Barnstead Milfoil Committee
2022 Suncook River Invasive Plant Removal Program

Exotic Aquatic Species: Variable water-milfoil; Myriophyllum heterophyllum

Location and Size: *This invasive plant covers over 85% of the Suncook River between Center Barnstead, RT 126 to Barnstead Parade Dam.*

First year treatment: 2005

Impacts to Recreational and Commercial Uses: The plants have become so thick that it prevents boat, canoe, kayak use and fishing. Oxygen reduction is hurting the fish population and natural plant life.

Impacts to Ecology: severe: Without eradication, many areas near Parade Road will become a marsh since its depth ranges from 1 to 3 feet with a heavily silted riverbed. The ecology is very similar to the Merrymeeting River that has become a marsh in the past 20 years extending from the Riverview Motel at the Alton traffic circle along 2 miles of Route 11 to Johnson's Seafood restaurant. Variable water-milfoil was observed in the Merrymeeting River during the summer of 2004 extending from the Fish Hatchery by the Merrymeeting Lake Dam to areas near the ball field behind the old post office to the Riverview Motel, behind the Alton ball field and throughout the river inlet into Alton Bay. In 2005, the Alton Selectmen decided against treating the river area because of cost. New Durham has treated the Merrymeeting River in and above Downing Pond and these areas remain relatively free for recreational use.

Proposed Control(s): Barnstead Milfoil Control Committee (BMCC) has spent over $400,000 from State grants and Town money since 2005 attempting to remove this plant from the Suncook River waterway. The Town has budgeted $16,000 per year since 2005 and did two special programs with UNH to help understand the plant habitat and perform water flow analysis on several affected water bodies. It has used divers and a 2,4 D based herbicide to control its density and spread. During the past two years, ProcellaCOR has been used on two other waterways in Barnstead to test it efficacy and determine its potential sweep in local waters. Both tests show great promise since each treatment produced complete kill in neighboring areas that were not directly treated by as much as 50%. 8 acres in Locke Lake were treated with ProcellaCOR in 2019. Four weeks after treatment, a search found that the herbicide had destroyed milfoil plants in all neighboring areas of about 12-15 acres. A night light bar search of the entire lake in mid-June 2020 found no milfoil plants from the treatment area to the dam. Prior to the treatment, individual plants had always been observed near both shorelines over this distance.

The BMCC applies each year for a NH State grant that reimburses up to 40% of Town money spent to treat and remove water variable milfoil. The Town of Barnstead voted in 2020 to begin allocating $20,000 each year to use ProcellaCOR to treat the Suncook River. The affected area is about 85 acres which if treated directly would cost the Town about $80,000. However, the plan is to do a selected treatment area each year to use the sweep potential of the herbicide to kill plants in areas downstream of the treatment.

In preparation for the first treatment scheduled in 2021, divers spent the summer of 2020 removing milfoil in areas that were near and in the main current of the river. This effort concentrated on areas north and upstream of the Trestle Cove and was able to complete work as far downstream as just south of the Broads along the Parade Road. Treatment for 2021 is allocated to cost $40,000 and diver expense is allocated to cost $10,000. No treatments are anticipated for Suncook Upper and Lower Lake as well as Locke Lake.

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The barge used on the river for milfoil control is now equipped with a light bar for night viewing and will be used to continue plant removal as well as examine in detail the treatment results during the August – September months of 2021. The data from this effort will be used to construct what is hoped to be the final ProcellaCOR treatment area for the Suncook River in 2022. The ProcellaCOR sweep effect will be tested very well in the Suncook River since there are many pockets of milfoil near and away from the main current extending about 1 mile down river to the Barnstead Parade Dam. Finding affected milfoil in any of these regions one month after treatment will provide more insight to the nature of how ProcellaCOR moves in the water body, particularly in a river. To minimize high current water flow, treatment will be scheduled after the spring rains of May and June and BMCC will request the Dam Bureau to first reduce the river level by one foot a week prior to treatment and then raise the level by one foot one day prior to treatment.

The Town of Barnstead considers saving the Suncook River from becoming a marsh critical to the beauty and ecological importance of this water body that extends through a major part of the town. It provides an important and deeply appreciated feature of the Town and is a predominant feature for each year Old Home Day festivities. Properties along the Suncook River provide about a million tax dollars each year to the Town's operating budget. Grants from the DES milfoil fund over the past 12 years have been instrumental to being able to reach a time when potential eradication in this water body is possible. Continued grant support is critical to completing this effort since it not only provides needed funding, but it also demonstrates to the Barnstead voters that this effort is critical to preserving this water way.

The plan is to continue requesting from the voters $10,000 per year after the 2022 treatment for diver funds that will be used to remove plants in or close to the main current flow and monitor the riverbed as well as to look for any new milfoil growth that can occur from seeds deposited prior to the first ProcellaCOR treatment. The 2007 report produced for DES by Michael D. Netherland, US Army ERDC, Gainesville, FL showed that as many as 50,000 seeds per acre can be produced by flowering variable-water milfoil and can take up to 3 years to germinate. Since many silted areas exist in this river and some areas have been measured to have silt over 3 meters deep, continued monitoring is critical to find and have divers remove immediately any new plants that begin to sprout post treatment. This fact may be the reason Sepro Corporation only guarantees 3 year milfoil free treatment on their web site.