

Hyannis Harbor Master Plan



Stakeholders Meeting
Wednesday, December 13th

Background

- The Town of Barnstable was recently awarded a \$199,000 Municipal Vulnerability Preparedness (MVP) action to develop a Hyannis Harbor Master Plan
- The goal of this plan is to better understand the current and future challenges/opportunities of this dynamic waterfront, and create a cohesive strategy for the mix of land uses and structures that activate the harbor daily



Background

- A focus of the planning process will be through a lens of **climate resiliency** and will seek to review the mix of active uses around Hyannis Harbor, the growing development pressures around Hyannis Harbor and better align its current regulations and policies to meet today's needs.

Project Study Area



Town of Barnstable GIS Unit

0 122.5 245 367.5 490 980
 0 0.0225 0.045 0.0675 0.09
 Feet
 Miles

Aerial Source: Geoimage April 8, 2023

Hyannis Harbor Master Plan: Aerial of Study Area

Map Legend

- Study Area
- Zoning District
- Roads
- Railroad Tracks
- Town Boundary Line

SEE THE ZONING ORDINANCE FOR COMPLETE INFORMATION ON BY-LAW REGULATIONS

In the zoning district boundary is located on the edge of a water body, the zoning district applies to the land area immediately adjacent to the water body and to the water body itself, including operations in the vicinity of the waterfront activities of the town.

In the zoning district is water the area located along the edge of a water body, with structures and projects that are located on the water body. The zoning district of such projects shall be determined by the zoning ordinance in the zoning district in which the project is located.

0 122.5 245 367.5 490 980
 0 0.0225 0.045 0.0675 0.09
 Feet
 Miles

File:Z:\GIS\MapDocs\2023\20230408_Aerial_Study_Area.aprx

Project Process



INITIAL PUBLIC
INVOLVEMENT AND
COMMUNITY
ENGAGEMENT



CONSULTANT REVIEW
OF EXISTING
CONDITIONS
(EARLY 2024)



DRAFT HARBOR LAND
USE AND ZONING
RECOMMENDATIONS
USING PUBLIC INPUT
AND EXISTING
CONDITIONS DATA
(BY APRIL 2024)



PUBLIC
INVOLVEMENT AND
COMMUNITY
ENGAGEMENT
(SPRING 2024)



FINALIZE DRAFT
RECOMMENDATIONS



FINAL PUBLIC
INVOLVEMENT AND
COMMUNITY
ENGAGEMENT +
COMPLETION OF
RECOMMENDATIONS

2022

Massachusetts Climate Change Assessment

December 2022
Volume III - Regional Reports



2022 Massachusetts Climate Change Assessment Excerpts







Highlights of Future Climate Projections

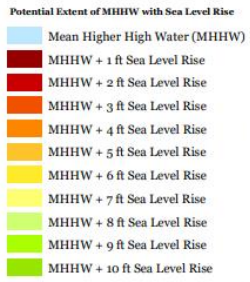
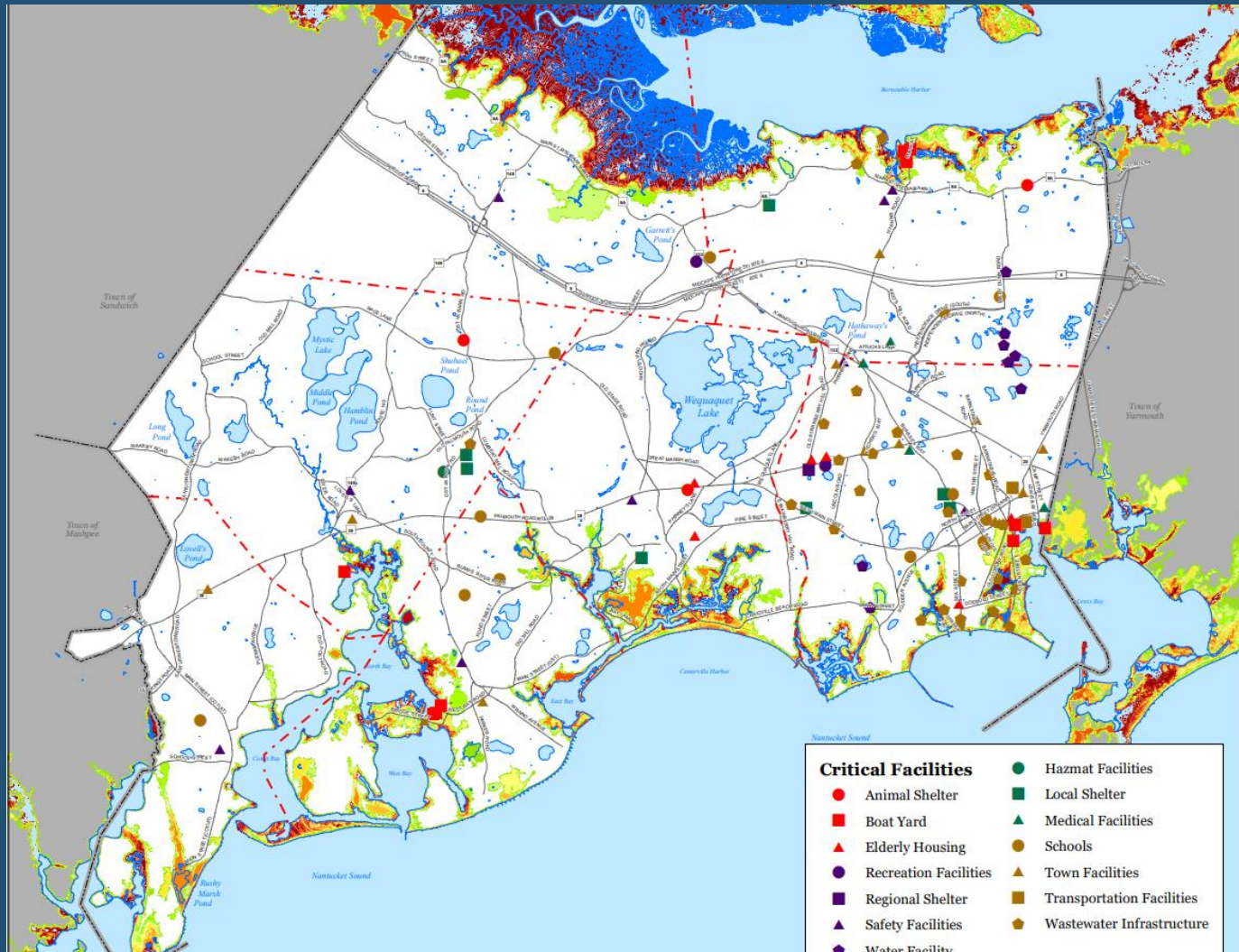
The most important climate risks for this region include increased coastal hazards, including sea surface temperature changes, coastal flooding, and the potential for hurricane force winds; and flooding associated with high rainfall events. Coastal hazards can affect built infrastructure, marine fisheries productivity, emergency service response times and evacuation routes, and the incidence of injuries. Some key findings of the climate change projections that may be important for this region over the 21st century include the following:

2030	2050	2070	2090
NEAR TERM	MID-CENTURY	MID-LATE CENTURY	END OF CENTURY
The summer mean temperature could increase by 3.6°F from the historical period (1950-2013), increasing tick activity and the risks of Lyme disease.	Sea surface temperatures increase by 3.1°F, reducing marine fish catch and increasing risks from harmful bacterial infections.	The historical 10 percent annual chance daily rainfall event (2.4 to 4 inches) could occur five times more frequently.	Tropical cyclone frequency could increase by nearly 50 percent, leading to damage from storm surge, heavy rainfall, and high winds.

Most Urgent Impacts by Sector for the Cape, Islands, and South Coast Region

Defined by nearly 150 miles of sandy beaches and an active fisheries economy, life in this region is closely tied to marine and coastal resources. Many of the most urgent impacts relate to the interconnectedness of natural resources and economic activity in the region. Below are the top two impacts per sector (additional impacts are listed for tied scores). The bookmark icons identify unique regional priorities, meaning for each sector, impacts that are not a top three most urgent impact statewide but are a top two impact regionally.

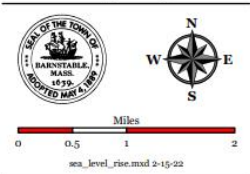
<p>Human </p>	<p>Infrastructure </p>	<p>Natural Environment </p>	<p>Governance </p>	<p>Economy </p>
<p>Increase in Vector Borne Diseases Incidence and Bacterial Infections, including West Nile Virus and Lyme disease due to more favorable conditions for ticks and mosquitoes.</p>	<p>Damage to Electric Transmission and Utility Distribution Infrastructure associated with heat stress and extreme events.</p>	<p>Marine Ecosystem Degradation because of warming, particularly in the Gulf of Maine, and ocean acidification.</p>	<p>Increase in Demand for State and Municipal Government Services, including emergency response, food assistance, and state-sponsored health care.</p>	<p>Reduction in the Availability of Affordably Priced Housing from direct damage (e.g., flooding) and the scarcity caused by increased demand.</p>
<p>Health and Cognitive Effects from Extreme Heat, Health Effects of Extreme Storms and Power Outages, Emergency Service Response Delays and Evacuation Disruptions, Reduction in Food Safety and Security, and Damage to Cultural Resources (tie scores).</p>	<p>Reduction in Clean Water Supply, particularly for communities reliant on well water.</p>	<p>Coastal Wetland Degradation from sea level rise and storm surge.</p>	<p>Reduction in State and Municipal Revenues, including a reduced property tax base due to coastal flood risk.</p>	<p>Decrease in Marine Fisheries and Aquaculture Productivity from changing ocean temperatures and acidification, which leads to decreased catch and revenues, and impacts on related industries.</p>
<p>Featured Adaptation Effort Cognamesset Bog Restoration</p>				



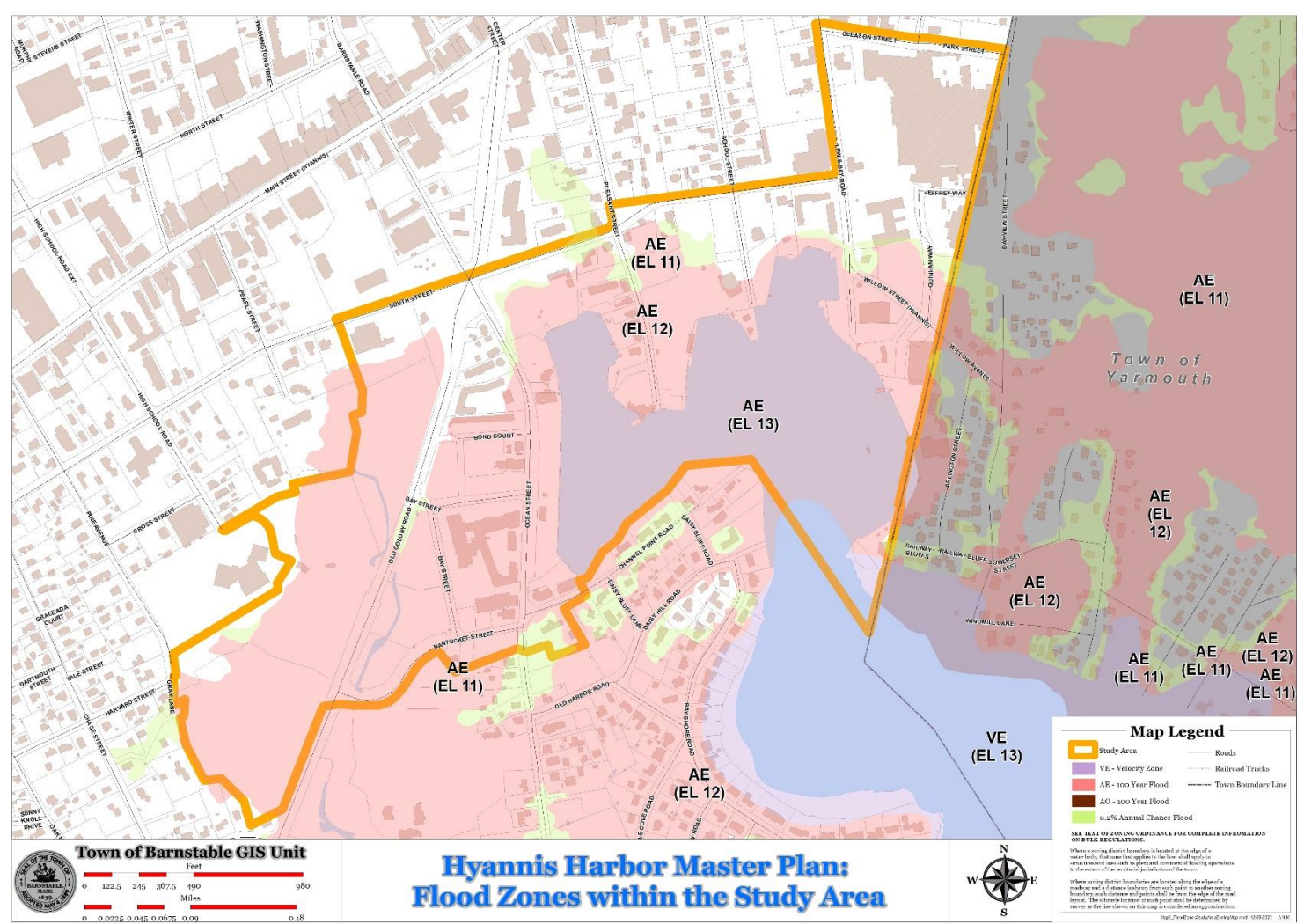
TOWN OF BARNSTABLE MASSACHUSETTS

2021 Hazard Mitigation Plan Update

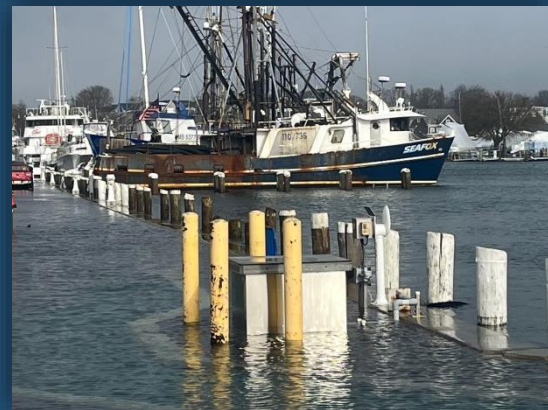
Sea level Rise
Figure 5



Flood Map

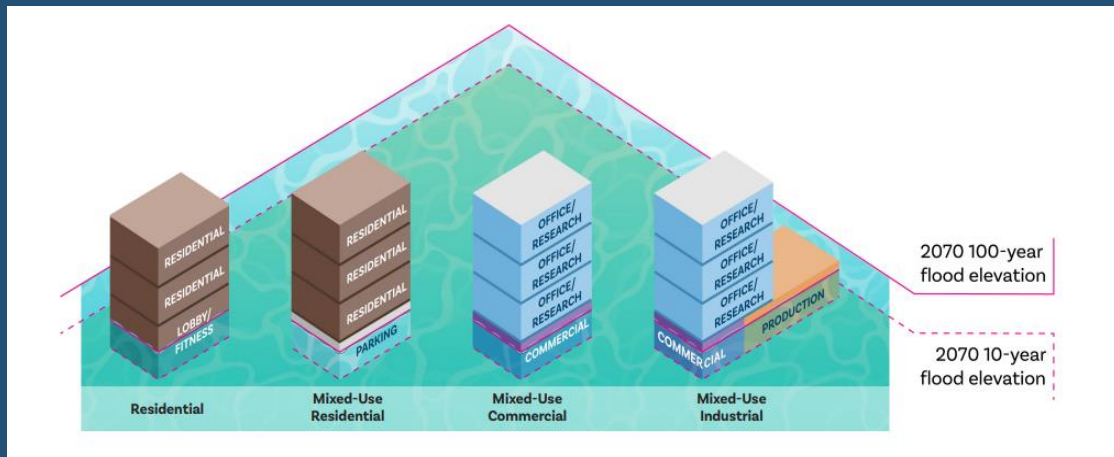


Flooding Photos (October 2022)



Examples from Cambridge, MA Climate Resiliency Task Force

Not Controlled By Zoning	Other Non-Zoning Regulations
<ul style="list-style-type: none"> • Land ownership & tenancy • Business operations • Construction methods & materials • Licensing • Taxation 	<ul style="list-style-type: none"> • Building code • Sanitary code • Stormwater regulations • Wetlands permitting • Business licensing • Historic preservation



Land Use and Development Objectives to Mitigate Flooding and Heat Impacts



1. Elevate and Floodproof

Protect flood-sensitive uses such as residential units and critical building systems by elevating above future design flood elevations or dry floodproofing where below future design flood elevations



2. Design to Recover

Design buildings to withstand or recover from projected flooding (e.g. wet floodproofing, temporary barriers, water-resistant or replaceable materials)



3. Green Infrastructure

Use green infrastructure (e.g., swales, wetlands, green roofs) in addition to gray infrastructure (e.g. storage tanks) to manage stormwater on-site



4. Preserve Vegetation

Preserve existing vegetation (e.g. trees, ground cover, planted roofs)



5. Create Vegetation

Create new vegetated areas (e.g. trees, ground cover, planted roofs) and design so that plantings can thrive over time



6. Limit Paved Areas

Limit amount of paved area, increase permeable area



7. Provide Shading

Provide shade with trees or structural shading where trees are infeasible, especially over paved areas



8. Use Reflective Surfaces

Use solar-reflective surface materials for roofs, buildings, and paved surfaces to the extent possible



9. Promote Passive Resilience

Incorporate “passive resilience” features including high performance building envelope, shading, natural ventilation, and limit air leakage



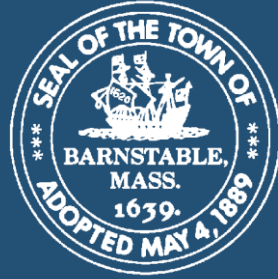
10. Shelter in Emergencies

Provide spaces for sheltering and services during extreme events



11. Create Emergency Plan

Create emergency plans with protocols to implement during an extreme weather event, where practical



Public Feedback Session

Town of Barnstable GIS Link