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GUEST COLUMNIST

Milfoil removal at Thompson Lake has been a great success

Paul Cain

Invasive plant species are a growing problem with many lakes in Maine. Since the inadvertent introduction of variable leaf milfoil in Thompson Lake in the 1980s, many of the coves and shallow areas of the lake became infested with this invasive plant.

Today, following a major fund-raising campaign launched by the Thompson Lake Environmental Association to finance an intensive five-year program of milfoil extraction and abatement, most of the milfoil in Thompson Lake has been removed.

Milfoil is a densely growing plant that crowds out native plant species and adversely affects the aesthetic and recreational aspects of a lake. According to the Lake Environmental Association, variable leaf milfoil is one of two non-native, invasive milfoil species that have been introduced to Maine lakes. The other species is Eurasian water milfoil, which is even more aggressive in colonizing lakes.

Variable leaf milfoil was first detected in Sebago Lake in 1970 and now is present in 27 Maine lakes.

Once milfoil is introduced into a waterway it is spread by fragmentation, typically through motorboat traffic, as plant fragments cling to propellers, trailers, fishing gear and anchors. Even small pieces of the plant can migrate and form new colonies. The plants quickly crowd out the native plant species, which adversely affects the ecology of the lake and the available food sources for fish and wildlife. The plant growth is thick and slimy, making wading and swimming undesirable.

Variable leaf milfoil was first recognized in Thompson Lake in the 1980s and within 30 years had spread to nine locations throughout the lake. At one point there was a 10-acre infestation at the Pine Point area and thick infestations in four of the lake's major coves.

In 2005, concerned residents of the Otisfield and Edwards Cove areas recognized the threat of milfoil to their section of the lake. They started a process of fabricating and deploying several 30-by-30-foot benthic barriers, or tarps, to smother the plants. They initially had good success, although confined to their small area.

Residents ultimately realized the magnitude of the problem and sought the assistance of the Thompson Lake Environmental Association, which expanded the milfoil eradication program in 2007.

TLEA acquired a secondhand pontoon boat — coined the "Hippobottomus" — and suction harvesting equipment, and began networking with other lake associations to learn the best techniques for milfoil management. To fund this effort TLEA applied for environmental grants and made direct appeals to lakefront property owners.

Contract divers were hired annually to do the work of hand pulling or suctioning milfoil from the waters, and to place the benthic barriers. The entire lake was surveyed and a management plan was put in place to reduce, if not eliminate, milfoil.

By 2016, most of the milfoil had been removed from the coves around the lake. However, a 10-acre area of infestation at the Pine Point remained that was too large for removal methods. To avoid the fragmentation and spread of the milfoil, a boat channel was created at Pine Point, but this area of infestation remained the primary source for migration of milfoil to the rest of the lake.

TLEA recognized that unless that infestation was removed, much of the progress of the milfoil removal elsewhere would eventually be undone.

In 2017, TLEA began a concerted effort to remove the remaining milfoil in the lake and started a capital campaign to finance a five-year program of laying down benthic barriers throughout Pine Point, hand pulling or suctioning plants as needed.

The "Hippobottomus" was revamped with new equipment so the crew could suction the plants, which were then packed into sacks and transported to outlying farms, where the material was used for fertilizer. In addition, plants in shallow coves were pulled out by hand, especially at the Pismo Beach area and around the Oxford dam, at the outlet of the lake.

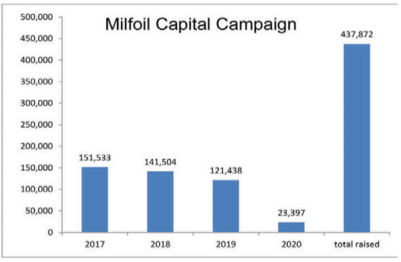
Over a five-year period, Alex Bernardy of Otisfield led a three-man removal crew, spending much of their time constructing benthic barriers, transporting them, and anchoring them to the lake bottom. Some days were filled with the laborious task of hand pulling the plants from the murky water in frigid temperatures. On good days, the crew was on the boat suctioning and packaging milfoil.

Diving with surface-supplied air was required to reach some of the plants and do the shoreland surveys.

The association also surveyed problem areas of the lake to develop a long-term plan to mitigate future threat of invasive species. And, an underwater survey of the high-risk areas of the entire lake and boat ramps was also done to identify and remove any invasive plants.

SUBMITTED PHOTO

The Thompson Lake Environmental Association acquired a secondhand pontoon boat — coined the "Hippobottomus" — as part of its five-year plan to remove milfoil from the lake. Over a five-year period, Alex Bernardy of Otisfield led a three-man removal crew, spending much of their time between ice-out and Labor Day constructing benthic barriers, transporting them, and anchoring them to the lake bottom.



Courtesy boat inspection stations were set up at the public launches to assist boaters in preventing the introduction or transfer of plant material.

As of the end of 2020, the 10-acre area of milfoil growth in the Pine Point area has been removed, as have the benthic barriers, clearing the area for safe boating.

Most of the milfoil at the Pismo beach and Oxford dam area has also been removed, including colonies around the Robinson Marina. Native plants are beginning to take root to restore the ecology of this part of the lake, and should thrive, helping to prevent further infestations. They will also provide oxygen to the water, which will help sustain the fisheries.

The coves of the lake — including Otisfield, Edwards, Hancock and Serenity — have been surveyed, and all detectable milfoil has been removed.

To appreciate the extent of this project, since 2008 more than 200 tons of milfoil has been either hand pulled or suctioned from the lake. Since the construction of the benthic barriers, starting in 2017, seven acres in the Pine Point area were covered, resulting in a further removal of 350 tons of milfoil.

In a span of 12 years, 550 tons of milfoil was removed or smothered.

The Maine Department of Environmental Protection performed an inspection of the crew's work in August 2020. Karen Hahnel, from the Invasive Aquatic Species Program, noted that there were no longer significant plant colonies in the Pine Point area; she recommended that the focus should now be to survey and manage the affected areas of the lake to prevent regrowth.

The plan for 2021 is for TLEA to continue to monitor the previously-remediated areas throughout the lake and manage some anticipated regrowth areas.

To finance this new program, TLEA launched its Capital Campaign Fund in 2017, an effort led by co-presidents Marcia Matuska and Kathy Cain.

Contributions to the fund have been diverse, with the majority coming from lakefront property owners and local businesses. TLEA received support from the towns of Oxford, Poland, Otisfield and Casco, and there was also grant revenue from the Maine DEP.

Most notably, TLEA received a grant of $25,000 from the Stephen and Tabitha King Foundation early in the campaign, which raised over $400,000 over four years.

In addition, some TLEA members collectively donated $104,641 to the milfoil fund with their annual dues, putting TLEA well over the $500,000 goal for the program.

TLEA is committed to protecting the aesthetic and recreational value of Thompson Lake for all to enjoy. This includes a continuing and comprehensive program of surveying and removing invasive plants from Thompson Lake, as well as the courtesy boat inspection program.

Paul Cain of Oxford is a member of the Thompson Lake Environmental Association board.