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

October 20, 1992

Mrs. Wendy Davis
Eagle Lake
Box 112A
Ticonderoga, NY 12883

FALL 92
REPORT

PT 1 of 2
→ SENT TO
C. WATERS

Dear Wendy,

I have enclosed the results for the water chemistry samples your association members collected from Eagle Lake on September 17, 1992. 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.

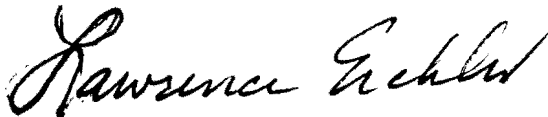
Chloride concentrations are a measure of the amount of salts present in the lake water. Chlorides, generally a result of the runoff of road deicing salts, are moderate in Eagle Lake indicating the possibility of some impact from highway runoff. Chlorides are a good indicator of excessive highway runoff to a lake, and the large load of pollutants it can carry such as heavy metals and fuel and lubricating products. Chloride, however, were not measured in the 1989 survey, thus we have no point of comparison.

In summary, the chemical water quality of Eagle Lake is excellent. The concentrations of soluble nutrients in the lake are low and as discussed are largely controlled by the amount of available nutrients (nitrate and orthophosphorus) present in the water and sediments of the lake. Reduction in the amounts of these nutrients reaching the lake as a result of the runoff of rainfall from the drainage basin should still be a consideration of your lake association. One of the best ways to accomplish a reduction in soil erosion and highway runoff is through the assistance of county agencies such as the Soil Conservation Service and the Cooperative Extension Service.

I would be interested in seeing the results for Secchi Disk transparency that you collect from the lake if this is currently done.

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

Sincerely,

A handwritten signature in cursive script that reads "Lawrence Eichler".

Lawrence Eichler
Research Scientist

Enc.

CC: Clarence Watters
Bill Allen

LABORATORY RESULTS FOR SAMPLES PROVIDED BY
 Mr. J. Davis & B. Donnelly
 Samples Collected 17-SEPT-92
 From Eagle Lake, Essex County, NY

ANALYTE	SAMPLING SITE				
	1	2	3	4	5
Laboratory pH	7.63	7.64	7.64	7.76	7.77
Alkalinity mg/l as CaCO3	30.0	29.5	29.5	30.0	30.5
Ortho Phosphorus (ug/l as P)	lt 1	lt 1	lt 1	lt 1	lt 1
Chloride (mg/l)	12.5	12.0	11.2	11.5	12.0
Nitrate (mg/l as N)	lt 0.01	lt 0.01	lt 0.01	lt 0.01	lt 0.01
Sulfate (mg S/l)	2.10	2.01	1.90	1.93	1.98

lt is less than.