

Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: City of Woburn

Project Title: Horn Pond Brook Improved Fisheries Habitat and Flood Control

Award Year (FY): FY20/FY21

Grant Award: \$235,355

Match: \$81,610

Match Source: \$54,100 cash, remaining in-kind. The City's in-kind match includes time to collection information, support site visits, review deliverables and provide feedback, participate and help coordinate public engagement events, and submit monthly progress reports.

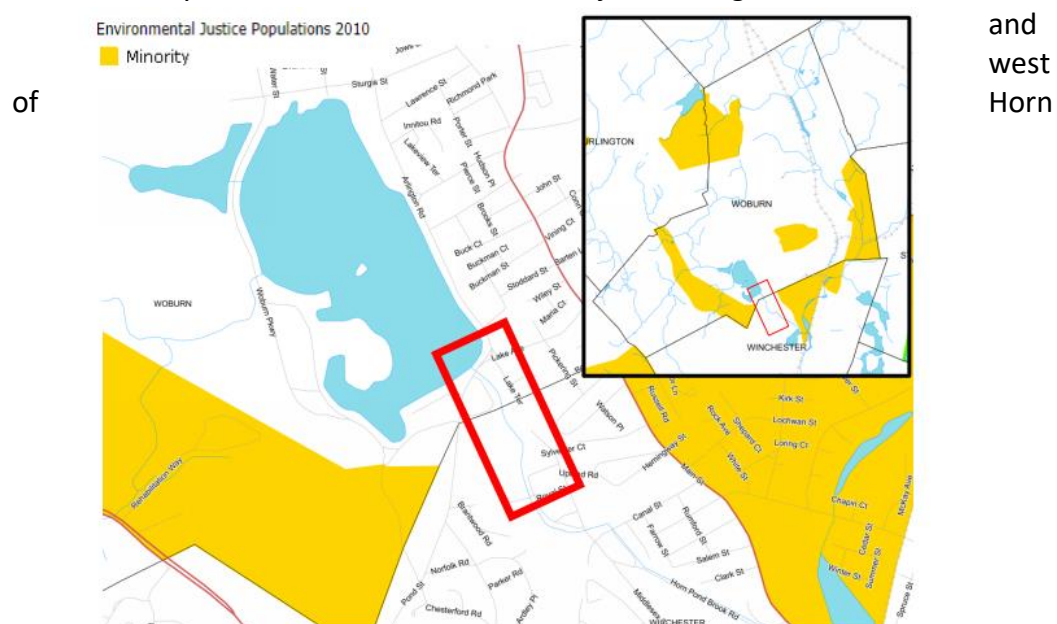
One or Two Year Project: 1-year, extended due to COVID-19

Municipal Department Leading Project: City Engineer

Project Website URL: <https://www.woburnma.gov/government/engineering/municipal-vulnerability-preparedness-grant-program/horn-pond-brook-restoration-and-flood-control/>

Community Overview:

- What is the population size of your community and where is it located?
 - 40,304 people, Middlesex County, Greater Boston region
- Do you have any [Environmental Justice](#) or other Climate Vulnerable communities? (Think about both those who live and work in your town.)
 - Yes, the project site is adjacent to environmental justice neighborhoods to the east and west, and other environmental justice neighborhoods are present in the nearby vicinity (see map below). Twenty-five percent or more of the residents within these environmental justice neighborhoods identify as a race other than white, including Black, Asian, and Hispanic. Although the brook restoration will not occur directly in an environmental justice area, it is surrounded by, impacts, and is used by residents from environmental justice neighborhoods to the east



Pond Brook.

- Income: The median household income in Woburn is modest at \$83,304, which is somewhat higher than the median statewide income of \$74,167 (2013-2017 American Community Survey 5-Year Estimates). Six percent of the Town's residents live below the poverty level, and 35.16% are low- to moderate-income.
- Race and Ethnicity: Seven percent of the total Woburn population is Black, and 7% is Hispanic, the City's two largest minority groups. Nineteen percent of the community identify as black or African American, Asian, two or more races, or a different race.
- Other unique traits of your municipality like who the top employers are, geography, history, etc.
 - From the City's Master Plan: "Woburn can best be described as a suburban industrial city. It has a large commercial base and densely developed downtown surrounded by suburban residential development. Woburn is a regional jobs center with far more jobs in the City than there are residents in the workforce. This results in heavy commuting into the City every day. The greatest number of Woburn residents are employed in education, health and social services. The unemployment rate for Woburn residents has consistently been below that of the state as a whole. The level of education of Woburn residents has been steadily increasing over the years."

Project Description and Goals:

- Where was the project located?
 - Tree plantings: Senior Center, 144 School St
 - Rain garden demonstration projects: near water treatment plant on Lake Avenue, adjacent to Horn Pond, 85-93 Lake Ave
 - Horn Pond Restoration: adjacent to University Apartments



- What climate change impacts did the project address?
 - Increasing frequency and intensity of rainfall events causing flooding
 - Reduce urban heat island effect.
- What were the specific goals and tasks of the project as stated in your application?
 - Design a rain garden near Horn Pond to capture stormwater from the parking lot at Woburn's water treatment facility;
 - Plant trees at the Senior Center;
 - Develop a stream restoration of Horn Pond Brook to enhance the habitat for the restored river herring population;
 - And increase public awareness of nature-based solutions
- Did your project meet the goals set forth in your application in terms of:
 - Employing nature-based solutions: all three aspects of the project incorporated nature-based solutions, from the bioretention stormwater BMP/rain garden at Horn Pond to tree planting at the Senior Center to ecological restoration of the Brook.
 - Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations: although not specifically an EJ community the area surrounding the work is a climate vulnerable population due to localized flooding. Also the improvements to the brook should be seen as a benefit to all populations in the area.
 - Providing regional benefits: The improvements of the three projects will be a benefit for the region. Improved Water Quality in the pond from the raingarden can be experienced by all. The improved Stream corridor will also provide an ecological benefit to the area by providing a more successful fish passage.

- Implementing the public involvement and community engagement plan set forth in your application: Strong public outreach and community engagement was a large part of this process. We conducted this outreach in the manner in which it was described in the application. In addition, several other meetings were held with immediate abutters to the project.
- Finishing the project on time – although the project was delayed a year due to COVID the project was completed on time in the allocated timeframe with the extension.

Results and Deliverables:

- Describe, and quantify (where possible) project results. Report out on the metrics outlined in your application.
 - Restoration of approximately 500 Linear Feet of Brook
 - Enhancement of fish passage within the brook
 - Bank improvements of approximately 300 Linear Feet
 - Creation of approximately 132 CY of Flood Storage within stream channel
 - Stormwater Treatment of 33,500 Square Feet of previously untreated pavement utilizing a bioretention system
 - Planting of 9 Public Shade Trees at the Senior Center
- Provide a brief summary of project deliverables with web links, if available.
 - Project Plans and Specs for the restoration of Horn Pond Brook
 - Permit Application for the restoration of Horn Pond Brook
 - Project Plans and Specs for the implementation of the Rain Garden at Horn Pond
 - Permit Applications for the Rain Garden at Horn Pond
 - Plan showing the tree locations at Senior Center

Lessons Learned:

- What lessons were learned as a result of the project?
 - Understanding ownership restrictions for any project is paramount.
 - Clear and constant communication with abutters must take a priority during design.
 - Good communication between subs was an important factor in making this project successful.
- What is the best way for other communities to learn from your project/process?
 - Generating good public outreach is one way to make sure that the project is successful and can generate a good result.

Partners and Other Support:

- Include a list of all project partners and describe their role in supporting/assisting in the project.





