

## **Year End Report: Baddacook Lake Management 2020**

Jim Luening  
Project Manager

November 26, 2020

### **Executive Summary:**

Yearly weed harvesting has greatly improved the water conditions of Baddacook Pond. Recreational use is safer, navigation is clear, and the aquatic habitat is maintained for wildlife. The improvement, from year over year harvesting, was observed in delayed weed growth this year. This year when harvesting began in August, most of the weeds had just reached the surface. Before mechanical harvesting was employed, mats of weeds would have already spread across the 35 acres of infested water, out of Baddacook's total 76 acres.

This year 384 cubic yards of weeds were successfully removed. Baddacook users and abutters have provided very positive feedback on the continued improvement. Public boat launch use has grown since harvesting and hydroraking have improved conditions. This year saw approximately 3 times the use of last year. Some of this year's increase is most likely due to water activities being a safe pastime during Covid19. A fortunate outlet in these times.

Since harvesting cuts back the weeds but does not kill them, yearly harvesting will be required to maintain the gains achieved.

### **Background:**

Baddacook Pond is Groton's largest and deepest natural pond. Abutted by mostly conservation land, the Groton Water Department, private property, and a state boat launch, Baddacook is a year round public recreation area. In the summer there is boating, swimming, fishing and it's bordered by hiking trails. In the winter there is ice fishing and skating. It also supports a robust aquatic habitat for fish, turtles, and other wildlife. However, there are non-native, invasive weeds that require yearly management. When unchecked, these weeds impair navigation, present a danger to swimmers and degrade the nature habitat. For 3 years, Weed Harvesting and Hydro-raking was used to control weed growth under a Community Preservation Act [CPA] pilot program grant. Based on the those positive results, maintenance is now jointly funded between the town and the Water Department.

### **Operations Summary:**

This summer, before harvesting began, the weeds appeared to be behind in growth compared to previous years. This was true even though this year's conditions, of low lake level and warm temperatures should have been conducive to growth. Previously, drought conditions like this have amplified weed growth. This improvement is likely due to beneficial control from previous years of harvesting. By the time that harvesting started, the weeds were just reaching the surface and beginning to flower. This was a good time to cut since most of the weeds were at the surface but not thick yet.

Solitude Lake Management was awarded the contract for \$25,085.50<sup>1</sup>. The contract was jointly funded by the Town (\$15K) and the Groton Water Department (\$10K). As per the contract, Solitude supplied a Weed Harvester Operator, a Dump Truck, and the Truck Driver, for 104 hours of harvesting. The Groton Lakes Association provided the Harvester. The town Weed Harvester Committee prepped and launched the Weed Harvester. The DPW provided the composing location and took care of the removed weeds, once they were transported to the Transfer Station. The project was managed by the Great Ponds Advisory Committee. Tom Orcutt, Water Superintendent and the Water Department aided throughout the process.

Operations began on 8/10/2020 and continued through 8/28/2020. Overall, operations went smoothly and the weather co-operated. Cutting weeds below the surface incurs some risk of encountering submerged objects. Repairs were required, to the cutter bar and front conveyor, when the harvester ran into a submerged tree. Also, two new paddle wheel control levers had parts prematurely fail which will need to be addressed before next Season.

In total, 96 loads of weeds were removed which was approximately 384 cubic yards. The invasive weeds were a combination of Fanwort and Milfoil. At the end, the remaining weeds were well below the surface, to the best extent possible since some areas are not accessible. Feedback from users and abutters was very positive. Based on this year's results, we will likely use the same approach next year.



Fig. 1 - The Weed Harvester loading the truck with Fanwort

---

<sup>1</sup> Solitude erroneously thought that the harvesting hours were supposed to be 102, instead of 104 hrs. The invoice and payment were pro-rated proportionally, to \$24,629.40.



Fig 2 - A truckload of Fanwort that will be taken to the Transfer Station to decompose