

Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: Town of Wrentham

Project Title: Eagle Dam Removal

Award Year (FY): FY19

Grant Award: \$46,000

Match: \$15,510

Match Source: In kind time

One or Two Year Project: Project extended due to the COVID 19 pandemic

Municipal Department Leading Project: Department of Public Works

Project Website URL: www.crwa.org/eagle-dam.html

Community Overview:

- The Town of Wrentham was established in 1660, however this area was home to multiple native civilizations long before colonists arrived. In the late 1600s, Wrentham was a small frontier town; it grew during the early 18th century and developed into the major town in the area. In the 1700s, Wrentham had a predominantly agricultural economy, primarily poultry, hay, corn, and cattle farming. Toward the end of the century the economy became increasingly varied. Abundant meadow areas provided agricultural space for growing straw which fueled a successful straw-hat manufacturing center. Wrentham is located at the headwaters of four distinct watersheds (Charles, Taunton, Blackstone and Ten Mile) and the Town's local water resources were very important to early inhabitants. A known Native American hunting trail crossed "The Falls" on the Charles River. Water has also long been critical to Wrentham's economy and Mill River, Wrentham's main water supply in the Town's early days, supported a number of small-scale cotton and wool cloth mills.
- Wrentham is located roughly 30 miles southwest of Boston, just north of the Rhode Island border. As of 2013, the town population was 11,268 residents. The Town's MVP Plan identifies the following climate vulnerable groups within the community: people with disabilities, people with medical rehabilitation needs, people with mental illness, senior citizens, court house employees, and low-income individuals. Additionally, the Town recognizes there are portions of the community with a high concentration of young children (<5) who are likely to be more affected by pollution impacts and less resilience to the negative effects of climate change.

Project Description and Goals:

- Eagle Dam is located along Eagle Brook downstream of the Red Dam which creates Lake Pearl.
- Eagle Dam is in poor repair and may not be able to withstand the types of storms expected to hit Massachusetts as our climate changes.

- The goal of this project was to conduct an initial feasibility assessment of removing Eagle Dam to rule out any major barriers to dam removal to inform the Town's decision on the future of the dam.

Results and Deliverables:

- The project was successfully completed, although the COVID 19 pandemic did cause considerable challenges and disruptions. Major activities included:
 - Completion of an initial feasibility assessment investigating removal of Eagle Dam that did not find any major technical barriers to removing the dam, although further study would be needed to better understand the streamflow considerations of removing the dam
 - Engagement of an intra-town committee and multiple presentations to Town leaders (Select Board and Town Administrator) on the project and the dam
 - Engagement with residents abutting the dam's impoundment, many of whom are not supportive of dam removal at this time
 - Engagement with Wrentham residents not directly abutting the dam
 - Engagement with MassDOT who owns the roadway directly downstream of the failing dam
- Project deliverables available on CRWA's web page (www.crwa.org/eagle-dam.html), or by request, include:
 - Eagle Dam historical research summary memo
 - Water quality sampling summary memo
 - Video of public information session for abutters and other residents
 - Technical feasibility assessment summarizing results of sediment sampling, and hydrologic/hydraulic modeling
 - Dam removal renderings and cost estimates
 - Wicked Local article from January 11, 2021

Lessons Learned:

- Community engagement is a critical piece of dam removal, often as critical or more so than technical elements
- The process to remove a dam is complicated and challenging, which can create a barrier to what will likely be a necessary climate adaptation action in Massachusetts
- Dam removal project often require the engagement of multiple communities and state agencies, engaging all the affected parties requires considerable time and resources

Partners and Other Support:

- Charles River Watershed Association assisted with community engagement and water quality assessments