

Case Study Template

Municipality: City of Northampton

Project Title: Restoring the Pine Grove Golf Course for Climate Resiliency

Grant Award: \$225,000

Match: \$75,000

Community Overview:

Northampton is a small city (29,000) whose environment ranges from a vibrant urban core area, with all the services and needs of much larger urban areas, to very rural landscapes, with 25% of the city permanently protected by open space. The city is committed to being resilient and adopting to climate change as well as being regenerative and mitigating the effects of climate change. The Pine Grove Golf Course restoration addresses all of these needs, providing recreation opportunities to an urban core area that is nearby, building resilience by restoring natural hydrology and ecosystems damaged by a golf course, and providing carbon sequestration by reforesting the golf course.

Description of Climate Impact:

As a result of climate change, Northampton is facing some increases in precipitation and huge changes in the frequency and magnitude of larger storm events, as well as longer periods with drought and heat waves. The former golf course, with its forests removed, underground drainage systems, filled wetlands, channelized stream, and destruction of its floodplain exasperated all of these negative impacts of climate change in this small watershed. The MVP restoration project addresses each one of these adverse impacts. It funded the most cost effective site restoration and the longer term master plan for much larger restoration efforts.

Project Goals:

- Retain water on the site, partially restore historic hydrology patterns and wetlands, grow forest cover, and lower runoff (both peak and total).
- Reduce heat island effects
- Restore natural systems
- Plan for long term full site restoration
- Provide information for necessary permits and grant applications for future phases.

Approach and Result:

We build a project team made up of Planning & Sustainability (director, conservation planner, land manager, GIS coordinator), a forester (funded from the Forest Stewardship program), MassAubudon (our conservation restriction holder, through their area director and their scientist), an engineer designing the short term changes, and an engineering and hydrology

consulting team to help with long term planning. We created designs for the short term MVP funded construction, consulted with and obtained permits from the Conservation Commission, obtained matching funds from a city tree mitigation fund, and coordinated to create a long term master plan. Our next stage is to re-engage the community in the master plan and trail planning efforts to create a priority list for future actions and apply for and obtain funding. The full restoration, hydrology and forest recovery, is a multi-decade project.

We began the project with overhead drone-video, which we plan to redo overtime to document the efforts. Our master plan documents the efforts to date and how they fit together in our long term vision.

We have partially restored 105 acres, removing every catch basin and irrigation head, removing all the large concrete blocks, removing the irrigation pump house, removing half a dozen bridges across a stream, allowing approximately ten acres of the site to start growing into wetlands, beginning to address some invasives, and introducing the public to the site.

Lessons Learned:

We have had to focus on how to address multiple time horizons at once. We wanted to address the low hanging fruit that, in comparison to the long term project, will have the greatest impacts. We are well aware, however, that in doing that we are recreating wetlands that will make permitting for future projects more difficult. In our assessment we were very careful to avoid any choice limiting options and building enough of a vision for where we want to go that we avoided that. Like all projects, more resources and more time would be useful, but never practical.

Partners and Other Support:

- Northampton Planning & Sustainability- project managers and organizers.
- Northampton Conservation Commission- project and permit approving authority.
- Mayor, Community Preservation Commission and City Council- approval of the land purchase that started the project.
- Massachusetts Audubon Society- Conservation Restriction holder and planning partner.
- Michael Mauri- Forest Stewardship plan forester and planning partner
- EOEEA- LAND Grant (for purchase) and MVP grant, DER and Fish and Wildlife to help us think about future projects and funding opportunities'
- Neighbors and community members who helped us identify trail and resource priorities
- Berkshire Design for the design and construction administration of MVP-funded phase I.
- GZA for the master planning effort
- Division of Fisheries and Wildlife- help in thinking about future projects

Project Photos:



