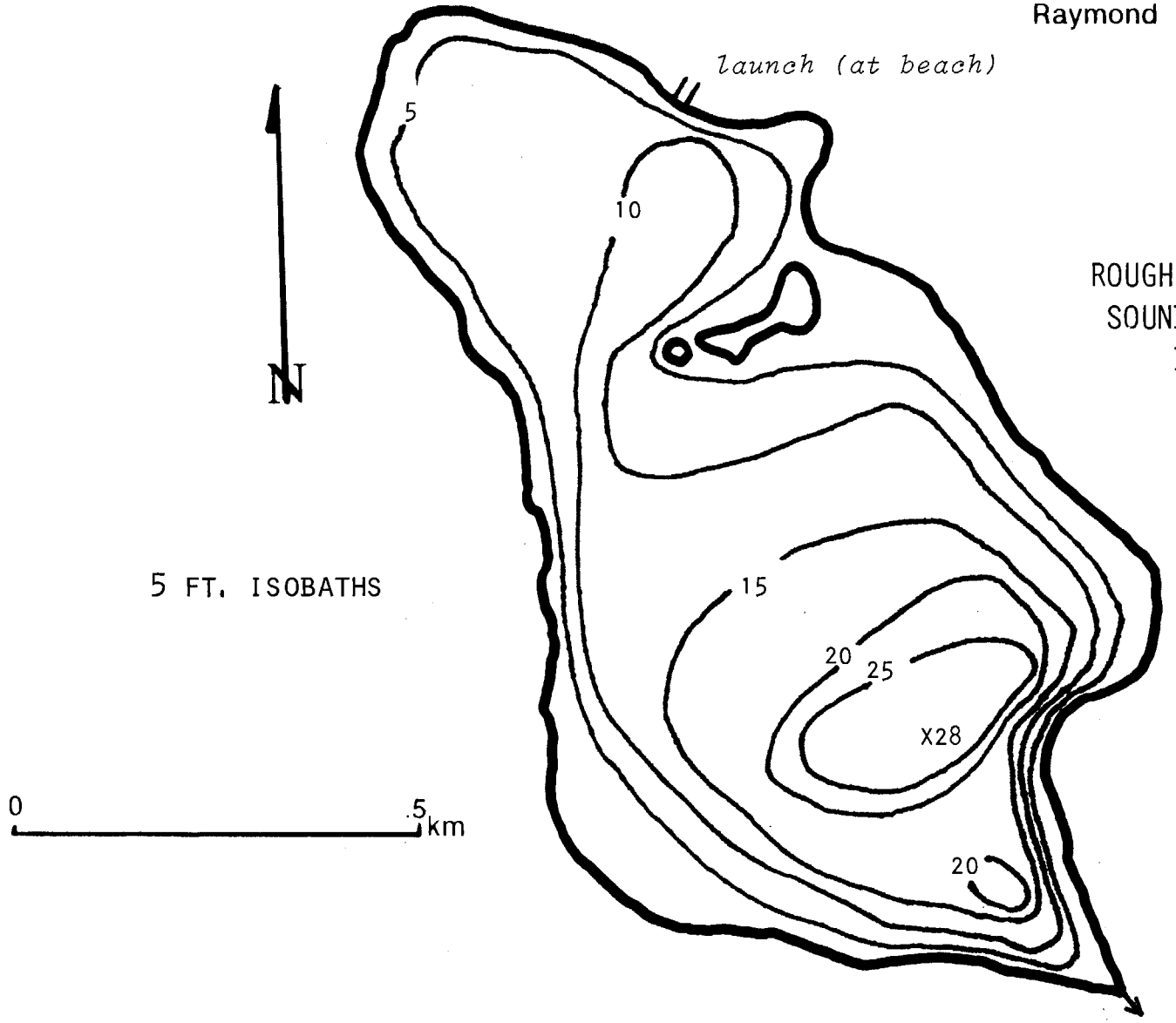
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
1	2	5	1	9	Meso.

COMMENTS:

1. Previously called Jones Pond.
2. A juvenile camp was located on the pond.
3. This lake was previously surveyed and classified in 1979. There was little change in lake quality and no change in the assigned classification.
4. Sodium and chloride levels suggest that salted roads drain to the lake.
5. We launched our boat at a steep, beach area.
6. Tiny flagellates (35%), Aphanocapsa (25%), and Chlamydomonas (25%) were the dominant genera of whole-water phytoplankton.

Onway Lake

Raymond



ROUGH BATHYMETRIC CHART
SOUNDED BY FATHOMETER
DES - 1989

5 FT. ISOBATHS

FIELD DATA SHEET

LAKE: ONWAY LAKE
DATE: 09/05/89

TOWN: RAYMOND
WEATHER: SUNNY; HIGH CLOUDS; 70'S

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	21.4	8.3	93 %
	1.0	21.0	8.3	93 %
	2.0	20.9	8.2	90 %
	3.0	20.8	8.2	90 %
	4.0	20.8	8.2	90 %
	5.0	20.2	7.8	84 %
	6.0	16.8	1.2	12 %
	7.0	12.5	1.2	11 %
	8.0	11.6	1.2	11 %

SECCHI DISK (m): 3.5

BOTTOM DEPTH (m): 8.5

TIME: 1200

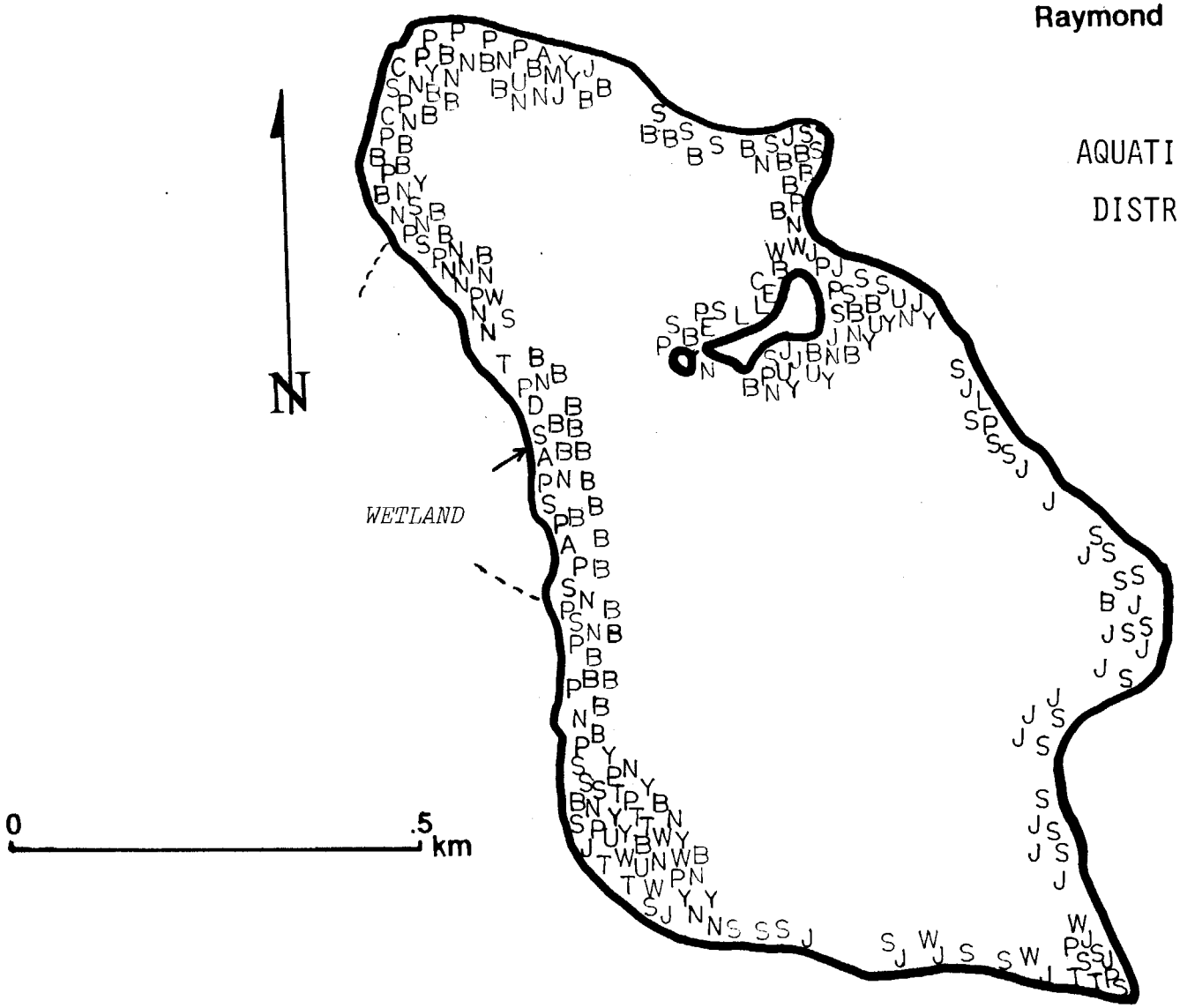
COMMENTS:

*Dissolved oxygen values are in mg/L

Onway Lake

Raymond

AQUATIC PLANT DISTRIBUTION



AQUATIC PLANT SURVEY

LAKE: ONWAY LAKE TOWN: RAYMOND DATE: 09/05/89

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
B	Brasenia schreberi	Water shield	Abundant
N	Nymphaea	White water lily	Abundant
Y	Nuphar	Yellow water lily	Scattered
S	Sparganium	Bur reed	Abundant
P	Pontederia cordata	Pickerelweed	Common
U	Utricularia	Bladderwort	Abundant
M	Myriophvllum	Water milfoil	Scattered
A	Sagittaria	Arrowhead	Sparse
J	Juncus	Rush	Common
W	Potamogeton	Pondweed	Common
C	Carex	Sedge	Sparse
L	Lobelia dortmanna	Water lobelia	Sparse
E	Eriocaulon septangulare	Pipewort	Sparse
T	Typha	Cattail	Scattered
D	Decodon verticillatus	Swamp loosestrife	Sparse

OVERALL ABUNDANCE: Abundant

GENERAL OBSERVATIONS:

1. Abundant bottom growth.