



Lowell FY21 MVP Action Grant

Municipal Vulnerability Preparedness Program



Courtney Rocha
Southeast Regional Coordinator
Courtney.Rocha@mass.gov

Agenda

- Overview of MVP Program
- MVP Core Principles
- Details on FY25 Action Grant Round
- MVP Funded Coastal Resilience Projects
- Nantucket Coastal Resiliency Action Items
- Q&A



Climate resilience is the ability of a community to address the needs of its built, social, and natural environment to anticipate, cope with, and rebound stronger from events and trends related to climate change hazards.

Resilient communities don't just recover—they *continuously build capacity* to reduce the impacts of future climate events.

MVP CORE PRINCIPLES



Multiple benefits to a broad cross-section of the community



Robust community engagement

Address community identified climate change priorities



Monitoring & maintenance

Proactive solutions supported by climate data

Improve outcomes for Environmental Justice communities



Prioritize Nature-based Solutions



Think beyond borders



Innovative & transferable



Planning GRANT MVP 2.0

RFR open mid-February 2024; Closes March 2024

Open to municipalities with old/expiring MVP plans
~\$45,000 yr 1 and \$50,000 yr 2



Action GRANT

RFR open mid-March 2024; Closes May 2025

Open to MVP communities
Up to \$3M per project, and \$5M per regional projects

At least \$20-30M available



MVP Program Status

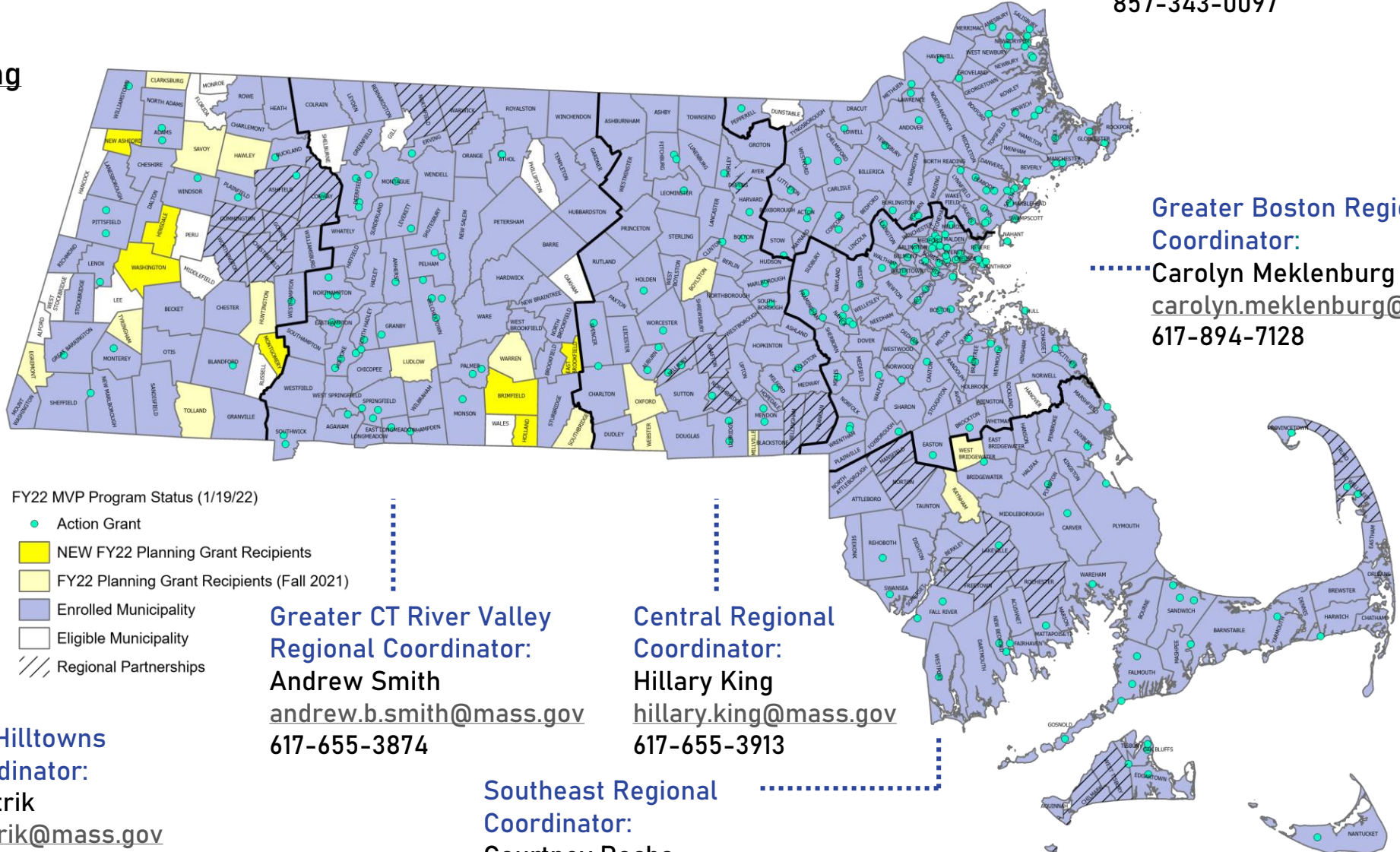
Community Resilience Building (CRB) Planning Grant Process

95% participation
335 communities

Action Grant Projects

FY 18: 37
FY 19: 36
FY 20: 53
FY21: 41
FY 22: 66

Total Awards
\$65M to date



Northeast Regional Coordinator:
Michelle Rowden
michelle.rowden@mass.gov
857-343-0097

Greater Boston Regional Coordinator:

Carolyn Meklenburg
carolyn.meklenburg@mass.gov
617-894-7128

Greater CT River Valley Regional Coordinator:
Andrew Smith
andrew.b.smith@mass.gov
617-655-3874

Central Regional Coordinator:
Hillary King
hillary.king@mass.gov
617-655-3913

Southeast Regional Coordinator:
Courtney Rocha
courtney.rocha@mass.gov
617-877-3072

Berkshires & Hilltowns Regional Coordinator:
Carrieanne Petrik
carrieanne.petrik@mass.gov
617-875-0911 (email preferred)

Statistics From Last Round

92 applications

Over \$28 million requested

66 funded projects

Total funding \$20.6 million

Average grant size: ~\$312,000

Details and Timeline



- ▶ At least \$20 million available
- ▶ 25% match required, with exceptions
- ▶ Reimbursement



Submit applications by
online form



RFR release: Mid-March 2022

RFR Q&A period ~2 weeks

Applications due: ~8 weeks after release (see
RFR for details)

Award announcement: August 2022

Projects start: Anticipated September 2022

Projects end: June 30, 2023 OR June 30, 2024

Project Types



Planning, Assessments, Capacity Building, and Regulatory Updates



Design and Permitting



Construction and On-the-Ground Implementation

Note: Demonstrate necessary permits & permissions have been secured

Action Grant Examples

Marshfield Long-term Coastal Resiliency Plan



Marshfield FY22



Learn more:

[Marshfield Long-term Coastal Resiliency Plan](#)

AWARD

\$78,030

MATCH

\$26,010

PROJECT TYPE

Planning, Assessments, and Regulatory Updates

**CORE PRINCIPLES
DEMONSTRATED**

Furthering a community identified priority action to address climate change impacts; Utilizing climate change data for a proactive solution; Conducting robust community engagement

DESCRIPTION

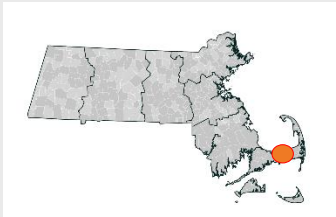
- Evaluated risk factors and collected asset inventory
- Drafted Zoning Recommendations
- Conducted a Benefit Cost Analysis
- Conducted Public engagement and outreach

Planning Area Sectors



Cape Cod Low Lying Roads 1

Wellfleet, Barnstable, Bourne, Brewster, Eastham, Truro FY22-23



Learn more:

<https://www.capecodcommission.org/our-work/low-lying-roads-project/>

AWARD

\$332,091

MATCH

\$114,860

PROJECT TYPE

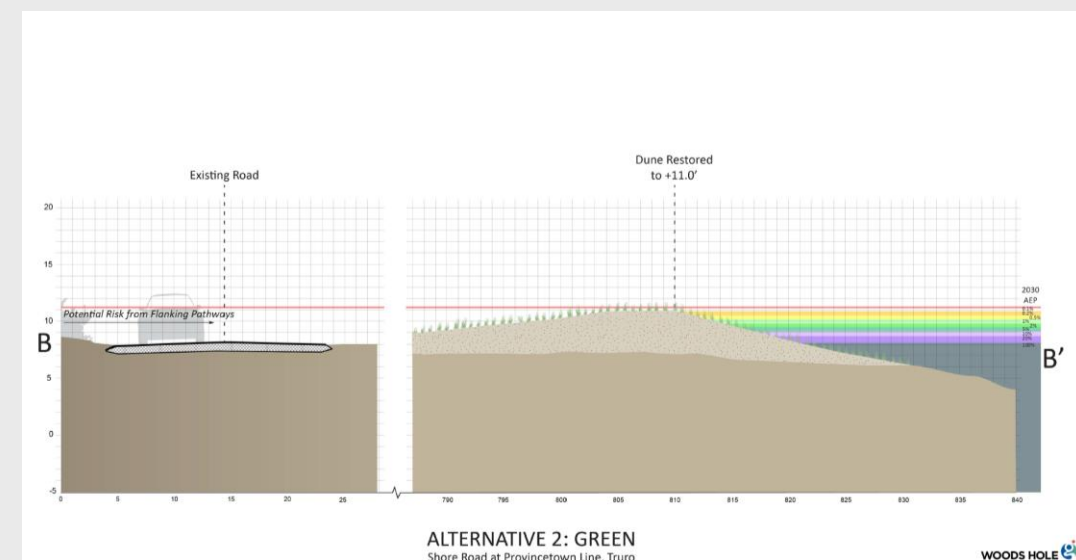
Planning and Design

**CORE PRINCIPLES
DEMONSTRATED**

Employing Nature Based Solutions; Achieving broad and multiple community benefits

DESCRIPTION

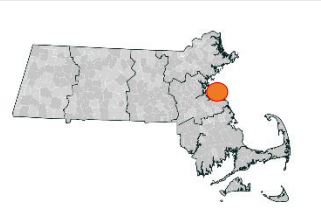
Using the Massachusetts Coast Flood Risk Model, the project team identified roads vulnerable to flooding during coastal storm events at future time horizons. The team assessed the criticality of those roads and assigned a risk level to assist in prioritizing roads for adaptation solutions. The team developed conceptual designs, including nature-based solutions, for 2 roads in each town.



Hull Climate Adaptation Roadmap: Alternatives Analysis for the Hampton Circle Area (HCA)



Hull FY23



[Hull Climate Adaptation Roadmap: Hampton Circle Area | Hull MA](#)

[Climate Adaptation & Conservation | Hull MA](#)

AWARD \$198,624 **MATCH** \$ 66,574

PROJECT TYPE Action Grant (One Year)

**CORE PRINCIPLES
DEMONSTRATED**

(1) Furthering a community-identified priority action (mitigating flooding in low-lying areas) and (2) Building community capacity for climate resilience.

DESCRIPTION

The Hampton Circle Area Adaptation Roadmap included the following scope of work to support a climate vulnerable neighborhood in Hull:

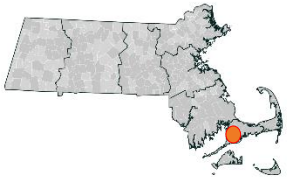
1. Creation of a community engagement program and Storymap: <http://tinyurl.com/HullRoadmap>
2. Development of an Adaptation Toolkit
3. Design alternatives analysis and feasibility analysis
4. Development of an Implementation Roadmap/Action Plan for the near-term (2030), mid-term (2050), and long-term (2070 and beyond) solutions for the HCA.
5. Outreach and engagement workshops/open house on HCA Adaptation Roadmap to enhance empowerment of impacted residents.



Conceptual Design of Flood-Resiliency Improvements for Sewer Infrastructure – Town of Falmouth, MA



Falmouth FY22



Learn More:

- [Falmouth Wastewater Division Website](#)
- [Resilient Woods Hole News and Events](#)

AWARD

\$104,040

MATCH \$35,780

PROJECT TYPE

Planning, Assessment, Capacity Building,
and Regulatory Upgrades

**CORE PRINCIPLES
DEMONSTRATED**

Utilizing climate change data for a proactive solution;
Assessing Nature-Based Solutions

DESCRIPTION

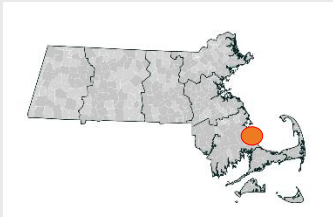
- Established design flood elevations for four vulnerable lift stations and a force main with consideration for future sea level rise.
- Evaluated alternatives to protect vulnerable sewer infrastructure from design floods and developed conceptual drawings for recommended alternatives.
- Community engagement included public informational meetings and participation in the Resilient Woods Hole Public Forums to discuss this project.



Subterranean Resiliency: Predicting, Assessing and Mitigating Saltwater Intrusion



Plymouth FY 22 & 23



Learn More:

[Pine Barrens Alliance](#)

[One Water Living Observatory](#)

[Project Facebook Page](#)

AWARD

\$304,915

MATCH

\$169,127.25

PROJECT TYPE

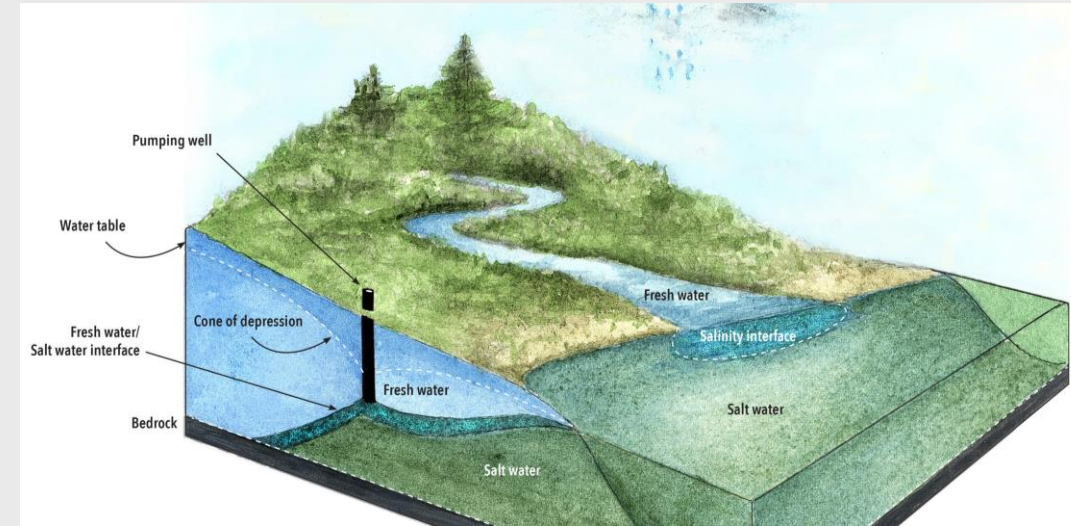
Planning and Capacity Building

**CORE PRINCIPLES
DEMONSTRATED**

Pursuing Innovative, Transferable Processes
Building Community Capacity for Climate Resilience

DESCRIPTION

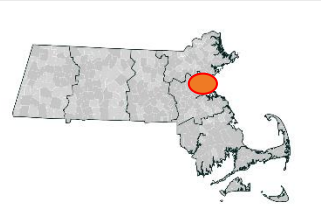
Subterranean Resiliency: Predicting, Assessing and Mitigating Saltwater Intrusion is a first-of-its-kind evaluation of the community's susceptibility to saltwater intrusion. Researchers from the UMass-Amherst School of Earth and Sustainability, and a dozen local non-profit environmental and civic organizations undertook a parallel program to raise awareness of climate resiliency issues regarding the water quality of Plymouth's sole source aquifer. The grant also allowed for the creation of two legacy elements: the establishment of a community water testing station providing low or no cost testing to residents, and the creation of 'OneWater,' an ongoing digital chronicle of local water-related projects and programs.
(<https://onewater.livingobservatory.org/projects>)



Belle Isle Marsh: Evaluating Nature Based Solutions to Protect Abutting Communities and Critical Shorebird Habitat from Coastal Inundation



Winthrop FY22-23



Learn More:
[Project Website](#)

AWARD

\$145,307

MATCH \$54,500

PROJECT TYPE

Type 1: Planning, Assessments, Capacity Building, and Regulatory Updates

CORE PRINCIPLES
DEMONSTRATED

Utilizing regional solutions toward regional benefit; Utilizing climate change data for a pro-active solution; Increasing equitable outcomes for and supporting strong partnerships with [Environmental Justice \(EJ\) Populations](#) and Climate Vulnerable Populations; Employing Nature-Based Solutions (NBS)

DESCRIPTION

Belle Isle Marsh is the largest remaining salt marsh in Boston Harbor, designated an Area of Critical Ecological Concern (ACEC). The marsh is surrounded by the low-lying, densely developed communities of East Boston, Revere, and Winthrop. Past flooding has damaged both public and private infrastructure, and has impaired critical services, such as public transportation and evacuation routes. All the while, the marsh is suffering increasing environmental stressors, negatively impacting marsh health and longevity. Climate change threatens to exacerbate such risks to both community and marsh. This project emerged from a recognition by stakeholders of the necessity for addressing near-term climate vulnerabilities through regional collaboration.

This Climate Vulnerability Assessment investigates community risk to sea level rise and storm flooding and opportunity for nature-based strategies to minimize coastal flood damage to Winthrop, East Boston, and Revere and, where possible, maximize the habitat value of Belle Isle Marsh Reservation.

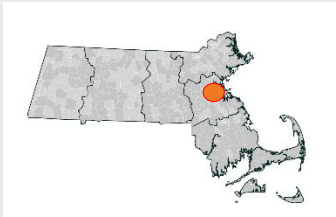


Community Advisory Group meets with consultant Woods Hold Group to discuss Belle Isle Marsh, habitat diversity, environmental and anthropogenic stressors, and opportunities for restoration.



Gibson Park Resiliency and Recreation

Revere FY22



Revere.org

AWARD

\$153,955.72

MATCH

\$51,318.57

PROJECT TYPE

Design + Permitting

**CORE PRINCIPLES
DEMONSTRATED**

Utilizing climate change data for a proactive solution; Employing nature-based solutions

DESCRIPTION

The project combines resiliency with recreational assets to design an open space that will create stronger resiliency introducing bioswales, rain gardens, marsh restoration, and a living shoreline with 500K gal of sub surface storm water storage while increasing the practical recreational use of the space with a multipurpose field, tennis courts and raised walkways.



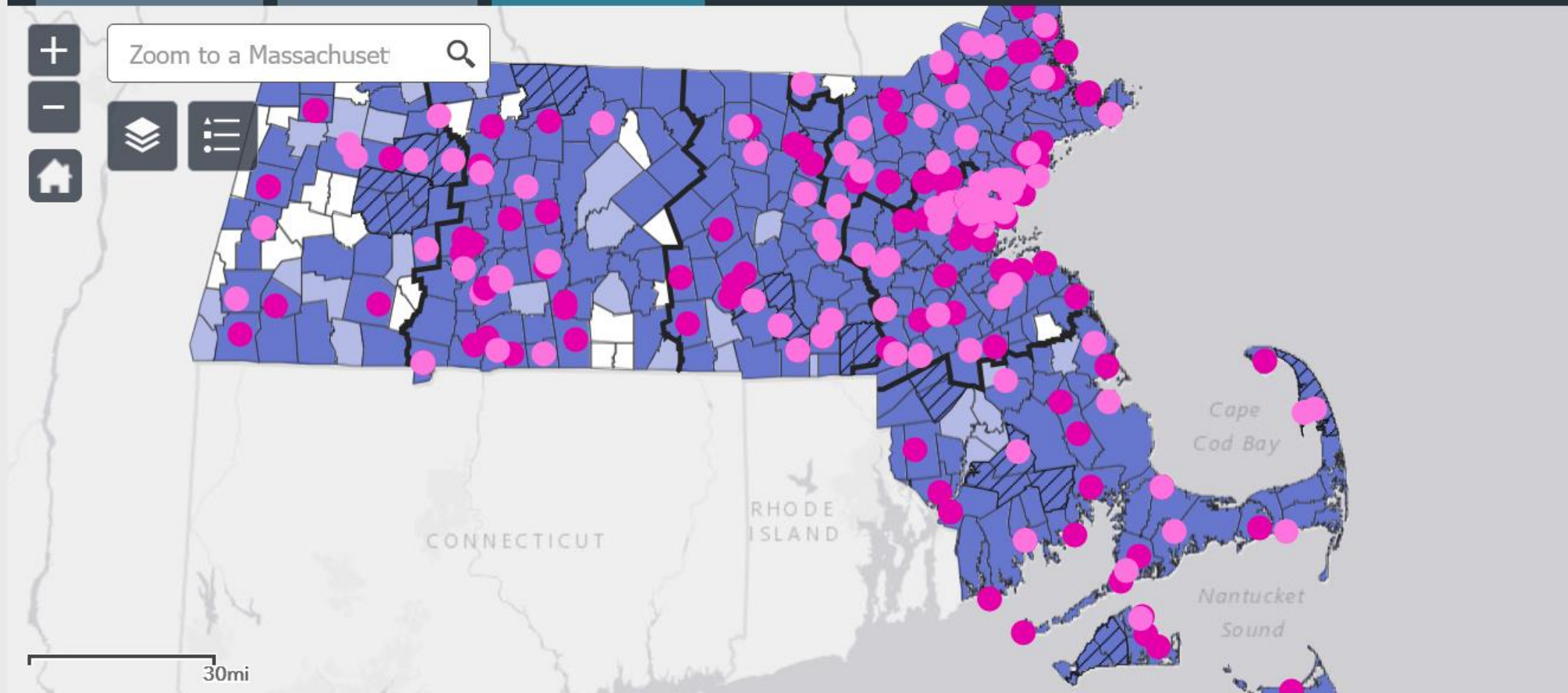
View the MVP grants in the tabs below:

Municipal Vulnerability Preparedness Program

Planning Grants

Action Grants

All MVP Grants



To view more examples of MVP Action Grant Projects:

<https://www.mass.gov/info-details/municipal-vulnerability-preparedness-program-action-grant-projects>

or check out our interactive grant viewer at www.resilientma.org/mvp

ISLAND-WIDE (section 06)

Project Priority

01 02 03

Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
1-1	Community Outreach on Property Owner Resilience Best Practices	Comprehensive outreach program to at risk home and business owners to raise risk awareness and provide guidance on best practices for reducing coastal risks for private properties.	Non-structural	Staff and Volunteer Time	N/A	2023, Ongoing	Coas Com
1-2	Updates to Zoning By-Law	Updates to the zoning by-law to encourage resilient design and limit investment in areas of high coastal risk.	Non-structural	Staff and Volunteer Time	N/A	2025	Plann
1-3	Updates to Wetland Ordinance and Regulations	Updates to the Nantucket wetlands by-law and regulations to encourage resilient and low impact design in resource adjacent areas while limiting impacts on resource areas.	Non-structural	Staff and Volunteer Time	N/A	2025	Natur
1-4	Strategic Retreat and Relocation Program	Develop and administer island-wide approach for pursuing strategic retreat and relocation in areas of priority coastal risks with an ongoing focus on risk communication and property owner outreach and education.	Non-structural	Staff and Volunteer Time	N/A	2024, Ongoing	Natu
1-5	Coastal Resilience & Sustainability Interdepartmental Working Group	Governance approach to encourage inter-departmental collaboration and coordination on issues related to coastal resilience and sustainability.	Non-structural	Staff and Volunteer Time	N/A	2022, Ongoing	Town
1-6	Joint Staff Review of Development Proposals	Governance approach to maximize opportunities for coordinated decision-making and consistent customer communication by Town staff, particularly for projects located in or impacting coastal areas.	Non-structural	Staff and Volunteer Time	N/A	2022, Ongoing	Town
1-7	Coastal Resilience and Sustainability Program	Governance approach to establish a formal program with necessary resources for managing coastal resilience and sustainability projects and programs across the island.	Non-structural	Staff and Volunteer Time	N/A	2023, Ongoing	Natur
1-8	Shoreline Change Monitoring Program	Employ mobile technology and other tools to engage community members in the process of monitoring shoreline change at pilot projects and across the island.	Non-structural	Staff and Volunteer Time	N/A	2024, Ongoing	Natur
1-9	Sediment Sourcing and Transport Study	Island-wide data collection and planning approach to identify sediment sources and define sediment movement across the island at various spatial and temporal scales in order to inform the design and planning of future sediment management projects.	Non-structural	High: \$1 M Low: \$800K O&M: NA	N/A	2024	Natur
1-10	Stormwater Management Plan	Planning step to evaluate stormwater management issues across the island and identify recommendations for reducing stormwater flooding and improving water quality.	Non-structural	High: \$650K Low: \$400K O&M: NA	N/A	2025	Depa
1-11	Sediment Budget	Planning step to develop an operational sand budget for recommended shoreline projects.	Non-structural	High: \$250K Low: \$100K O&M: NA	N/A	2024	Natur
1-12	Stormwater By-Laws Assessment	Planning step to conduct an assessment of existing by-laws for opportunities to encourage stormwater management best management practices (BMPs).	Non-structural	High: \$50K Low: \$20K O&M: NA	N/A	2025	Depa
1-13	Stormwater By-Law and Regulations Update	Updates to stormwater management by-law and regulations to encourage best management practices (BMPs) that address water quality and quantity issues.	Non-structural	Staff and Volunteer Time	N/A	2025	Depa
1-14	Update locally adopted sea level rise scenarios and Best Available Flood Hazard Data	Adopt sea level rise scenarios provide by the Commonwealth of Massachusetts and Massachusetts Coastal Flood Risk Model as the best available local flood hazard data.	Non-structural	Staff and Volunteer Time	N/A	2022	Coast Com

DOWNTOWN (section 07)

Project Priority

01 02 03

Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
2-1	Steamboat Wharf Resilience	Work with the Steamship Authority to develop adaptation plan for Steamboat Wharf with the preferred option of elevating the pier above future mean monthly high water. Building scale measures can be implemented on the wharf over time to reduce risk from coastal storms. The strategy should be integrated with the design of the Downtown Coastal Flood Barrier System (Strategy 2-2) to maintain access from Broad Street onto the Wharf. Final approach will need to be planned and design by the Steamship Authority but close coordination with Town resilience planning will be critical to a successful resilience strategy.	Structural	High: \$120M Low: \$110M O&M: \$1.3M	\$19,000,000	2030	Tow
2-2	Downtown Neighborhood Flood Barrier - Later Project Phases	The barrier system, which includes the first phase project described as Strategy 2-6, includes a number of elements to be implemented over time to provide comprehensive effective flood risk reduction against future mean monthly high water. The elements include raised roadways, raised bulkheads, reinforced dunes, and flood walls. The overall approach recommends passive measures that are integrated with the existing built environment, while maintaining access to key waterside facilities such as the Children's Beach Boat Ramp, Steamboat Wharf, Straight Wharf, and the Town Pier. Implementation of the approach can be phased over a period of 10 to 15 years, focusing on the lowest lying areas first, such as Easy Street (Strategy 2-6). As the project is implemented, stormwater management needs will need to be studied and addressed via new drainage infrastructure.	Structural	High: \$170M Low: \$150M O&M: \$1.9M Note that these cost estimates include costs for the Phase 1 project (Project 2-6)	\$320,000,000	2050	Natu
2-3	Easton Street and Hulbert Avenue Road Raising	Road raising project to prolong service life of Easton Street and Hulbert Avenue for emergency and everyday access in Brant Point	Structural	High: \$140M Low: \$130M O&M: \$1.6M	Not quantified; qualitative benefits include prolonging emergency and everyday access for Brant Point	2050	Dep
2-4	Washington Street Extension and Consue Springs Walkway Raising	Road raising to prolong service life of Washington Street Extension and public access in Consue Springs	Structural	High: \$65M Low: \$58M O&M: \$720K	Not quantified; qualitative benefits include prolonging public access to Consue Springs natural area	2050	Dep
2-5	Building Scale Resilience at 37 Washington Street	Pilot project to showcase building-scale resilience best practices on a Town-owned facility, including potentially elevation of critical systems, protection of sensitive equipment and documents, and deployable flood risk reduction measures. The first step in this recommendation is a site-specific study to determine the appropriate risk mitigation approaches for this structure.	Structuvral	High: \$150K Low: \$50K O&M: NA	Not quantified; benefits are dependent on risk mitigation strategy developed through recommended site-specific study.	2024	Dep
2-6	Downtown Neighborhood Flood Barrier - Phase 1 Project	Phase 1 project to advance through feasibility and design a near-term project focused on the most vulnerable location along the planned extent of the Downtown Neighborhood Flood Barrier. The Phase 1 project should focus on the coastal segment located along Easy Street from Straight Wharf to Steamboat Wharf and may include raised bulkheads, sidewalks, and roadways.	Structural	High: \$13M Low: \$12M O&M: \$150K Note that these cost estimates are included in the costs for Project 2-2	\$120,000,000	2025	Dep

MADAKET (section 07) Project Priority 010203	Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
	3-1	Madaket Road Raising and Bridge Conversion	Road raising project with conversion of existing culverts with bridges, with goal of prolonging service life of Madaket Road to provide access to and from Madaket, while advancing ecological restoration objectives for Long Pond.	Structural	High: \$40M Low: \$36M O&M: \$440K	\$6,200,000 – \$17,600,000	2030	Dep
	3-2	Ames Avenue Bridge Resilience	Maintain bridge for access to Smith's Point while protecting it from coastal erosion and flooding through dune restoration (see project 3-4). Continue maintenance and monitoring of existing Ames Avenue Bridge, with future elevation or relocation if necessary based on service population.	Nature-Based	See strategy 3-4	See strategy 3-4	2025	Dep
	3-3	F Street Boat Ramp	Prolong service life of public boat ramp by elevating the top of the boat ramp, surrounding infrastructure, and access from F Street. Consolidate Madaket boat ramps in this location once loss of service is experienced at Jackson Point boat ramp.	Structural	High: \$5.1M Low: \$4.5M O&M: \$57K	Not quantified; qualitative benefits include prolonging public boating access to Hither Creek and Madaket Harbor	2050	Dep
	3-4	Madaket Erosion Management Pilot and Ames Avenue Bridge Protection	Dune restoration along shoreline from Madaket Road / Ames Avenue intersection to Esther's Island. Project involves natural dune construction techniques of sand and vegetation with fencing as needed. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.	Nature-Based	High: \$96M Low: \$86M O&M: \$1.1M	\$51,000,000	2025	Nat
	3-5	Department of Public Works Facility and Landfill Resilience	Building scale resilience and operational resilience planning to reduce risk of damage and limit disruption to core operations at the facilities. The first step in this recommendation is a site-specific study to determine the appropriate risk mitigation approaches for the facility.	Structural	High: \$300K Low: \$150K O&M: NA	Not quantified; benefits are dependent on risk mitigation strategy developed through recommended site-specific study.	2024	Dep

NANTUCKET HARBOR & COATUE (section 07) Project Priority 010203	Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
	4-1	Polpis Road Raising and Bridge Conversion at Folger's Marsh	Road raising project with conversion of existing culverts with bridges, with goal of prolonging service life of Polpis Road, while advancing ecological restoration objectives for Folger's Marsh.	Structural	High: \$21M Low: \$18M O&M: \$230K	\$5,800,000 – \$14,250,000	2035	Depar
	4-2	Polpis Road Raising, Culvert Expansion, and Wave Attenuation at Sesachacha Pond	Road raising, expansion of culverts or replacement with bridge, and installation of living breakwaters to reduce wave exposure, with goal of prolonging service life and maintaining emergency roadway access along Polpis Road, while advancing ecological restoration objectives for Sesachacha Pond.	Structural, Nature-Based	High: \$45M Low: \$40M O&M: \$500K	\$3,000,000 – \$11,000,000	2035	Depar
	4-3	Coatue Erosion Management and Dune Resilience	Dune restoration and wetland creation/enhancement to reinforce narrow low-lying sections of barrier island, between Five Fingered Point and Bass Point and between First Point and Second Point, to prevent washover and/or breaching into the harbor. Monitor performance of approach to assess need for ongoing nourishment and/or adaptation to higher design elevations.	Nature-Based	High: \$41M Low: \$36M O&M: \$450K	Not quantified; qualitative benefits include ecological restoration and potential for reduced long-term flooding impacts in the Harbor as well as reduced impacts to fisheries, habitat, and navigation.	2025	Prope
	4-4	Numerical Modeling Study of Coatue Breaching	Numerical modeling study to evaluate the likelihood and consequences of Coatue breaching for the Harbor and surrounding communities, including impacts to habitat and navigation, in order to inform decisions about future adaption measures on Coatue.	Non-structural	High: \$250K Low: \$100K O&M: NA	NA	2026	Natu

SCONSET (section 07) Project Priority 010203								
Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp	Cha
5-1	Sconset Bluff Dune Restoration	Dune restoration and construction to mitigate bluff erosion and increase resiliency. Natural dunes with vegetation are appropriate. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.	Nature-Based	High: \$16M Low: \$14M O&M: \$180K	Not quantified; qualitative benefits include reduced long-term risk of erosion impacts to private residences and public infrastructure in Sconset.	2030		Natu
5-2	Codfish Park Dune Restoration	Dune restoration and construction to manage and slow bluff erosion. Natural dunes with vegetation are appropriate. Project includes need for ongoing nourishment and maintenance of the dune at an interval determined through the design process.	Nature-Based	High: \$21M Low: \$19M O&M: \$240K	\$7,000,000	2030		Natu
5-3	Baxter Road Relocation Planning	Planning for and implementation of road relocation, including acquisition of easements, access and maintenance agreements, finalization of road alignment, and development of final designs for construction.	Structural	High: \$30M Low: \$25M O&M: \$600K	N/A	2030		Depa
5-4	Sconset Bluff Nearshore Breakwaters Feasibility Study	Conduct detailed feasibility study to assess technical constraints, potential impacts, and benefits and costs of nearshore breakwaters along the Sconset Bluff.	Non-Structural	High: \$800K Low: \$600K O&M: NA	N/A	2025		Natu

SOUTH SHORE (section 07) Project Priority 010203	Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
	6-1	Nantucket Memorial Airport Dune Restoration	Dune restoration and construction to reduce risk of erosion to critical infrastructure. Hard core dunes are appropriate in this location given risk to critical facilities. Project includes need for ongoing nourishment or installation of near-shore underwater sand berm.	Nature-Based	High: \$28M Low: \$25M O&M: \$310K	Not quantified; qualitative benefits include long-term mitigation of risk to airport infrastructure and assets, which could result in loss of service at the airport.	2035	Natu
	6-2	Surfside Wastewater Treatment Plant Dune Restoration	Dune restoration and construction to reduce risk of erosion to critical infrastructure. Hard core dunes are appropriate in this location given risk to critical facilities. Project includes need for ongoing nourishment or installation of near-shore underwater sand berm. Strategic relocation alternatives for settling tanks closest to the coast at the wastewater treatment facility should be pursued in parallel.	Nature-Based	High: \$38M Low: \$33M O&M: \$420K	Not quantified; qualitative benefits include long-term mitigation of risk to infrastructure and assets, which could result in loss of service for the WWTF.	2025	Sewe
	6-3	Tom Nevers Field Erosion Mitigation Pilot Project	Pilot program of dune restoration, sand fencing, and beach nourishment. Monitoring program to evaluate how well the pilot project performs to inform future investment in Tom Nevers Park, as well as erosion management elsewhere on the island.	Nature-Based	High: \$18M Low: \$16M O&M: \$200K	\$7,100,000	2025	Natu
	6-4	Surfside Emergency Access Planning	Develop emergency access and service plan for Surfside Neighborhood to ensure access to coastal areas in event of loss of service along Nonantum and Nobadeer Avenues, particularly near Lovers Lane.	Non-structural	Staff and Volunteer Time	N/A	2025	Plann Servi
	6-5	Sheep Pond Road Relocation Study	Planning step to work with property owners and Nantucket Conservation Foundation to develop and implement plan for relocation of public infrastructure on Sheep Pond Road.	Non-structural	Staff and Volunteer Time	N/A	2023	Natu

		Strategy ID	Strategy or Project Title	Near-Term Strategy Project Description	Type	Estimated Cost	Estimated Benefits	Target Implementation Date	Imp Cha
NORTH SHORE (section 07) Project Priority 010203		7-1	North Shore Dune Restoration and Nourishment	Targeted dune restoration and construction to reduce risk of erosion along the North Shore, building on dune restoration strategies adopted by existing private property owners in area. Project includes need for ongoing nourishment or installation of near-shore underwater sand berm at key locations.	Nature-Based	High: \$38M Low: \$34M O&M: \$420K	\$16,000,000	2035	Natu
		7-2	Sand Pumping Feasibility Study	Study the feasibility and impacts of a sand pumping and by-pass systems to connect sand sources from inlet to the North Shore.	Non-structural	High: \$250K Low: \$100K O&M: NA	N/A	2027	Natu

Town and County of Nantucket Select Board • County Commissioners

Jason Bridges, Chair
Matt Fee
Dawn E. Hill Holdgate
Malcolm W. MacNab
Brooke Mohr



16 Broad Street
Nantucket, Massachusetts 02554

Telephone (508) 228-7255
Facsimile (508) 228-7272
www.nantucket-ma.gov

C. Elizabeth Gibson
Town & County Manager

November 30, 2022

MassDEP Waterways Program
1 Winter St, 5th Floor
Boston, MA 02108

RE: Chapter 91 Compliance Questions and Request for Inspection

To Whom it May Concern:

At the request of its Conservation Commission representative member, the Coastal Resilience Advisory Committee at its October 25, 2022 meeting approved submitting a request asking the Select Board of the Town of Nantucket to join and support the request dated August 11, 2022 from the Nantucket Conservation Commission for assistance from the MassDEP Waterways program to ensure that decisions made locally are consistent with the policies and procedures of MassDEP Waterways.

The Select Board charged the Coastal Resilience Advisory Committee with "Reviewing pertinent existing regulations to include coastal resiliency accommodations; identify any 'disconnects' between regulations and practice and/or conflicts and recommend ways to achieve alignment; reviewing proposed pertinent regulations for coastal resiliency purposes." The Coastal Resilience Advisory Committee delivered a Coastal Resilience Plan (CRP) to the Select Board, which endorsed it on January 12, 2022. One of the elements of public feedback that the CRP received is the sentiment that "nature-based strategies should be implemented wherever feasible with a clear emphasis on minimizing ecological impacts and maximizing ecological and public access benefits. Preserving Nantucket's beaches and coast into the future for as long as possible should be (the) primary goal."

Given that the office of CZM (Coastal Zone Management) has specified in its StormSmart Properties Fact Sheet 7: Repair and Reconstruction of Seawalls and Revetments regarding Beach Access that "According to the requirements of the Massachusetts Public Waterfront Act (Chapter 91), coastal property owners are required to maintain public access along the shore for the purpose of 'fishing, fowling and navigation'...When erosion results in no fronting beach at mean high tide, then the reconstruction or repair of the structure will require a license from the Mass DEP Waterways Program that specifies how the property owner will maintain public access," we ask that Mass DEP require property owners on Nantucket in the future to be in compliance with their existing Chapter 91 license requirement(s) in advance before

appearing before the Nantucket Conservation Commission for a Notice of Intent to effect said reconstruction.

Thank you for your consideration.

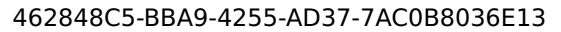
Sincerely,



Jason Bridges, Chair
Nantucket Select Board



Peter B. Brace, Vice Chair
Nantucket Coastal Resilience Advisory Committee



SIGNERS

AUDITS

TIMESTAMP	AUDIT
12/05/2022 09:40 EST	Erika Mooney (emooney@nantucket-ma.gov) created document '2022-11-30_sb-crac_ltr-to-massdep_re_ch91compliance.pdf' on Chrome via Windows from 208.87.236.201.
12/05/2022 09:40 EST	Jason Bridges (jmbridges@nantucket-ma.gov) was emailed a link to sign.
12/05/2022 09:40 EST	Peter B. Brace (coskataheaven@earthlink.net) was emailed a link to sign.
12/05/2022 09:43 EST	Jason Bridges (jmbridges@nantucket-ma.gov) viewed the document on Mobile Safari via iOS from 104.28.39.73.
12/05/2022 09:44 EST	Jason Bridges (jmbridges@nantucket-ma.gov) authenticated via email on Mobile Safari via iOS from 104.28.39.73.
12/05/2022 09:44 EST	Jason Bridges (jmbridges@nantucket-ma.gov) signed the document on Mobile Safari via iOS from 104.28.39.73.
12/06/2022 12:08 EST	Peter B. Brace (coskataheaven@earthlink.net) viewed the document on Safari via Mac from 24.62.127.181.
12/06/2022 12:09 EST	Peter B. Brace (coskataheaven@earthlink.net) authenticated via email on Safari via Mac from 24.62.127.181.
12/06/2022 12:09 EST	Peter B. Brace (coskataheaven@earthlink.net) signed the document on Safari via Mac from 24.62.127.181.

FY 2023 (July 2022-June 2023)

COASTAL RESILIENCE ADVISORY COMMITTEE (CRAC)

Contact Leah Hill, the Town's Coastal Resilience Coordinator (CRC) and staff liaison to CRAC with any questions about CRAC's activities. Contact information and links to the documents and presentations mentioned in this annual report may be found on CRAC's page on the Town's website: <https://nantucket-ma.gov/1391/Coastal-Resiliency-Advisory-Committee>.

Coastal Resilience Advisory Committee members during this term were Mary Longacre (at-large) chair; Peter Brace (Harbor and Shellfish Advisory Board) vice-chair; Carl Borchert (Planning Board); Gary Beller (Advisory Committee of Non-Voting Taxpayers); Sarah Bois, Ph.D. (at-large); Matt Fee (Select Board); Ian Golding (Conservation Commission); Jennifer M. Karberg, Ph.D. (Nantucket Conservation Foundation); Christy Kickham (Capital Program Committee); and Joanna Roche (at-large). The CRAC met entirely remotely via Zoom in 2022-2023.

COASTAL RESILIENCE PLAN:

CRAC conducted a 1-year review of the status of the Coastal Resilience Plan's 40 recommendations to document their progress. Two projects were completed or established as ongoing efforts: Recommendation #1-5 Coastal Resilience & Sustainability Interdepartmental Working Group and Recommendation #1-9 Shoreline Change Monitoring Program. There is a new page on the Town's website for the Shoreline Change Monitoring Program at <https://www.nantucket-ma.gov/2628/Shoreline-Change-Monitoring-Project> CRAC received an update in the spring that the first phase of Recommendation #4-3 Coastal Erosion Mitigation and Dune Resilience was completed with the development of a report by NCF and Trustees of Reservations. CRAC reviewed all of the Priority 1 projects from the CRP in an effort to select projects to push forward. General consensus was that elements of Recommendation 3-4 Madaket Erosion Management and Pilot Project and Ames Avenue Bridge Protection should go forward as a priority and funding was secured at Town Meeting for this project and recommendation #3-2 Ames Avenue Bridge Resilience. The Massachusetts Coastal Flood Risk Model (MC-FRM) maps showing the projected "Probability of Coastal Flooding" for the Present (2020), 2030, 2050, and 2070 are now available as layers on the Town's GIS system, making them freely available to the public. To access them at <https://nantucketma.mapgeo.io/datasets/properties>, click on Themes on the top right, and expand the selection for Emergency Preparedness. This availability of the maps, which were recommended by and used in the Coastal Resilience Plan, will allow the Committee to present its updated Sea Level Rise recommendation (CRP #1-14) to the Select Board in July 2023. 19 other recommendations from the CRP are in various stages of development, and 18 remain to be started.

COMMITTEE REPORTS AND LETTERS PRODUCED:

Quarterly reports

In order to provide a regular platform to keep the Select Board and community informed of Committee actions, and also provide regular recommendations and requests to the Select Board, the CRAC presents quarterly reports to the Select Board.

Climate Change Awareness Month Proclamation

A proclamation was submitted jointly with ACKlimate to the Select Board, which was approved declaring September 2022 as Climate Change Awareness Month for the third consecutive year.

Letter to Massachusetts Department of Environmental Protection (Mass DEP)

The Committee wrote a letter of support for the August 11th Conservation Commission letter to Mass DEP regarding Mass DEP's approach to ensuring public access to the intertidal zone. The committee recommended that the Select Board co-sign the letter which was approved and the joint letter was sent on December 6, 2022.

Support Letter to Massachusetts Coastal Zone Management (CZM)

CRAC submitted a letter to CZM in support of a Town of Nantucket grant application for the "Feasibility Study and Design for Flood Barrier in Nantucket's Historic Downtown Gateway" both in 2022 and 2023.

Recommendation Letter to Select Board

CRAC finalized a letter advising the Select Board on the best next steps for Baxter Road and Sconset Bluff.

GRANT APPLICATIONS

A grant application for a feasibility study and public outreach regarding under the CRP Recommendation 2-6 Downtown Neighborhood Flood Barrier - Phase 1 Project was submitted to the Mass Office of Coastal Zone Management (CZM). On September 16, 2022 notice was received that the grant application was unsuccessful. The Natural Resources Department reapplied to CZM to the same grant opportunity with suggested changes and CRAC wrote a support letter for the updated application. The Natural Resources Department received a Southeast New England Program FEMA Zone Grant for \$158,465.00 for resiliency work in Sesachacha Pond. The CRAC had submitted a letter of support for their proposed nearshore reef. Part of CRP Recommendation 4-2 Polpis Road Raising, Culvert Expansion, and Wave Attenuation at Sesachacha Pond.

PUBLIC OUTREACH:

CRAC meets every month on the second and fourth Tuesday, which is open to the public via Zoom <https://us06web.zoom.us/j/86863383148?pwd=YkE0YUVNMIU1NnpwYTJ6clg4U241QT09>

CRAC member, Peter Brace, and the Town's Coastal Resilience Coordinator, Leah Hill, facilitated the coastal resilience table at the Harbor Plan's public forum in June.

ACKclimate asked for CRAC's feedback while they developed a new Coastal Resilience Walk with an emphasis on the Downtown area from Easton Street to Monomoy Creeks. This walk is available on their website <https://www.ackclimate.org/resources> for people to follow at their leisure and uses the CRP and the recommended projects as a substantial base.

Special guest speakers during the year included: Jeff Carlson, Director of Natural Resources Department; Leslie Snell, Deputy Director of the Planning Department; Kimberly Rose, Preservation Manager, The Craig Group; Chuck Larson, Special Projects Manager; Greg Berman, Coastal Processes Specialist for Cape Cod Cooperative Extension & Woods Hole Sea Grant; Brian Turbitt, Finance Director; Denice Kronau, Finance Committee Chair; Niles Parker, the Executive Director of the Nantucket Historical Association; Will Kinsella, ACKclimate Chair; and Arnold Robinson, Associate Regional Planning Director at Fuss & O'Neil;

OTHER EVENTS:

Mary Longacre stepped down after 4 years of being Chair. Leah Hill is the new Coastal Resilience Coordinator, replacing Vince Murphy, who has moved into the role of Sustainability Program Manager. Provincetown Environmental Planner Tim Famulare reached out to Vince Murphy saying he had recently convened a new Coastal Resilience Advisory Committee in Provincetown which is modeled off of

Nantucket's CRAC and he hoped to use Nantucket's experience creating a Coastal Resilience Plan as background for Provincetown's efforts

RECOMMENDATIONS TO THE SELECT BOARD:

The Select Board specifically list as a third goal in the Environmental area of their Strategic Plan the implementation of the 40 recommendations of the CRP over the next ten years; the Town hire a dedicated grant writer; recommendation letter was sent for the best next steps for Baxter Road and Sconset Bluff.

GOALS FOR FY'24:

Implementation of the CRP, continued public outreach, and education are the main goals of the committee. CRAC will continue to review, discuss, and report on research, new publications, and local projects regarding the threats climate change, sea level rise, flooding and erosion pose to the islands. In addition, CRAC will explore how to develop and implement funding opportunities for implementing all 40 recommendations within the CRP.

Respectfully submitted,
Peter Brace
Chair

CRAC/NRD'S CRP EDUCATION CAMPAIGN: MEDIA EXPOSURE

Red = indicated willingness to re-post;

Orange = awaiting response

...and on which platforms

BOLD RED = CONFIRMED RE-POSTS

INTRO: 10/25/23 **WEEK 1:** 11/2/23 **WEEK 2:** 11/9/23 **WEEK 3:** 11/16/23

											WEEKLY TOTAL:	6,759	22,973				
											EST. TOTAL IMPRESSIONS						
TOWN-MANAGED PLATFORMS																	
TON Admin				1,851	4,100	11,657	6,317	2,400			26,325		4,100				
TON Natural Resources Dept (NRD)					2,300	4,459					6,759	6,759	6,759				
ALIGNED NON-PROFIT GROUPS																	
Nantucket Conservation Foundation			?	?	3,100	5,131	1,831	100			10,162		3,100				
Nantucket Land & Water Council			?	?	3,400	2,719	1,322	15			7,456						
Nantucket Land Bank			newsletter (TBD)		1,000	2,909		58			3,967		3,909				
Nantucket Coastal Conservancy				420	2,005	1,058		100			3,583		2,005				
Linda Loring Nature Foundation			?	?	1,300	1,399		25		130	2,854						
ACKlimate Nantucket			?	?	24	1,000	41	25			1,090						
ReMain Nantucket/Envision Resilience			newsletter (TBD)		723	891	4				1,618						
OTHER NON-PROFIT ORGANIZATIONS																	
Nantucket Historical Association			?	?	11,000	18,600	3,160	5,190			37,950						
Nantucket Chamber of Commerce			?	?	10,000	15,100	9,224	76			34,400						
Nantucket Dreamland			?	?	11,000	6,338		19			17,357						
Nantucket Atheneum			?	?	3,400	3,582	2,275	571			9,828						
Maria Mitchell Association			?	?	3,100	3,570	1,872	201			8,743		3,100				
Sustainable Nantucket			?	?	2,900	?	1,644				4,544						
Nantucket Preservation Trust			?	?	2,200	?	1,177				3,377						
Nantucket Cultural District			?	?	840	1,822					2,662						
UMass Nantucket Field Station			?	?	1,700	?	5				1,705						
Nantucket Lights			?	?	276	?	2				278						

Potential Hashtags for Instagram CR Posts

- Coastalresilience
- Coastalresiliency
- Coastalresilienceplanning
- Coastalresilienceplan
- Coastalresilienceprojects
- Flooding
- Flood
- Flooded
- Flooddamage
- Sealevelrise
- Sealevelrises
- Erosion
- NantucketCRP
- Coastalliving
- Coastal
- Coastallife
- Coastaltown
- Coastalcommunity
- Sealevelrisemaps
- Erosioncontrol
- Sea
- Ocean
- Beach
- Nantucket
- Nantucketisland
- Nantucketlife

10-24-2024 Approved Survey Questions for Homeowners

The Town of Nantucket's [Coastal Resilience Advisory Committee \(CRAC\)](#) mission is to develop, oversee, and help implement the [Town's Coastal Resilience Plan \(CRP\)](#) to address the impacts of climate change and sea level rise. CRAC advises the Select Board about all things resilience island-wide. "Resilience is the ability of communities and systems to withstand, recover from, and adapt to shocks and stresses. The Nantucket Coastal Resilience Plan focuses on the resilience of Nantucket's coastal areas, specifically" (CRP p. 30). This survey will help the Town of Nantucket's Coastal Resilience Advisory Committee to gain clarity on homeowners' knowledge and worries about coastal hazards they experience on their property and within their neighborhood. "Coastal hazards are natural events that threaten lives, property, and other assets. On Nantucket, coastal hazards include coastal flooding due to storm surge, high tide flooding, and erosion. Sea level rise and other climate change impacts are increasing the severity, frequency, and consequences of coastal hazards" (CRP p. 30). By answering these questions, it will help the committee develop informational materials that homeowners can use to implement best practices.

Directions: Please pick all that apply and elaborate when necessary.

1. Which area association is your property located in?
 - a. Brant Point
 - b. Cisco
 - c. Fishers Landing
 - d. Harbor South
 - e. Hinckley Lane
 - f. Hummock of Nantucket
 - g. Hummock Pond
 - h. Hussey Farm
 - i. Madaket Residents
 - j. Miacomet
 - k. Monomoy
 - l. Nantucket Town
 - m. Naushop
 - n. Pine Valley
 - o. Pocomo
 - p. Polpis
 - q. Quidnet Squam
 - r. Shimmo
 - s. Siasconset
 - t. Surfside
 - u. Tom Nevers
 - v. Wauwinet
 - w. West Miacomet

- x. Other, please specify:
2. Type of resident:
 - a. Seasonal
 - b. Year-round
 3. What are your biggest concerns **today** regarding coastal hazards related to sea level rise on your property or within your neighborhood?
 - a. Erosion
 - b. Flooding
 - c. Stormwater management
 - d. Storm impacts
 - e. Groundwater table rise
 - f. Raising or relocating house
 - g. Access to property and services
 - h. Financial concerns
 - i. Additional thoughts:
 4. Do you have concerns about your property or your neighborhood for the future? If so, what are they?
 - a. Yes, please explain:
 - b. No
 5. Are you currently planning/implementing coastal resiliency measures?
 - a. Raising your home
 - b. Planting with native vegetation
 - c. Using sand/snow fencing
 - d. Dry floodproofing your home
 - e. Wet floodproofing your home
 - f. Removing hardscaping
 - g. Using flood resistant building materials in interiors (i.e. ceramic tile or lime plaster)
 - h. Flood vents
 - i. Elevating appliances and utilities
 - j. Seal foundation and basement walls
 - k. Fill basement
 - l. Redirecting stormwater
 - m. Additional thoughts:
 6. From your perspective, how can the Coastal Resilience Advisory Committee and the Town's Coastal Resilience Plan help your neighborhood within our capacity?
 - a. Informational presentation
 - b. Resilience protocol

- c. Best practices brochure for your home
- d. Best practices brochure for your yard
- e. Interactive online tool
- f. Additional thoughts:

7. Any additional comments: