Deal Lake Weed Management

Weeds, or more correctly aquatic macrophytes, is the term used to describe the aquatic plants growing in Deal Lake. Aquatic plants are an important and intrinsic component of a healthy and vibrant lake ecosystem. They provide valuable habitat for fish, amphibians and a whole host of aquatic life. They also help keep the shoreline areas of the lake stable and less prone to erosion. And they also help filter, remove and assimilate nutrients and sediment that wash into the lake from lawns, paved areas and other upland sources.

However, at times the growth of aquatic plants can get out of control and begin to interfere with the recreational enjoyment of the lake. This is especially true when it comes to the growth of the non-native, invasive species; the true weeds of the lake. The problem with many of these non-native, invasive weed species is that they outcompete the desirable native plants and, in the process, not only replace the native plants but alter the lake's ecology.

The three most common weed species growing in Deal Lake are Eurasian Water Milfoil, Coontail and Parrot Feather. All three of these plants look fairly similar. They grow below the water's surface in thick stands. Additionally, although examples of highly beneficial native and desirable plant species, at times and in given locations Yellow Waterlily and Pink/White Waterlily can reach nuisance densities that require management. While the Dela Lake Commission actively addresses the growth of Eurasian Water Milfoil, Coontail and Parrot Feather, we are much more selective when it comes to controlling Yellow Waterlily and Pink/White Waterlily.

Over the years the DLC has used three different techniques to control weed growth; hydroraking, mechanical harvesting and herbicide treatments. Hydroraking and mechanical harvesting involves the use of specialized, amphibious equipment. Hydrorake machines have long (24") tines that penetrate into the lake bottom and physically rip out the weeds, roots and all. This control technique has been used mostly to control large, dense stands of controlling Yellow Waterlily and Pink/White Waterlily. Think of mechanical harvesters as underwater lawn mowers. Mechanical harvesters are equipped with a cutting apparatus similar to a hedge trimmer that is lowered into the water and "clips" the plants off close to the lake bottom. Harvesting has been used in the past to control Eurasian Water Milfoil, Coontail and Parrot Feather. The four main limiting factors associated with either hydroraking or mechanical harvesting are:

- Accessibility and operation of the machines. These are relatively large machines that require a stable launch area.
- They also don't fit under many of the bridges that span the lake.
- They need at least 18" of water depth to operate.
- Finally, they work slowly and are expensive to operate

Herbicides are designed to chemically control weed growth. These chemicals are specifically formulated and licensed by both the USEPA and NJDEP for use in lakes and ponds. They must be applied by a NJDEP licensed and trained applicator and in

accordance with a NJDEP permit that includes a number of use restrictions. Although some aquatic herbicides may affect upland plants, they are considered very safe by both the USEPA and NJDEP relative to fish, amphibian, reptile and bird life as well as humans. Due to the lower cost, ability to target non-native, invasive weeds and ease of application, as of late the DLC has used herbicides as the primary way of controlling the lake's weed problems.

There are a number of NJDEP certified aquatic herbicide applicators in New Jersey. This year, the DLC engaged the services of Lake Management Sciences (LMS) to conduct weed treatments in the Colonial Terrace arm of the lake. They were also hired, if needed, to conduct weed treatments within the lower part of the lake's Hollow Brook arm and the western most section of the Sunset Landing arm of the lake. This year, only the weeds growing in the Colonial Terrace section were treated. The plants targeted for control were Eurasian Water Milfoil, Coontail and Parrot Feather. No treatments were conducted to control the waterlily. The treatments were conducted in early June. Because there are no "pre-emergent" aquatic herbicides, treatments cannot be conducted before some weed growth has started. Also, the scheduling of treatments has to take into account weather conditions, lake flow, and turbidity, all of which can affect the efficacy of the herbicide. This year LMS used ProcellaCOR a fairly quick acting, low biotoxicity, systemic herbicide that is especially effective in controlling Eurasian Water Milfoil, Coontail and Parrot Feather without affecting native plants and waterlily. The initial treatment proved to successfully control Eurasian Water Milfoil, Coontail and Parrot Feather. Subsequent site inspections of the treatment area conducted over the past few weeks by LMS and the DLC confirmed the weed growth in the Colonial Terrace area remained under control.

If you would like to learn more about weed control, the benefits of aquatic plants or anything else about the management of the Deal Lake ecosystem, please contact the DLC view the DLC website. Thank you.