

A Report on Tuxedo's Lakes

In the fall of 2011, Eurasian Water Milfoil (EWM), an invasive aquatic plant, was discovered in the northern portion of Tuxedo Lake, with highest concentrations in front of the Tuxedo Club. Susan Goodfellow and the Village Board of Trustees (BOT) quickly organized the mapping of its distribution and initiated an annual program of divers to uproot the EWM plants. In spite of these efforts, EWM has spread around Tuxedo Lake, into Pond Three and the Wee Wah. EWM spreads primarily through stem fragmentation, is difficult to control and very difficult to eradicate. Because Pond Three and Wee Wah are shallow, EWM could clog most if not all the waters of both lakes. In the deeper Tuxedo Lake, the infestation is currently spreading to waters less than 12 feet deep, around the margins of the lake and an extensive area at the lake's southern end. Thick stands of EWM pose a serious threat to the ecological health of our lakes, to their beauty and to their use for recreation. Consequently, its spread can negatively affect our property values.

In 2008, through the efforts of Susan Goodfellow, our Village joined the Citizens Statewide Lake Assessment Program (CSLAP), a New York Department of Environmental Conservation (DEC) managed program, through which measurements and observations of lake properties are taken by Village residents during the summer months and reported to DEC. DEC then processes and analyzes these data and prepares reports on the ecological health of our lakes.

The CSLAP data indicate that in recent years our lake's phosphorous and nitrogen concentrations have risen, probably contributing to blue green algae blooms, which when severe, can become toxic. Phosphorous is an essential nutrient for plant growth but has very low concentrations in natural freshwater lakes. Plant and algal growth are therefore limited by these low phosphorous concentrations. So, small increases in phosphorous can lead to exponential increases in algal growth. Soils have relatively high concentrations of phosphorous but terrestrial plants, especially trees and shrubs, use it for their growth. If trees and shrubs are removed from the lakes' margins and the banks of streams feeding the lakes, rain will wash the soil into the lakes and increase their phosphorous concentration. As a consequence of the increased concentration of algae, the water clarity of our lakes is declining. The alkalinity (pH)

of our lakes' waters is generally rising as is their electrical conductivity, trends which are often due to soil erosion and road salt contamination.

To address these conditions, the BOT asked Solitude Lake Management, the Village's current lake management firm, to recommend control procedures for both EWM and algal blooms. Solitude recommended the use of a variety of chemicals to control both in all three lakes. The BOT is currently seeking a second opinion from another lake management firm, Princeton Hydro LLC. The BOT also reactivated the Village of Tuxedo Park Lakes Committee (VTPLC), which is charged with advising the Village Board on lake issues and helping them, with the assistance of a professional lake management firm, develop a long term plan to improve the ecological health of our lakes. Such a plan will establish a set of objectives, procedures to achieve those objectives and estimated costs. The success of the procedures will be evaluated and the plan reviewed and possibly revised annually by the committee and the BOT. This planning will be aided by a previous Lakes Management Plan prepared by Princeton Hydro in 2009. Unfortunately, few of the recommendations of that plan have been implemented by subsequent boards.

Although reluctant to follow Solitude's recommendations this year for Tuxedo Lake and Wee Wah, the BOT did consider the use of herbicides to control the EWM infestation in Pond 3. This recommendation was supported by a number of Pond 3 residents. The Tuxedo Park Lakes Committee was also asked for their recommendation. After considering this option, the committee recommended against it, ([click here to read the committee report](#)) not because, in their judgment, there were substantial risks to residents or the ecology of the lake but rather because there are always uncertainties as to the long-term impact of chemicals. Any use of chemicals should only be as part of a long-term strategy for the control of EWM and such a strategy has not yet been developed. As an alternative, the committee recommended an aggressive diver assisted pulling program. Nevertheless, Pond 3 was treated with an herbicide in mid-July to reduce the growth of EWM.

The Village of Tuxedo Park Lakes Committee is currently exploring ways to help the BOT increase the efficiency of the mechanical removal by pulling of EWM plants from our lakes and

will explore methods to reduce the input to our lakes of nutrients (phosphorous and nitrogen) and road salt.

In the meantime, boaters should retrieve all floating plant fragments with pool skimmers that can be purchased at any swimming pool supply store. The fragments can be placed in a plastic bag and deposited in the garbage or composted. The natural fragmentation of EWM is beginning now and will reach a maximum this month. The fragments float for about two weeks then sink and will form new EWM plants if the water depth and bottom conditions are appropriate.

Any effort to substantially improve the ecological health of our lakes and reverse current trends will require a multiyear program, using procedures specifically designed for our system of lakes. This work will require a close working relationship between the TPLC and the BOT, it will involve Village employees, professionals to administer the control procedures, numerous volunteers and the cooperation of all those who use the lakes or have residences along their shores. In other words, it must be a concerted community effort.

James Hays

Chair Tuxedo Park Lakes Committee