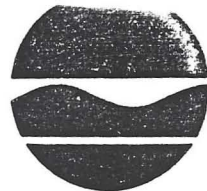


New York State Department of Environmental Conservation

Ray Brook, NY 12977



~~XXXXXX~~
Commissioner
Robert F. Flacke

November 15, 1979

Mr. Robert C. Stevens
One Green Ridge Road
Pittsford, NY 14534

RE: Algae Problem, Eagle Lake, Ticonderoga and Crown Point (T), Essex (Co)

Dear Mr. Stevens:

I am sorry it took so long to answer your letter of October 19, 1979; we were very busy this past summer and I'm just beginning to catch up.

We were able to identify the algae in question down to the genus level, (i.e., Family Rivulanaceae, Order Nostocales, Phylum Cyanophyta, Genus Gleotrichia). As you can see from the enclosed literature there is some question as to the species, however, I believe this is an irrelevant point. The different species involved exhibit very similar physiological characteristics and the separation of species is, in my opinion, an academic discussion. While we seem to both be on similar tracks concerning this algae, I cannot agree that it is a "good" algae. In fact, it has been my experience that no blue-green, i.e., Cyanophyta, algae are "good".

Gleotrichia generally require high levels of total phosphorus and because of the low population density around Eagle Lake my initial "guess" would be that the influx of total phosphorus is from natural sources, e.g., surface storm water runoff. However, this should be determined before any conclusions are reached. The ban on phosphates in detergents in New York has been very effective and unless detergents are being brought in from elsewhere I would disregard this as a source of the nutrient enrichment which seems to be occurring.

As a first step in determining the cause and extent of the problem, a sanitary survey should be initiated as early in the spring of 1980 as is possible. As I have previously stated, I can make myself available to the lake association for training of their personnel and direction of the survey. Due to the lack of manpower in DEC the burden of actually performing the necessary work would fall on the lake association.

With regards to your questions about the nature of phosphates, simply speaking, phosphates will settle into the sediments of a lake and remain trapped there as long as there are concentrations of dissolved oxygen at the sediment/water interface. This can be determined rather easily next summer. There is a strong possibility that phosphates will be recycled into the water column during spring

114
Page 2
Robert C. Stevens
November 15, 1979

and fall turnover, that is, when a change in temperature of the lake causes the warmer, bottom layer of water to rise to the surface stirring up the sediments. In short, we are not dealing with a mobile compound. I am enclosing some information which should help and if we can get together this spring to begin training any volunteers from the association, I will be able to explain the phosphate phenomena more specifically. In the meantime, if you have any questions, please call me at (518) 891-1370.

I look forward to meeting with you next year. Have a good winter.

Sincerely,

Richard J. McCormick, P. E.
Senior Sanitary Engineer

Tom

By: Thomas Higginbotham
Engineering Technician

RJM:TH:1a1
Enclosures