TROPHIC CLASSIFICATION	N OF N.H. LAKES AND PONDS
NAME Island Pond, Little TOWN Pelham	CO Hillsborough BASIN Merrimack
I. POTENTIAL FOR NUTRIENT ENRICHMENT	Latitude 42°31'N Longitude 71°17'W
A. NATURAL PHYSICAL FACTORS	
1. Area (ha) 62.73	10. Watershed area
2. Max. depth (m)16.8	Volume 2
3. Mean depth (m) 4.9	11. Bottom slope 1.9
4. Elevation (ft) 145	12. Shore config.
5. Shore length (m) 2,600	13. Flushing rate 0.6
6. Volume (m <sup>3</sup> ) 3,064,000	14. Water renewal time 1.7
	15. Drainage density
7. Volume/shore length 1,180	16. % Watershed ponded
8. % Stratification 17%	17. Phos. retent. coeff. R .76
9. Watershed area (ha) 373.0	
B. CULTURAL FACTORS  1. % Shore developed 100% (1963)  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
Date 8 MAR 1976  Depth(m) Alkalinity PO4-P 001	l unless indicated otherwise)  Weather Partly cloudy; windy & cold  Bottom: Depth 8.2 D.O. 9.4 % Sat. 72
Total-P .012 NO <sub>2</sub> +NO <sub>3</sub> -N .17 Kje ld-N .20 Total-N .37 Tot-N/Tot-P 31 NO <sub>2</sub> +NO <sub>3</sub> -N/PO <sub>4</sub> -P 170	% Organic matter sediment 21.9%  Dom. Phytopl. 1. Dinobryon (50%) 2. Dom. Zoopl. 1. Nauplii Larvae (75%) 2.

### B. Summer Data:

Ca. Na.

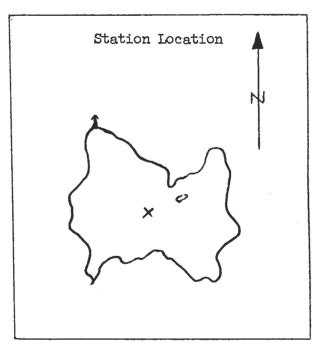
[Mg+Ca] / [Na+K] Tot=N/Tot=P NO<sub>2</sub>+NO<sub>3</sub>-N/PO<sub>4</sub>-P Date 28 August 1978

Weather Light sprinkle: surface calm:

17.0° C

pH (units) Alkalinity FO <sub>1</sub> =P	epth (m)
Total-P	
NO <sub>2</sub> +NO <sub>3</sub> -N Kjeld-N	
Total Residue	
Color (units)	
Turb. (NTU)	
Spec. Conduct.	(Mhos/cm)
Tot. Org. Carbon	• •
Chloride	
Mg	

Mid-ep	Mid-ther	h Mid-hy
3.0 6.0	6.5	9.0
6.0	6.5	6.7
6.0	5.0	5.0
<.001	<.001	<.001
.005	.005	.015
<.05	<.05	<.05
, 28	.28	.25
27	29	32
20	15	20
4.7	5.0	4.1
73.7	72.3	71.3
7.0	_	
12	12	11
.77	-	_
3.6	_	_
7.1		
0.8		-
.55	-	_
-	-	
-		-



Epilimnetic alkalinity decrease -2.0

PO<sub>1</sub>-P ratio: epi/hyp 1.00

Total-P ratio: epi/hyp .33

Secchi disk transparency (M) 5.5

% organic Matter sediment -

Vascular Plants Scattered

Dom. Vasc. Plants: 1. Pontederia
2. Juncus
3.

Ash-Free Dry Weight Chlorophyll a 3.18 (mg/m³)
Tot. Zoopl. Cnts. 350 (cells/liter)
Dom. Phytopl. 1. Anabaena - 35%
2. Coelosphaerium - 20%
Dom. Zoopl. 1. Vorticella - 90%
2.

TROPHIC	CLASSIFICATION	1978	:		Vasc.			
	<del></del>		D.O.	S.D.	Plants	Chl a	Total	Class.
	Classificati	on Points:	2	1	1.	0	4	Oligo.

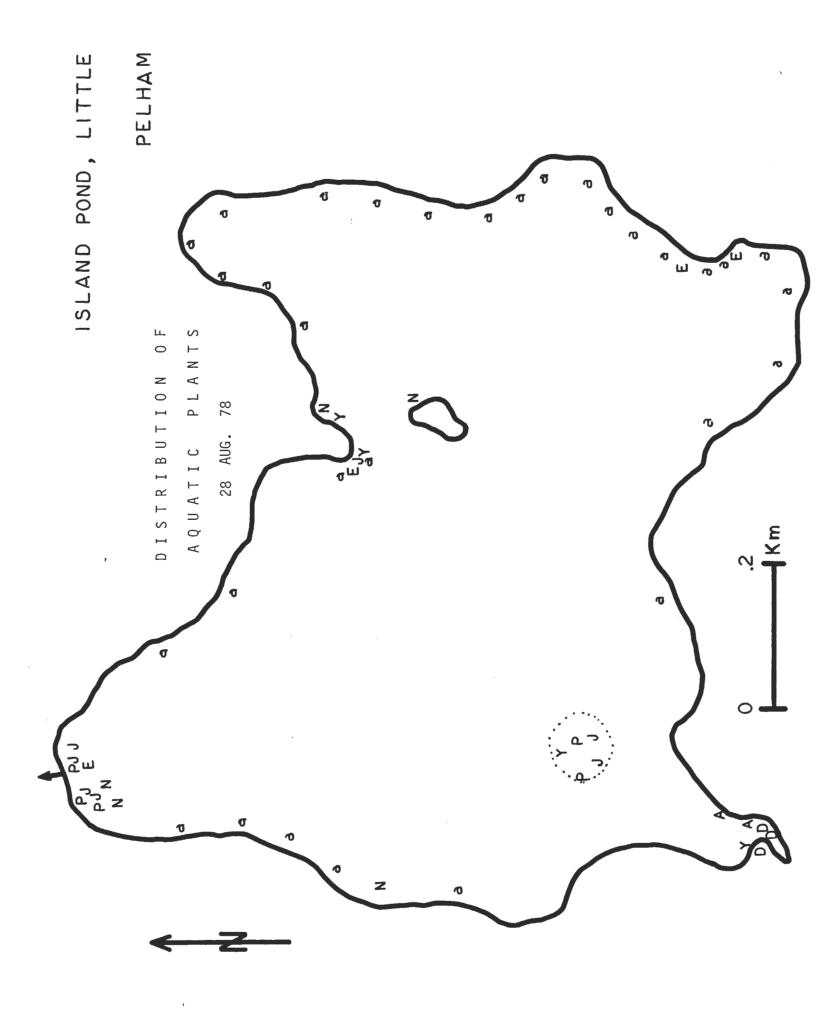
#### COMMENTS:

- 1. 100% of the shoreline is developed.
- 2. Most of the shoreline is rocky, therefore rooted plants are not a problem now and will probably not be a problem in the foreseeable future; however, clumps of the filamentous green alga Zygnema are common around the entire shoreline.
- 3. The planktonic algae was not abundant at this time, but was dominated by two blue-green genera that have caused problems in other lakes.

# FIELD DATA SHEET

WATER BODY Is	land Pond,	Little	TOWN <u>Pelha</u>	n		E	Ву	WSPCC	
DATE COLLECT				light spri	nkle; l				
STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION					
Deep Spot	0	22.2	7.6	86					
	1.	22.2	76	86					
	2	22.1	7.6	86					
	3	22.0	74	84					
	4	22.0	7.4	84					
٠.	5	21.9	7.0	80					
	6	21.0	6.6	73					
	7	16.2	7.6	77			,		-
	8	14.0	6.2	60					
:	9	12.5	3.4	32					
	9.3	12.5	3.2	30					
SECCHI D	ISK (M)	5.5		COMMENTS	:				

ROLLOW DELLH (W)	11.5	•
TIME	1330 hrs.	-
* Dissolved oxygen	values in mg/L	147



## AQUATIC PLANT SURVEY

LAKE Isl	and Pond, LittleTOWN Pelham	DATE Aug. 28, 1978 <sub>BY</sub>	WS&PCC
Key	ABUNDANCE		
Ney	GENERIC	COMMON	
Ε	Eriocaulon septangulare	Pipewort	Sparse
Р	Pontederia cordata	Pickerelweed	Scattered
U	Utricularia	Bladderwort	Sparse
N	Nymphaea	Water Lily	Sparse
J	Juncus	Rush	Scattered
a	Peltandra virginica	Arrow Arum	Sparse
А	Sagittaria	Arrowhead	Sparse
D	Decodon verticillatus	Swamp Loosestrife	Sparse
Υ	Zygnema	Filamentous green algae	Common
	<del> </del>		
		OVERALL ABUNDANCE	Scattered

## GENERAL OBSERVATIONS:

- Lake was very developed 100% of shore.
- 2. Many large motor boats were on the ponds.
- 3. Much of the shoreline was rocky not conducive to rooted plant growth.
- 4. Zygnema was common around the entire shoreline; the macrophytes were mostly sparse, but the overall abundance is listed as 'scattered' because of the Zygnema problem; due to the rocky shore, rooted macrophytes will probably not be a problem in the foreseeable future increased nutrient input will likely manifest itself in the form of increased filamentous algal growth.

