

MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM ACTION GRANT CASE STUDY

Municipality: Williamstown

Project Title: *Mohawk Trail Woodland Partnership Forest Stewardship, Resilience & Climate Adaptation*

Award Year (FY): FY21

Grant Award: \$ 164,575

Match: \$ 30,470

Match Source: In-kind and through project partners

One or Two Year Project: Two

Municipal Department Leading Project: Community Development Department

COMMUNITY OVERVIEW:

The Town of Williamstown served as the lead municipality for this regional project which encompassed the region of the Mohawk Trail Woodlands Partnership (MTWP), the Commonwealth's most rural, forested and low-income region. The MTWP is one of the first private forests in the U.S. to be designated as a rural economic development region by state law focusing on forest conservation, sustainable forestry and natural resource based tourism (Bill H.4835 190th Legislative Session, 2017-2018. An Act promoting climate change adaptation, environmental and natural resource protection, and investment in recreational assists and opportunity). The region has become the incubator for innovative, private forest conservation initiatives.

PROJECT DESCRIPTION AND GOALS:

The Mohawk Trail Woodlands Partnership (MTWP) sought to bring recognition and additional financial and technical assistance to the 21 municipalities in the region in order to increase natural resource based economic development, support forest conservation on private land, increase use of sustainable forestry practices, and improve the fiscal stability and sustainability of the local municipalities.

This project built upon the FY20 MVP Action Grant for the MTWP region awarded to the Town of Adams. The objective was to assist the MTWP municipalities and landowners in achieving greater resilience of the forests to withstand climate change by implementing a suite of best practices to mitigate and adapt to climate change through forest management activities that increase tree retention and growth, enhance species diversity and reduce forest threats.

The Town of Williamstown, a MTWP community, served as the lead municipality. Williamstown worked with the Berkshire Regional Planning Commission (BRPC), to establish a partnership with the Northern Institute of Applied Climate Sciences (NIACS), Mass Audubon, the Franklin Regional Council of Governments (FRCOG), New England Forestry Foundation (NEFF), the USDA Forest Service, and The Nature Conservancy (TNC).

This project assisted the Mohawk Trail Woodlands Partnership municipalities and landowners in achieving greater forest climate resilience in the region by implementing a suite of best practices to mitigate and adapt to climate change. These practices increase tree retention and growth, enhance species diversity, and reduce forest threats.

The project team worked collaboratively over the course of 2 years to develop program protocols and procedures, create education and training materials, recruit towns to participate in the pilot program, work with foresters and communities to create forest stewardship climate plans for town-owned forest land and establish a system for monitoring the health and resilience of these forests into the future.

RESULTS AND DELIVERABLES:

PILOT PROGRAM IMPLEMENTATION

A “subcommittee” of project partners was formed and included Mass Audubon, BRPC, FRCOG and NEFF. The subcommittee led the identification and recruitment of municipalities eligible to participate in the pilot program and receive forest stewardship climate plans for town-owned forest land. This process began with identifying which towns that have opted in to the MTWP owned parcels of forest land greater than 30 acres. A GIS analysis was conducted, including a map and property notes, and the project partners reached out to relevant officials in those towns.

After identifying eligible parcels we took a two-pronged approach to recruiting towns: 1) general recruitment of all towns in the MTWP and 2) targeted outreach to towns known to have forested parcels greater than 30 acres. General recruitment was conducted through a webinar on October 13, 2021, which was advertised by circulating a flyer and announced at the MTWP Grants for Good Webinar on September 28, 2021. The project partners then followed up with a survey sent to town officials enabling them to express interest and provide details about properties that could be enrolled. Targeted outreach to towns known to have forested parcels greater than 30 acres included emailing and calling town officials to inquire about interest and answer questions. In most cases this required multiple contacts with multiple officials.

The project partners then attended meetings with interested communities to meet with Select Boards, forest and trails committees, and conservation commissions to present the program and request approval for towns to participate. In the end, 6 municipalities or municipal bodies chose to participate in the pilot program: Williamstown, North Adams, Rowe, Heath, Conway, and the Shelburne Falls Fire District Water Department. Of these, Williamstown (5 plans) and Conway (1 plan) received climate updates to existing forest stewardship plans with funding from this MVP grant. The New England Forestry Foundation oversaw the development of new plans or climate updates to existing plans for the other municipalities under a grant from the MA Executive Office of Energy and Environmental Affairs MTWP grant program.

PUBLIC INVOLVEMENT AND COMMUNITY ENGAGEMENT

Mass Audubon led public involvement and community engagement initiatives with significant involvement by NIACS and NEFF, and review of materials by others on the project team. Mass Audubon led writing and production of the forester manual and landowner factsheet. The forester manual was written as a comprehensive handbook to guide foresters who are preparing plans that would include forestry resilience practices supported by the Forest Climate Resilience Program (FCRP). It was provided

to all foresters preparing climate plans for municipalities in the MTWP, as well as other foresters working in the region who attended trainings for preparing forest stewardship climate plans.

A two-page factsheet was designed to be an accessible introduction to the program for municipal officials, landowners, and the public. It describes the five resilience practices supported by the FCRP and the planning and implementation phases of participating in the program. The factsheet was distributed to participants at Woods Walks in Williamstown and Conway, and shared with officials in participating municipalities. A logger information sheet was created by NEFF, and was designed to provide useful information to loggers who are working on projects supported by any incentive program, as well as information specific to the FCRP. It will continue to be distributed to loggers in the region who may bid on or implement projects involving forest resilience practices.

Woods Walks in Williamstown and Conway provided information on the FCRP to municipal officials and the public and describe the details of the forest stewardship climate plans for the specific properties where the walks were held. The walk in Conway was held at the Town Farm property on June 18, 2022 and was led by the Mary Wigmore, the private consulting forester who prepared the plan, and Andrew Randazzo, Mass Audubon Forest Ecologist. The walk in Williamstown was held at the Hunter Property on June 25, 2022 and was led by Hank Art of the Williamstown Conservation Commission and Josh Rapp, Mass Audubon Conservation Scientist. Both walks were advertised through official town channels and were attended by both town officials and local residents.

The project team has also presented on the FCRP to various groups, including to town boards, at conferences for conservation professionals, landowner groups, and others. An example presentation that was given to the Franklin Regional Planning Board on May 26, 2022, while not a direct deliverable for this grant, these presentations are an additional benefit of the project.

FOREST AND CLIMATE ADAPTATION PROGRAM

This Forest and Climate Adaptation Program was led by the Northern Institute of Applied Climate Science (NIACS), in collaboration with Mass Audubon and the New England Forestry Foundation (NEFF). A list of adaptation practices was developed, and narratives were developed for select practices. The required monitoring protocol was then reviewed, revised, and described in the pilot recommendations manual and then further refined as part of the How-to Guide for Foresters.

NIACS, Mass Audubon, NEFF, and the Mass Woodlands Institute, partnered with the Massachusetts Department of Conservation and Recreation (DCR) to conduct a three-session Climate Forestry Stewardship Planning training intended for licensed foresters interested in providing Climate Forestry services. Prior to the DCR trainings, an informational webinar for foresters was held on January 19, 2022 that introduced the forest stewardship climate plan and associated training opportunities to foresters. The DCR trainings were held as a series of three webinars on February 9, 16, and 23, 2022. An additional training focused on the FCRP was held on March 11, 2022. Presentation slides for the webinars of 1/19/22 and 3/11/22 are included as deliverables here.

The logger training was created as a recorded module that can be made available to loggers through DCR's logger education system. As a step in developing that training, NEFF convened a focus group of loggers and foresters on 6/1/2022 to discuss the opportunities and challenges that working on incentive program-supported projects provide timber harvesters. NEFF created a comprehensive, five-page document summarizing the key themes and recommendations that emerged from those focus group conversations, which will help inform future program design for the FCRP. A presentation and report form that event are included here, as well as the final presentation slides and a recording of the training.

The project team coordinated with Baystate Forestry to update five stewardship plans for the Town of Williamstown and with Wigmore Forest Management to update one plan for the Town of Conway in order for the plans to meet the requirements of the forest stewardship climate plans and include forest resilience practices. As previously mentioned, another five updated or new climate plans were completed through separate funding. The Conway and Williamstown plans are included here as deliverables.

FAMILY FOREST CARBON PROGRAM MODELING

The Family Forest Carbon Program Modeling was conducted under a USDA Forest Service Forest Stewardship Program grant awarded to BRPC and served as project match. BRPC collaborated with The Nature Conservancy (TNC), which provided additional funding. With the assistance of TNC, BRPC contracted with UMass Amherst to serve as the technical expert and conduct the modeling. Ultimately, baseline forestry scenarios were modeled and two separate approaches were developed to model climate-smart forestry practices.

Five practices were modeled to estimate their carbon benefits compared to a baseline developed for each practice. Differences in modeling methodology and the specifics of the practices modeled make it challenging to compare these results to other models, but for each practice the benefit of applying a climate-smart version of the practice is detailed in comparison to a baseline version of the practice. Carbon benefits vary, with all of the practices resulting in carbon benefits, but the "protect seedlings and saplings from deer browse" practice did not show carbon increases until beyond the short timeframe modeled in the study".

This modeling provides the data necessary to quantify benefits of forest management practices to increase carbon storage and improve ecosystem resilience. Deliverables included credible models of the carbon gained by applying a subset of the Family Forest Carbon Program practices on MA forest lands, documentation of that modeling for future revisions and monitoring, landowner-facing documents to explain the practices, and technical write-up for technical experts.

INVENTORY, MONITORING AND EVALUATION

Inventory, monitoring and evaluation was led and completed by Mass Audubon. Training of foresters in the purpose and approach of monitoring for the FCRP was done in conjunction with trainings for field assessment procedures for forest stewardship climate plans and an event held at the Pelham Lake Park in Rowe, MA on May 18, 2022. Combining the trainings was effective since the field assessment procedures are very similar to follow-up inventory procedures and maximized the number of foresters

who were able to attend the training. An optional module of the training was a field trip to visit implementation sites of resilience practices at Pelham Lake Park.

A network of monitoring plots was installed at the six properties that received climate plan updates funded by this grant. At each site, 8-10 plots were established and permanently monumented by installing a rebar stake at plot center. The data collected are described in the FCRP Practice Manuals and include a range of metrics that together describe the species composition and structure, as well as threats to the forest. In addition, a dashboard for exploring the data was created and can be viewed here - <https://massaudubon.maps.arcgis.com/apps/dashboards/fdfd25c779b647a09913984dcb27f4db>

All proposed practices were evaluated in a cost-benefit analysis. The analysis compiled cost estimate data provided by foresters. The analysis synthesizes the ecological and economic pros and cons of each practice. Practices are compared to other similar programs and the economic efficiency of implementation is discussed.

LESSONS LEARNED:

The goal of the FCRP is to assist landowners in implementing practices that enhance forest resiliency and store carbon. While it is hoped that the program will ultimately be available to private landowners, this project was limited to town forest land because it offers the greatest public benefit as it is owned by all citizens of the town. There is strong agreement in the region that several basic practices are beneficial for forest resilience and carbon. Some actions protect ecosystem functions. These include keeping forest as forest and protecting sensitive sites, communities, water and soils. Other actions reduce impacts of non-climate stressors like pests and pathogens, invasive plants, and too much deer browse. Promoting a diversity of tree species of a variety of ages and sizes helps to promote resilience, while planning for and responding quickly to disturbance events can help you direct your forest in a new direction if that becomes necessary. Finally, paying attention to your woods and the effect of management actions over time can help you know when things are working and when to change course. The FCRP initially focused on a small set of actions that are intended to lead to funding to implement these practices on town land.

1. Remove invasive vegetation
2. Protect seedlings from animal browse
3. Plant climate-adapted trees
4. Enhance adaptive capacity in northern hardwood and spruce-fir forests (Resilience)
5. Climate-informed forest access and forestry operations

While there is strong agreement regarding the benefit of these practices there is no revenue or funding stream that has been identified. The project partners had initially anticipated that incentive payments could be made to eligible landowners. However, there was no funding available or identified to support this approach. As an alternative to incentive payments the project partners considered funding specific implementation projects. While this approach is viable, it has limited benefit since it would only fund specific projects, would not provide a regular revenue stream and would be unlikely to fund projects on private land.

The intention of this project was to provide regional and global benefits through ecological resilience and climate change mitigation. However, environmental justice communities may suffer the greatest impacts of regional and global climate change as low income and minority communities are often built in high-risk areas, residents have fewer resources to move or adapt, and densely populated urban locations are impacted by the urban heat island effect. Traditional carbon markets were not deemed as feasible, viable or practical approaches. However, while traditional carbon markets could potentially benefit municipalities through additional revenue, unintended impacts on equity and environmental justice can result from continued development pressures and limited access to municipal forests. In addition, in order to potentially be eligible to receive incentive payments property owners must have 30 acres or greater. It had been hoped that smaller, adjacent parcels could be eligible as long as there was 30 acres of contiguous forest; however, it was quickly ruled out since properties owned by multiple landowners are fraught with challenges and barriers. As stated previously, there is no revenue stream or source of funding that has been identified to provide incentive payments or implementation funding on private land. Since private landowners were not eligible and eligibility was limited to forests over 30 acres, there is little direct benefit to environmental justice communities.

PARTNERS AND OTHER SUPPORT:

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