TROPHIC CLASSIFICATION OF N.H. LAKES AND PONDS

NAME Elbow Pond TOWN Andover CO Merrimack RIVER BASIN Merrimack

I. POTENTIAL FOR NUTRIENT ENRICHMENT

Latitude: 43°27'N Longitude: 71°48'W

A. NATURAL PHYSICAL FACTORS

1. Area (ha) 25.01
2. Max. depth (m) 7.0
3. Mean depth (m) 3.4
4. Elevation (ft) 616
5. Shore length (m) 3,400
6. Volume (m^3) 848,000
7. Volume/shore length 250
8. % Stratification -
9. Watershed area (ha) 2,002.0
10. Watershed area / Volume 24
11. Bottom slope 1.2
12. Shore config. 1.92
13. Flushing rate 4.1
14. Water renewal time 0.25
15. Drainage density -
16. % Watershed ponded -
17. Phos. retent. coeff. R 0.51

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 2 March 81 Weather cloudy, mild 44°F

Depth(m)	1.5	3.0
Alkalinity	3.0	3.5
PO_4-P	0.005	<0.001
Total-P	0.021	0.006
NO_2+NO_3-N	0.03	0.04
Kjeld-N	0.18	0.20
Total-N	0.21	0.24
Tot-N/Tot-P	10.0	40.0
NO_2+NO_3-N/PO_4-P	6	-

Bottom: Depth 4.0 m D.O. 9.4 % Sat. 70.7

% Organic matter sediment 12.7

Dom. Phytopl. 1. Tabellaria - 65%
2. Dinobryon - 10%

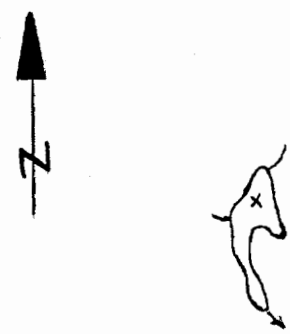
Dom. Zoopl. 1. Keratella - 60%
2. Calanoid copepod - 25%

B. Summer Data:

Date 9/9/81 Weather partly cloudy; windy

Depth (m)	2.0	5.0	
pH (units)	6.7	6.2	
Alkalinity	6.8	7.5	
PO_4-P	<0.001	<0.001	
Total-P	<0.001	0.005	
NO_2+NO_3-N	<0.05	<0.05	
Kjeld-N	0.28	0.34	
Total Residue	-	-	
Color (units)	30	40	
Turb. (NTU)	1.5	3.7	
Spec. Conduct. (μMhos/cm)	29.7	32.0	
Tot. Org. Carbon	-	-	
Chloride	-	-	
Mg	0.51	-	
Ca	2.8	-	
Na	2.0	-	
K	0.5	-	
[Mg+Ca] / [Na+K]	1.32	-	
Tot-N/Tot-P	-	-	
NO_2+NO_3-N/PO_4-P	-	-	

Station Location



Bottom: Depth 5.0 m D.O. 1.0 % Sat. 10

Epilimnetic alkalinity decrease -

PO_4-P ratio: epi/hyp -

Total-P ratio: epi/hyp -

Secchi disk transparency (M) 3.5

% organic Matter sediment -

Vascular Plants Common

Dom. Vasc. Plants: 1. Utricularia
2. Brasenia schreberi
3. Eriocaulon septangulare

Ash-Free Dry Weight -

Chlorophyll a 6.36 (mg/m^3)

Tot. Zoopl. Cnts. 230.9 (cells/liter)

Dom. Phytopl. 1. Ceratium - 40%
2. Chrysosphaerella - 25%

Dom. Zoopl. 1. Calanoid copepod - 40%
2. Nauplius larva - 25%

TROPHIC CLASSIFICATION 1981 :

	D.O.	S.D.	Vasc. Plants	Chl a	Total	Class.
Classification Points:	3	2	2	1	8	Meso.

COMMENTS:

FIELD DATA SHEET

WATER BODY Elbow Pond TOWN Andover By WSPCC

DATE COLLECTED 9 September 1981 WEATHER Partly cloudy; windy

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
	5.0	14.5	1.0	10			
	4.0	17.0	3.5	36			
	3.0	18.5	8.2	86			
	2.0	20.1	8.4	91			
	1.0	20.2	8.5	92			
	surface	20.3	8.5	92			

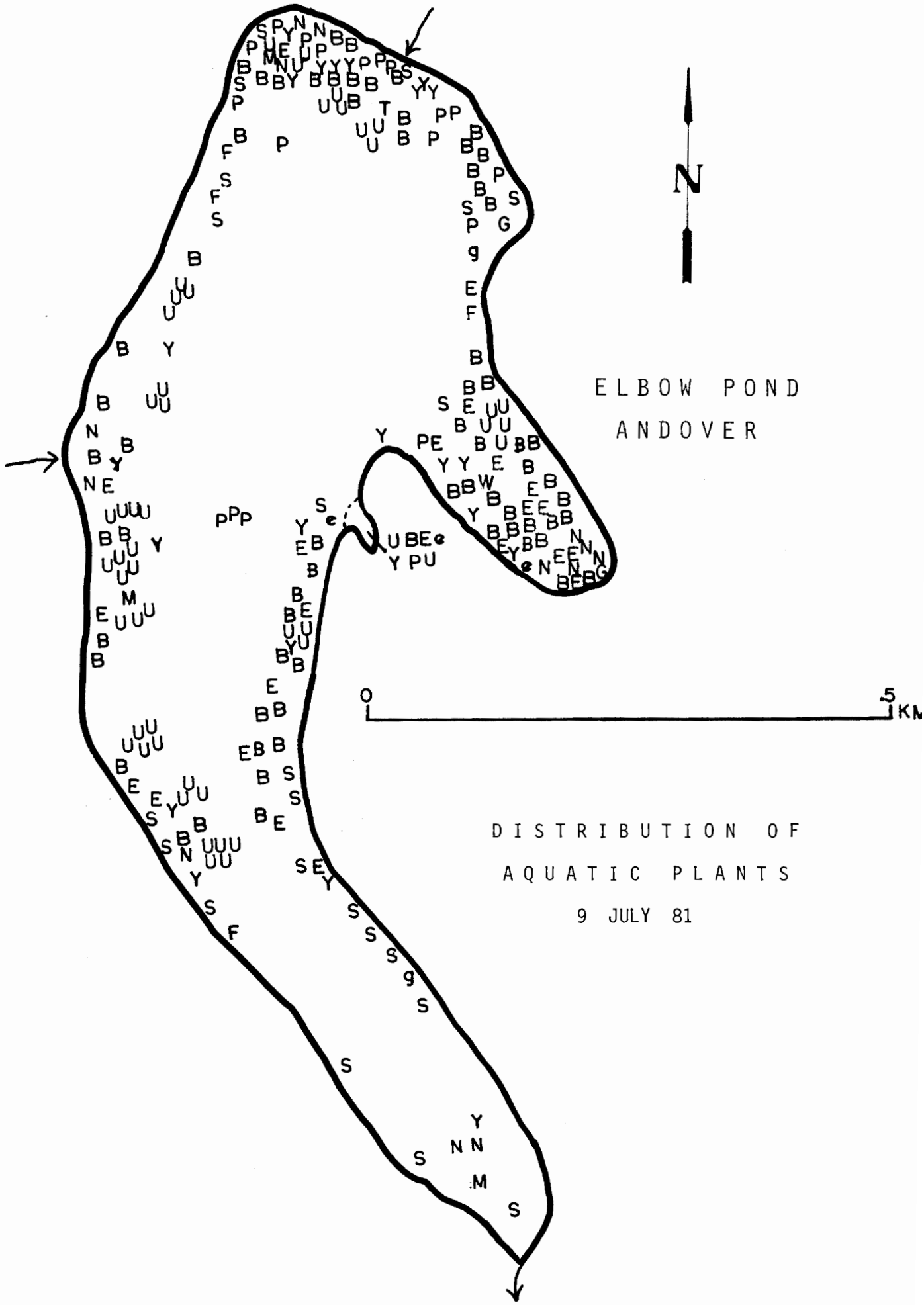
COMMENTS:

SECCHI DISK (M) 3.5

BOTTOM DEPTH (M) 6.0

TIME 11:12 - 11:26

* Dissolved oxygen values in mg/L


N
ELBOW POND
ANDOVER
0
.5
KM
DISTRIBUTION OF
AQUATIC PLANTS
9 JULY 81

AQUATIC PLANT SURVEY

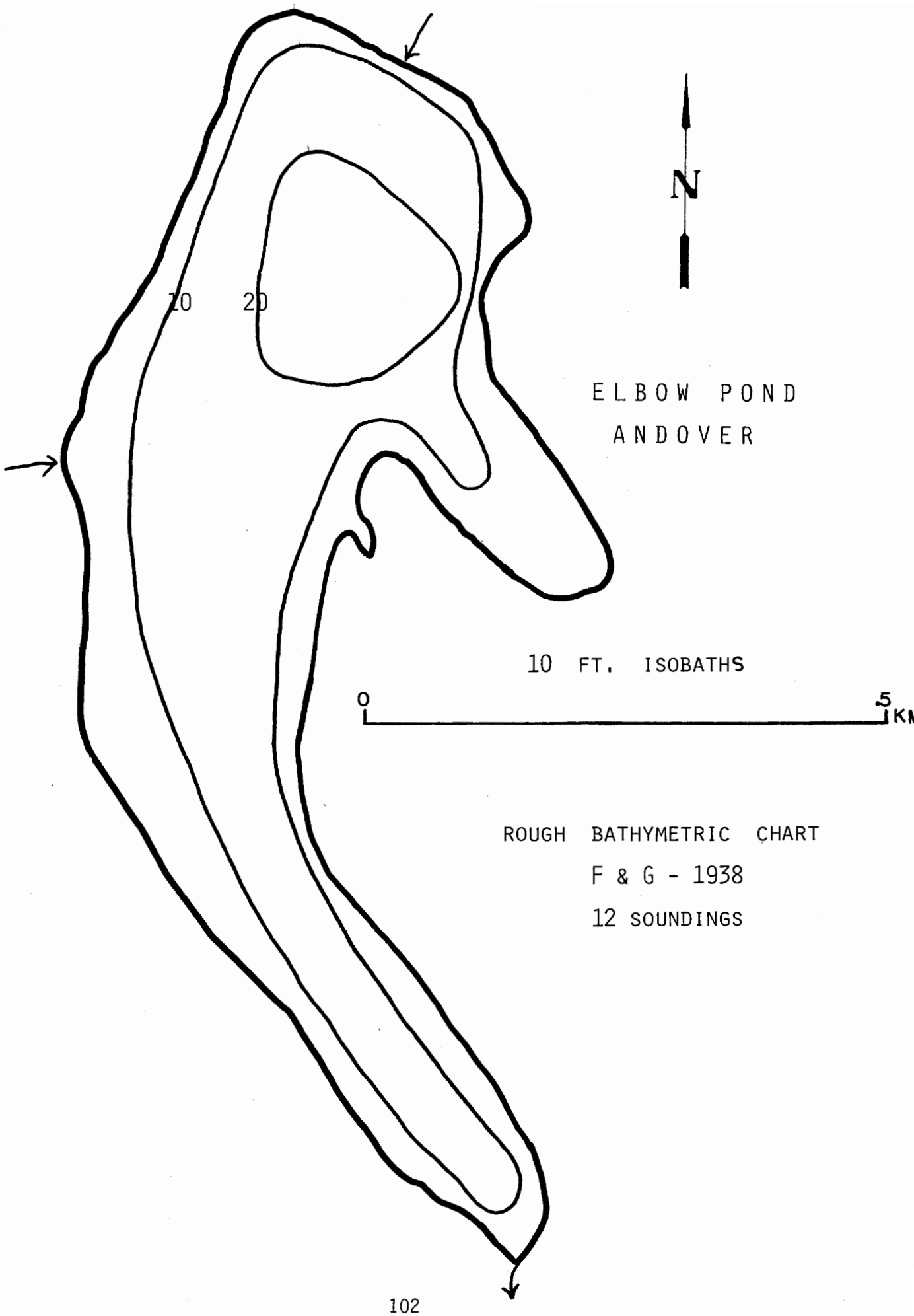
LAKE Elbow Pond TOWN Andover DATE 9 Sept. 81 BY WS&PCC

No.	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
U	Utricularia	Bladderwort	Abundant
B	Brasenia schreberi	Water Shield	Abundant
N	Nymphaea	White Water Lily	Common
E	Eriocaulon septangulare	Pipewort	Abundant
Y	Nuphar	Yellow Water Lily	Scattered
e	Eleocharis	Spike Rush	Scattered
F	Nymphoides cordatum	Floating Heart	Sparse
S	Sparganium	Bur Reed	Common
P	Pontederia cordata	Pickerelweed	Scattered
M	Myriophyllum	Water Milfoil	Sparse
T	Typha	Cattail	Sparse
G	Gramineae Family	Grass Family	Sparse
g	Gratiola lutea	Hedge Hyssop	Sparse
W	Potamogeton	Pondweed	Sparse

OVERALL ABUNDANCE Common

GENERAL OBSERVATIONS:

Myriophyllum was found floating throughout the lake (scattered). Numerous bottom growths-sterile threadlike leaves.


N
10
20
ELBOW POND
ANDOVER
10 FT. ISOBATHS
0
.5
KM
ROUGH BATHYMETRIC CHART
F & G - 1938
12 SOUNDINGS