**Municipal Vulnerability Preparedness Program Action Grant Case Study**

**Municipality:** Wellfleet
**Project Title:** Herring River Restoration Project Phase 1 Final Construction Plans and Bid Specifications
**Award Year (FY):** 22
**Grant Award:** $589,960.00
**Match:** $237,171.51
**Match Source:** in-kind and cash
**One or Two Year Project:** one
**Municipal Department Leading Project:** Administrator's Office
**Project Website URL:** https://www.wellfleet-ma.gov/home/news/herring-river-project, www.herringriver.org

**Community Overview:**

The Town of Wellfleet, in Barnstable County, is located halfway between the "tip" and "elbow" of Cape Cod, incorporated in 1763. The town had a population size of 3,566 at the 2020 census (density: 180/sq mi), which swells nearly sixfold during the summer. Bounded on the east by the Atlantic Ocean and the west by Cape Cod Bay, Wellfleet has a total upland area of approximately 13,100 acres (20.47 square miles); of this total, about 8,000 acres (12.5 square miles) are within the Cape Cod National Seashore Park boundaries. A total of 70% of the town's land area is under protection. The town is home to the 1,000-acre Massachusetts Audubon Society Wildlife Sanctuary.

Wellfleet's oyster beds drove the early economy, as did whaling and fishing. The town was home to 30 whaling ships at the time of the American Revolution. Because of the decline of whaling and the mackerel catch in the late 19th century, the fleet declined, being completely free of schooners by 1900.

The oyster fleet continued, however; many types of shellfish continue to be harvested, and commercial shellfishing is the largest year-round industry in Wellfleet. Construction of the Chequessett Inn in the late 19th century contributed to the development of a tourist economy that continues to thrive; Wellfleet is also a popular retirement spot. The town has the second greatest concentration of art galleries on Cape Cod, and boasts one of only 4 drive-in movie theatres that remain operational in Massachusetts.

**Project Description and Goals:**

The Herring River system is a 1,100-acre tidally-restricted estuary located in the Towns of Wellfleet and Truro, MA. In its historic natural state, the Herring River supported a vibrant estuarine ecosystem and the largest diadromous fish run on outer Cape Cod. Construction of the Chequessett Neck Road dike at the mouth of the river in 1909 and other alterations to the

river's natural hydrology eliminated tidal flow to the salt marsh, drained the wetlands and transformed the estuary into one of the Cape's most degraded natural resources. Prolonged tidal restriction has resulted in nearly complete loss of native tidal wetland habitat and its attendant resiliency functions. The Town of Wellfleet (Town) and the National Park Service/Cape Cod National Seashore (NPS/CaCo) entered into a series of Memoranda of Understanding (MOU) to implement the Herring River Restoration Project (Project) to re-establish tidal exchange to the Herring River estuary and thereby restore native wetland habitats and coastal marsh resilience. The Project represents an unmatched opportunity to restore the environment of Cape Cod and revive the ecological and economic benefits provided by a healthy natural coastal river and tidal wetland system.

The Project will re-establish tidal flow to the estuary incrementally, using a carefully calibrated adaptive management approach that will balance ecological goals with water level control measures, to allow the highest tide range practicable while protecting potentially vulnerable structures on public and private properties, including roads and homes. Tidal flow will be facilitated through

(1) replacement of a portion of the existing earthen dike and tidal control structure at Chequessett Neck Road with a new bridge and sluice gate system;
(2) construction or alteration of other tidal control structures at the entrances to the Mill Creek and Upper Pole Dike Creek sub-basins;
(3) removal of a portion of High Toss Road where it crosses the marsh between the Lower Herring River and Lower Pole Dike Creek sub-basins;
(4) vegetation and marsh management; and
(5) measures to prevent water intrusion impacts to structures on public and private properties.

Project implementation will be governed by a locally appointed decision-making Herring River Executive Council (HREC), comprised of Town and CaCo officials, and informed by extensive modeling, monitoring, and analysis so that unexpected and/or undesirable responses can be detected early on and addressed with appropriate response actions. Throughout the Herring River floodplain, the Project will result in significant improvements to resiliency and ability to adapt to the effects of climate change. Restored tidal wetlands will significantly reduce greenhouse gas emissions by reclaiming lost carbon storage and reducing methane emissions.

**Environmental Impact Documents** stemming from the National/Massachusetts Environmental Policy Act review including the Final Environmental Impact Report (FEIR), MEPA Certificate and NPS Record of Decision provide extensive information about existing and proposed conditions, hydrodynamic and habitat modeling, analysis of alternatives and selection of the preferred alternative. The FEIR and other documents, including hydrodynamic modeling and ecological assessment reports, as well as news, photographs and other information are posted on the Friends of Herring River (FHR) website at **www.herringriver.org**.

Permitting for Phase 1 is almost complete; Orders of Conditions have been issued and finalization of Chapter 91 licenses is underway. Under Phase 1, approximately 570 acres of the Herring River estuary will be restored by opening sluice gates on the new Chequessett Neck Road Bridge to a configuration (i.e., number of gates opened and size of openings) that achieves a maximum mean high tide in Lower Herring River of 3.6 feet North American Vertical Datum of 1988 (NAVD88). CNR Bridge sluice gates will be opened incrementally over a number of years while careful monitoring of ecosystem responses is undertaken, and may be closed at any time if conditions warrant. Phase 1 includes construction of all infrastructure and mitigation measures needed to protect the built environment under full tidal restoration conditions. Copies of permit applications and appendices, including the Herring River **Adaptive Management Plan** and **Habitat Restoration and Monitoring Plan**, stormwater management reports and Operation & Maintenance manuals.

This MVP Action Grant funded completion of final design and preparation of construction-level design drawings for five (5) Project infrastructure and mitigation elements, and development of associated construction bid packages including plans, specifications and other bid and contract documents.

### *Nature-Based Solutions*

The Town and CaCo propose an innovative nature-based approach to restore the natural resilience functions of the Herring River estuary that have been lost due to tidal restriction.

**Enhanced Flood Protection**: Replacement of degraded, outdated infrastructure will enhance flood protection and allow floodwaters from coastal storms to recede more quickly. The following Project outcomes are directly related to resilience:

- Restoration of 570 acres salt marsh and tidal wetlands during Phase 1 will enhance natural storm attenuation and flood storage.
- Measurable increases in the elevation of the now-subsided marsh plain through natural accretion of sediments and possibly thin layer deposition.
- Pole Dike Creek tide gates will be closed to allow drainage only, and will improve drainage following storm events.
- Chequessett Neck Road and Mill Creek water control structures and upgraded roadway culverts will allow for quicker drainage of sub-basins following heavy precipitation and storm events.
- Improved storm water management will be built into the Chequessett Neck Road bridge and road improvements, to improve storm drainage and avoid negative impacts to wetlands and water quality.

**Increase natural hazard resilience:** The Project will enhance coastal resiliency by restoring normal sediment deposition needed to allow the marsh plain to gain elevation and mitigate impacts of sea level rise (as discussed more fully, below), and by constructing state-of-the-art tidal control infrastructure to protect low-lying roads and other public and private structures.

All Project tide control elements and mitigation measures have been designed to accommodate sea level rise. As described below, hydrodynamic modeling studies form the basis of design requirements for the overall restoration program, including the need for infrastructure modifications and additions to protect existing infrastructure and structures from increased water levels. The freeboard incorporated into the Project's infrastructure designs will prevent surface water impacts to structures and infrastructure for at least the next 50 years under the most severe sea level rise scenario analyzed. Permit applications for Phase 1of tidal restoration identified the entire estuary as the Project site and included construction of all infrastructure and mitigation measures needed to protect the built environment from the potential effects under full tidal restoration conditions. Additional infrastructure protection will occur with undergrounding of utilities in designated areas and by improving drainage after precipitation events.

**Carbon sequestration**: Blue Carbon refers to the carbon naturally stored in coastal wetlands and seagrass beds that would otherwise contribute to atmospheric carbon dioxide ($CO_2$) loading and global climate change. The Project will contribute to the reduction of the greenhouse gas emissions that play a role in climate change. Historically, the Herring River salt marshes absorbed large volumes of blue carbon in peat soils, which accumulated year after year as sea level slowly increased. However, decades of artificial tidal restriction have led to a massive release of blue carbon by altering sediment deposition and tidal circulation patterns. Blockage of tidal flow and accompanying carbon-laden sediment has allowed carbon to remain suspended in the water column where portions of it are released to the atmosphere as carbon dioxide. In addition, conversion of hundreds of acres of salt marsh to freshwater marsh has increased methane emissions, adding further to greenhouse gas emissions associated with the degraded Herring River floodplain. Over a forty-year period, the restoration of the entire Herring River floodplain could result in greenhouse gas emissions reductions of 300,00 metric tons of $CO_2$ equivalent. For Phase 1 restoration, the greenhouse gas emissions reduction benefit is 150,000 metric tons of $CO_2$ equivalent.[1] Studies by U.S. Geological Survey (USGS) are ongoing, and provisional data is available in real time online.

Tidal exchange will be restored incrementally using an **Adaptive Management Plan** (AMP) that balances ecological goals with flood control measures to allow the highest tide range practicable while protecting vulnerable structures. Project implementation will be informed by extensive modeling, monitoring and analysis as part of the AMP, described in the **Herring River Restoration Project Habitat Restoration and Monitoring Plan**. The proposed AMP is a rigorous science-based structured decision-making process of predicting system responses to restoration actions; monitoring system conditions before, during and after management actions are implemented; comparing the predicted and observed system responses to update the understanding of the system response to management actions; and using the results to inform and refine management actions. Information obtained from monitoring improves the ability to predict future outcomes and make better 'adaptive' decisions regarding the selection of appropriate management actions throughout the course of implementation.

[1] **Herring River Carbon Project Feasibility Study**. TerraCarbon. October 2019

### *Ecological and Community Co-Benefits*

The scope of work for this MVP Action Grant is completion of final design, preparation of 100% design plans and development of Herring River Restoration Project Construction Bid Packages. This will set the stage for a host of benefits, including:

| **Co-Benefit** | **Description of how the Project will produce this environmental co-benefit** |
|---|---|
| Promotes Environmentally-Sustainable Development / Reduces Development in Climate Vulnerable Areas | • A primary objective of the Project is to restore natural sedimentation processes upstream, allowing the marsh to accrete and maintain elevation with rising sea level. The restored salt marsh will, in turn, enhance coastal resilience as a natural buffer to storms and wave action to reduce erosion.<br>• Freeboard incorporated into infrastructure designs will prevent surface water impacts to structures and infrastructure for at least the next 50 years under the most severe sea level rise scenario analyzed. |
| Improved Water Quality and/or Increased Groundwater Recharge | • Restored tidal flow will bring in oxygen-rich seawater, much improving chronic low oxygen levels, as well as decrease acidification and bacterial contamination<br>• Vegetation in restored marshes will enhance attenuation of pollutants<br>• Project will establish or enhance naturally vegetated buffers. Vegetations slow the flow of stormwater runoff and allows suspended solids and adhered pollutants to be removed |
| Climate Mitigation (carbon sequestration, site-scale improvements for cooling, reduced energy use) | • Enhance coastal resiliency by restoring normal sediment deposition and peat saturation needed to allow the marsh to gain elevation and mitigate impacts of sea level rise, and by constructing state-of-the-art tidal control infrastructure to protect low-lying roads and other structures.<br>• Project contributes to the reduction of greenhouse gas emissions that contribute to climate change by reducing methane emissions from ponded wetlands and increasing carbon storage in salt marsh. |

Other co-benefits of the Project include, but are not limited to:

- Promote biodiversity by restoring the natural coastal food web
- Protect and enhance harvestable shellfish resources both within the estuary and in receiving waters of Wellfleet Harbor.
- Reconnect the Herring River estuary to Cape Cod Bay and the Gulf of Maine to recover the estuary's functions as (1) a nursery for marine animals and (2) a source of organic matter for export to near-shore waters

- Restore/remediate degraded conditions on Project sites
- Reduce ground-level ozone pollution and methane emissions through restoration of salt water to current freshwater wetlands

**Climate Vulnerabilities Addressed**

As discussed more fully below, tidal restriction has degraded the marsh and compromised many of its critical resiliency functions. First, the marsh has lost the ability to absorb carbon and, instead, areas of former salt marsh that have become ponded freshwater wetlands and a source of methane emissions. Second, the marsh has lost the sediment source needed to maintain elevation against sea level rise. Due to the loss of sediment flow and the deterioration of peat soils, several hundred acres of the marsh have subsided up to three feet, thus eliminating the ability for the marsh to function as a buffer against storm surge or absorb flood waters, a condition that could worsen with increasing sea level rise.

A primary objective of the Project is to restore natural sedimentation processes upstream, allowing the marsh to accrete and maintain elevation with rising sea level. The restored salt marsh will, in turn, enhance coastal resilience as a natural buffer to storms and wave action to reduce erosion. Tidal restoration will also allow floodwaters from coastal storms to recede more quickly. This will help to protect roadways, wells, and other infrastructure.

**Vulnerability Preparedness Planning in Wellfleet**

In terms of mitigating specific risk to the neighboring coastal communities, the subsidence and degradation of the salt marsh resulting from decreased tidal flow within the Herring River has created large, low-lying areas vulnerable to sea level rise and associated storm surge. There are approximately 300 private residential properties and a small number of commercial businesses located in the Herring River floodplain. FEMA has designated the estuary as a "Special Flood Hazard Area." The Cape Cod Commission has created a mapping tool to assess risk and vulnerability, as well as visualizations that show potential impacts of hurricanes and sea level rise. Building on that information, and in view of concerns over severe winter storms and coastal flooding in 2018, the towns of Wellfleet and Truro and the Cape Cod Commission held a Municipal Vulnerability Preparedness stakeholder workshop in May 2019. The workshop considered major environmental and infrastructure threats to the region due to sea level rise, severe weather and associated storm surge. Workshop participants, including local officials, community stakeholders and regional resiliency planners, found that "Addressing climate change impacts is an urgent matter for these neighboring Outer Cape communities . . . the towns are vulnerable to storm surges, coastal erosion, and sea level rise that threatens the built environment, drinking water aquifer, biodiversity and natural resources." The workshop designated restoration of salt marsh as the top recommendation to improve resilience; the top priority action identified through the MVP planning process was to pursue funding for culvert replacement and salt marsh restoration. This Project fully responds to the designated MVP priority and represents the largest salt marsh restoration on Cape Cod and, in fact, within all of New England.

The Town views restoring tidal wetlands and installing modern tidal control infrastructure as advancing resiliency on several fronts. A primary objective of the Project is to restore natural sedimentation processes upstream, allowing the marsh to accrete and maintain elevation with rising sea level. The restored salt marsh will, in turn, enhance coastal resilience as a natural buffer to storms and wave action to reduce erosion. Tidal restoration will also allow floodwaters from coastal storms to recede more quickly. This will help to protect roadways, wells, and other infrastructure. Additional infrastructure protection will occur with undergrounding of utilities in designated areas. The restoration will also replace existing methane-emitting freshwater wetlands with carbon-absorbing saltwater wetlands, thereby contributing to a reduction of greenhouse gases.

**Scientific Basis for Resilience Impacts**

The scientific basis for the Project was largely drawn from a series of studies conducted by NPS researchers and others, beginning in the 1980s and summarized in the **Herring River Conceptual Restoration Plan** in 2007. A two-dimensional hydrodynamic model was developed that established the feasibility of tidal restoration and analyzed the effects of restoring tidal flow to different parts of the estuary. **Herring River Hydrodynamic Modeling Final Comprehensive Report** (Woods Hole Group, 2012) included three different scenarios for sea level rise over the next 50 years and analysis of numerous combined storm events. The model was also used to develop and analyze restoration alternatives based on balancing degrees of tidal restoration with necessary flood prevention.

Coincident with Project planning, risk and threat assessments from sea level rise and storm surge have been conducted by the Cape Cod Commission and depicted using interactive digital mapping (see the Wellfleet Risk and Vulnerability Map and Cape Cod Commission Sea Level Rise Viewer.) This information helped to inform the MVP workshop described above.
The Project will increase community resilience to sea level rise by (1) providing new infrastructure with tide gates that will allow flexibility in managing the level of tidal flow through the entrance to the Herring River system at Chequessett Neck Road; and (2) providing mitigation to protect upstream properties under extreme storm surge conditions. However, it is important to note that the Project is not intended nor designed to prevent or mitigate extreme coastal storm surges which would overtop the proposed new CNR bridge and water control structure, which could occur with the existing dike in place.

Designing the new CNR structure as a FEMA flood control structure would be ineffective because water would still enter the system under extreme storm surge conditions by overtopping dunes at Powers Landing and Duck Harbor; this would still be true in the event of more severe (and never recorded) storm surge conditions possible under more aggressive sea level rise projections. For surge conditions below the crest height of the proposed new structure, the bridge and tide gates, even fully open, would still dampen tidal exchange and limit the height of storm surge into the river as described above. Any potentially adverse impacts resulting from tidal flow under current and foreseeably future tidal hydrology where high tide remains below the crest of the CNR structure (12 feet NAVD) will be prevented by site

specific flood mitigation measures that are designed to a 9.5 maximum high tide water level (up to 7.5 feet for the observed storm-of-record impacts, plus up to two feet of freeboard).

### *Public Involvement and Community Engagement*

The Project is the product of extensive stakeholder involvement and public discussions with local leadership. A strong commitment to local engagement has marked the decade-long journey from idea to concept, and from concept to design and permitting. Project planning and evaluation began in 2005 and has included more than 60 community meetings and presentations, 100 one-on-one meetings with property owners, hundreds of technical meetings with Project technical team members and consultants, and Town and NPS staff. This outreach has helped to build strong, broad-based support for the Project, evidenced by the support letters. This robust public engagement program has shaped the Project as it has evolved over more than a decade of feasibility study and environmental assessment. An additional level of public engagement is facilitated through the permitting process, which includes required public meetings, public hearings, and public comment periods.

Public engagement is a centerpiece of the Adaptive Management Plan that will be used to guide restoration decision-making. Approximately 290 year-round and seasonal residents participated in a community survey designed to gauge public opinion about different potential restoration outcomes, including public safety, views, odors, and public access. Using a decision support tool developed by the USGS and technical team, the community survey results will be combined with other inputs to help assess the public's satisfaction with potential alternative restoration management scenarios such as the size and timing of sluice gates openings to enable tidal flow to return. The survey was designed to allow participation any numbers of ways, through live polling events, online, QR codes or paper surveys.

Public engagement is also built into the governance structure for the Project. The Project is governed by the Herring River Executive Council, which consists of three members appointed by the Wellfleet Selectboard and two members appointed by the Cape Cod National Seashore Superintendent. The HREC is responsible for oversight of Project implementation and is a public body that meets in open public session. Public comment is allowed at each HREC meeting. In addition, the HREC has appointed a 19-member Herring River Stakeholder Group (HRSG) to provide advisory input on implementation matters. The HRSG members represent the following stakeholder interests: property owners, businesses, conservation, shellfishing, open space protection, scientific community, recreation, and mosquito control. The HRSG is also a public body that meets in open public session. Minutes and presentation materials from HREC and HRSG meetings are posted on the Town of Wellfleet website and FHR website.

FHR oversees a number of public education, public engagement and outreach activities on behalf of the Project. The FHR Outreach Committee meets regularly to plan, oversee and evaluate events. The Project budget has funds allocated annually for outreach and education activities. These public outreach and engagement activities continued during the MVP grant period:

| **Wellfleet Herring River Public Involvement and Community Engagement Plan Summary** | | | |
|---|---|---|---|
| | Print | Digital | In-Person |
| Principal Strategies | • Direct Mail Brochures to all property owners in town<br>• Posters displayed throughout the community<br>• Rack Cards<br>• Fact Sheets | • Publish *The Herring Run* e-newsletter<br>• Publish *Herring River Currents* e-newsletter<br>• Social media strategy (Facebook, Instagram, Chamber of Commerce e-blasts) | • One-on-one meetings<br>• Presentations to Town and civic committees<br>• Attendance at special events<br>• HREC public meetings<br>• HRSG public meetings<br>• Special events sponsored by FHR and/or co-sponsored with other community organizations |
| Assisting Strategies | Outreach to print media to share Project information and publicize events | Posting of all educational and information materials and meeting videos on FHR and/or Town website, including Project studies, plans, studies, narrative descriptions, permit applications; meeting minutes/recordings; brochures and other educational materials. | Informational announcements at public comment portion of Selectboard meetings |
| Equitable Engagement Modifiers | | Close captioning of promotional videos | |
| In addition to public comment opportunities at HREC and HRSG meetings, community members are invited to submit questions or comments to info@HerringRiver.org. | | | |

**Results and Deliverables:**

Permit-level (60%-75%) design for five (5) Project elements was advanced to final (100%) design, and construction-level plans and specifications were prepared for:

- Chequessett Neck Road Bridge and Water Access Facility Construction
- Elevation of Bound Brook Island, Old County and Pole Dike Roads and Culvert Replacements
- High Toss Road Travelway Elevation and Culvert Removal
- Elevation of Way #672 and Property Impact Prevention at 25 and 27 Way #672
- Property Impact Prevention 695 Bound Brook Island Road

The Project Manual for Chequessett Neck Road Bridge and Water Access Facility Construction was developed and is comprised of plans, specifications, contracts and other bid documents. Four Project elements related to roadway elevation and private property mitigation that are in proximity to one another will be combined into a single invitation to bid; the Project Manual for Low-Lying Roadways and Associated Elements Construction includes consolidated specifications and a single set of bid/contract documents, but contains and references four separate Project element plan sets.

In-kind services provided by Town staff and Project team members include, but were not limited to: technical review and comment on deliverables; participation in frequent meetings and extensive communications related to final design and other Project matters; and preparation for the bidding process including development of construction-phase contracts and funding agreements. FHR staff also assisted heavily in the reporting and invoicing for this grant. In-kind services provided by the FHR Board of Directors and other volunteers include, but were not limited to: development of Outreach Material including newsletters, presentations, flyers, fact sheets and other outreach and educational material; participation at public meetings of the HR Executive Council and HR Stakeholders Group; coordination and delivery of special events; and personal meetings with property owners and other interested parties, and guided educational walks.

**Lessons Learned:**

Despite clear guidance for preparing the scope of work (SOW) and budget in the instruction on MVP Attachment B Budget Template, complying with the MVP requirement that deliverables be 100% complete before a request for reimbursement is submitted was difficult. We revised the SOW and budgets from the final design contracts in a manner that we thought was functional, and even submitted a further-revised budget for approval following discussion with our regional coordinator; but small details tripped us up. For example, *Response to comments on draft deliverables* was included in the task description for draft deliverable but said responses were provided with the revised/final deliverables, resulting in charges for a single

given task being submitted by the engineers on more than one invoice. Some of these issues might have been avoided if we'd explained the intricacies of MVP reimbursements with the engineers before executing the final design contracts.
Meeting the approximate start and end dates noted on the budget table was complicated by unforeseen developments. For example, use of Natural Resource Conservation Service (NRCS) funding that became available for CNR was contingent on improving stormwater management to meet a higher bar than what the state required; the timeframe we had approximated for preparation of plans and specifications did not take into account the need to execute a contract for the additional work, modify the design and allow additional time for review by the NRCS Technical Center. Lesson learned: hope for the best but plan for the worst and add an extra increment of time as a cushion.

**Partners and Other Support:**

The Project team is comprised of national experts in estuarine science, civil engineering, and environmental resource management from:

- Town of Wellfleet - co-applicant, owner of elevated roads and two of three proposed water control structures
- National Park Service Cape Cod National Seashore - co-applicant, owner of one water control structure on federal land
- NOAA Restoration Center – technical advisor and funder
- Massachusetts Division of Ecological Restoration – technical advisor and funder
- USDA Natural Resource Conservation Service – technical advisor and funder
- U.S. Fish & Wildlife Service – technical advisor

Friends of Herring River (FHR), a local non-profit organization, has been recipient of most Project-related grant awards for engineering, design and permitting. FHR holds multiple contracts for Project engineering and consulting services; contractors for the project include:

- Ridley & Associates – Project Coordinator
- Woods Hole Group - hydrodynamic and ecological modeling, design of the adaptive management plan
- Fuss & O'Neill – engineering, design, permitting support, construction management planning
- WSP – engineering, design, permitting support
- ESS Group – engineering, design, permitting support
- U.S. Geological Survey – groundwater and surface water quality and flow monitoring; Adaptive Management Plan design
- Public Archaeology Laboratory – cultural resource assessment
- EA – sediment sampling and management

The Town and CaCo have entered into successive Memoranda of Understanding (MOU) to implement the Project; the MOUs set forth the structure and decision-making process for the Project. MOU IV describes a Herring River Technical Team (HRTT), an informal sounding board composed of intergovernmental technical staff from the six (6) partner agencies to provide technical input for Project-related decisions, as necessary or appropriate. NPS provides science expertise and the HRTT works closely with FHR to provide additional technical expertise and oversee all grant activities. In addition, using funding from NRCS, FHR has engaged a Post-doctorate to coordinate all data collection and assessment efforts to design and implement a holistic sediment transport study within the Herring River and Wellfleet Harbor.

**Project Photos –** *provided separately*