Rensselaer Polytechnic Institute
Troy, New York 12180-3590

Charles W. Boylen, Director
(518) 276-6757

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

FALL 93
REPORT

October 13, 1993

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 September 14, 1993. 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.

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.

The measure of fecal coliform from the various sites selected, again show relatively low levels (all samples <10 colonies/100mls). The New York State DOH regulations for contact recreation require less than 1000 colonies/100mls; Eagle Lake falls well below this standard.

The one calcium result from sampling site #3 shows low to moderate levels. It would appear from this single result that the potential for zebra mussel infestation is relatively low. Concentrations of 12 mg/L calcium are usually needed to support zebra mussel populations.

If you have any questions or would like to discuss any of the findings, don't hesitate to contact us.

Sincerely,

Timothy B. Clear

Timothy B. Clear
Research Assistant

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LABORATORY RESULTS FOR SAMPLES PROVIDED BY
Eagle Lake, Essex County, NY
Samples Collected 14-SEPT-93

ANALYTE	SAMPLING SITE 1	2	3	4	5
Laboratory pH	7.47	7.65	7.81	7.72	7.82
Alkalinity mg/l as CaCO3	29.0	28.0	29.0	29.0	30.0
Ortho Phosphorus (ug/l as P)	1	1	lt 1	1	1
Chloride (mg/l)	12.1	12.0	12.0	12.3	11.8
Nitrate (mg/l as N)	lt 0.01	lt 0.01	lt 0.01	lt 0.01	lt 0.01
Calcium (mg/l)	-	-	9.6	-	-
Fecal Coliform	All samples provided (10) showed fecal coliform levels less than 10 colonies/100 mls sample.				

lt is less than.