



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner



June 17, 2016

RE: Growth of native water starwort (*Callitriche sp.*) in Province Lake, Effingham

To Whom It May Concern:

The purpose of this letter is to provide information on native water starwort growth in Province Lake in Effingham. During the summer of 2015, plant samples were sent to the Department of Environmental Services (DES) for identification from local lake residents around Province Lake. DES identified the plant as water starwort (genus name *Callitriche*), a native freshwater aquatic plant to New Hampshire.

Lake residents were concerned about an increase in growth of this plant, and inquired about possible control actions. For each individual piece of correspondence (email) with various local entities, I indicated that the plant was native, and that management is not recommended. The plant is not harmful and it is not a state listed invasive species. Native plants provide habitat for aquatic life, they compete with algae in the water column for available nutrients, and they produce oxygen, all beneficial functions of native aquatic plant growth.

Because the plants were reported to be encroaching on the swim area and the public access site, I indicated that the only legal means of control without a permit was to selectively cut the starwort intruding on the beach and the launch areas at the sediment water interface, removing the cut material, and leaving the roots intact. I further indicated that any raking, digging or physical removal beyond that, or use of aquatic herbicides were all strictly regulated activities, and that permits would be needed if those actions were desirable.

It has recently been brought to my attention that lake residents are now raking out the water starwort, and in doing so causing bottom sediments to mix into the water column, causing turbidity. These actions could result in Wetlands violations for disturbing jurisdictional areas, and possible water quality violations for elevated turbidity and related nutrients in the water column. With recent cyanobacteria blooms in Province Lake, elevated nutrients in the water column (caused by the turbidity) could lead to more blooms. Aquatic plants compete with the algae for nutrients, therefore they are a desirable component in the water column of Province Lake.

I reiterate that native plant management is discouraged. Lakes are natural and evolving systems, not sterile swimming pools that should be devoid of plant growth. Expansion of native plant beds over time is natural in lake systems, and it is good for the water quality of the lake. Province Lake is a fairly shallow system, with good clarity and rich bottom sediments, which are prime conditions for aquatic plant growth.

Without a permit, the only allowable control method is cutting the plants at the sediment-water interface as indicated above. And with that, only selective management is advisable, not eradication of all plants.

Thank you for your attention to this matter. If you have any questions please contact me by email at Amy.Smagula@des.nh.gov. I am often on the road and in the field this time of year, and email is by far the best way to reach me.

Sincerely,

Amy P. Smagula
Limnologist/Exotic Species Program Coordinator

cc: Province Lake Association, Town of Effingham, Acton-Wakefield Watershed Alliance, DES Wetlands Bureau