Rensselaer Polytechnic Institute
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Rensselaer Fresh Water Institute, Troy, New York 12180-3590

JUNE 94
TESTS
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July 21, 1994

Mr. Jim Davis
Eagle Lake
Ticonderoga, NY 12883

Dear Jim,

I have enclosed the results for the water chemistry samples your association members collected from Eagle Lake on June 7, 1994. The data from these samples shows the lake to be a soft water, low productivity (oligotrophic) lake. There was also very little difference in chemical water quality between the five samples you provided.

The results for pH and alkalinity indicate that Eagle Lake remains alkaline (pH greater than 7.0) with a buffering capacity currently adequate to offset any inputs of acid from acid rain. Alkalinity levels have changed very little from the data collected in 1989 as part of the lakewide survey. In other words, the residents of Eagle Lake do not have to fear any impacts to the lake from acid rain in the near future.

Available nutrients (orthophosphorus and nitrate) present in the lake which act as fertilizers to the rooted aquatic plants (macrophytes) and the floating algae (phytoplankton) are very low in concentration. These two nutrients come from a variety of sources such as agricultural and garden runoff of fertilizers, runoff of rainfall and the eroded sediments it carries, and inlet streams, particularly those which drain large wetland areas. Nitrate and orthophosphorus concentrations remain comparable to those reported in 1989 as well as in 1993.

Chloride concentrations are one measure of the amount of salts present in the lake water. Chloride, generally a result of the runoff of road deicing salts, are moderate in Eagle Lake indicating the possibility of some impact from highway runoff. Chloride is a good indicator of excessive highway runoff to a lake, and the large load of pollutants it can carry such as heavy metals and fuel and lubricating products.

With reference to the proposed construction of route 74 in future years, your main concern with its affect on the lake would be the control of stormwater runoff. Stormwater runoff is one of the main sources of nutrient loading to the lake. Standing together as a lake association, it should be made known that you expect proper and effective strormwater control of waters flowing from the new construction. The local office of the Soil Conservation Service should be able to help you with any questions you may have concerning the control of stormwater.

The measure of fecal coliform from the various sites selected, again show relatively low levels. The New York State DOH regulations for contact recreation require less than 1000 colonies/100mls; Eagle Lake falls well below this standard.

This annual nutrient and chemical monitoring program developed by your lake association is providing valuable data on the health of your lake. Its continuation will allow you to identify the early problems of nutrient loading to the lake and allow you to make informed decisions. I strongly recommend that this program be continued into the future. If you have any questions or would like to discuss any of the findings, don't hesitate to contact us.

Sincerely,

Timothy B. Clear
Research Assistant

Enc.

Results of Laboratory Analyses Provided By:

Mr. Jim Davis
Eagle Lake, Essex County, NY
Samples Collected: June 7, 1994

Eagle Lake Chemistry					
Analyte	Site # 1	Site # 2	Site # 3	Site # 4	Site # 5
Laboratory pH	7.32	7.55	7.66	7.71	7.69
Alkalinity (mg/l as $CaCO_3$)	29.0	29.0	30.0	31.0	31.0
Ortho Phosphate (ug/l as P)	lt 1	lt 1	lt 1	lt 1	lt 1
Chloride (mg/l)	10.9	10.6	10.8	10.9	10.9
Nitrate (mg/l as N)	lt 0.01	lt 0.01	lt 0.01	lt 0.01	lt 0.01
Sulfate (mg S/l)	1.72	1.62	1.70	1.75	1.70

lt = less than

Eagle Lake Microbiology	
Sample #	Fecal Coliform # / 100 mls
1	lt 10
2	lt 10
3	lt 10
4	lt 10
5	lt 10
A	lt 10
B	10
C	lt 10
D	lt 10
E	lt 10

lt = less than

Maximum Allowable Levels of Coliform Bacteria in Waters Used for Contact Recreation (NYS Dept. of Health)		
Bacterial Test	Max. 5 Sample Mean	Max. Single Result
Total Coliform	2400 per 100 mls	5000 per 100 mls
Fecal Coliform	200 per 100 mls	1000 per 100 mls

BILL FOR LABORATORY SERVICES

Lab ID #: 10719

Date July 14, 1994

Number	Analyte	Total
5	Ortho Phosphate @ $7.50ea.	$ 37.50
5	Nitrate @ $5.00	25.00
5	pH @ $3.00	15.00
5	Alkalinity @ $7.50	37.50
10	Fecal Coliform @ $7.50	75.00
	Bulk Discount (10%)	$ 19.00
	Total Fee	**$ 171.00**

Please make check payable to Rensselaer Fresh Water Institute.

Mail to: Rensselaer Fresh Water Institute
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Bolton Landing, NY 12814
ATTN Tim Clear