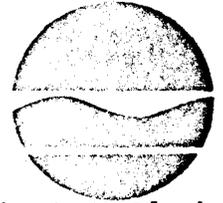


New York State Department of Environmental Conservation



Robert F. Flacke  
~~Fater Ax A. Seale,~~  
Commissioner

Ray Brook, NY 12977  
April 2, 1980

Mr. Alfred E. Runge  
9 Peachtree Lane  
Roslyn, New York 11576

Dear Mr. Runge:

Your recent communication relating to the acidification survey results for Eagle Lake and other waters in that vicinity has been relayed to this office for reply.

During the latter part of August 1979, we utilized the Department helicopter to make an extensive collection of 396 surface water samples from representative lakes and ponds in northern New York State. Eagle Lake was included in this sampling effort along with 15 additional waters located on the Paradox Lake U.S.G.S. Quadrangle map.

Subsequent chemical analysis of the samples revealed the following results:

Name Of Water	Mean Equilibrium Laboratory pH	Mean Alkalinity ppm(as CaCO <sub>3</sub> )	Specific Conductance (Micromhos)
Sherman Pd.	5.91	21.39	65.2
Penfield Pd.	7.24	40.40	109.2
Putnam Pd.	6.32	4.90	36.2
Berrymill Pd.	6.21	4.48	32.1
Whortleberry Pd.	6.71	11.46	51.4
Pharaoh Lk.	6.25	5.95	42.3
Goose Pd.	6.26	4.96	37.9
Cran. Pd.	6.29	4.31	35.7
Rock Pd.	5.95	2.45	45.2
Paradox Lk.	6.68	14.29	61.6
Peaked Hill Pd.	6.16	4.05	37.5
Johnson Pd.	6.27	4.24	22.5
*Eagle Lk.	7.16	19.29	98.1
Gooseneck Pd.	6.45	5.46	41.2
Flemings Pd.	6.42	10.33	44.4
Rass Lk.	5.76	2.62	36.5

We have arbitrarily adopted the following lake acidification status classification based on summer surface (1 meter depth) mean equilibrium pH ranges:

pH above 6.0 - satisfactory  
pH 5.0 to 6.0 - endangered  
pH below 5.0 - critical

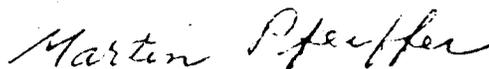
Mr. Runge  
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Since a pH of 7.0 represents neutrality on the pH scale, Eagle Lake appears to still be in excellent shape. However, it should be pointed out that summer pH determinations can be somewhat misleading since we anticipate brief, but frequently severe, episodes of depressed pH during the early spring snowmelt periods when stored acids are released from the snow pack. One reason for selecting the summer sampling time frame relates to the fact that our historic biological survey data base is predicated on this collection period and this allows for long-term comparisons which help indicate trends.

Also, the entire subject is compounded by the fact that dissolved metals toxicity, aluminum in particular, causes a synergistic effect which can contribute to fish mortalities. Another problem associated with mere surface sampling stems from the fact that a major rainstorm can greatly depress surface pH readings for some time following the precipitation event. For this reason an integrated sample of the entire water column is preferred. However, since this methodology is much more time consuming our extensive survey surface grab sample from the helicopter constituted a compromise to help achieve wide geographic coverage, in a limited amount of time, in an effort to obtain a crude estimation of the magnitude of the atmospheric acidification phenomenon.

Generally speaking, the eastern Adirondacks appear to be much less severely impacted than the west - central sector where the Big Moose Quadrangle represents an environmental disaster area. In closing, we appreciate your interest in this ongoing problem and are pleased that we were able to provide you with some assurance that Eagle Lake and most of the ponded waters in that vicinity are still relatively unaffected.

Sincerely,



Martin H. Pfeiffer  
Lake Acidification Study  
Project Leader

MHP/jc

Commissioner Flacke  
Thomas R. Monroe