

Municipal Vulnerability Preparedness Program Action Grant Case Study

Municipality: [Westport](#)

Project Title: [East Beach Corridor Vulnerability Study](#)

Award Year (FY): 2019

Grant Award: \$75,000

Match: \$25,000

Match Source: [Town Meeting Appropriation](#)

One or Two Year Project: [One \(plus COVID-19 extension\)](#)

Municipal Department Leading Project: [Planning Board](#)

Project Website URL: <https://www.westport-ma.com/planning-board/pages/east-beach-corridor-vulnerability-study>

Community Overview:

Westport is a coastal, rural, and diverse community – a town that includes farms, beautiful landscapes and beaches, small businesses, and densely populated neighborhoods. Each of these aspects of the community is characterized and strengthened by the natural resources to be found within the town’s borders. Westport is located in Bristol County, in the southeastern region of the Commonwealth of Massachusetts with a year round population 15,857 and a total land area of 64.4 square miles; located south of Fall River; eight miles west of New

Project Description and Goals:

- Where was the project located? [East Beach, Westport, MA](#)
- What climate change impacts did the project address? [Sea level rise and coastal storms](#)
- What were the specific goals and tasks of the project as stated in your application?
 - [Develop a probabilistic assessment of coastal flood vulnerability within the East Beach Corridor, based on a foundational understanding of past impacts and current conditions, and supplemented by advanced physical modeling.](#)
 - [Recommend a suite of adaptation alternatives, using the findings of the vulnerability assessment and in cooperation with the Town and stakeholders, to:](#)
 - [Maximize the useable life of East Beach Road \(and utilities\);](#)
 - [Address access in the event of a breach at the Let;](#)
 - [Protect property and infrastructure along East Beach Corridor; and](#)
 - [Protect seasonal trailer homes on East Beach.](#)
 - [With feedback from stakeholders and the Town, develop a coastal resilience implementation roadmap to guide incremental and flexible adaptation investments over time and provide science-based thresholds for action.](#)
- Did your project meet the goals set forth in your application in terms of:
 - [Employing nature-based solutions](#)
 - [Yes, a major adaptation recommendation for incremental roadway elevation incorporated beach and dune nourishment.](#)

- Improving equitable outcomes for and fostering strong partnerships with EJ and other Climate Vulnerable Populations
 - Yes, seasonal trailer home owners on East Beach are vulnerable to climate impacts and these stakeholders were consulted throughout the process.
- Providing regional benefits
 - Yes, the vulnerability study and adaptation recommendations are a model for detailed vulnerability assessment (pairing MC-FRM results with physical cross-shore models) and roadway resilience along a barrier beach. Adaptations for East Beach Corridor seek to preserve and enhance recreational access along the beach which is a regional asset, and reduce vulnerability along a roadway which connects and provides emergency access between two isolated portions of the Town.
- Implementing the public involvement and community engagement plan set forth in your application
 - Public involvement and community engagement was achieved through a project flyer, pre-recorded Vimeo webinar on historical impacts and current vulnerability, two public meetings, two stakeholder surveys, and six committee meetings which were announced and open to public attendance.
- Finishing the project on time
 - The project was completed within the COVID-19 Amended Extension for FY19 grants.

Results and Deliverables:

- Describe, and quantify (where possible) project results (e.g. square footage of habitat restored or created, increase in tree canopy coverage, etc.). Report out on the metrics outlined in your application.
 - The project found increasing vulnerability over time across East Beach Corridor. Present vulnerability is mostly from coastal storms (impacts from flooding and overwash), but future coastal storms are projected to have the potential to damage the roadway, erode parcels, and potentially breach to the Let. Over the long-term, sea level rise may impact daily use of parcels and the roadway.

Asset	Hazard	-0.17 ft NAVD88 MSL 2008 (1999-2017)	1.1 ft NAVD88 MSL 2030 - 2050	2.4 ft NAVD88 MSL 2050 - 2070	4.2 ft NAVD88 MSL 2070 - 2100
Developed areas on the Let side	High Tide	No impacts	Limited impacts	Significant impacts	Severe impacts
	Storm Surge	20-50% annual chance	30-100% annual chance	50-100% annual chance	100% annual chance
Developed areas on the ocean side	Erosion/High Tide	No impacts	Limited impacts	Significant impacts	Severe impacts
	Storm Surge	10-25% annual chance	20-50% annual chance	25-100% annual chance	100% annual chance
East Beach Road	High Tide	No impacts	No impacts	Limited impacts	Severe impacts
	Erosion/High Tide	No impacts	No impacts	Significant impacts	Significant impacts
	Overwash	50-100% annual chance	>100% annual chance	>100% annual chance	>100% annual chance
	Road Damage (2ft)	1-2% annual chance	2-5% annual chance	5-10% annual chance	20-50% annual chance
	Breach	<1% annual chance	1-2% annual chance	5-10% annual chance	20-50% annual chance
Utility Poles	Failure	1% annual chance	2% annual chance	5% annual chance	20% annual chance

- Provide a brief summary of project deliverables with web links, if available.
 - The primary deliverable is the [East Beach Corridor Vulnerability Study Report](#), which summarizes the vulnerability assessment, recommended adaptation actions, and implementation plan. Other project deliverables include a vulnerability webinar, project informational flyer, and various meeting minutes and recordings. All materials are available on the project website: <https://www.westport-ma.com/planning-board/pages/east-beach-corridor-vulnerability-study>.

Lessons Learned:

- What lessons were learned as a result of the project? Focus on both the technical matter of the project and process-oriented lessons learned.
 - Water surface elevations and wave information from MC-FRM can be used as inputs to cross-shore models to back-calculate projected thresholds and probabilities of erosion impacts for future climate conditions.
 - Stakeholders want to preserve the uses and benefits of special places, and will support thoughtful and incremental solutions.
 - When discussing climate science and the potential local impacts of climate projections, it is useful to engage in dialogue early and to plan around thresholds of change within windows of occurrence.

Partners and Other Support:

- Woods Hole Group – vulnerability assessment, cross-shore modeling, adaptation planning and public outreach
- Kleinfelder – adaptation planning and public outreach

Project Photos:

- In your electronic submission of this report, please attach (as .jpg or .png) a few high-resolution (at least 300 pixels per inch) representative photos of the project. Photos should not show persons who can be easily identified, and avoid inclusion of any copyrighted, trademarked, or branded logos in the images. MVP may use these images on its website or other promotional purposes, so please also let us know if there is someone who should receive credit for taking the photo.
 - [See attached](#)