On Heron Pond

A White Paper

By Fred Elkind,

Milford Environmental Programs Coordinator

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Introduction:

There is much information that has been bandied about lately concerning Heron Pond. Some of it is factual, much is embellished, and some of the information is intentionally or unintentionally inaccurate. The purpose of this paper is to provide some context, to clarify some of the inaccuracies, and to clarify the thinking that has assisted in this office formulating its counsel to other departments.

Representatives of a small ad hoc organization that has declared itself as the "Brox Environmental Citizens" have, as is their right, become very vocal proponents of a point of view that can best be characterized as "preservationist" as it relates to the Brox property, so called. On numerous occasions, I have indicated an appreciation of the passion that some of the members demonstrate for their cause; a cause, I might add, that, absent other factors, I could support. However, decision makers cannot act on passion but must be guided by facts. Let us try to review some of the issues raised.

Heron Pond History:

The argument has been made that this pond has existed for a long time leading to the suggestion that vital, long present habitats are being lost. Let us look at the history of the pond. We are fortunate to have United States Geological Survey (USGS) mapping going back to at least 1906 and forward through the 1950's. The USGS is exceedingly careful, as is their directive, to present unbiased and accurate information. Their mapping throughout this time frame defines the area we now call Heron Pond as a wooded wetland or marsh and did not indicate it as being seasonally inundated. The USGS uses unique mapping devices to define seasonally inundated lands. These are intentionally absent from the Heron Pond presentations.

If we move forward and review the aerial photography commissioned by the Town of Milford, we find that the same conditions existed at least until 2010. We can factually state that the ponding of the area is a relatively new phenomenon that was likely caused by restriction of the normal flow of Birch Brook by beaver activity. The ponded ecosystem is different from the wooded wetland/marsh ecosystem with prevalence of different fauna and flora. As is the case for the succession of land types, there are

pioneering species that provide habitat conditions that lead to a change in the species make-up. From an environmental science standpoint, it is difficult or impossible to take a position of which species are most important. They are all interrelated and important.

Destroyed Pond – Destroyed Natural History:

Rhetoric has been used recently that is intended to be inflammatory for the political purposes of underscoring a point of view. This has been directed at the management of the level of water in Heron Pond. Language intended to vilify the action as being without merit, ill-conceived, and to horrify those who may not be better informed than those making the speeches, suggests that somehow the value of the pond is completely and utterly lost, forever. However, this is not accurate. The pond continues to have substantially more water than at any time prior to the most recent flooding. There continues to be open water habitat, but now there is contiguous marshland as well. It is misleading to indicate that somehow species have been lost. At worst, some have been temporarily displaced while, more likely, the habitat has become more diverse and habitat opportunities have increased. As evidence of this point of view, we know that Heron Pond did not exist as such until beaver dammed Birch Brook. Why would we believe that what happened in the past could not happen again? I see no evidence that either populations are lost or that the pond as it currently exists is destined for permanency. What we know is that change will happen. The pond will continue to change.

No Reason for Managing the Pond:

Mother Nature knows better than us as to how the Heron Pond Wetlands can best evolve for movement toward a stable ecosystem. However, Mother Nature does not take man's needs into account. She leaves that to us. Whenever man alters an ecosystem to meet his needs, he is interfering with the natural system. Every one of us lives in a home, travels on streets, shops in stores, works at places of employment, attends schools and places of worship. Each and every one of these facilities has required an alteration of an otherwise natural site. Through our boards and commissions, we spend great effort to try to find the appropriate balance between nature's and man's needs. We have some great hits and, unfortunately, some misses. On balance, Milford is a very desirable place to live due in no small part to its natural environment.

Having stated the obvious above, it is also obvious that we need to manage our environment. We need clean air to breathe, clean water to drink, and clean lands for recreation. This means that we need to deal with our waste products and preserve our investments. Heron Pond impacts man and his investments and needs to be managed. The investments of immediate concern include abutting properties and municipal facilities.

There are several specific reasons why the beaver dam was lowered to affect a lowering of the water at Heron Pond:

1) Property owners down-gradient of the ponds impacts strongly believed that they were at risk of having their property flooded. To emphasize the point, the properties in question are not down-stream (as may have been unartfully stated) but are down-gradient. The difference is important in that flood waters flow outside of their natural channel in floodways. An increase in elevation of Heron Pond, as mediated by the damming effect of the beaver dam, raises the backwater condition westerly of the Heron Pond Rd. culvert. The culvert is smaller in diameter than what would now be required, and its pitch is purportedly more pronounced than may be ideal. This serves to cause an increased water elevation on the westerly side of the culvert when compared to the pond elevation. However, as the beaver dam causes a rise in the pond elevation, this factor becomes controlling, and flooding can be induced on the upstream side. Aerial photography supports this point of view.

   Lowering the dam reduced this threat.

2) The so-called Brox pit is a very valuable asset to the town. The Department of Public Works uses the pit for a broad range of essential purposes that are of great value to the town. Among the beneficial uses of the property by the Department of Public Works are: staging materials for normal and emergency responses, accessing assets at the Brox property, and as a location to conduct environmental protection activities. However, the original excavation brought the pit area down to an elevation that is very near the water table. The increased elevation of the pond serves to raise the water table even more making access difficult, and to reduce the important and protective separation between normal activities and the water table.

   Lowering the dam protected the use and added protection to the groundwater resource.

3) We understand that many residents and, purportedly, some of the Heron Pond teachers have expressed concern about the inaccessibility of the water. However, we have to be aware that the Centers for Disease Control has issued warnings about contact with and use of water that harbors beaver and other rodents. Beaver are one of the few mammals that defecate in the water. Beaver have been identified as potential carriers of a parasitic protozoan known as *giardia lamblia* which can cause the serious intestinal disease – giardiasis. It would be foolish to state that the beaver of Heron Pond are carriers. They probably are not. But it is wise to control flooding in the vicinity of the school as a means to err on the side of caution in protecting the students at Heron Pond School. Observing nature is an extremely important educational tool for our kids. Watching a bear in the distance is fascinating. But one needs to exercise caution.

The Conservation Commission was not Consulted:

Much has been made of the point that the Conservation Commission was not consulted. In reality, this is not quite the fact. It is true that there was no formal request made of the Conservation Commission. Their counsel is highly valued. In this instance, the rise of the water elevation and the concerns of residents necessitated a quick response. Issues surrounding the management of the pond were discussed with several Conservation Commission members individually. The counsel received was often supportive of, and even recommended, the action. While the Commission's counsel is invaluable, the decisions regarding the management of the resource rests elsewhere.

The Lowering of the Dam was directed by a Selectman and the Environmental Coordinator:

Much has also been made of a communication to the Environmental Coordinator by one of the Selectmen in which lowering of the beaver dam by 2 feet was considered. The false statements suggest that this "directive" caused the Environmental Coordinator to direct the lowering of the dam by 2 feet or more. To set the record straight, the Selectman's comments were not the basis for the decision. In fact, the Environmental Coordinator's role was to provide counsel to the Department of Public Works which was faced with the decision of how best to respond to the previously stated high water concerns. DPW was informed that they had the authority to remove the dam in a de minimis manner, that permits were not required, and that the lowering of the water elevation to avert the above stated problems and risks was a good management strategy.

The Water Elevation was decreased by 4 Feet:

The four foot drop as stated by representatives of the Brox Environmental Citizens group is knowingly not accurate. Observation of the pond indicates that the water elevation was reduced by approximately 2 feet. Part of the beaver dam may have been removed to a depth of approximately 4 feet to allow access to the control portion of the dam – the top. The top of the dam was not lowered by 4 feet thus the water elevation was not lowered by 4 feet.

The Pond is Destroyed Forever:

Statements have been made leading to the conclusion that the pond is destroyed forever and that the beaver are, likewise, gone forever. However, there is no evidence of this. In fact, it is part of beavers' natural history to abandon and then reoccupy habitats as environmental conditions change. If this were not the case, removal of a dam might result in a permanent alteration. But history teaches us that beaver are persistent and they will return.

Further, the pond, while less extensive and not as deep as it has been recently, remains in a state significantly larger than at nearly any other time in its documented history.

Author's Opinions:

This paper presents the opinions of its author and should not be construed as an official position of the Board of Selectmen or any department or commission. The position of the Environmental Coordinator was created to supply advice, counsel, and guidance to town officials and residents. As the current occupant of that position, I base my opinions on more than nine years of college study, including masters and doctoral programs, several years as an environmental educator at the college level, as well as approximately 40 years of practical experience in environmental management. Further, I served as a member of the Nashua Conservation Commission for approximately 8 years, 5 as chair. I was appointed as a board member of the Merrimack River Watershed Council and served as Vice Chair. I was also appointed to wetlands advisory committees by two governors. I hold or have held several certifications and licenses including Professional Engineer registration (currently) and Certified Wetlands Scientist.

Approved for Posting:

The Milford Board of Selectmen, at their September 29, 2014 meeting, reviewed the above document and approved it for posting on the Town's website.