

Ms. April Talon, Town Engineer
Town of Durham, NH

5 January 2021

Dear Ms. Talon,

I am writing this note to you to provide some input on the discussion relating to the fate of The Mill Pond Dam. I am most familiar with the arguments about restoring the Oyster River and its runs of Alewives and Blueback Herring. Our house at 56 Oyster River Road abutts the Oyster River just before it empties into the Mill Pond backwater and have been observing the Mill Pond and Oyster River since we moved to Durham in 1969. I also served on the Conservation Commission for three years and have heard all the arguments about the benefits of restoring the river. Before that, I used to row with the Durham Boat Club out of Jackson's Landing when even UNH 8s could navigate down the tidal portion of the Oyster River at low tide. As a marine ecologist at UNH for 51 years who studied invasive species and community succession, I also am very aware of the issues related to the pond and its biological basis.

The Oyster River and Mill Pond. I do not believe most Durham residents appreciate how extensive the dammed portion of the Oyster River is. Beyond the obvious pond visible on Mill Pond Road, there is a backwater that extends almost to Route 108 where Hamel Brook flows under the road and enters the back end of the pond. The Mill Pond and dam have been in place for over 300 years and the almost mile long pond and backwater support a rich diversity of life from invertebrates to beavers and waterfowl. The pond and backwater support a variety of recreational activities, including skating, cross country skiing and snowshoeing through the winter and now connect with the trail systems in the Foss Farm Loop and the new town and UNH trails exiting at Stevens Woods. In the summer months, there is kayaking and canoeing as well as fishing for smallmouth and largemouth bass, pickerel, perch and sunfish.

The Oyster River is very small for being called a river (observe the true size of the river where it crosses Main Street out near Lee Five Corners). It is supposed to be the source of water for Durham and UNH, but during most of the year that water actually comes from Spruce Hole, the Lee Well and the Lamprey River. During drier portions of the summer almost no water trickles over the Mill Pond Dam. Between the nonpoint source inputs and highly reduced water flow in the warm months, it is no wonder that the pond is highly eutrophic.

Herring and Alewives. There has been a lot of concern about fish kills in the summer months and a percentage of those fish are river herring. When the fish ladder was first added, primarily for salmon, there were major runs of Blueback Herring up into the running waters of the river and the pond and backwater were full of spawning Alewives. The runs dwindled in a few years. At the first hearing concerning taking out the dam and restoring fish runs, the representative of NH Fish and Game testified that Alewives cannot navigate down a fish ladder, which is simply not true. The reason that the fish runs dwindled is something that I watched happening. After the runs had met some quota, the fish ladder was closed so the fish

could not get back out. I watched fish trying to get over the dam on several occasions while standing on the fish ladder. One could also observe sickly fish milling around in the pond only to feed ospreys, cormorants and herons. Even worse, both species of herring spend time after hatching in the river and pond before moving back to salt water and there was no way for them to exit with the fish ladder closed and almost no water flowing over the dam. It is not surprising that fish runs dwindled to almost nothing, but it is the town and NH Fish and Game that are responsible and not inability to navigate a fish ladder.

The Dam. As the Feasibility Study Report documents, the Mill Pond has been dammed since the 1700's, though the current dam was built in 1913. The concrete Ambursen-style dam has engineering significance and is listed on the NH Register of Historic Places. The Mill Pond has played a long and important role in the history of Durham, which is also now complemented by the significance of the current dam. In recent years, the pond has been emptied to either evaluate the integrity of the dam or in an attempt to kill the aquatic vegetation that is slowly building up as sections of the pond fill in due to sediment runoff from the town and University. Those drawdowns provided ample evidence for what would happen if the dam was removed. A very narrow stream that could be stepped across is all that was left where the Oyster River enters the backwater and the same shallow ribbon of water could be seen extending up towards Hamel Brook. The extensive exposed muddy flats are perfect habitat for the stands of Glossy Buckthorn and other invasive plants that line the shoreline of the pond. Dam removal will not only eliminate extensive wildlife habitat and recreational potential but promises a densely vegetated swampy marsh and breeding ground for mosquitos. Homeowners along Mill Pond Road and Laurel Lane will no longer have waterfront property and should have their property taxes lowered to reflect that change.

The Feasibility Study only proposes two alternatives, which include dam removal or reenforcing the current dam and dredging the pond. There is no question that some repair work is needed on the dam but dredging of the pond while desirable is not required to address the issue of the dam; it is the most expensive component of this alternative.

A Third Alternative: Repair the dam and fish ladder and leave the fish ladder open until the herring have departed. Restoring fish runs is advocated in the report, but without an alternative to dam removal and that is a false set of alternatives. Leaving the fish ladder open longer may mean that water levels will fluctuate if the spring is drier than normal, but it will maintain the integrity of the pond and backwater. Another possibility to address sediment buildup would be to open the gates for a period during rain events in the spring to flush some of the sediments in the main channel. The town and University water supply is not dependent on the Mill Pond and the Mill Pond system would benefit from pulses of increased flow below the level of the dam.

The pond is filling in which is a natural process and any dredging would only restore it for a finite period depending on how extensive the dredging was. It is sad to realize that such an iconic part of Durham is so likely to be eliminated with false expectations. I only hope those who pay extra taxes for being on waterfront property will have their assessments lowered when they are confronted with mosquito infested thickets of invasive vegetation. I for one would be willing to pay an extra assessment for addressing the maintenance of the dam and pond, just as we willingly pay to have high quality schools in our town. I would ask that you share this document with the Town Council or tell me how to get a copy to them. Thank you.

Sincerely yours,

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