

After Many Attempts, Crystal Lake is Healthy Again



When common reed (*Phragmites australis*), pondweed (*Potamogeton perfoliatus*, *foliosus* and *crispus*) and microscopic algal blooms began to take over Crystal Lake, located in Oak Bluffs on Martha's Vineyard, Mass., local residents made a number of attempts to control the infestation. The pond is a popular spot for area residents, providing recreation and a viable fisheries and wildlife habitat.



This popular recreational spot on Martha's Vineyard is back to a healthy state for residents and wildlife.

In Crystal Lake, phragmites, which decreases native biodiversity and wetland habitat quality, had established itself around most of the shoreline. Pondweed, which can form dense mats and hinder the growth of native aquatic plants, had inundated the lake, and microscopic algal blooms had severely impacted water clarity. After several management plans failed, officials found the answer to the problem and brought the lake's water quality back to a healthy state.

years Crystal Lake was disappearing beneath the suffocating mass of invasive weeds – the phragmites, pondweed and algae were still thriving.

Solution:

In the spring of 2002, East Chop Association and Lycott Environmental assessed the lake's condition. The two groups proposed a new treatment program to eradicate weeds from the lake and improve the water clarity. The process involved herbicide use to manage phragmites and pondweed, and aluminum sulfate treatments to reduce nutrients and available food sources for the algae.

Result:

After using this process for about three years, hardly any phragmites remain along the Crystal Lake shoreline, and pondweed was reduced to the point that it no longer needed to be treated. Aluminum sulfate treatments continue to be utilized to maintain water clarity. Crystal Lake is once again a healthy ecosystem enjoyed by residents and wildlife. Ample amounts of fish swim in the lake and wildfowl are thriving, unharmed by weeds or the treatments along Crystal Lake's shores.



Challenge:

Part of the challenge was to eradicate the weeds without harming desirable plants. Initially, officials thought hydro-raking, which removes vegetation at the roots, would solve the phragmites and pondweed problem on the 12.5-acre lake. However, after two years and significant plant removal, the weeds were still flourishing. Enter solution number two: using bacteria to digest nutrients and sediment. Once again, after two



Phragmites is a weed found across the United States. In Crystal Lake, it proved to be difficult to control.

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