TROPHIC CLASSIFICATION OF N.H. LAKES AND PONDS

NAME Maxwell Pond TOWN Manchester CO Hillsborough RIVER BASIN Merrimack

I. POTENTIAL FOR NUTRIENT ENRICHMENT

Latitude: 43°01'N Longitude: 71°31'W

A. NATURAL PHYSICAL FACTORS

1. Area (ha) 3.0
2. Max. depth (m) 4.0
3. Mean depth (m) 0.43
4. Elevation (ft) 235
5. Shore length (m) 3,100
6. Volume (m^3) 12,900
7. Volume/shore length 43.5
8. % Stratification 0%
9. Watershed area (ha) 608.0
10. Watershed area / Volume 471
11. Bottom slope 2.1
12. Shore config. 5.03
13. Flushing rate 217.0
14. Water renewal time 0.05
15. Drainage density -
16. % Watershed ponded -
17. Phos. retent. coeff. R 0.23

B. CULTURAL FACTORS

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

II. INDICATORS OF TROPHIC CONDITION

(mg/l unless indicated otherwise)

A. Winter Data:

Date 18 February 1981 Weather Clear, sunny and warm 50°F

Depth(m)	1.0	
Alkalinity	4.3	
PO_4-P	0.002	
Total-P	0.018	
NO_2+NO_3-N	0.13	
Kjeld-N	0.50	
Total-N	0.63	
Tot-N/Tot-P	31.5	
NO_2+NO_3-N/PO_4-P	65.0	

Bottom: Depth 0.25m D.O. - % Sat. -

% Organic matter sediment 11.0

Dom. Phytopl. 1. Very sparse - no
2. dominant

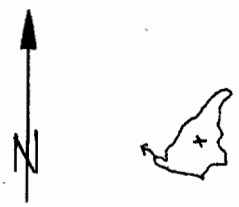
Dom. Zoopl. 1. Very sparse - no
2. dominant

B. Summer Data:

Date 1 September 1981 Weather Cloudy, cool

Depth (m)	Mid-ep	Mid-therm	Mid-hyp
pH (units)	6.4		
Alkalinity	7.0		
PO_4-P	0.004		
Total-P	0.018		
NO_2+NO_3-N	0.07		
Kjeld-N	0.52		
Total Residue	-		
Color (units)	50		
Turb. (NTU)	4.3		
Spec. Conduct. (μMhos/cm)	56		
Tot. Org. Carbon	-		
Chloride	12		
Mg	0.70		
Ca	3.5		
Na	8.0		
K	0.9		
[Mg+Ca] / [Na+K]	1.43		
Tot-N/Tot-P	26.82		
NO_2+NO_3-N/PO_4-P	-		

Station Location



Bottom: Depth 1.0 m D.O. 7.6 % Sat. 81%

Epilimnetic alkalinity decrease

PO_4-P ratio: epi/hyp

Total-P ratio: epi/hyp

Secchi disk transparency (M) 1.2 V.O.B.

% organic Matter sediment

Vascular Plants Abundant
Dom. Vasc. Plants: 1. Sagittaria
2. Gramineae
3. Pontederia cordata
Ash-Free Dry Weight
Chlorophyll a 3.29 (mg/m^3)
Tot. Zoopl. Cnts. (cells/liter)
Dom. Phytopl. 1. Oscillatoria - 40%
2. Synura - 25%
Dom. Zoopl. 1. No Dominant - Sparse
2.

TROPHIC CLASSIFICATION 1981 :

	D.O.	S.D.	Vasc. Plants	Chl a	Total	Class.
Classification Points:	-	2	3	0	5	Meso.

COMMENTS:

1. This pond was not thermally stratified at the time of the summer sampling.

FIELD DATA SHEET

WATER BODY Maxwell Pond TOWN Manchester By WSPCC

DATE COLLECTED 1 Sept. 81 WEATHER Cloudy and cool

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
	1.0	19.0	7.6	81			
	0.5	19.0	7.6	81			
	Surface	19.0	7.7	82			

COMMENTS:

SECCHI DISK (M) 1.2 V.O.B.

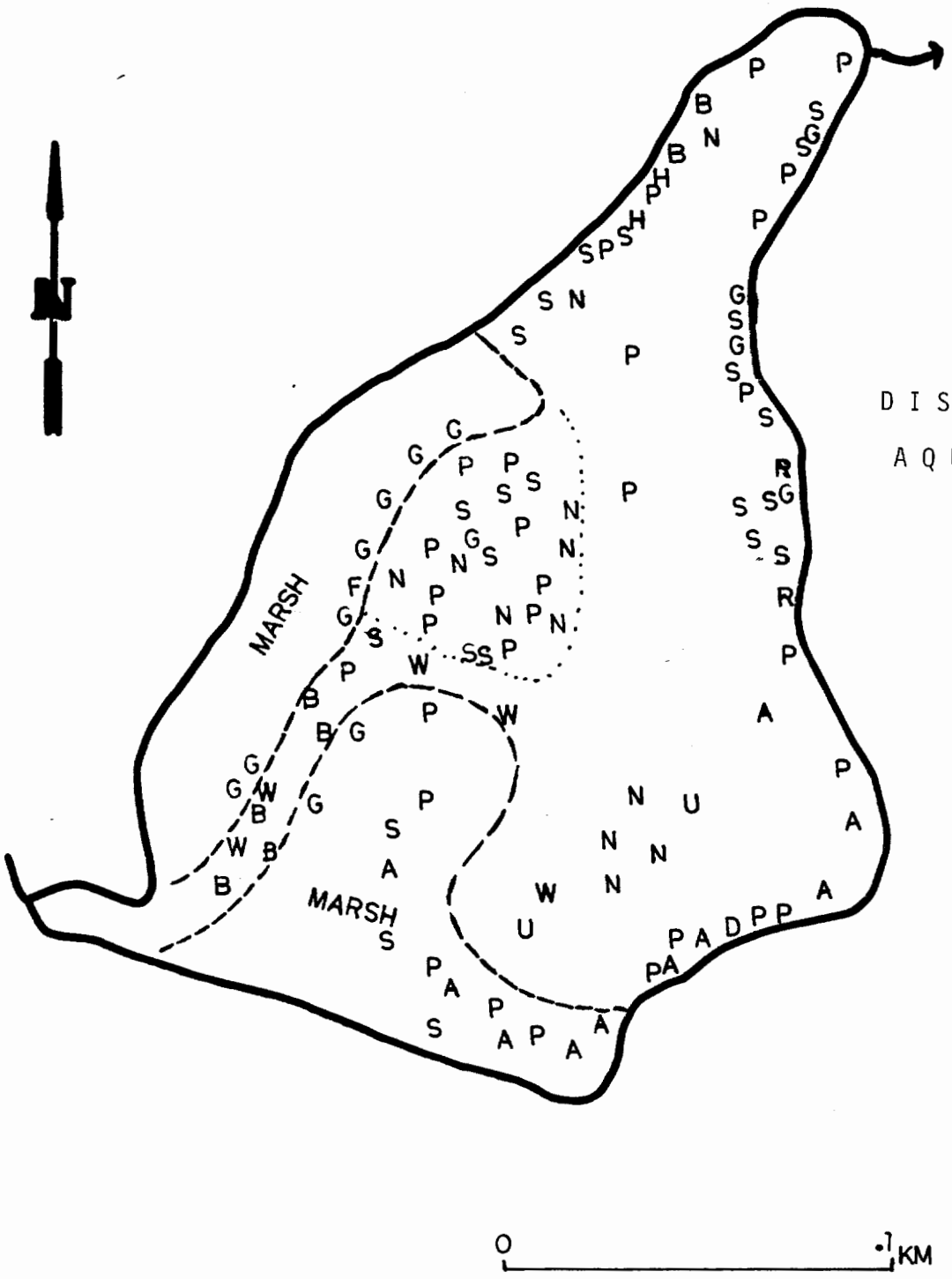
BOTTOM DEPTH (M) 1.2

TIME 10:35-10:45

* Dissolved oxygen values in mg/L

MAXWELL POND

MANCHESTER



DISTRIBUTION OF AQUATIC PLANTS

1 JULY 81

AQUATIC PLANT SURVEY

LAKE Maxwell Pond TOWN Manchester DATE 1 Sept 81 BY WS+PCC

No.	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
A	Sagittaria	Arrowhead	Abundant
G	Gramineae	Grass Family	Abundant
W	Potamogeton	Pondweed	Common
N	Nitella	Waterweed	Common
S	Scirpus	Bulrush	Sparse
U	Utricularia	Bladderwort	Sparse
D	Dulichium arundinaceum	Three-way Sedge	Sparse
P	Pontederia cordata	Pickerelweed	Abundant
R	Eleocharis	Spike Rush	Sparse
H	Polygonum	Smartweed	Sparse
C	Cephalanthus occidentalis	Button Bush	Sparse
B	Sparganium	Bur Reed	Common

OVERALL ABUNDANCE Abundant

GENERAL OBSERVATIONS:

This man-made pond is slowly filling in with sediment and vascular plants.

ROUGH BATHYMETRIC CHART

NEW HAMPSHIRE WATER SUPPLY & POLLUTION

CONTROL COMMISSION - 1981

59 SOUNDINGS