**Friends of Long Pond Marstons Mills Proposed Cyanobacteria Mitigation Project using BARLEY STRAW**

**November 2, 2023**

Background

Friends of Long Pond Marstons Mills, a 501c3 nonprofit organization, exists to educate, advocate and advance remedies to restore the health of Long Pond for safe use by residents and wildlife. Between 2018 and 2023, the pond has experienced an increasing number of weeks of health advisories due to harmful algae blooms (“HABs”). Our organization is working with the Town of Barnstable to attempt to reverse this trend.

There is considerable literature on barley straw use in lakes & ponds for control of HABs, beginning in the UK in the 90's. Barley straw dispersed in mesh bags has been used effectively in both the US and UK. Although barley straw does not kill cyanobacteria, studies have shown that it inhibits cyanobacteria growth. Growth is inhibited by 20-40% on average with greatest inhibition (approx. 70%) occurring in straw allowed to rot for 6 months. Barley straw has been found to have no harmful effects on other plant life or on wildlife. Not only is the toxicity of rotting barley straw selective for blue green algae, in some cases aquatic plant growth has increased because blue green algae are no longer present to compete with the aquatic plants. In addition, it can result in the development of large populations of fish food organisms such as zooplankton and other macro invertebrates.

Proposal

Friends of Long Pond Marstons Mills intends to replicate the successful work done over the past two years by the Nashawannuck Pond Steering Committee in Easthampton, MA. According to the Nashawannuck Pond Steering Committee and Dr. R. Allison Ryan, a retired neurologist, their experimental effort has proven to be successful. “There was no evidence of any cyanobacteria bloom either by visual inspection or by microscopic water testing … Nashawannuck had been subjected to blooms pretty reliably for several past years,” Ryan said.

Members of Friends of Long Pond Marstons Mills have already learned a great deal from Dr. Ryan, and plan to gain firsthand experience by participating in the deployment of barley straw in Nashawannuck Pond next spring. Following our visit, we will direct volunteers in stuffing 200 mesh bags with 3-4 pounds of barley straw. A red float will be placed at the bottom and top of each of the bags. Five to six bags will be tethered to 6-foot garden stakes, which will be temporarily tapped into the ground at 40 locations around Long Pond, about 4 to 6 feet offshore and 2-3 ft. deep. The installations will be located where there is high water flow, historically high concentrations of cyanobacteria, and in areas least obtrusive to swimmers and boaters. Fluorescent ribbons will be tied to the tops of the stakes to mark their location. We hope to deploy the installations in late April 2024 and remove them by mid-October.

We have submitted applications for six mooring permits; one for each installation. Once they have approved, FoLPMM will request approval from the Town of Barnstable Conservation Commission.

References

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Studies showcasing the safety and effectiveness of barley straw in controlling HABs

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