



FOR THE ASSABET SUDBURY & CONCORD RIVERS

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May 23, 2023

Delia Kaye, Director
Natural Resources Division
Town of Concord
141 Keyes Road
Concord, MA 01742

Re: OARS position on Warner's Pond Dam Removal

Dear Ms. Kaye,

Thank you for the opportunity to communicate the position of OARS on the alternatives to address the ongoing degradation of Warner's Pond. OARS is the non-profit watershed organization for the Sudbury, Assabet, and Concord Rivers, and is located in West Concord. We represent over 250 members in Concord and have run a water quality monitoring program of the Assabet River and its tributaries since 1992, including Nashoba Brook since 2002. The purpose of OARS is "the protection, improvement and preservation of the Assabet River, Concord River, and Sudbury River, and their tributaries and watersheds for the purpose of public recreation, water supply, and wildlife habitat." Based on this purpose and our review of the "Warner's Pond Alternatives Analysis Report" by EA Engineering (May 2023), **OARS supports the report's conclusion that "the [Warner's Pond] Dam Removal Alternative is the most technically and economically feasible restoration alternative that would provide the greatest degree of ecological, recreational, and community benefits with the least potential for adverse impacts."**

Context

Before the industrial revolution, the free-flowing Assabet River and its tributaries were home to abundant migratory fish populations supporting wildlife, the native inhabitants, and European settlers. Blueback herring, alewife, American shad, American eel, and sea lamprey would migrate up and down these rivers and streams every year. These annual cycles played a critical role in the freshwater food web and nutrient cycles, and abundant hatchling fish returning to the sea served as food for birds, mammals, and larger fish. Construction of multiple dams along our rivers ended these migrations. Yet most of these dams no longer serve their original purposes, and many are coming out. We now have the opportunity to restore these historic fish runs and repair centuries of damage to our waterways to benefit wildlife habitat and recreational access.

The Talbot Mills dam on the Concord River in Billerica is now the only dam blocking fish passage between the Assabet River and the ocean. Removal of that dam is currently in the permitting process and is slated for completion in 2024 or 2025. Once the Talbot Mills Dam is removed, reconnecting 135 miles of river habitat, Warner's Pond Dam would be the first dam many fish would encounter as they make their way upstream, preventing access to spawning

habitat. Removing the Warner's Pond dam would significantly increase the habitat for migratory fish once the Talbot Mills dam in Billerica is gone.

Once the dam in Billerica is removed, the dam at Warner's Pond may become a priority for fish passage. A provision of Massachusetts General Laws enables the director of the Division of Marine Fisheries to *“determine whether existing fishways, if any, are suitable and sufficient for the passage of such fish in such brooks, rivers and streams or whether a new fishway is needed for the passage of fish over such dam or obstruction; and he shall prescribe by written order what changes or repairs, if any, shall be made therein, and where, how and when a new fishway shall be built . . .”* In practice, the Division of Marine Fisheries uses this statute to educate dam owners about their responsibility to provide passage and then find and implement the solution that is best for the dam owner and the fish in question. In the case of Warner's Pond dam, the Alternatives Analysis makes clear that dam removal would provide the greatest benefit.

Recreation

Community members' experience and enjoyment of our rivers is an essential part of OARS' mission. Abutters and visitors have long valued the opportunity to boat, fish, ice skate, and look out upon Warner's Pond. These values must be considered when making decisions about Warner's Pond. However, Warner's Pond, in its current degraded state, is impaired as a recreational asset. Swimming in the pond is unappealing due to deep sediments, murky water, and decaying algae and other aquatic plants. Open water for boating is greatly reduced due to sedimentation and overabundant aquatic vegetation. Fishing is less attractive due to limited boat access and the reduced oxygen levels resulting from decay of the dense aquatic vegetation.

The Alternatives Analysis report makes clear that dam removal is the best way to restore the recreational and community benefits of the pond. Beyond that conclusion, the report does not take the time to truly describe just how beautiful and functional the restored areas can be. There may be community apprehension about what the formerly impounded pond area will become after dam removal. In other dam removal discussions, we have heard fears that the drained area will become a smelly mud flat. But that is not the case. The revealed land will quickly revegetate with cattails and other native plants. Some of the most beautiful areas along our rivers and streams are cattail marshes with channels for canoe passage, clear-flowing streams, and wetlands with plentiful wildflowers. A healthy wetland and floodplain ecosystem provides important habitat for birds, reptiles, amphibians, mammals, and insects like dragonflies. And critically, resident and migratory fish will be able to repopulate and move freely in the stream to find spawning areas and cool refugia during heat waves.

Any restoration plan should strive to value and reflect community desires for recreation. A restoration design should include creating channels or docks to ensure boat access to Scout Island, the Gerow land, and the Commonwealth Ave. access point. Boardwalks and trails should provide access to the marshes. As the deeper section of the pond will likely remain open water even with dam removal, designs should incorporate access to this section for fishing and ice skating.

We know that people protect and care for what they love – a healthy and beautiful natural stream for all to enjoy will encourage current and future generations to be good stewards of their water resources and environment.

Water Quality

The water impounded by the dam is shallow and slow moving, resulting in high water temperatures and low dissolved oxygen levels, making it a poor habitat for riverine fish. OARS data show that the water in Nashoba Brook below the dam has diminished dissolved oxygen levels, a negative impact of the dam. The median summer dissolved oxygen level is below the MassDEP Class B Water Quality Standard of 5 mg/L. The data show a year-on-year steady decline in dissolved oxygen below the dam from more than 7 mg/L in 2009 to less than 5 mg/L in 2022. OARS data also show that the median summer water temperature in Nashoba Brook immediately below the dam is 4°C warmer than the sampling site three miles upstream of the dam, a likely result of the large, shallow pond created by the dam.

Warner’s Pond is a rapidly degrading ecosystem. As the Warner’s Pond Alternatives Analysis Report states, “*conditions in Warner’s Pond [are] expected to continue to deteriorate. The ability of the pond to provide ecological, recreational, and community benefits continues to decline. These shallow areas will transition to vegetated wetlands, deeper areas will become shallower.*” The impact of increasingly intense floods, drought, and excessive heat due to climate change are speeding up this process. However, removal of the dam directly reduces these stressors and builds climate resilience by reducing the conditions for invasive plants, supporting greater biodiversity, and providing access to cooler refugia during heat waves and droughts and access to spawning areas.

Concord can take advantage of grants for dam removal

There is currently significant federal and state funding available to restore stream and river continuity for migratory fish, but there is no guarantee that this money will be available a decade from now. OARS recommends that Concord act now to move forward with dam removal and apply for funding to remove Warner’s Pond dam. This could free up funds that Concord has set aside to instead design and implement a floodplain restoration plan that both attempts to maintain access and recreation qualities of the area and restore the ecological health, wildlife and beauty of Nashoba Brook.

If the town can take advantage of external dam removal funding, local funds could be used to enhance the other community and recreational benefits. While grants to remove dams are currently available, this is not the case for building fishways as an alternative. Fishways (fish “ladders” and other designs) are expensive to build, are ineffective at passing more than one fish species, and need constant maintenance to operate correctly. Fishways also don’t provide the same benefits for other species that live in and near the water, such as amphibians, reptiles, and mammals. During the fish migration season, the dam owner (Town of Concord) typically needs to provide daily monitoring and clearing to ensure the continuous function of the fish ladder. A fishway also fails to provide the water quality improvements that dam removal provides.

Concord would still have to repair the dam as needed, conduct inspections and reporting to the Office of Dam Safety, and maintain liability insurance.

State and federal programs that fund dam removal include: Dams & Seawall Program, Municipal Vulnerability Program, Mass. DER, and NOAA. Private funds are also possible. OARS has worked successfully with several such programs to raise funds for dam removal. Grants can fund the engineering studies, permitting, design, and removal. If such outside sources of funding are secured, Concord could use funds set aside for dredging to plan and implement comprehensive floodplain restoration that could meet the recreational and aesthetic needs of the community.

Regulatory Context

Owning a dam is generally not in the interest of most municipalities. In 2005, a dam in Taunton was damaged in an extreme weather event and threatened to flood populated areas. This triggered inspections of dams all over Massachusetts, and subsequently Concord was required to rebuild the Warner's Pond dam on short notice. At that time, the Talbot Mills dam in Billerica was blocking the passage of migratory fish, so removing Warner's Pond dam or adding a fish ladder was not a priority for Federal or State agencies. Concord opted to repair rather than remove the dam in 2008. As the dam owner, Concord must still have the dam inspected regularly, maintain the dam, and pay for liability insurance. Concord must always be prepared for surprise expenses in light of the changing climate and rules for dam safety.

The regulatory feasibility of the Dredging and Filling Alternative is doubtful, given the adverse effects Warner's Pond Dam has on water quality. As the Alternatives Analysis notes, the dredging alternative is likely to require a federal Section 404 Dredge and Fill individual permit (IP), among other federal and state permits. However, to obtain an IP, the Town will need to demonstrate that State Water Quality Standards can be attained. Warner's Pond is classified under the Clean Water Act as a Class B Water. These waters are designated as "*habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. . . . These waters shall have consistently good aesthetic value.*"

Yet, as noted in the Town's Warner's Pond Watershed Management Plan (May 2012), "water quality conditions are beyond a level where active management would make significant improvements." Conditions have since worsened, and the regulatory landscape has shifted significantly. Warner's Pond is now listed on the Final Massachusetts Integrated List of Waters for the Clean Water Act 2018/20 Reporting Cycle (DEP 2021) as a Category 4a impaired water due to the presence of water chestnut and mercury in fish tissue. As shown above, Warner's Pond is not meeting State water quality criteria for dissolved oxygen and the pond is negatively impacting the temperature of Nashoba Brook downstream by raising it several degrees. It is unlikely that permitting the Dredging and Filling Alternative will succeed if State Water Quality Standards cannot be met with the dam remaining in place.

Conclusion

OARS supports the Dam Removal Alternative with a project design that incorporates enhanced recreational access to Nashoba Brook. The Dam Removal Alternative will satisfy the goals of the

Federal and State Clean Water Acts by providing full ecological restoration of Nashoba Brook in West Concord. It will also improve recreational opportunities in Concord, including the opportunity to create a paddling trail linking Town-owned recreational access points upstream of the existing dam with those along the Assabet River. We urge the Town to take advantage of the significant sources of state and federal grant funding currently available to support all phases of dam removal projects, including planning, design, permitting, and construction. Leveraging state and federal grant funding will allow the Town to use its capital to fund significant recreational improvements associated with dam removal and floodplain restoration work. It should also be noted that dam removal generally reduces the likelihood of properties flooding immediately upstream of the dam. Flooding can be a source of pollution to a stream or river and flood damage is a significant cost to property owners.

Removing the dam at Warner's Pond and restoring Nashoba Brook to its free-flowing condition is the best option to regain the ecological function and environmental aesthetics that so many Concordians cherish. Restoring migratory fish passage will also improve conditions for fish that are key components of a healthy watershed and forage species for wildlife and the commercial and sport fisheries of the Gulf of Maine and North Atlantic. Removing the dam will help build climate resilience in our river system that will serve both Concord and the region well into the future and restore the beauty and vitality of a healthy stream and wetland habitat.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'A. Juma', with a long horizontal flourish extending to the left.

Alison Field-Juma
Executive Director