TROPHIC CLASSIFICATION OF N.H. LAKES AND PONDS

NAME Pine Island Pond TOWN Manchester CO Hillsborough RIVER BASIN

I. POTENTIAL FOR NUTRIENT ENRICHMENT

A. NATURAL PHYSICAL FACTORS

1. Area (ha) 17.16
2. Max. depth (m) 4.6
3. Mean depth (m) 1.6
4. Elevation (ft) 151
5. Shore length (m) 3,900
6. Volume (m^3) 282,500
7. Volume/shore length 70
8. % Stratification 0
9. Watershed area (ha) 17,889.2
10. Watershed area / Volume 634
11. Bottom slope 1.0
12. Shore config. 2.65
13. Flushing rate 305.6
14. Water renewal time <.01
15. Drainage density -
16. % Watershed ponded 0.9
17. Phos. retent. coeff. R <.01

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 March 4, 1980 Weather Clear and cold

Depth(m)	1.0	2.0
Alkalinity	14.7	14.0
PO_4-P	0.001	<.001
Total-P	0.024	0.030
NO_2+NO_3-N	0.50	0.51
Kjeld-N	-	0.25
Total-N	-	0.76
Tot-N/Tot-P	-	25
NO_2+NO_3-N/PO_4-P	500	-

Bottom: Depth 2.4m D.O. 9.8 % Sat. 73

% Organic matter sediment 9.7

Dom. Phytopl. 1. No Dominant
2.

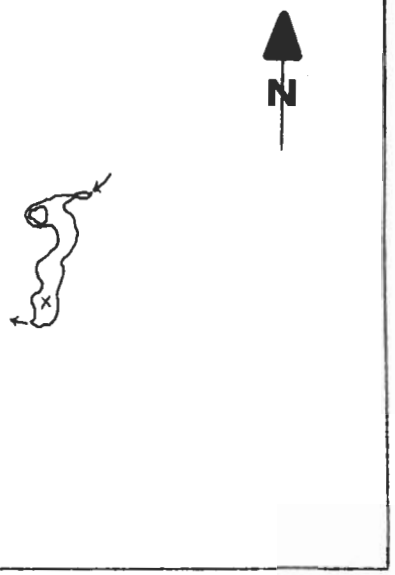
Dom. Zoopl. 1. No Dominant
2.

B. Summer Data:

Date August 5, 1980 Weather Sunny, hot

	Mid-ep	Mid-therm	Mid-hyp
Depth (m)	1.0	2.0	3.0
pH (units)	7.1	6.9	6.7
Alkalinity	15.2	15.3	14.8
PO_4-P	0.004	0.005	0.005
Total-P	0.015	0.019	0.034
NO_2+NO_3-N	<0.05	0.08	0.10
Kjeld-N	0.69	0.89	0.81
Total Residue	105	-	-
Color (units)	90	100	100
Turb. (NTU)	2.0	2.6	2.4
Spec. Conduct. (μMhos/cm)	142.8	129.8	124.2
Tot. Org. Carbon	6	-	-
Chloride	31	29	31
Mg	1.35	-	-
Ca	6.6	-	-
Na	16.0	-	-
K	1.5	-	-
[Mg+Ca] / [Na+K]	0.45	-	-
Tot-N/Tot-P	-	51.1	26.8
NO_2+NO_3-N/PO_4-P	-	16.0	20.0

Station Location



Bottom: Depth 3.0 m D.O. 0 % Sat. 0

Epilimnetic alkalinity decrease -0.5

PO_4-P ratio: epi/hyp 0.80

Total-P ratio: epi/hyp 0.44

Secchi disk transparency (M) 2.0

% organic Matter sediment -

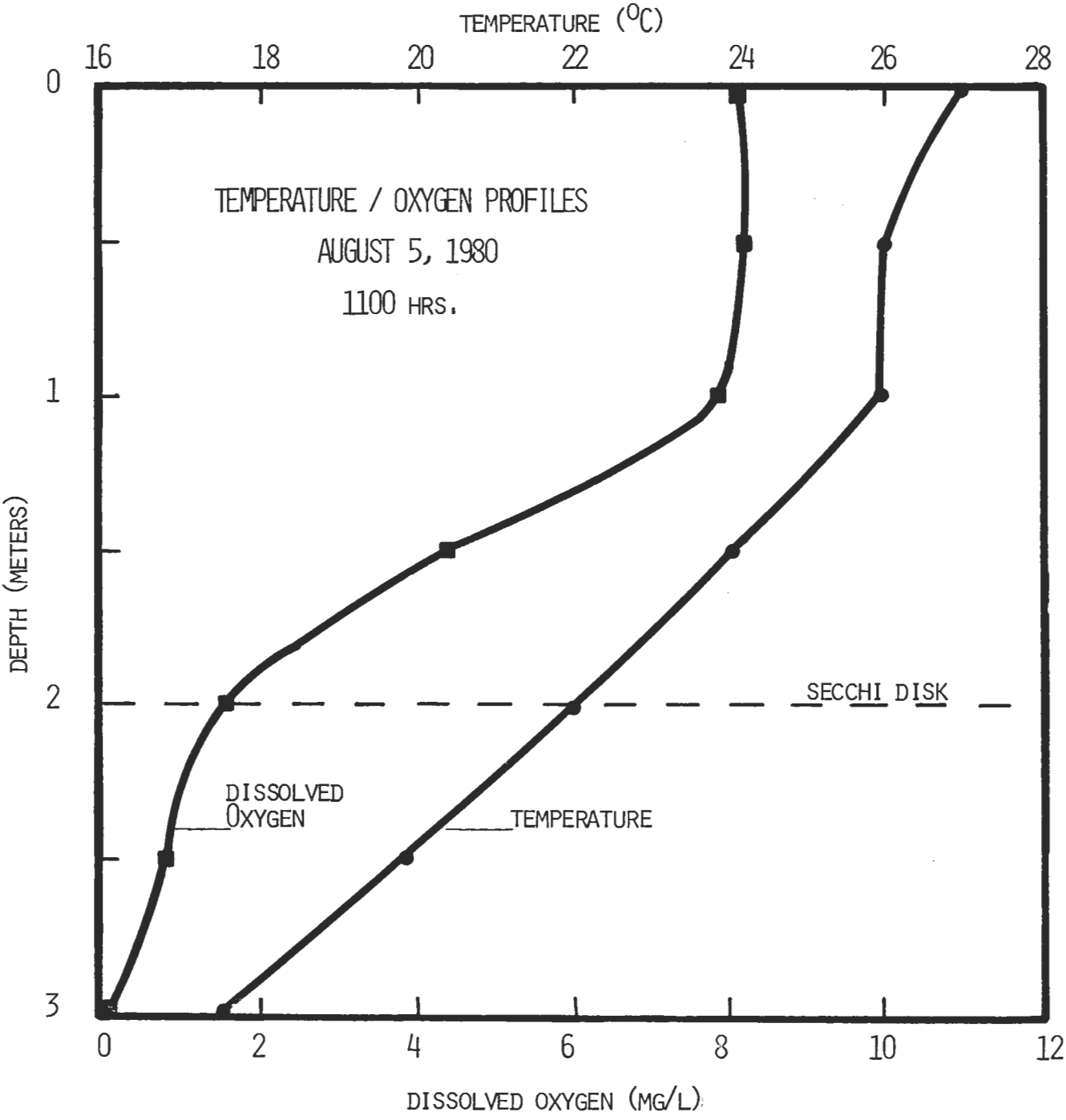
Vascular Plants Abundant
Dom. Vasc. Plants: 1. Elodea
2. Nymphaea
3. Pontederia
Ash-Free Dry Weight
Chlorophyll a 10.91 (mg/m^3)
Tot. Zoopl. Cnts. 85 (cells/liter)
Dom. Phytopl. 1. Oscillatoria - 45%
2. Asterionella - 45%
Dom. Zoopl. 1. Nauplius larva - 40%
2. Polyarthra - 35%

TROPHIC CLASSIFICATION 1980 :

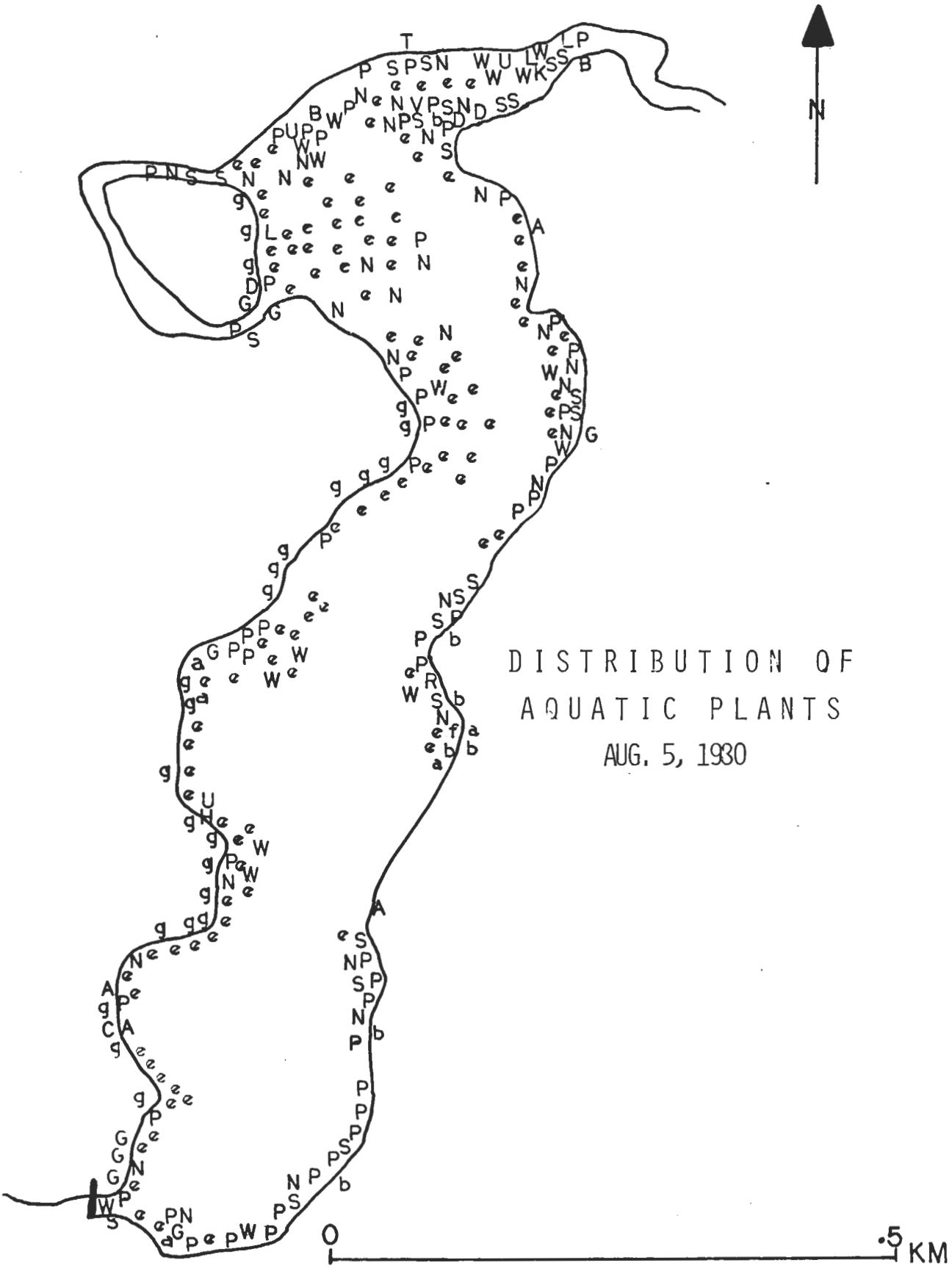
	D.O.	S.D.	Vasc. Plants	Chl a	Total	Class.
Classification Points:	5	2	3	3	13	Eutro.

COMMENTS:

PINE ISLAND POND, MANCHESTER



PINE ISLAND POND
MANCHESTER



AQUATIC PLANT SURVEY

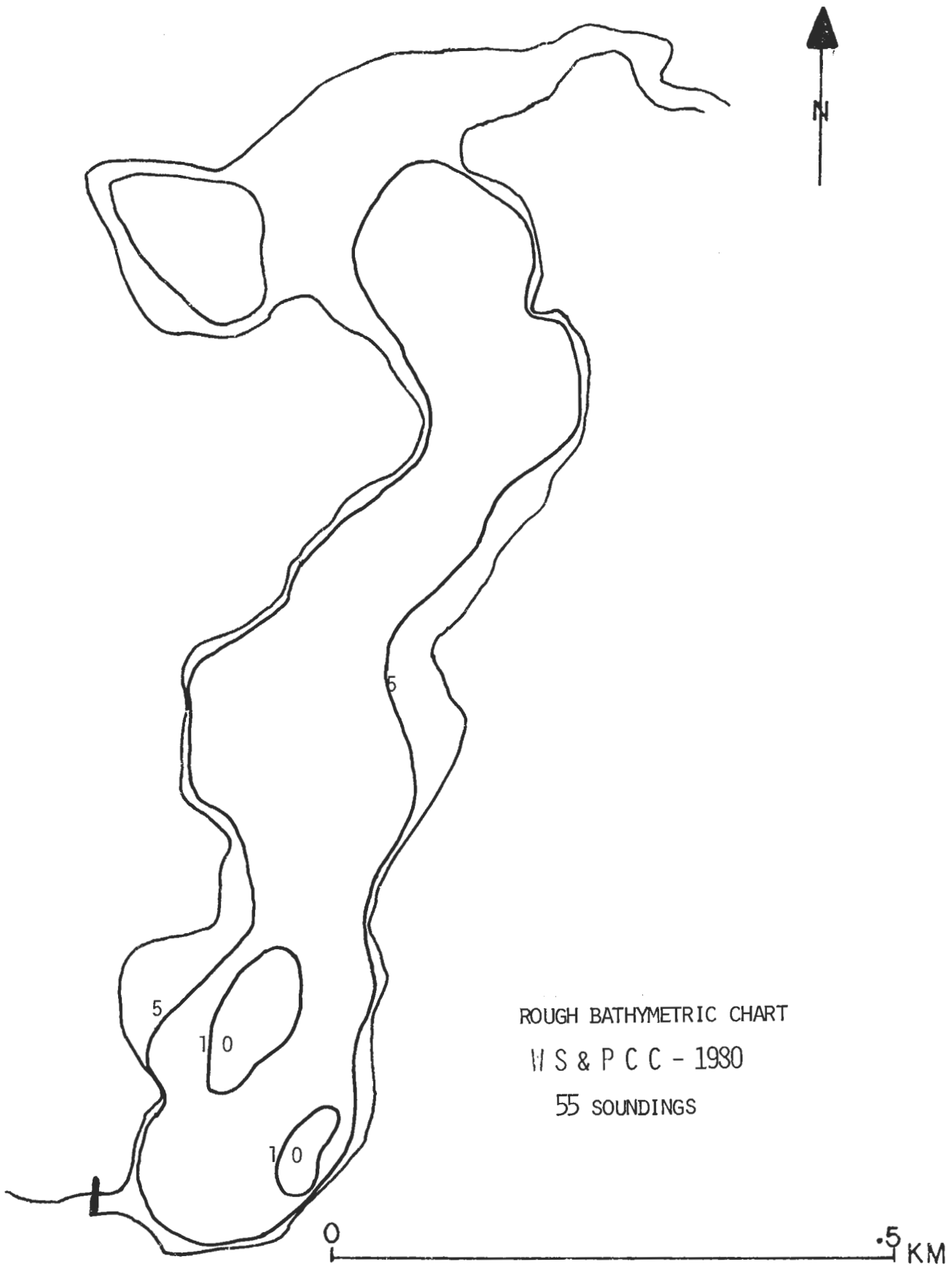
LAKE Pine Island Pond TOWN Manchester DATE Aug. 5, 1980 BY WS&PCC

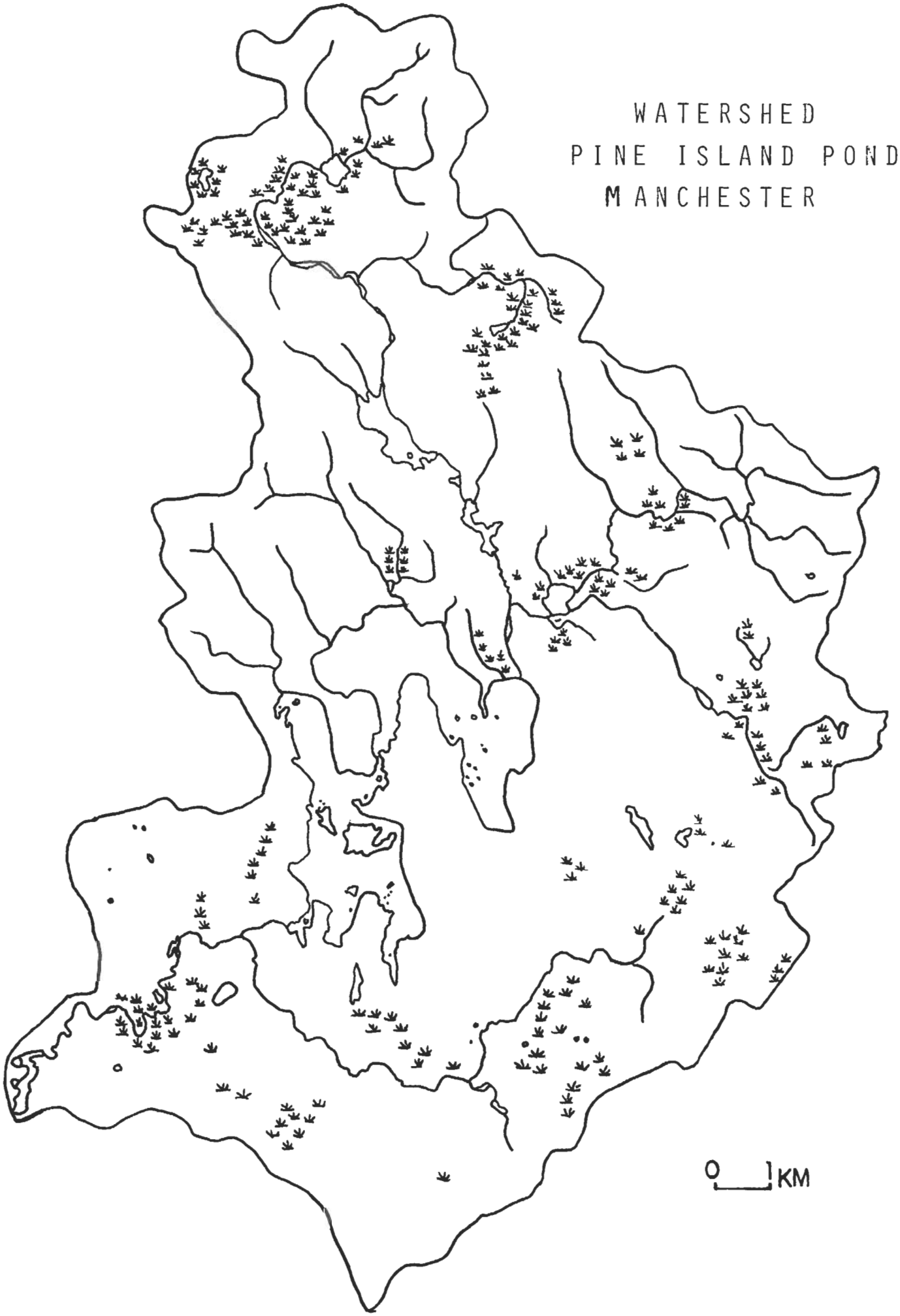
No.	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
N	Nymphaea	White Water Lily	Common
P	Pontederia cordata	Pickerelweed	Common
g	Myrica Gale	Sweet Gale	Common
A	Peltandra virginica	Arrow Arum	Common
C	Cephanlanthus occidentalis	Buttonbush	Sparse
G	Graminae Family	Grass Family	Scattered
S	Sparganium	Burreed	Common
W	Potamogeton	Pondweed	Common
e	Elodea	Waterweed	Abundant
a	Sagittaria	Arrowhead	Scattered
b	Scirpus	Bulrush	Scattered
d	Dulichium arundinaceum	Three-way sedge	Sparse
k	Najas	Bushy Pondweed	Sparse
D	Decodon verticillatus	Swamp Loosestrife	Scattered
L	Lemna minor	Duckweed	Scattered
T	Typha	Cattail	Sparse
U	Utricularia	Bladderwort	Sparse

OVERALL ABUNDANCE Abundant

GENERAL OBSERVATIONS:

PINE ISLAND POND
MANCHESTER




WATERSHED
PINE ISLAND POND
MANCHESTER
0
1
KM