

TROPHIC CLASSIFICATION OF N.H. LAKES AND PONDS

NAME Nutt Pond TOWN Manchester CO Hillsborough RIVER BASIN Merrimack

I. POTENTIAL FOR NUTRIENT ENRICHMENT Latitude: 42°57'N Longitude: 71°27'W

A. NATURAL PHYSICAL FACTORS

- | | |
|--|--|
| 1. Area (ha) <u>6.52</u> | 10. Watershed area <u>6</u> |
| 2. Max. depth (m) <u>10.4</u> | 11. Bottom slope <u>3.6</u> |
| 3. Mean depth (m) <u>4.2</u> | 12. Shore config. <u>1.09</u> |
| 4. Elevation (ft) <u>237</u> | 13. Flushing rate <u>3.0</u> |
| 5. Shore length (m) <u>965</u> | 14. Water renewal time <u>0.33</u> |
| 6. Volume (m ³) <u>271,000</u> | 15. Drainage density <u>-</u> |
| 7. Volume/shore length <u>280</u> | 16. % Watershed ponded <u>-</u> |
| 8. % Stratification <u>-</u> | 17. Phos. retent. coeff. R <u>0.53</u> |
| 9. Watershed area (ha) <u>168.0</u> | |

B. CULTURAL FACTORS

- | | |
|--|--|
| 1. % Shore developed <u> </u> | 5. Estimate of non-point Tot-P loading: |
| 2. Number nearshore homes <u> </u> | a. Land Use <u> </u> |
| 3. # nearshore homes/mile shore <u> </u> | b. Precipitation <u> </u> |
| 4. Volume lake/# nearshore homes <u> </u> | c. Subsurface disposal <u> </u> |
| | d. Other <u> </u> |

II. INDICATORS OF TROPHIC CONDITION (mg/l unless indicated otherwise)

A. Winter Data:

Date 27 January 1981 Weather Overcast 8°C

Depth(m)	2.3	4.6
Alkalinity	17.8	17.5
PO ₄ -P	<0.001	<0.001
Total-P	0.024	0.031
NO ₂ +NO ₃ -N	<0.05	<0.05
Kjeld-N	1.0	0.98
Total-N	-	-
Tot-N/Tot-P	-	-
NO ₂ +NO ₃ -N/PO ₄ -P	-	-

Bottom: Depth 6.5 m D.O. 6.8 % Sat. 51.1

% Organic matter sediment 22.6

Dom. Phytopl. 1. Asterionella - 90%

2.

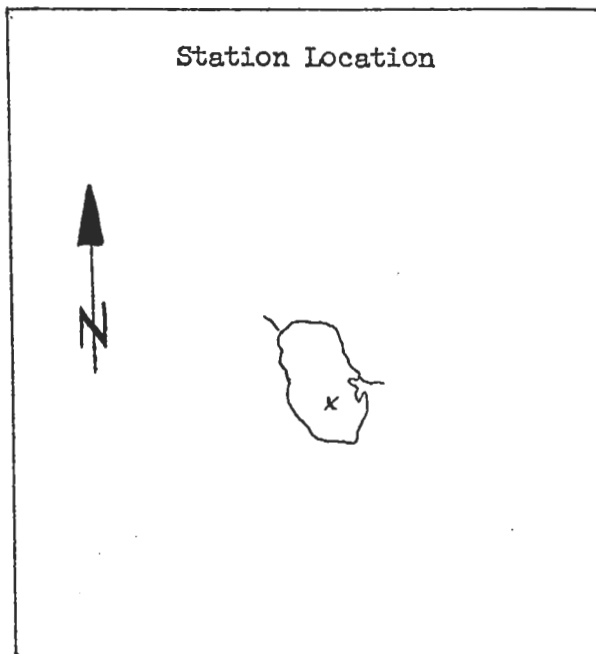
Dom. Zoopl. 1. Kellicottia - 25%

2. Cyclopoid copepods - 25%

B. Summer Data:

Date 29 July 1981Weather Overcast, cool, rain

	Depth (m)	Mid-ep	Mid-therm	Mid-hyp
pH (units)		2.0	5.0	7.0
Alkalinity		7.1	7.1	6.7
PO ₄ -P		12.0	18.0	43.2
Total-P		0.002	0.007	0.006
NO ₂ +NO ₃ -N		0.025	0.053	-
Kjeld-N		0.07	<0.05	<0.05
Total Residue		0.33	0.95	2.2
Color (units)		-	-	-
Turb. (NTU)		25	45	250
Spec. Conduct. (μMhos/cm)		2.4	12.3	23.0
Tot. Org. Carbon		194	260	330
Chloride		-	-	-
Mg		47	57	66
Ca		1.65	-	-
Na		8.5	-	-
K		25.0	-	-
[Mg+Ca] / [Na+K]		1.7	-	-
Tot-N/Tot-P		0.38	-	-
NO ₂ +NO ₃ -N/PO ₄ -P		-	-	-

Bottom: Depth 7.5 m D.O. 0.4 % Sat. .3Epilimnetic alkalinity decrease -PO₄-P ratio: epi/hyp -Total-P ratio: epi/hyp -Secchi disk transparency (M) 2.5% organic Matter sediment -Vascular Plants CommonDom. Vasc. Plants: 1. Pontederia cordata
2. Nymphaea
3. -Ash-Free Dry Weight -Chlorophyll a 38.70 (mg/m³)Tot. Zoopl. Cnts. 424.7 (cells/liter)Dom. Phytopl. 1. Oscillatoria - 50%
2. Ceratium - 50%Dom. Zoopl. 1. Keratella - 40%
2. Nauplius larva - 25%TROPIC CLASSIFICATION 1981: Vasc.
D.O. S.D. Plants Chl a Total Class.

Classification Points:

5	2	2	5	14	Eutro.
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COMMENTS:

1. Several shopping carts observed in the lake; trashy looking.
2. Black sediment on bottom

FIELD DATA SHEET

WATER BODY Nutt Pond TOWN Manchester By WSPCC
DATE COLLECTED 29 July 81 WEATHER Overcast - cool

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
	7.5	9.0	0.4	3			
	7.0	9.0	0.2	2			
	6.0	11.0	0.2	2			
	5.0	17.5	9.2	96			
	4.0	22.0	8.6	98			
	3.0	23.5	8.5	99			
	2.0	23.5	8.5	99			
	1.0	23.5	8.5	99			
	Surface	24.0	8.5	100			

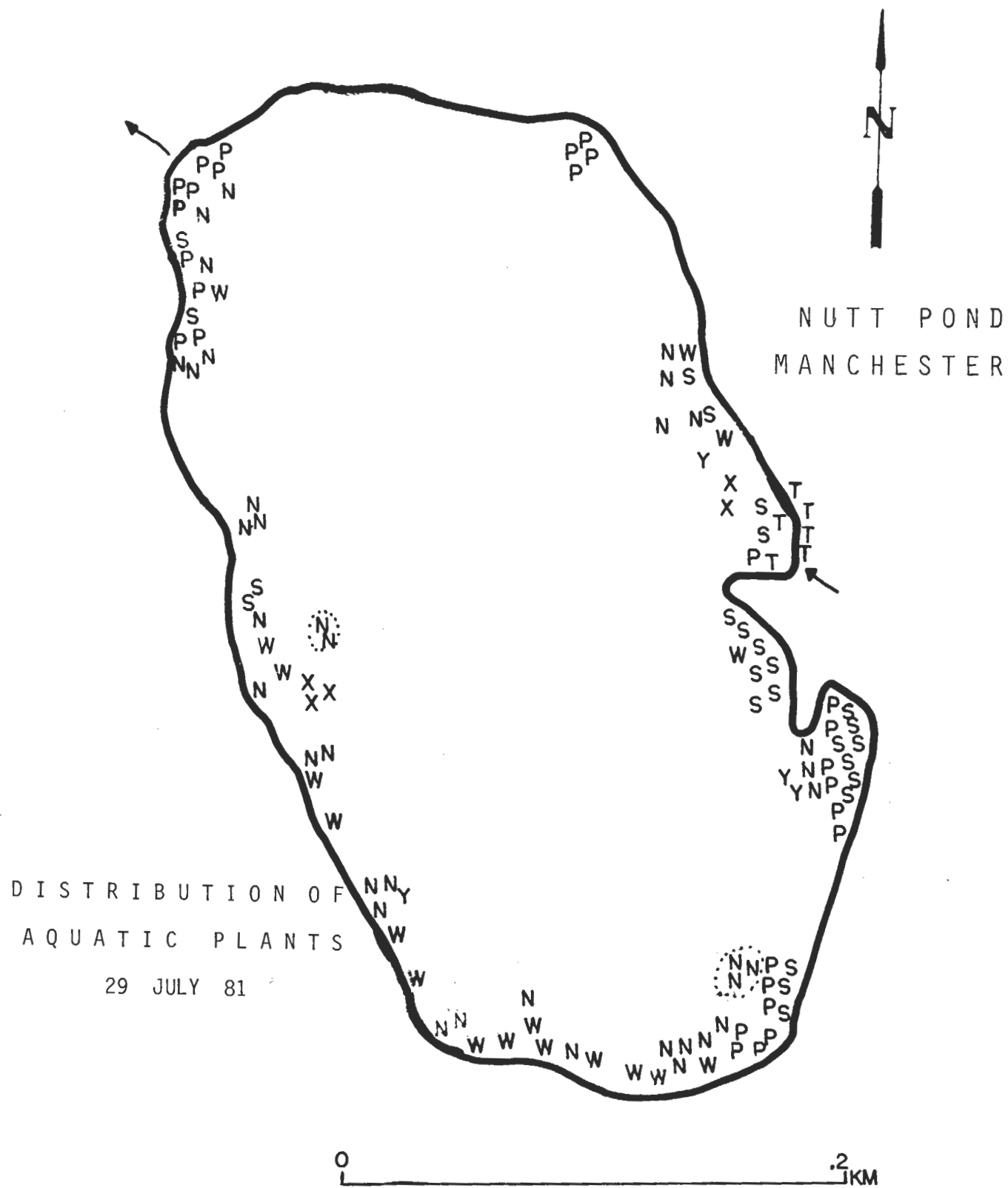
SECCHI DISK (M) 2.5

BOTTOM DEPTH (M) 7.5

TIME 11:32-11:48

COMMENTS:

* Dissolved oxygen values in mg/L 229



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LAKE Nutt Pond TOWN Manchester DATE 29 July 81 BY WS+PCC

[illegible]

OVERALL ABUNDANCE Common

GENERAL OBSERVATIONS:

