

Last Updated 3/30/2001

Long Pond

Collection Date: 3/18/2001 @
Date Received: 03/19/01
Sampled By: Terry Donoghue = TD, Henry Kunhardt = HK

Lab ID#: 0103185A-G

Results of Analysis:								
Sampled By:				HK	HK	HK	HK	TD
Parameters	units	MDL	Method	1997	1998	1999	2000	3/18/01
Coliform	/100 mls	20	9222 B					20
pH Lab	pH units	NA	4500 H+	6.84	6.81	6.7	6.56	6.83
pH Field*	pH units	0.01	Oakton pH10					6.47
Temperature Field+	Celcius	0.5	Oakton pH10	6.7	5.8	8.1	4.7	0.9
Specific Conductance	umhos/cm	4.0	120.1					60
Nitrate-N	mg/L	0.005	300.0	0.04	0.04	0.5	0.090	0.065
Nitrite-N	mg/L	0.003	200.7					0.003
Sodium	mg/L	1.0	200.7					7.4
Iron	mg/L	0.005	200.7					0.007
Manganese	mg/L	0.001	200.7					0.001
Potassium	mg/L	0.1	200.7					0.6
Calcium	mg/L	0.5	200.7					1.5
Magnesium	mg/L	0.5	200.7					1.1
Hardness	mg/L	3.0	200.7					8.2
Alkalinity	mg/L	1.0	2320 B	6.4	5	2	6.4	5.4
Sulfate	mg/L	1.0	300.0					4.7
Chloride	mg/L	3.0	300.0					11.9
Color	TON	5.0	2120 B					5.0
Turbidity	NTU	0.05	2130 B					0.65
Total Phosphate (P)	mg/L	0.003	4500-P	0.01	0.003	0.01	0.003	0.027
Free CO2	mg/L	NA	4500-CO2 D	5.1	4.1	1.7	6.9	6.4
Secchi Depth	m	NA	NA	4.2	4.0	4.3	3.6	NA

* = 3-point pre and 1-point post calibration check in buffer solutions within .03

+ = 1-point pre calibration at 0C

@ = samples collected at approximately 10-20 cm depth

GENERAL GUIDELINES:

Eutrophic Levels:

Nitrate Nitrogen >0.5
 Total Phosphorous >0.03
 Secchi <1.5

pH: 7 is neutral
 > 7 is alkaline
 < 7 is acidic

Alkalinity: <5 "Dangerous"
 <2 "Critical"

Fertilizers = NO₃ + PO₄ + K + Fe + Mg + Mn

Hardness = Ca+Mg+Zn+Fe

Acid Rain = SO₄ + NO₃

PO₄ = Limiting Nutrient?

Alkalinity = HCO₃ + 2CO₃ (Titrated)

Acid Neutralizing Capacity (ANC) = Sum(Basic Cations(CB)) - (Acidic Anions(AA))

Acidity = -ANC

CB = Ca + Mg + Na + K

AA = SO₄ + NO₃ + Cl

ANC (microequivalents/L) >50 = good

ANC (microequivalents/L) 0-50 = marginal

ANC (microequivalents/L) <0 = poor

1997, '98, 00, 01 Lab Analyses by Envirotech Labs, Sandwich, MA

1999 Lab Analyses by Analytical Balance, Middleborough, MA

Guidelines: Dr. Paul Godfrey, Limnologist, University of Massachusetts