

2017 Water Bodies Assessment and Recommendation Report

Arlington Conservation Commission February 2018

The Arlington Conservation Commission has carried out an assessment of fourteen water bodies in the Town of Arlington, which include five lakes and ponds and nine streams. A majority of these are negatively impacted by polluted runoff and storm water discharges due to the highly urban nature of Arlington and surrounding towns. Most of these water bodies also have excessive aquatic invasive plants that degrade water quality, impede recreational use, and degrade aesthetics. In determining which waterbodies could benefit from management measures using Town funding, we have taken a triage-based approach:

1. Water bodies that are in generally good shape that do not need much help, or whose issues are being addressed by other agencies or funding sources, e.g., Upper & Lower Mystic Lakes and Upper Mystic River
2. Water bodies with some issues that could benefit from directed intervention, e.g. Spy Pond, Arlington Reservoir, Hills Pond, McClennen Park Detention Ponds (Reeds Brook)
3. Water bodies that are in poor shape with many issues that would need major efforts and thus funding to improve, e.g. Mill Brook, Alewife Brook.

Based on our analysis and discussions with various community groups we have identified the following five priority locations for the coming year:

- **Arlington Reservoir** – Town-owned water body in Arlington and Lexington with aquatic invasive water chestnuts that form dense, impenetrable mats at the water’s surface, which impair public use and water quality. Recommend continuation of current management practices to mechanically remove water chestnut plants. In addition, the Mystic River Watershed Association (MyRWA) has been organizing hand harvesting events in the more shallow areas. Once the water chestnuts’ seed bank is further depleted, the harvesting efforts and costs will be reduced. Currently this waterbody is being assessed as part of the Reservoir Master Plan project supported with CPA funding.
- **Hills Pond** – A small pond in the heavily used Menotomy Rocks Park with water quality and invasive plant problems. Recommend continuation of chemical treatments to control algae and other detrimental water plants. The Friends of Menotomy Rocks Park (FoMRP) and the Town DPW are proceeding with the reinstallation of the aeration pump system to improve pond water quality. DPW installed the electrical service in the Fall of 2017. FoMRP plans to install the pump and the aeration lines in the Spring of 2018. Additionally, we recommend that an in-depth assessment of this water body be performed to develop a best management program for the future, and Community Preservation Act (CPA) funds sought for that purpose.
- **Mill Brook** – The very poor water quality (EPA/MyRWA 2016 rating of D+) is primarily due to storm water runoff; however, the brook and its adjacent shore provide valuable wildlife habitat and opportunities for nature views. Some areas are attractive natural areas and the Working Group recommends that efforts should be made to enhance public access and investigate / mitigate illicit discharges into the brook. The Mystic River Watershed Association (MyRWA) has received CPA funds for improving public access, investigating illicit discharges and monitoring water quality of Mill Brook near Wellington Park. A design and engineering consultant, Weston and Sampson, has been hired to produce an environmental analysis of the Mill Brook corridor and schematic design for Wellington Park. This work is planned to start in early 2018. Phase I of the project, which includes

the schematic designs, is expected to be completed in Summer 2018. Updates to this project can be found at: <https://mysticriver.org/millbrook>. We also have concerns about the section of Mill Brook next to the Reservoir which has bank erosion and invasive plant issues.

- **McClennen Park Detention Ponds on Reeds Brook** – These are small constructed ponds that have major value for storm water control and provide wildlife habitat. A preliminary review indicated that there may be seepage from the landfill material – which was capped but not lined, as evidenced by the brown color (iron flocculation) of the ponds in certain locations.

The Water Bodies committee continued investigation of the iron flocculation at the McClennen Park Detention Ponds to improve the site’s aesthetic, recreational, and wildlife values and functions. The results of the sampling and analysis performed in 2016-2017 by the contractor Brown & Caldwell were received and evaluated. The report of this initial assessment indicated that 1) the concentration of volatile organic compounds (VOCs) and metals that are present in the surface water and sediments do not pose a risk to human health and 2) recommended further investigation of the potential ecological risk from high iron and manganese content in the surface water and sediments.

Woods Hole Group (WHG) was chosen as the contractor to assist the Commission with the recommended ecological investigations. WHG performed a site visit in June 2017 and from that prepared a Sampling and Analysis Plan (SAP) for visual and chemical measurements of surface water and sediments in the ponds, in the upland wetlands, and in Reeds Brook. The SAP was approved by the Commission in Fall 2017 and will be implemented in Spring and Summer 2018. Results from this sampling and analysis will be used to conduct an Ecological Risk Characterization and to determine whether or not a condition of “readily apparent harm” (as defined by MassDEP) to organisms exists at the site.

- **Spy Pond** – Heavily used by public for recreation with invasive plant problems in and around the pond that impair use; also erosion along portions of the shoreline. Recommend assessment, updating or creating the operation and management plan, and continuation of aquatic invasive plant management practices. Additionally, last year we recommended assessment, design review, and implementation of shoreline erosion control, which was initiated in 2016 using CPA funding for an assessment of shoreline erosion and evaluation of design options. Currently, a project sponsored by the Conservation Commission to address implementation of erosion control based on the 2016 study is seeking CPA funding. The Town has also applied for, and received, additional funding from other sources for this project.
- **Mystic River** – The ACC and the Town of Arlington was awarded the Natural Resource Damages Assessment and Restoration Program Grant in the amount of \$47,325. The Restoration project will create a native riverbank (riparian) habitat and improve storm water quality. It is located along the Mystic River at the end of Park Street in the area that was directly impacted by oil released from a tanker truck that overturned nearby on Route 60 in May 2013.

Work began in October of 2017 to stabilize the slope along the riverbank, remove the broken concrete headwall at the storm water outfall, repair the drainage pipe, create a swale for flood storage and to percolate storm water runoff, and move the dirt footpath around this newly created riparian habitat. Enhancements to the riparian habitat, including native plantings and educational signage, will begin in Spring of 2018 with direct community involvement.

In conjunction with this project, the Town has agreed to install and maintain a new pretreatment system for the storm drain pipe that leads to the outfall at this location. This separate but linked project to be managed by the Arlington Department of Public Works (DPW) will capture oils, sediment, and litter to prevent debris and contamination from entering the newly restored wetland and reduce contamination and sedimentation in the Mystic River.

The Water Bodies Working Group has collected information for all the water bodies evaluated in support of this report. We recommend that other locations that have not been identified above as a priority for current Town Water Bodies funding should continue to be monitored, and recommendations for actions and funding should be reviewed on an annual basis.

Respectfully Submitted by:

Water Bodies Working Group of the Arlington Conservation Commission:

Susan Chapnick

Chuck Tirone

David White

Approved by the Conservation Commission on 2/15/18