

DATE: August 5, 2021  
FROM: Matt Schweisberg  
TO: Hannah Goodwin  
SUBJ: Jerry's Pond

After a call with ANI members with feedback on my draft memo, below is a final memo.

What I mention below are my professional opinions only, based upon 40+ years of experience. First, I provide some general observations. I follow with my comments and thoughts on the proposed plans.

Jerry's Pond and its surrounding wooded area within the fence are degraded — high degree of invasive plant species, some trash, older decaying pavement, among others. The Pond is located in an intensively developed urban setting. Surrounding the Jerry's Pond area is two major roads, heavily managed athletic fields, the T station, and several commercial office buildings. The treed and grassy areas are substantially disturbed too (mowing, trash, vehicles). The entire setting is subjected to traffic, noise, and lights. These circumstances must be kept in mind as they greatly limit the degree of actual “ecological lift” that could be realized by attempting to make improvements to the area. Notwithstanding those circumstances, there are a few improvements that could be accomplished that could marginally raise the ecological value of the area. If the group wants to improve public access, understand that those improvements would counteract ecological improvements—as I've said previously, nearly every action will result in a trade-off between benefits for humans and benefits for wildlife.

Regarding improvements, still keep these factors in mind—in no particular order—when determining what to attempt. In many respects, the determinations come down to a calculation of cost (monetary, detriments to wildlife and humans) versus return (i.e., benefits to wildlife and people) on investment.

- Avoidance—When considering what improvements to implement, a key factor to consider is avoidance/alternatives. That is, can an action be avoided or relocated somewhere else, can the action be accomplished in a different manner that will avoid or minimize adverse impacts to wildlife and still provide benefit to people.
- Lighting—I think this comes down to balancing the disturbance of night lighting—which is a serious concern for wildlife, especially birds, bats, owls—with safety for people. To the degree possible, limit night lighting to the parking area on the east side of the pond and along Rindge Avenue.
- Boardwalks—Much better than solid fill paths, which should be avoided whenever possible. Boardwalks need to be raised to a sufficient height that allows light to reach the entire area un-

derneath the structure for much of the day; this will allow ground cover (e.g., grass, grass-like species) to survive. A reasonable guide is that the boardwalk should be at least 4 feet above ground vegetation and at least 1 foot narrower than the height (i.e., 4 feet high, 3 feet wide; though the height proportion expands with a wider structure) .

- The northwest and west areas are least disturbed (but still these areas are degraded). Strive to keep it that way. Any improvements that involve structures, gathering areas, and clearing / thinning of vegetation (especially woody plants) should be confined to the eastern and south-east sides of the Pond area.
- Consider avoiding major construction and more frequent maintenance activities at sensitive times of year; e.g., breeding/nesting/rearing for waterfowl/waterbirds, breeding for amphibians, and breeding/nesting for reptiles (turtles).

As for the actual proposed plans, here are some thoughts.

- Filling in parts of the Pond and its adjacent wetlands, and excavating other parts, could present problems.
  - Filling and excavating would likely require the involvement and potential authorization from the Conservation Commission, MassDEP, the Army Corps of Engineers, and several other state and federal agencies; and,
  - Moving soil, particularly dredging, is extremely expensive. Disposal of dredged material usually has to be tested for contaminants, which is costly, and if contaminated, presents numerous challenges for proper disposal.
  - If contaminated sediments were to be excavated, that could suspend contaminants in the water column, mobilize contaminants, and move them into other areas of the Pond or wetlands. All of that could mean increased exposure for fish, birds and other wildlife.
  - Notwithstanding those considerations, there are some improvements to ponder:
    - Create some deeper portions in the pond (preferably in the west and northwest portions of the pond. Deeper areas tend to retain lower temperature and would serve as better refuge for fish. Deeper areas would need to be at least  $\frac{1}{3}$  acre in extent and five feet in depth (which means that the entire deepened area would need to be large enough to accommodate gentle slopes around the deeper area).
    - If a path around the pond is to be built, keep it as narrow as possible and keep vegetation clearing (both width and height) to the minimum practicable.
- Tree clearing and replanting. Again, tree clearing within wetlands would be a regulated activity and subject to the Conservation Commission's authority. Also, any clearing within the 100-foot Buffer Zone of the wetlands could be regulated too. Tree seedlings (under 3 feet in height) would take at least 30 to 40 years to achieve a height sufficient to provide habitat and shade similar to removed trees. Tree saplings (typically about 3 to 10 feet in height) would take at least 20 to 25 years. Some nurseries reduce the cost of sapling trees that are stunted, twisted, etc., and are not suitable to sale at full price.
- Re habitat impact from adding a second path — In this setting, with the habitat already disturbed, it's difficult to judge. However, any additional clearing will have an adverse impact.

It's just difficult to say how much of an impact. For certain, the effect would not be beneficial for wildlife, particularly birds. See this article:

<https://www.sciencedaily.com/releases/2018/11/181112082417.htm>

Bottom line: I don't recommend constructing a second path because of the additional disturbance to an already degraded area.

Importantly, for whatever actions are approved, think long-term—

- A simple monitoring program should be developed that could be implemented by the groups: citizen science—
  - Simple water quality parameters;
  - Clarity;
  - Occasional bottom sediment testing, which could be reduced once a baseline condition is established.
- Maintenance will be necessary. Trash clean-up, repair of structures, inspections, etc. as well as cost and who will do it must be factored into any long-term maintenance plan.
  - Everyone should recognize that there will be unavoidable disturbances, possible vandalism, other problems that will need attention.

Re general contextual information on Jerry's Pond: Please try to remove the term "re-naturalizing" from the group's lexicon. For the reasons explained above, the Pond can be improved incrementally, but it will never be "re-naturalized" or any type of showcase natural area. "More natural," as you mentioned in your email, is the better term and doesn't imply a condition that can never be achieved. As for Jerry's Pond, the more it gets "messed with," the longer it will take to recover, and the greater the risk that it might never recover.

There are a few actions to consider to improve the Pond—

- Trash removal;
- We discussed removal of Phragmites at the southeast corner of the Pond. If funds are available, deepen that small area to help prevent Phragmites from re-colonizing.
- To the degree possible, increase shade around the south and east Pond edges;
- Keep people, structures, and other disturbances as far from the Pond as practicable;
- Consider installing one or two aerators in the Pond to improve circulation and O<sub>2</sub> content. That would help reduce algae growth and be better for fish and other aquatic life.

Bottom line: Recognize that any "ecological lift" achieved may be short-lived. Because of its urban and disturbed setting, maintaining any lift would take continual monitoring, maintenance, and repair, not to mention cost.