

MARBLEHEAD HARBOR PLAN

TOWN OF MARBLEHEAD

DRAFT MARCH 2023

FOR PUBLIC REVIEW

Comments due April 21, 2023

Link for comments:

<https://www.surveymonkey.com/r/MHD-DraftHarborPlan>



Tighe&Bond

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Special thanks to those who were interviewed during this process.

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1. EXECUTIVE SUMMARY

INTRODUCTION

WHAT IS A HARBOR PLAN?

A harbor plan is the written documentation of a planning process that focuses on the needs of the water and land associated with a harbor. A harbor plan will identify the strengths and weaknesses of the harbor area (land and water), evaluate its needs and any barriers to satisfying those needs, and provide an implementation plan for the municipality and its partners to address the identified needs. The focus of Marblehead's Harbor Plan is on identifying and prioritizing infrastructure needs owned by the Town of Marblehead. During the planning process, community goals for access to the water and conversations about the use of town-owned land adjacent to the water have led to additional recommendations.

Massachusetts has another form of harbor plan called a Municipal Harbor Plan. This is a state-approved document that has regulatory effect. The format and content is enabled by Chapter 91, the Waterways Act and has a series of regulatory requirements for the production and approval of the plan. This harbor plan is not a Municipal Harbor Plan, and therefore does not have regulatory effect.

PLANNING PROCESS

The Town of Marblehead received a grant from the Seaport Economic Council to update the 2006 Marblehead Harbor Plan. The Town hired a consultant team, led by Innes Associates and including Tighe & Bond, to assist with the planning process and development of the plan. The Select Board appointed a Harbor Plan Working Group (HPWG) to assist the consultant team at critical points in the process. At the same time, the Town has been working with another consulting team to identify issues related to sea level rise and develop recommendations for addressing those issues. This plan references the ongoing work of that planning process.

Role of Harbor & Waters Board

Members of the Harbor & Waters Board are appointed by the Select Board. Chapter 190 (Waterways) of the Town's Bylaws, defines and governs the waters of Marblehead. Under this chapter, the Harbormaster, also appointed by the Select Board, has enforcement authority for the regulations of Chapter 190 and reports to the Harbor & Waters Board.



Figure 1: Boards from May (top) and September (bottom) public workshops.

Mooring permits were part of the discussions during the planning process. Chapter 190 of the Town’s Bylaws grants the Harbormaster the authority to issue mooring permits and establishes the fees for the permit. These fees were last updated by Town Meeting in May 2022.

Role of Harbor Plan Working Group

The Select Board created the HPWG on October 27, 2021. The charge of the HPWG, according to the Town’s webpage for the group, is as follows:

The ...members serve to provide essential input into the decision-making and feedback gathering process in the development of the Town’s Harbor Plan. Members serve as representatives of their particular board, committee or constituencies to ensure that relevant groups are consulted for essential input.

The role of the HPWG has been to provide a sounding board for information gathered throughout the process and to sponsor the public workshops, online survey, and other interactions that form part of this planning process.

Project Meetings

The kick-off meeting of the HPWG was February 15, 2022. The planning process included the following meetings:

- **FEBRUARY 15, 2022: FIRST HPWG MEETING.** This kick-off meeting introduced the HPWG to the planning process.
- **MARCH 15: SECOND HPWG MEETING.** This meeting focused on developing ideas and format for the Stakeholders’ and public charrettes, and questions for the public survey.
- **APRIL 27: STAKEHOLDERS’ CHARRETTE (SPONSORED BY THE HPWG).** Stakeholders, who are people, businesses, organizations, and Town staff with specific interest in or knowledge of the harbor, were invited to the charrette and asked to review the recommendations of the 2006 Harbor Plan and harbor maps to identify actions that had been completed, actions that were in progress, actions that were not addressed, and needs that had emerged since the 2006 Harbor Plan.

- **MAY 16: PUBLIC WORKSHOP #1 (SPONSORED BY THE HPWG).** This workshop introduced members of the Marblehead community to the planning process. Materials for review included maps of existing conditions and the results of the Stakeholders’ Charrette. Participants considered needs and opportunities in Marblehead Harbor and the West Shore. Marblehead’s West Shore was added in response to comments at the Stakeholders’ Charrette
- **SEPTEMBER 14: FIFTH HPWG MEETING.** Members reviewed the results of the public workshop and online survey, and discussed draft recommendations based on information from those two sources and from the evaluation of existing conditions undertaken by Tighe & Bond during the summer months when the harbor was more easily accessible. Tighe & Bond introduced the draft online Story Map/inventory for the project. HPWG members provided comments about the draft recommendations.
- **SEPTEMBER 19: PUBLIC WORKSHOP #2 (SPONSORED BY THE HPWG).** Members of the public evaluated revised draft recommendations and learned about the online inventory tool.
- **JANUARY 11, 2023: SIXTH HPWG MEETING.** This meeting included a discussion of the draft plan.
- **MARCH 22, 2023: PRESENTATION TO THE SELECTBOARD.**

PLANNING GOALS

The Town of Marblehead issued a Request for Proposals for a consultant team to assist with the planning process and development of the plan. In the RFP, the Town identified the following goals for the planning process:

- Identify community goals, objectives, and recommendations for public and private use of the land and water of its harbor areas and establish an implementation program to achieve the desired outcomes.
- Address the following components of Marblehead Harbor:
 - Fishing, boating, and related industries.
 - Public access to and enjoyment of the waterfront.
 - Prevent displacement of commercial fishing activities.
 - Increase ADA-compliant access.

As noted above, the West Shore, which is on Salem Harbor, was not originally part of the planning process. However, input from the first two workshops and the online questionnaire indicated a need to add that area, primarily the Village Street Dock and Stramski's Beach, to the planning process.

PREVIOUS PLANNING EFFORTS

During the planning process, the consultant team reviewed and referred to other planning processes and reports. In addition to the original 2006 Marblehead Harbor Plan, the consultant team reviewed the following reports:

- Salem Sound Coastwatch, Collins Engineers, and Woods Hole Group, *Marblehead Municipal Light Department & Adjoining Public Lands Coastal Resilience Adaptation Strategies* (Coastal Resilience Project - Part 2), 2022.
- Massachusetts Division of Marine Fisheries, the University of Massachusetts Boston's Urban Harbors Institute, and the Cape Cod Commercial Fishermen's Alliance, *Massachusetts Commercial Fishing Port Profiles: Marblehead*, 2021.
- Collins Engineers, Inc., *State Street Landing Seawall and Piers*, October 6, 2020.
- Woods Hole Group, *The Future of Marblehead Harbor*, August 2020 (Coastal Resilience Project - Part 1)
- Woods Hole Group, *Marblehead Harbor Municipal Structure Visual Assessment Report*, June 2020
- Town of Marblehead: *Community Resilience Building Workshops, Summary of Findings*, June 2018
- Bourne Coastal Engineering, *Massachusetts Coastal Infrastructure Inventory and Assessment Project, Section II: Marblehead*, 2007.
- Town of Marblehead and Pare Corporation, *Marblehead Harbor Plan*, 2006.

Tighe & Bond extracted information from the Collins report and the Woods Hole Group assessment and included that information in the online Story Map for this project. See **Chapter 3**.

Three of these reports focus on coastal resilience. During this planning process, the Town received an additional grant of \$523,220 in 2022 from the Office of Coastal Zone Management (CZM) to continue their investigation into the resiliency of Marblehead's Harbor and Waterfront.

FINDINGS AND RECOMMENDATIONS

The findings and recommendations of this plan focus on three key areas: condition of the infrastructure, access to the water, and land-side uses. A parallel planning process, led by Salem Sound Coastwatch and Woods Hole Group focused on resiliency to sea level rise and climate change; **the Town of Marblehead should combine the recommendations of this plan with those of the coastal resiliency process to develop a complete picture of the priorities for the harbor.** This harbor plan will provide direction for this integration.

INFRASTRUCTURE

Tighe & Bond updated the *Marblehead Harbor Municipal Structures Visual Assessment Report*, prepared by Woods Hole Group, Inc. and recalculated their estimated costs to 2022 dollars. Their update included a visual assessment of the relevant infrastructure from the water and on land. The results of this assessment also provide a guide to the priority level for each item on the inventory.

The results of this update are provided in two places: a summary for each inventory item is available in **Chapter 3. Existing Conditions**. A more detailed set of information is available online and is described in more detail in Chapter 3.

Adding the costs for repairs and updates to the inventoried items leads to a total cost of \$6.5 million in 2022 dollars.

These repairs are spread over several years, so the costs can also be spread. **However, this total does not include the additional costs of preparing the infrastructure to address sea level rise.**

ACCESS TO THE WATER

Stakeholder and public participation indicated a need to encourage the Town of Marblehead to change its thinking around public access. Current access is limited to views of the water rather than being on the water for many people. This desire for on-water access applies to four different groups:

- People with physical disabilities.
- People who do not own a boat of any type.
- People with a boat but without a mooring.
- Entrepreneurs who want to start/grow a water-based business.

Addressing these needs requires a multi-pronged strategy: more education about existing town policies and resources; potential changes to policies; and changes to how land adjacent to the water is used to support the need for access.

These are complicated questions, because Marblehead Harbor has many users in a small space, including people whose livelihoods depend on the harbor. Some of the recommendations in this plan for addressing land-side uses will help address the question of access to the water.

LAND-SIDE USES

The Town-owned Parker's Boatyard was a frequent topic during public discussions; it is rented by a private entity now but public conversations about future use include considering a community boating center on the property. Parker's Boatyard is near the Marblehead Electric Light property and the Marblehead Yacht Club. The Marblehead Electric Light property was the subject of a planning process for resiliency completed in 2022 and the Marblehead Yacht Club is also subject to flooding.

This report recommends a master-planning process for these three properties and the adjacent Hammond Park, Commercial Street Pier, and Cliff Street Boatyard. Because the Town just completed a resiliency study of this area, a land use plan to study the potential uses is the logical next step. Once the future of the sites have been determined, the Town can decide how best to combine upgrades to the infrastructure with improvements to increase resiliency. This recommendation offers a unique opportunity to understand how these six properties could help address the need for access to the water by the groups identified above while continuing to support the needs of commercial fishing.

Other land-side uses include addressing the need for services on the West Shore to support recreational boating; adding services to Marblehead Harbor to support commercial fishing and recreational boating; and adding infrastructure to support transient boaters and connect them to other assets in Marblehead. Finally, under Chapter 91 (the Waterways Act), the public has the right of access to Commonwealth tidal lands that dates to Colonial times. Anecdotes from people participating in the public process indicate the ability to use known public access points to the shoreline is eroding and more education about where people are allowed access for all users of the coastline is needed.

SELECTED AREAS OF INTERVENTION

CITY OF SALEM

LITTLE HARBOR
LOBSTER
COMPANY

See pages 32 and 41.

STRAMSKI'S
BEACH

See page 40.

WEST SHORE

TOWN OF
MARBLEHEAD

VILLAGE
STREET DOCK

See page 39.

DOLPHIN
YACHT CLUB

PARKER'S
BOATYARD

MARBLEHEAD
ELECTRIC
LIGHT

HAMMOND
PARK

MARBLEHEAD
YACHT CLUB

MARBLEHEAD
TRADING

See pages 24-25, 26, 28-29,
32-33, 40-41, and 44-45.



See page 40.

GAS HOUSE BEACH

LITTLE HARBOR

FORT SEWALL

FORT BEACH

See page 31.

MARBLEHEAD HARBOR

MARBLEHEAD NECK

MARBLEHEAD TRADING

THE LANDING

MARBLEHEAD HARBORMASTER

See pages 25-26, 30, 32-33, 41, and 46-47

2. VISION FOR MARBLEHEAD HARBOR

VISION

The vision for Marblehead Harbor must be a compelling one to justify spending significant funds over the next few decades to address the existing need for repairs and improvements and the anticipated investments to protect Marblehead Harbor and the adjacent land from the impacts of sea level rise.

The vision, based on community input, draws on the intertwined histories of Town and Harbor – there is no Town of Marblehead without Marblehead Harbor. For centuries, the harbor has been a source of employment, nourishment, and enjoyment for the community.

Continuing and strengthening that relationship will require more than just an infusion of funds. Community time is also required, and the desire to work together to address the needs of the harbor is evident from the community participation in the process to date. The vision reflects the need to balance many interests in the harbor and different experiences of the water.

The vision is as follows:

A background image of Marblehead Harbor, showing a rocky shoreline in the foreground, calm blue water in the middle ground, and a town with buildings and a yellow crane on the distant shore under a clear blue sky.

VISION STATEMENT

Marblehead Harbor and the West Shore continue to support the Marblehead community. People can easily access the water for employment and recreation and opportunities for access are available to people with physical or financial limitations.

The community understands that Marblehead Harbor and the West Shore are resources that contribute to the economic, environmental, and social health of the community. Public discussions about investments are focused on the balance between protection from flooding and storm surge and improvements for access, water quality, and the health of the shoreline.

Town officials support public education programs about harbor policies, including the process of obtaining moorings, boater safety, sustainability, and updates on the progress of meeting the goals of this plan.

Marblehead Harbor welcomes residents and visitors and encourages them to support local businesses along the waterfront and downtown. The Town also encourages and supports entrepreneurs with water-based businesses to further the economic base of the harbor and the Town.

SWOT ANALYSIS

A SWOT analysis examines the **strengths** and **weaknesses** of an area or situation to identify **opportunities** for change and **threats, or barriers**, to that change.

The consultant team's review of the existing planning documents, site walks and investigations, discussions with members of the HPWG and input from the three workshops provided data for the SWOT Analysis for Marblehead Harbor and the West Shore. The vision above incorporates this analysis by focusing on the opportunities and addressing the weaknesses.

The information in **Chapter 3. Existing Conditions** and in the two appendices supports this SWOT Analysis.

STRENGTHS

People **love Marblehead Harbor!** They view it as a beautiful place that has a proud history. Part of that history is a strong boating community, which is reflected in Marblehead's title of **"Yachting Capital of the World."** The town has six yacht clubs (Marblehead, Eastern, Corinthian, Boston, Dolphin, and Pleon). The clubs sponsor regattas which means that **Marblehead is known far beyond its borders.**

Marblehead Harbor is diverse, however, and both it and the West Shore support smaller recreational boats, including sailboats, kayaks, and SUPs (stand-up paddle boards). The Town Class fleet is another strong component of the boating community.

Commercial fishing is still very much a part of the harbor economy, particularly lobsters.

The landside of the harbor contains a **network of businesses** that support the waterside activities (see Opportunities, below).

Marblehead's many beaches attract residents, and respondents in the survey indicated a variety of special places. People also mentioned the great **natural beauty** of the harbor.

WEAKNESSES

Public input strongly identified **accessibility to the harbor** as a significant weakness. Comments from both the survey and public meetings can be divided into three major concerns:

- Access for people with disabilities, primarily related to mobility.
- Lack of signage identifying existing public access points to the shoreline.
- Access to boating opportunities, especially sailing and smaller boats, for those without the resources to join one of the yacht clubs. The lack of a **second trawl line** for Town Class and other small boats was mentioned many times in the spring survey; the Town is testing a second trawl line this summer (2022).

Other concerns related to access include the following:

- **Length of the waiting list** for a mooring.
- Congestion on the water from many different users, some without knowledge of the rules, leading to safety issues.
- Lack of access for transient boaters.
- Loss of public access points along the shore.

Certain areas **lack amenities** that would make the experience of being on the water more accessible. These amenities include kayak storage at Riverhead Beach and Gas House Beach and ADA-accessible toilets at the Village Dock and Stramski's Beach.

Marblehead's **vulnerability to storms**, particularly Nor'easters, was identified as a weakness both in public meetings and in the survey. Some people who responded to the survey also mentioned their concerns that flora and fauna are endangered by both storms and overuse of the harbor.

OPPORTUNITIES

Two major opportunities exist to address many of the concerns about access brought up during the planning process.

- **PARKER'S BOATYARD TO CLIFF STREET BOATYARD.** Parker's Boatyard is a Town-owned property that is currently rented by a private entity. Many people expressed hopes that this site could be reclaimed for public uses, and identified a collection of uses that would support greater public accessibility to the water. The boatyard is adjacent to five other town-owned properties; all are the subject of in-depth coastal resiliency planning efforts.
- **STATE STREET LANDING.** This area connects Marblehead's downtown and the waterfront, with State Street as the primary pedestrian and vehicular connection. However, the look of the area is outdated, with a mixture of materials from different repairs over time, and the landing area, like the water, has multiple users, including commercial fishermen, delivery vehicles, restaurant patrons, and tourists.

THE BLUE ECONOMY

Other opportunities include supporting entrepreneurs with water-related or water-dependent businesses in the area. The commercial fishing community is long-standing part of Marblehead Harbor. In 2018, 83 boats brought in an ex-vessel value of over \$3.28 million, primarily American Lobster with some Striped Bass and Atlantic Cod.¹ Little Harbor Lobster Company is part of this economic ecosystem.

Marblehead also has innovative businesses with a reach beyond its borders, such as C.W. Hood Yachts, RibCraft, Zurn Yacht Design, and Admiral (formerly HarborMoor). Entrepreneurs also serve the local boating community, including Mid-Harbor Launch and Jordan's Launch, or those who want to become part of the boating community, such as Sail Satori and Little Harbor Boathouse. Support for these and other emerging businesses is critical to diversifying the economy of the harbor.

Tourism is part of a Marblehead's harbor economy. In addition to the existing walking tours, SUP rentals, and other ways of interacting with the harbor, opportunities identified during this

¹ Massachusetts Division of Marine Fisheries, the University of Massachusetts Boston's Urban Harbors Institute, and the Cape Cod Commercial Fishermen's Alliance, Massachusetts Commercial Fishing Port Profiles: Marblehead, 2021 p.3.

process include increasing temporary moorings for transient boaters and directing those boaters to businesses at State Street Landing and downtown. On-water harbor tours and other excursions, for example building on existing destinations such as Brown's Island and Gerry Island, could also be an opportunity for attracting visitors to Marblehead with a broader range of experiences, but space is an issue.

THREATS/BARRIERS

SEA LEVEL RISE AND CLIMATE CHANGE

The **effects of sea level rise** on a harbor that is already susceptible to storm damage, especially Nor'easters, was of concern to many people participating in the process and is a significant threat to Marblehead Harbor because of the orientation of the harbor to the northeast (see weaknesses, above). Climate change also threatens water quality, both from increased warming of the water and from nonpoint source pollution from increased stormwater runoff for more intense and more frequent precipitation events. Finally, gradual ocean warming and acidification threatens the habitat and health of the American Lobster, which represents most of the landings of Marblehead's commercial fishing sector.

COORDINATING OVERLAPPING JURISDICTIONS

The 2009 Harbor Plan listed the agencies with jurisdiction over the harbor and the regulations that apply to the harbor, both land and water. The list includes the following:

United States

- Phase II NPDES Storm Water Program
- US Army Corps of Engineers
- Federal Emergency Management Agency (FEMA)

Commonwealth of Massachusetts

- Massachusetts Waterways Act (Chapter 91)
- Massachusetts Oil and Hazardous Material Release Prevention and Response Act (Chapter 21E)
- Massachusetts Wetlands Act (Chapter 131, Section 40)
- Title 5 (310 CMR 15.00)
- Massachusetts Ocean Sanctuary Program
- Massachusetts Office of Coastal Zone Management
- Massachusetts Department of Environmental Protection

Town of Marblehead

- Waters By-law (Chapter 190)
- Wetlands By-law (Chapter 194)
- Town Zoning Bylaws (Chapter 200)
- Select Board

- Harbors & Waters Commission
- Conservation Commission
- Planning Board

Property owners considering work on land, water, or infrastructure should work with the Town of Marblehead to understand the jurisdictional requirements. This includes work the Town is considering. For example, during this planning process, public input has been split on whether a breakwater is the best protection for Marblehead Harbor; the alternative would be smaller-scale **wave attenuating strategies** or **nature-based solutions**. Discussions of such strategies will require input from state and federal agencies.

Commercial Fishing

Certain state and federal agencies regulate commercial fishing and shellfishing industries and will have an impact on Marblehead's commercial fishing fleet. See **Funding Resources**.

BUILDING CONSENSUS

The discussion of the breakwater raises another barrier, which is the need to develop a community consensus around some of the issues identified during this planning process. Three major topics of concern that will not be resolved by this process are as follows:

- Potential breakwater
- Mooring availability
- Future use of Parker's Boatyard

This harbor plan recommends addressing these concerns by additional planning and community conversations, with relevant partners, identified in **Chapter 5. Implementation**.

- Studies will be required to evaluate the feasibility and effectiveness of a breakwater when compared with other coastal resilience strategies.
- This harbor plan recommends a land use plan for the area from Parker's Boat Yard to Cliff Street Boatyard.
- Concerns about mooring availability should be addressed on a regular basis and include community engagement sessions to discuss options.

FINDING FUNDING

The final threat or barrier to successful implementation is the cost of the recommended actions. The list of repairs to existing infrastructure (**Chapter 3. Existing Conditions**), is approximately \$6.5 million in 2022 dollars. This does not include the cost of updating or replacing infrastructure to address impacts from sea level rise or the recommended land use planning process for future uses of Parker's Boatyard and the adjacent properties.

Fortunately, the Town (and taxpayers) of Marblehead do not have to raise the funds for these projects from municipal sources alone. **Chapter 5. Implementation** contains a list of relevant funding sources, including grant programs, that could address some of the needs identified in this plan. However, many grant programs are competitive, and the Town will need to make a strong case in the grant applications. Fortunately, the ongoing coastal resilience planning efforts will be an asset for many of those grants.

Increasing the mooring fees for larger boats was also identified as a source of additional revenue that could be tied to infrastructure improvements.

SUPPORTING GOALS

The goals that support this vision are as follows:

- Goal 1. Repair and maintain existing infrastructure.
- Goal 2. Support public access to the water.
- Goal 3. Support water-dependent and water-focused economic development.
- Goal 4. Address public safety on the water.
- Goal 5. Develop policies and identify investments to address Sea Level Rise.

Chapter 4. Goals and Policies provides a deeper explanation of these goals. The goals, and the associated policies and actions, are supported by the SWOT analysis above, the analysis of existing conditions in Chapter 3, and the three public workshops held in 2022. In 2023, an online survey allowed the public to provide comments on the draft plan.



Impact of storm/surge flooding on Front Street in January 2023.
Image source: The Marblehead Current

3. EXISTING CONDITIONS

INTRODUCTION

This section contains the following information:

- Tighe & Bond's summary of their update of the *Marblehead Harbor Municipal Structures Visual Assessment Report*, prepared by Woods Hole Group, Inc. (2020). The entire update is contained in the Marblehead Harbor Story Map, described below.
- A summary of the coastal resiliency work through June 2022. As noted in **Chapter 1. Executive Summary**, the Town is continuing its assessment of coastal resiliency and this harbor plan should be read in conjunction with the findings and recommendations of that planning process.
- A summary of public input on other aspects of both Marblehead Harbor and the West Shore. The record of the results from the public meetings and the public survey are provided in Appendices A and B, respectively.

MARBLEHEAD HARBOR STORY MAP

<https://qrcode.com/bdifAr>

Click on the link above or use your phone to scan the QR code below to access the draft Story Map.

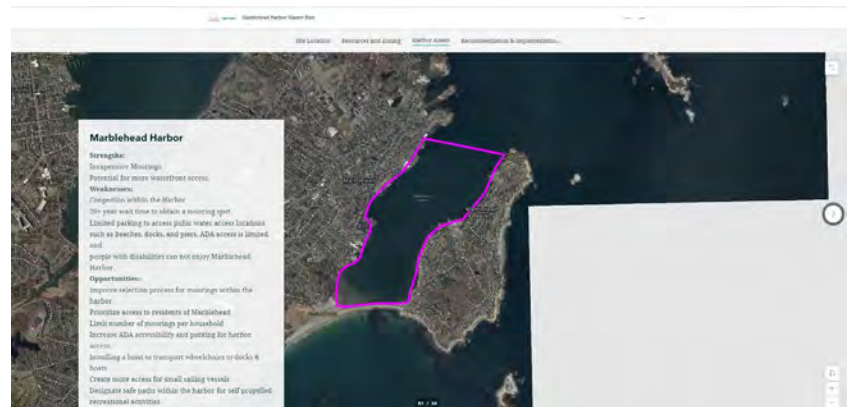


Figure 2: Clip of Story Map

Tighe & Bond's complete update is online, in ESRI's Story Map format. This online platform, which will be hosted by the Town of Marblehead after the completion of the planning process, contains relevant maps and the full inventory which is summarized below. All listed sites are mapped on this platform.

Users can review the FEMA Flood Zones and projected sea level rise for 2030, 2050, 2070, and 2090. The Marblehead Harbor Municipal Structures Visual Assessment Report (see Harbor Inventory at the top of the main page) is a critical part of this online document and includes the photographs, updated review, and original inventory form for each asset identified. Users scroll to specific properties to review the collected information.

This platform also includes the recommendations of this plan.



INFRASTRUCTURE CONDITIONS

The most recent inventory of harbor infrastructure is the *Marblehead Harbor Municipal Structures Visual Assessment Report*, prepared by Woods Hole Group, Inc. This report identified 24 individual structures within Marblehead Harbor. Woods Hole Group rated the structures based on the current condition and necessity of repair and provided the estimated cost to repair and or replace the structure in 2020 dollars.

Tighe & Bond, a member of the consultant team, reviewed the reports and adjusted the cost to complete the repair or replacement to 2022 costs to account for inflation and construction increases. Based on the Consumer Price Index (CPI), construction costs have increased approximately 18% over the past two years.

SITE VISIT

On July 20, 2022, Tighe & Bond conducted an on-water and land-based site visit. The goal of the site visit was to observe and document the conditions of Town-owned structures and properties.

The site visit confirmed that since the publication of the various reports reviewed above, few improvements have been made to these structures. Overall, structures in the Harbor are in fair condition and are in the need of improvements before significant damage and costs are incurred.

During the visit, Town personnel noted that access to the water provided at the end of Parker's Boatyard and Peabody Lane have been reduced because stairways have been removed and replaced with ladders. Tighe & Bond understands that the seawalls in these locations have recently been repaired.

ASSESSMENT AND RECOMMENDATIONS

Maintenance and investment in the structures and Town-owned properties that protect and support the Harbor will ensure that the benefits the Harbor provides will continue for years to come. The summaries below included either updated costs or additional recommendations for the structures identified by Woods Hole Group.

Based on this review, the five highest priorities for existing infrastructure are as follows:

- Marblehead Electric Light Seawall
- Parker’s Boat Yard and Seawall
- State Street Landing Seawalls and Piers
- Commercial Street Landing
- The Causeway – Ocean Avenue

The current condition of the seawalls at these locations are not the only factor in their designation as highest priority; other goals of this plan are also factors. The first major factor is the vulnerability of these areas to storm damage and sea level rise. The second factor is how they interact with other recommendations. See the **Chapter 4. Goals and Policies** for additional discussion.

MARBLEHEAD ELECTRIC LIGHT SEAWALL

The Marblehead Electric Light Building, located at 80 Commercial Street, has recently been renovated but the property is protected by an aging and deteriorating granite seawall. The existing 330 linear feet of granite seawall has a rating of “fair” with a priority rating of “highest Priority.” The estimated cost to repair/reconstruct the wall is \$971,530 (2022 dollars).

Reports identify that if this seawall fails during a storm event, it would result in the potential loss of property and life. The structure may not be sufficient to fully protect the property during a major storm event. The Town should review solutions to better protect the property and newly renovated building.

Marblehead received a grant of \$523,220 in the 2022 funding round from the Massachusetts Office of Coastal Zone Management (CZM) to further address public access and protection for the Marblehead Municipal Light Department and Adjoining Public Lands. The purpose of the grant application was to continue public outreach, develop designs, and begin the permitting process for improvements to reduce the impact of flooding.

PARKER'S BOAT YARD, REVETMENT, AND SEAWALL

Parker's Boat Yard is a Town-owned parcel that is used primarily for boat storage in the winter and water access during warmer months. The parcel is generally underutilized due to its poor site layout and is in need of rehabilitation and general site improvements. Granite seawalls that protect the parcel are in "poor" condition with a priority rating of "low." The walls exhibit advanced levels of deterioration, section loss, cracking, scour, and undermining. The estimated cost to repair/reconstruct the wall is \$1,236,275 (2022 dollars).

The Parker's Boat Yard property would benefit from a stand-alone land use plan that incorporates all aspects of future use to identify the next steps to best utilize this parcel for the community. Based on survey data collected in the community, any improvements should consider parking, a community boating center, ADA access, general public access, and electric boat charging.

STATE STREET LANDING SEAWALLS AND PIERS

State Street Landing provides a hub for the local fishing industry and general public access. The granite seawalls that protect the parcel are in "good" condition with a priority rating of "low." The walls exhibit very minor levels of deterioration, section loss, cracking, scour, and undermining. The estimated cost to repair/reconstruct the wall is \$114,820 (2022 dollars).

Based on a recent report completed by Collins Engineering, the State Street Seawalls and Piers have approximately 10 years of expected service life before replacement will be required because the granite seawall and timber piles are observing signs of wear.

- **STATE STREET LANDING SEAWALL.** The block masonry and rubble masonry sections of the existing seawall were determined to be in fair condition. This rating was given after observing no apparent deficiencies or indications that the seawall is globally unstable with an imminent risk of failure. Under current conditions, this structure has an estimated service life of 10-15 years.
- **SOUTH PIER.** The structure was determined to be in fair condition. This rating was governed by the deterioration of the timber piles in the tidal zone. Under current conditions, this structure has an estimated service life of 5-10 years.

- **NORTH PIER.** The structure was determined to be in fair condition. This rating was governed by the deterioration of the timber piles in the tidal zone. Under current conditions, this structure has an estimated service life of 5-10 years.

The report provides an approximate cost to repair at \$25,000 and a replacement cost of \$600,000 to allow State Street Landing to function at its current capacity.

Additional considerations such as improved ADA access, electric boat charging, sea level rise, additional vessel docking capacity, and improved signage should be considered during conceptual design.

COMMERCIAL STREET LANDING

Commercial Street Landing provides public access to the Harbor and is primarily used for fishing access. Parking is limited in the area and causes significant congestion during times of high use. Commercial Street Landing would benefit from a new gangway, floating dock, conveyor belt system, and additional parking.

The seawall has a rating of “fair” with a priority rating of “low.” The cost to repair the seawall is estimated at \$206,100 (2022 dollars).

THE CAUSEWAY – OCEAN AVENUE

Although the Causeway is currently rated in “good” condition the priority rating of the structure is the “highest” priority as the structure provides the only land-based evacuation route to Marblehead Neck. The Causeway experiences significant wave action during major storm events and can be inundated during these events. Inundation and overtopping will likely become more frequent based on future sea level rise projections. The estimated cost to repair the Causeway is \$726,880 (2022 dollars).

Due to the significant financial impact and hardship that the community would experience if The Causeway were compromised, a long-term plan should be developed for the future protection of the Causeway.

ADDITIONAL INFRASTRUCTURE

REVETMENT ALONG OCEAN AVE AND DRAIN OUTFALL NEAR FLINT STREET

The **revetment** is located along Ocean Ave. This location includes quarry stone revetment above a cobble beach which faces the harbor. It is in “fair” condition and is rated as a “low” priority. There is evidence of erosion and there are gaps at the west end adjacent to the causeway. The drain outfall near Flint Street is off Ocean Ave and is likely privately owned. The estimated cost to repair/reconstruct the feature is \$299,250 (2022 dollars).

The Town should identify and work with other private property owners with drain outfalls to evaluate their condition and vulnerability to rising sea levels/floods.

COVE LANE SEAWALL AND WATER ACCESS

The Cove Lane seawall is a dry rubble stone wall in “poor” condition. The wall is in disrepair; however, it does not have a priority rating since the wall does not protect inshore structures. Public water access is limited due to the lack of parking and limited ADA access. The structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. There are missing stones and mortar at the base interface with bedrock. The estimated cost to repair/reconstruct the wall is \$56,450 (2022 dollars).

NAHANT STREET SEAWALL AND WATER ACCESS

The cast-in-place concrete Nahant Street seawall is in “excellent” condition and was recently reconstructed. It has a “low” priority rating. Public water access is limited due to the lack of parking and limited ADA access.

PEABODY LANE SEAWALL AND WATER ACCESS

The Peabody Lane seawall is a 2-foot-high rubble stone wall with concrete stairs. It is in poor condition and is in disrepair, however, it does not have a priority rating since the wall does not protect inshore structures. Public water access is limited due to the lack of parking and limited ADA access. The structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. There is erosion of soil below the wall at the south end which is three feet wide by five feet high and the bedrock is exposed. The estimated cost to repair/reconstruct the wall is \$18,955 (2022 dollars).

HARVARD STREET WATER ACCESS

The Harvard Street seawall is a two-foot-tall rubble mortared wall in “fair” condition. It does not have a priority rating since the wall does not protect inshore structures. The wall exhibits minor levels of deterioration, section loss, cracking, scour, and undermining. It is missing five small cap stones and has a few cracks with stone stairs recently repaired. The estimated cost to repair/reconstruct the wall is \$25,250 (2022 dollars). Public water access is limited due to the lack of parking and limited ADA access.

PARKER LANE SEAWALL & WATER ACCESS

The Parker Lane seawall is a mortared rubble stone wall in “critical” condition and would benefit from immediate stabilization. It does not have a priority rating since the wall does not protect inshore structures. The westerly half of the wall has crumbled and the previously retained grade has eroded. The estimated cost to repair/reconstruct the wall is \$54,150 (2022 dollars). Public water access is limited due to the lack of parking and limited ADA access. See note on Parker’s Boatyard about a land use plan.

PARKER’S BOAT YARD REVETMENT

This area of the parcel includes dumped stone revetment in “poor” condition with a priority rating of “low.” The revetment exhibits advanced levels of deterioration, section loss, cracking, scour, and undermining. The estimated cost to repair/reconstruct the revetment is \$44,650 (2022 dollars). See note on Parker’s Boatyard about a land use plan.

CLIFF AND CHESTNUT STREET SEAWALL

The mortared rubble stone wall is rated in “good” condition with a “low” priority rating. At this time there are no immediate actions required for the structure. The cost to provide minor repairs to the structure is \$17,675 (2022 dollars).

CLIFF STREET BOATYARD

Cliff Street Boatyard is a Town-owned parcel that is used primarily for boat storage in the winter and water access during warmer months. The parcel and buildings are currently rented out. Granite and concrete seawalls that protect the parcel are in “fair to good” condition with a priority rating of “low and moderate.” The walls exhibit minor levels of deterioration, section loss,

cracking, scour, and undermining. The estimated cost to repair/reconstruct the wall is \$977,175 (2022 dollars).

Cliff Street Boatyard property would benefit from a stand-alone land use plan that incorporates all aspects of future use to identify the next steps to best utilize this parcel for the Community. Based on survey data collected in the community, any improvements should consider parking, a community boating center, ADA access, general public access, and electric boat charging.

MARBLEHEAD YACHT CLUB (CLIFF STREET BOATYARD REVETMENT)

Cliff Street Boatyard is a Town-owned parcel that is used primarily for boat storage in the winter and water access during warmer months. The parcel and buildings are currently rented out. Granite and concrete seawalls that protect the parcel are in “fair to good” condition with a priority rating of “low and moderate.”

This area includes riprap revetment with dumped stone under the yacht club deck which is in fair condition. There is some apparent movement with stones and pavement patching repairs. The wall exhibits minor levels of deterioration, section loss, cracking, scour, and undermining. The estimated cost to repair/reconstruct the wall is \$35,730 (2022 dollars). See note on Cliff Street Boatyard about a land use plan.

CROCKER PARK SEAWALL

Crocker Park is a Town-owned parcel that contains a pavilion and gazebo, benches, restrooms, and a swimming float. The park is also the site of weddings and summer concerts. The Crocker Park seawall is a mortared rubble stone seawall on bedrock with a concrete cap and is in “fair” condition. It does not have a priority rating since the wall does not protect inshore structures.

The seawall exhibits minor deterioration, the loss of sections, cracking, spalling, undermining, and/or scouring. There is evidence of recent patching of mortar. The park is elevated with a bedrock shoreline and there are no dwelling units on the property. The estimated cost to repair/reconstruct the wall is \$84,600 (2022).

TUCKER'S WHARF SEAWALL (MARBLEHEAD HARBORMASTER'S BUILDING)

Tucker's Wharf is a Town-owned parcel containing a laundry facility, showers, and restrooms for boaters. The Tucker's Wharf seawall is a granite block wall with a concrete cap in "good" condition. There is evidence the pavement has been patched to repair sinkholes and drainage improvements have been installed. There are some open joints and some joints that have been filled with cobbles and a concrete patch at the base of the east corner. The seawall is rated "immediate/highest" priority due to the potential for infrastructure damage and proximity to high-density residential dwellings. The estimated cost to repair/reconstruct the wall is \$203,150 (2022 dollars). This does not include the cost to address current flooding from storms combined with high tides.

LOVIS COVE SEAWALL

Lovis Cove is a Town-owned parcel located near Fort Beach off Front Street and opposite Selman Street. The Lovis Cove seawall is a mortared stone seawall with some mortar deterioration. Some reconstruction/remortaring has been performed at the west end, but there are large gaps in the middle section. Front Street and a sidewalk are located directly behind the seawall. It is in "fair" condition and is rated as a "moderate" priority due to the potential for infrastructure damage and/or the presence of limited residential dwellings. The estimated cost to repair/reconstruct the seawall is \$78,960 (2022 dollars).

FRONT STREET SEAWALL

The Front Street Seawall is Town-owned and is a five-foot long section of concrete wall between two buildings that are located five feet apart. The concrete wall is in "good" condition and is rated as a "low" priority. The estimated cost to repair/reconstruct the seawall is \$750 (2022 dollars).

FORT BEACH, FRONT STREET

The Front Beach seawall and Fort Beach Lane seawall offer protection to various local businesses and a pump station that serves the community. Currently, these areas are protected by stone revetments and seawalls. During major storm events, this area has been identified, in the report conducted by Woods Hole Group, to be a high probability area to be inundated by a flood. The Town should consider this area for future rehabilitation and reinforcement to fully protect the surrounding area during major storm events.

FORT SEWALL LANE SEAWALL

Fort Sewall seawall is Town-owned and is a park area. It is a concrete seawall with concrete-filled stone revetment. The wall and revetment are in “fair” condition. It does not have a priority rating since the wall does not protect inshore structures. One section of the seawall has mortared stone infill as a repair to the wall. The revetment has some voids. The estimated cost to repair/reconstruct the seawall is \$696,300 (2022 dollars).

FORT SEWALL SEAWALL

Fort Sewall seawall is Town-owned and is located at a park and has restroom facilities. The seawall is a cast-in-place concrete seawall between bedrock outcrops and is in “good” condition. It does not have a priority rating since the wall does not protect inshore structures. The seawall has some weathering and deterioration. The estimated cost to repair/reconstruct the seawall is \$14,720 (2022 dollars).

OCEAN AVENUE REVETMENT (OPPOSITE 224-232 OCEAN AVENUE)

The Town has an easement on a private beach property to install and maintain a revetment on the ocean side of Ocean Avenue for the purpose of protecting Ocean Avenue (which is a public way) and the underlying utilities. The stone revetment is in “good” condition but requires minor repairs such as resetting an occasional dislodged stone. The current stone revetment replaced a failing revetment of stone and mortar in 2017 at a cost \$147,000. This repair should be a priority rating as the wall protects inshore structures.

SEA LEVEL RISE AND CLIMATE CHANGE

COASTAL ADAPTATION, PART 1

The Woods Hole Group also prepared *The Future of Marblehead Harbor: Climate Adaptations: Themes and Concepts*, a study of the critical assets and areas at risk of damage due to sea level rise. This report was developed to create conceptual improvement options for Marblehead. The report identified four critical areas that should be reviewed in further detail.

- Little Harbor and Fort Beach.
- State Street Landing and the Harbormaster Building.
- Marblehead Municipal Light Department.
- The Causeway on Ocean Ave, Riverhead Beach, and Devereaux Beach.

Three of these areas are also high-priority areas for repair identified in the evaluation of existing assets, above. As the Town develops repair and maintenance plans or commissions design studies for larger projects, the potential impact of rising daily tides and higher storm surges should be incorporated into the plans.

COASTAL ADAPTATION, PART 2

The second part of this coastal resilience project was a planning process for the Marblehead Municipal Light Department and public lands from the Cliff Street Boat Yard to Parker's Boatyard. Salem Sound Coastwatch and Collins Engineers joined the Woods Hole Group for this second phase.

The final presentation for this process was on June 9, 2022. This presentation provides guidance for the next step of evaluating future uses of the property. As noted by the presentations, the Harbors & Waters Board manages and maintains the assets of the Town related to Marblehead Harbor and funds improvements through the Harbor Enterprise Fund.¹ This has implications for future uses of properties under the management of the HWB; any use must be "consistent with [their] mission, contribute positively to HWB finances, and be self-sustaining in the long term."²

¹ Salem Sound Coastwatch, Collins Engineers, and Woods Hole Group, Marblehead Municipal Light Department & Adjoining Public Lands Coastal Resilience Adaptation Strategies, 2022 p. 5

² Ibid.

The report identified three key problems for the six properties, including the degrading waterfront infrastructure (confirmed with the inventory update), the projections for deeper and more frequent flooding, and the limited and disconnected public access. Recommendations were based on two scenarios: one for 2050 and one for 2070. For 2050, recommendations included wave attenuating floats, moving buildings out of the danger zone, repairing and raising seawalls, raising the boat yards, and adding public paths. For 2070, the report presented raising the boatyards and seawalls or adapting the seawalls as options to address the continuing increase in sea level.

This report does not address a change in the use of any of the properties studied, and therefore does not preclude the land use planning process recommended in this harbor plan. The recommended improvements would be required for any use of the property, and the focus on public access dovetails with community sentiment expressed during the planning process for this harbor plan.

COASTAL ADAPTATION, PART 3

As noted above, the Town received an additional grant from the Massachusetts Office of Coastal Zone Management to continue addressing coastal resiliency on these sites, including design development for the recommended infrastructure repairs and improvements and public access. The scope of the grant application was for 75% design drawings and 75% opinion of probable cost. These are preliminary stages to the development of construction drawings and requesting bids from construction firms for the work, and will support grant applications to help fund the costs, which will be in addition to those identified in the summary above. This third phase will continue to engage the public as part of the development of the design work.

CONTINUED COASTAL RESILIENCY STUDIES

A critical next step for the Town will be to apply the lessons learned during this series of planning studies to the other three critical areas identified by the Woods Hole Group so the Town can begin to address the resiliency of the entire harbor. The resiliency of the West Shore should be included in future planning efforts. Although not as vulnerable as Marblehead Harbor, access to assets such as the Village Street Dock and Stramski's Beach may also be affected by damage from higher high tides or storm surge, based on the projections shown on the Story Map.

BREAKWATER?

Concerns about the impacts of sea level rise also informed discussion about other ways to protect the harbor at public workshops. Over the years, several breakwater proposals have been suggested to protect Marblehead Harbor, which is particularly vulnerable to Nor'easters. Figure 3 illustrates the location of proposals for breakwaters over the years, some of which have been evaluated by the Army Core of Engineers.

Evaluation of new infrastructure will require coordination with CZM to understand the implications of a breakwater on Marblehead Harbor, including potential funding sources and alternative methods of reducing the threat. Many of the awards in the 2022 funding round were to communities implementing nature-based solutions to address anticipated changes due to sea level rise.³

Additional research, planning, and discussions with regulators, including CZM and federal regulators, are critical next steps and should be part of a study to evaluate best solution for protecting the harbor from current and future storms.

³ <https://www.mass.gov/news/baker-polito-administration-invests-126-million-in-coastal-community-resilience>

Breakwater, Anyone?

- 1,500-Ft N 15° W
Marblehead Neck breakwater
U.S. Army Corps of Engineers
- 1,200-Ft S 50° W
Marblehead Neck breakwater
U.S. Army Corps of Engineers
- 300-Ft S 50° W
State Street Landing breakwater
U.S. Army Corps of Engineers
- 300-Ft N-S
State Street Landing breakwater
U.S. Army Corps of Engineers
- 150-Ft NW Jetty
Jack's Point, Marblehead Neck
Private citizen's proposal
- 700-Ft SE
Goodwin's Landing breakwater
Private citizen's proposal
- 400-Ft SE, 100-Ft S
Commercial Street breakwater
Private citizen's proposal



In 1994, the Department of the Army Corps of Engineers New England Division (ACENED), issued a report for Marblehead Harbor. Two breakwater alternatives at Marblehead Light, first proposed by ACENED in 1961, were studied: the 1,200-foot breakwater provided better protection on both sides of the harbor from east and northeast storms, although protection for the mainland shore was limited. Of the two breakwater alternatives investigated by ACENED for the State Street Landing area, the 300-foot N-S rubble mound breakwater, to be located close to shore, would provide the greatest degree of protection from northeast storms. Wave action studies for both the October 1991 “No Name” storm and the 1992 December hurricane were included in the 1994 report. ACENED concluded that although Marblehead would benefit from breakwater protection, a cost/benefit analysis indicated that breakwaters “did not exhibit sufficient annual benefits to be considered economically justified.” The three other breakwater proposals shown above were designed by local citizens in the 1990s; no action was ever taken on any of them. (Another citizen proposal for a breakwater, not shown here, was to be constructed of rubber tires, located off Marblehead Rock.) Now, almost 30 years later, with average storms resulting in greater costly damage, it’s time to re-evaluate breakwater costs and benefits.

FIGURE 3: APPROXIMATE LOCATIONS OF PROPOSED BREAKWATER SINCE 1961 (NOT TO SCALE)

Source: Conly, Bill, *Marblehead's Waterfront*, 2021, p. 92. (Graphic designer Amy Drinker)

4. GOALS AND POLICIES

OVERVIEW

The goals and policies described in this section respond to the analysis provided in **Chapter 3. Existing Conditions** and the public engagement summarized in Appendices A and B.

The public engagement includes three workshops, a stakeholder and public workshop in April and May 2022 and a public workshop in September 2022. The spring workshops included a discussion of the previous Harbor Plan and current issues that need to be addressed. The workshop in September focused on the recommendations based on those issues.

[In the final document, add the review process for the draft.]

ISSUES

As noted in the SWOT analysis in **Chapter 2. Vision**, the Harbor has weaknesses and threats that need to be addressed and opportunities that should be investigated. This chapter identifies five goals that address most of the issues, and actions supporting one goal can be combined with others. Such combinations will be particularly important as the Town identifies grants for implementation.

ISSUE 1: DEFERRED MAINTENANCE

In 2020, Woods Hole Group identified required repairs for existing infrastructure and provided estimates of the cost to address those repairs. In this report, Tighe & Bond has updated those costs to 2022 dollars, and the total, which would be spread over several years, is approximately \$6.5 million. These repairs do not include additional work to make the shoreline infrastructure more resilient to climate change, which is covered by **Issue 5: Sea Level Rise** and **Goal 5: Develop policies and identify investments to address sea level rise.**

ISSUE 2: UNEQUAL PUBLIC ACCESS

Input from the survey and the 2022 workshops identified two major concerns about public access. The first is the lack of access to the water that complies with the Americans with Disabilities Act. Those with physical disabilities are either prevented from enjoying the shoreline and water or have an increased level of difficulty in participating in what is an important part of the Marblehead experience.

The second component of access has to do with limitations on resources, especially the lack of moorings. Concerns about the mooring process and the lack of available space of the many different users of the harbor were a strong theme in the input received during this process.

ISSUE 3: SHIFTING ECONOMY

Marblehead Harbor has a variety of water-dependent businesses. Commercial fishing is an important part of the harbor economy, as noted above under **Opportunities** in **Chapter 2. Vision**. However, a threat to commercial fishing is the increasing northern migration of the American Lobster, requiring boats from Massachusetts harbors to travel further to gather the same catch. This hurts not only the fishermen, but the industries that support them. To support this long-term feature of Marblehead's economy, the Town needs to work with commercial fishermen to address their needs.

Commercial fishing is not the only component of the Blue Economy, and as the Town considers its infrastructure improvements, it should seek to maximize the opportunities for small businesses to diversify the economic use of the Harbor. The town should prioritize support for small businesses whose operations support the other goals of this plan, for example, launch services that bring transient boaters into Marblehead or harbor tours that provide access to the water for those without boats. Such support may include sharing certain facilities (while recognizing the need for safe operations throughout the Harbor).

ISSUE 4: PUBLIC SAFETY AND HEALTH

Survey responses indicated concerns about boating safety given the variety of users on the water. Boating education was also a theme in the 2006 Harbor Plan.

Water quality is also a public safety issue (in terms of public health), and public input indicated a need for education on how to improve water quality, especially on the West Shore. Pollution, primarily in the form of single-use plastic, remains an issue and one that the six yacht clubs in Marblehead are taking seriously (see Other Resources in **Chapter 5. Implementation**).

While the Town should support these educational efforts, they do not need to be Town-led efforts; nonprofits, such as Sustainable Marblehead and the Marblehead Sail and Power Squadron, or local sailing programs, including those at the yacht clubs, could work together to sponsor a regular program of boating education

aimed at all users of the water and cover both safety and water/shoreline ecology.

ISSUE 5: SEA LEVEL RISE

The impacts of sea level rise on the Harbor over the next few decades are likely to change the look and operations of the harbor over time. Infrastructure will need upgrades or replacement; how the water is accessed may also change, and the costs and types of intervention will be a recurring conversation as the implications of sea level rise become more evident.

This goal is listed last because the other goals should interact with the Town's efforts to address sea level rise. In other words, when considering how to protect the shoreline, the Town should consider how the options for protection further the goals for public access, including for those with disabilities; whether the protection aids in economic development; and how the protection supports public safety and health, including the ecological health of the harbor.

Because the Town is in the process of evaluating resiliency now, this plan recognizes the need for continued assessment of the situation and recommends that this plan be read as a companion to ongoing coastal planning and implementation.

GOALS AND POLICIES

This section organizes the recommended actions into the higher-level goals that support the vision for Marblehead Harbor and the West Shore and address the issues listed above.

Priorities, partners, and timelines are within the **Implementation Plan** in **Chapter 5. Implementation**.

GOAL 1. REPAIR AND MAINTAIN EXISTING INFRASTRUCTURE.

- Rehabilitate seawalls, piers, and other infrastructure as described in **Chapter 3. Existing Conditions**.
- Apply for grants to funds design studies, construction drawings, and construction.
- Set up a regular schedule of meetings with private property owners to discuss private infrastructure at risk of failing and discuss options.

GOAL 2. SUPPORT PUBLIC ACCESS TO THE WATER.

- Improve or create ADA-Accessible infrastructure at public access points.
- Identify public access points to the water on a publicly-available map.
 - Repair infrastructure in poor condition.
 - Install signage identifying which access points are public.
 - Remove blockages to public paths.
 - Notify abutting landowners of responsibility to keep paths clear.
- Hold a public meeting to discuss information and concerns about mooring access and adding trawl lines for the Town Class and smaller boats.

Village Street Dock

- Address ADA accessibility.
- Add services to support boating uses, including a bathroom.
- Develop permit process for seasonal food trucks.
- Establish better trash and recycling management system during boating season.

Stramski's Beach

- Add a launch ramp to support sailing, boating, and kayaking.
- Upgrade ADA compliant dock with Hoyer lift.
- Continue Park and Rec Boating Center.

Gas House Beach

- Evaluate adding kayak storage.

Parker's Boatyard to Cliff Street Boatyard

- Initiate a land use planning process that includes the following:
 - Specific needs:
 - Commercial fishing.
 - Public access to the water.
 - Public access to the shoreline for recreation.
 - Marblehead Electric Light.
 - Marblehead Yacht Club.
 - ADA access to/on the sites.
 - Evaluation of a community boating center.
 - Parking.
 - Boat storage.
 - **Hoyer Lift** and hoist for small keel boats.
 - Electric boat charging stations.
 - **Wave attenuation strategies** and other recommendations of the Coastal Resiliency study process.
- See pages 44-45 for more information about these sites.
- See also Commercial Street Landing under Goal 3.

The Causeway/Ocean Avenue

- Add a second **trawl line** for Town Class and other small boats.

Riverhead Beach

- Allow kayak rentals at Riverhead Beach.

GOAL 3. SUPPORT WATER-DEPENDENT AND WATER-FOCUSED ECONOMIC DEVELOPMENT.

State Street Landing

- Add facilities for transient boaters.
- Replace double piers at State Street Landing with a single pier.
- Swap the commercial and public docks so commercial dock is closer to the Harbormaster and truck traffic shifts away from public benches and the Landing.
- Add signage and pedestrian wayfinding to connect State Street Landing and Crocker Park with the downtown.
- Undertake a face-lift for State Street Landing:
 - Replace paving materials.
 - Reorganize parking and loading.
 - Add coordinated street furniture (benches, trash and recycling, etc.).
- Add historical signage to explain the history of the harbor and its impact on Marblehead.
- See pages 46-47 for more information about these sites.

Little Harbor

- Reopen dredging discussions about Little Harbor with MassDEP/CZM.

Commercial Street Landing

- Address Commercial Street Landing for commercial fishing with the following:
 - New gangway
 - Floating Dock
 - Conveyor belt system
 - Additional parking
 - Wave attenuation solutions

GOAL 4. ADDRESS PUBLIC SAFETY ON THE WATER.

- Work with Salem on a joint campaign to educate the public about water quality and steps to improve the ecological health of Marblehead and Salem harbors.
- Create public education campaigns around boating safety for all craft.

GOAL 5. DEVELOP POLICIES AND IDENTIFY INVESTMENTS TO ADDRESS SEA LEVEL RISE.

- Incorporate findings from current Coastal Resiliency process for the area from Parker’s Boatyard to the Cliff Street Boat Yard, including the Marblehead Electric Light building.
- Conduct impact study of sea level rise on entire coastline for 2030, 2050, and 2070.
- Investigate the feasibility of a breakwater vs. wave attenuation strategies in the harbor.
- Develop a plan to protect the Causeway/Ocean Avenue from inundation and overtopping.



PARKER'S BOAT YARD TO CLIFF STREET BOAT YARD: REGULATORY

Recommendations for this area include undertaking a land use plan for the Town-owned parcels (outlined in the thicker line). Part of that land use plan will need to consider other regulatory requirements.

For example, MGL Chapter 91, the Waterways Act governs the use and development of land along the shoreline that is filled tidelines. The burgundy line and unshaded land is assumed to be within the Chapter 91 jurisdiction based on the data from MassGIS's Tidelands layer.

The MassGIS data also identifies a Chapter 21E release at the Cliff Street Boat Yard. The RTN number is 3-0000830 and the report dates to April 15, 1987 when the site was known as Cloutman's Boat Yard. This designation may indicate that the site is not in compliance with Chapter 21E of the Massachusetts General Laws, which is the Massachusetts Oil and Hazardous Release Prevention and Response Act. The presence of hazardous materials may limit future use of the site, depending on the material, quantity, and location.

Finally, there are some easements adjacent to the Town-owned lands that will need to be researched as part of the land use study.

This information is now shown on the map above, but all buildings on this map have been inventoried by the Massachusetts Historical Commission, although the properties are not within a local historic district.

Image source: Base data layers: MassGIS, ESRI



PARKER'S BOAT YARD TO CLIFF STREET BOAT YARD: HURRICANE SURGE

MassGIS also provides a layer of estimated water surge from hurricanes based on current conditions. This layer demonstrates the vulnerability of this site; this why this area was the subject of the first phase of the parallel coastal vulnerability evaluation and planning process described in **Chapter 3. Existing Conditions**.

The proposed land use plan will need to incorporate the recommendations of the coastal vulnerability study into any proposed future use of these sites.

Unlike the State Street Landing area (see pages 46-47), this area is not identified as a location suitable for shellfish habitat.

Image source: Base data layers: MassGIS, ESRI



STATE STREET LANDING: REGULATORY

Unlike the Parkers’ Boat Yard area, State Street Landing is within this Historic District and is subject to the jurisdiction of the Old & Historic Districts Commission for certain project types. The unshaded area of land, primarily on State Street Landing itself, is within Chapter 91 jurisdiction, although, as with the map on page 44, the jurisdiction would need to be confirmed. The regulatory status of these sites may have an impact on the planned improvements to this area.

State Street Landing itself has limited protection (as identified by the MassGIS layer) as open space, while Crocker Park is permanently protected.

The AUL at Ticker’s Wharf is an Activity and Use Limitation with an official notification dates of July 15, 1993 and a compliance date of April 14, 1995. An AUL inspection was conducted on November 13, 2021. No other information was available from MassDEP’s site.

No easements are recorded abutting Town property.

Image source: Base data layers: MassGIS, ESRI



STATE STREET LANDING: THREATS AND OPPORTUNITIES

The current projected area of storm surge from a hurricane in Categories 1-4 is shown again on this map, and indicates significant vulnerability. However, an opportunity is visible here that is not available to the Parker's Boat Yard area: this is the area suitable for shellfish habitat. For the State Street Landing area, the habitat is suitable for the Blue Mussel. The larger map (inset to right) indicates that Marblehead has a number of areas suitable for shellfish, including the American Oyster, the Soft-shelled Clam, the European Oyster (on the West Shore), and the Quahog (in the Eelgrass near the Causeway). These areas may present opportunities to further enhance both Marblehead's environmental health and its Blue Economy.



Image source: Base data layers: MassGIS, ESRI

5. IMPLEMENTATION

IMPLEMENTATION PLAN

Implementation is about making things happen; the implementation plan should contain not just the actions, but who is responsible for those actions, the timeframe within which the actions will occur, and any other information that helps move the action to completion.

This implementation plan contains a table that provides this information for the actions listed in **Chapter 4. Goals and Policies**. This chapter also contains a list of funding sources and some other resources that maybe helpful to those interested in addressing the recommendations of this plan.

Priorities are based on 1) addressing existing maintenance and repairs; 2) supporting the commercial fishing industry; 3) projects that are relatively easy to implement; 4) actions that must happen before other actions can be implemented; and 5) projects that address public needs but are not yet critical;. Priorities and timelines will shift as some projects are completed and conditions change, requiring that other projects be moved forward.

IMPLEMENTATION COMMITTEE

Communities that undertake planning processes often find it useful to have an ongoing committee that is responsible for monitoring the process of the plan. This committee can accomplish two types of tasks: coordinating the partnerships needed for implementation and following through on special projects that are unrelated to the operating remits of most boards and committees.

An Implementation Committee should include liaisons from the Select Board and the Harbor & Waters Board, and the Harbormaster and Town Planner should be ex-officio members. Other members could include representatives from the groups that use Marblehead and the West Shore, including commercial fishermen and the recreational boating community, land-side and water-based businesses, members from other boards and committees, such as Sustainable Marblehead and the Marblehead Disabilities Commission, and residents. The Harbor Working Group from this process provides a good model for the creation of an Implementation Committee.

How to Apply for Grants

1. Check the list on pages 58-61. Which grants seem to be most applicable?
2. Check the recommended actions. Can some actions be grouped to create a stronger grant application?
3. Check the website for the most recent requirements and for the funding cycle. For example, the Community One Stop Program begins with Expressions of Interest due in February and grant applications due at the beginning of June.
4. Look at the requirements for each grant. Does Marblehead qualify?
 - Can your goals be achieved by several different programs?
 - Can you break down the request into steps, for example, planning, design, construction? Each step may be a different grant.
 - Who is providing the funding and what is important to them?
 - What information is required and who holds that information within the Town?
5. Grants are usually competitive. When completing the application, consider what is special about Marblehead's needs with respect to what the grant funds. Draw on this plan or other planning processes to provide this information. Focus on needs that are supported by the community.
6. Consider asking a consultant with expertise in the area to help create a detailed scope of work for the application. Many are happy to do so. Search for a consultant using the key words in the grant application materials. For larger or more competitive grants, the town may wish to hire a consultant to help prepare an opinion of probable cost for the design, engineering, permitting, as well as construction, and a few conceptual level figures to support the application.
7. Consider hiring a grantwriter or sharing one with another department or community. They may know about other programs.

8. PAY ATTENTION TO DEADLINES!

IMPLEMENTATION PLAN

Number	Action	
Goal 1	REPAIR AND MAINTAIN EXISTING INFRASTRUCTURE.	
1.1	Rehabilitate seawalls, piers, and other infrastructure as described in Chapter 3. Existing Conditions are listed below.	
a.	• Marblehead Electric Light Seawall	
b.	• Parker’s Boat Yard and Seawall	
c.	• State Street Landing Seawalls and Piers	
d.	• Commercial Street Landing	
e.	• The Causeway - Ocean Avenue	
f.	• Tucker’s Wharf Seawall	
g.	• Fort Beach, Front Street	
h.	• Parker Lane Seawall and Water Access	
i.	• Parker’s Boat Yard Revetment	
j.	• Lovis Cove Seawall	
k.	• Cliff Street Boatyard	
l.	• Cliff Street Boatyard Revetment (Marblehead Yacht Club)	
m.	• Cliff and Chestnut Street Seawall	
n.	• Revetment along Ocean Avenue and Drain Outfall near Flint Street	
o.	• Cove Lane Seawall and Water Access	
p.	• Peabody Lane Seawall and Water Access	
q.	• Front Street Seawall	
r.	• Fort Sewall Lane Seawall	
s.	• Fort Sewall Seawall	
t.	• Crocker Park Seawall	
u.	• Harvard Street Water Access	
v.	• Nahant Street Seawall and Water Access	
w.	• Ocean Avenue Revetment (opposite 224-232 Ocean Avenue)	
1.2	Apply for grants to fund design studies, construction drawings, and construction.	
1.3	Set up a regular schedule of meetings with private property owners to discuss private infrastructure at risk of failing, including public drains to private beaches/seawalls, and discuss options.	

			Estimated Costs (2022)
Partners	Condition	Priority/Timeline	
Harbor & Waters Board, Harbormaster			
	Fair (seawall)	Highest 5	\$971,530
	Poor (seawall)	Highest 5	\$1,236,275
	Good (seawall)	Highest 5	\$114,820 (now) \$625,000 (in ten years)
	Fair (seawall)	Highest 5	\$206,100
	Good (seawall)	Highest 5	\$726,880
	Good (seawall)	Critical	\$203,150
	Unstudied	High	Unstudied
	Critical (seawall)	Critical	\$54,150
	Poor	Low	\$44,650
	Fair	Medium	\$78,960
	Fair to Good	Low to Medium	\$977,175
	Fair to Good	Low to Medium	\$35,730
	Good	Low	\$17,675
	Fair	Low	\$299,250
	Fair	Low	\$56,450
	Poor	Low	\$18,955
	Good	Low	\$750
	Fair	None	\$696,300
	Good	None	\$14,720
	Fair	None	\$84,600
	Fair	None	\$25,250
	Excellent	Maintain only	Maintain only
	Good	High	\$147,000 (2017 dollars)
Harbor & Waters Board, Select Board, Harbormaster, Town Planning Office		High/Ongoing	
Harbor & Waters Board, Select Board, Harbormaster, Town Planning Office		High/Annual	

Number	Action	
Goal 2	SUPPORT PUBLIC ACCESS TO THE WATER.	
2.1	Improve or create ADA-accessible infrastructure at publicly-owned access points.	
2.2	Identify public access points to the water on a publicly available map.	
	<ul style="list-style-type: none"> • Repair infrastructure in poor condition. 	
	<ul style="list-style-type: none"> • Install signage identifying access points as public. 	
	<ul style="list-style-type: none"> • Remove blockages to public paths. 	
	<ul style="list-style-type: none"> • Notify abutting landowners of responsibility to keep paths clear. 	
2.3	Hold a public meeting to discuss information and concerns about mooring access and adding trawl lines.	
2.4	Village Street Dock	
a.	<ul style="list-style-type: none"> • Address ADA Accessibility. 	
b.	<ul style="list-style-type: none"> • Add services to support boating uses, including a bathroom. 	
c.	<ul style="list-style-type: none"> • Develop permit process for seasonal food trucks. 	
d.	<ul style="list-style-type: none"> • Establish better trash and recycling management system during boating season. 	
2.5	Stramski's Beach	
a.	<ul style="list-style-type: none"> • Add a launch ramp to support sailing, boating, and kayaking. 	
b.	<ul style="list-style-type: none"> • Upgrade ADA compliant dock with Hoyer lift. 	
c.	<ul style="list-style-type: none"> • Continue Park and Rec Boating Center. 	
2.6	Gas House Beach	
	<ul style="list-style-type: none"> • Evaluate adding kayak storage. 	

	Partners	Priority	Timeline	Other Notes
	Select Board, DPW	High	Ongoing	
	Town Planning Office, DPW	High	1-3 years	
	Select Board, DPW	High	Ongoing	
	Select Board, DPW	High	1-3 years	
	Select Board, DPW	High	Ongoing	
	Select Board, Town Planning Office	High	Annual	
	Harbor & Waters Board, Harbormaster	Medium	Annual	
	Harbor & Waters Board, Harbormaster	Medium	3-5 years	
	Harbor & Waters Board, Harbormaster	Medium	3-5 years	
	Select Board, Town Planning Office	Medium	3-5 years	
	Select Board, DPW	Medium	3-5 years	
	Select Board, Parks Dept.	Medium	3-5 years	
	Select Board, Parks Dept.	High	1-3 years	
	Select Board, Recreation Dept.	High	1-3 years	
	Select Board, Recreation Dept.	High	1-3 years	

Number	Action
2.7	Parker's Boatyard to Cliff Street Boatyard
	<p>Initiate a land use planning process that includes the following:</p> <ul style="list-style-type: none"> • Needs for the following: <ul style="list-style-type: none"> • Commercial fishing. • Public access to the water. • Public access to the shoreline for recreation. • Marblehead Electric Light and Marblehead Yacht Club. • ADA access. • Evaluation of a community boating center. • Parking. • Boat storage. • Hoyer Lift/hoist for small keel boats. • Electric boat charging stations. • Wave attenuation strategies and other recommendations of the Coastal Resiliency study process.
2.8	Riverhead Beach/The Causeway/Ocean Avenue
a.	<ul style="list-style-type: none"> • Add a second trawl line for town class and other small boats.
b.	<ul style="list-style-type: none"> • Allow kayak rentals at Riverhead Beach.

Number	Action
Goal 3	SUPPORT WATER-DEPENDENT AND WATER-FOCUSED ECONOMIC DEVELOPMENT.
3.1	State Street Landing
a.	<ul style="list-style-type: none"> • Replace double piers at State Street Landing with a single pier.
b.	<ul style="list-style-type: none"> • Swap the commercial and public docks so commercial dock is closer to harbormaster and truck traffic shifts away from public seating and the landing.
c.	<ul style="list-style-type: none"> • Add signage and pedestrian wayfinding to connect State Street Landing and Crocker Park with the downtown.
d.	<ul style="list-style-type: none"> • Undertake a face-lift for State Street Landing. <ul style="list-style-type: none"> • Replace restrooms at State Street. • Replace paving materials. • Reorganize parking and loading. • Add coordinated street furniture (benches, trash and recycling, etc.). • Add historical signage to explain the history of the harbor and its impact on Marblehead.

	Partners	Priority	Timeline	Other Notes
	Select Board, Town Planning Office, Parks, Dept., Municipal Electric Light, Marblehead Yacht Club	High	1-3 years	
	Harbor & Waters Board, Harbormaster	High	1-3 years	
	Parks/Recreation Dept,	High	1-3 years	

	Partners	Priority	Timeline	Other Notes
	Harbor & Waters Board, Harbormaster	Medium	3-5 years	
	Harbor & Waters Board, Harbormaster	High	1-3 years	
	Select Board, Town Planning Office, DPW	Medium	3-5 years	
	Select Board, Town Planning Office, DPW, Harbor & Waters Board, Harbormaster	Medium	3-5 years	

Number	Action
3.2	Little Harbor
a.	<ul style="list-style-type: none"> • Reopen dredging discussions about Little Harbor with MassDEP/CZM.
3.3	Commercial Street Landing
a.	<ul style="list-style-type: none"> • Address Commercial Street Landing for commercial fishing with the following: <ul style="list-style-type: none"> • New gangway • Floating dock • Conveyor belt system • Additional parking • Wave attenuation solutions

Number	Action
Goal 4	ADDRESS PUBLIC SAFETY ON THE WATER.
4.1	Work with Salem on a joint public education campaign about water quality and steps to improve the ecological health of Marblehead and Salem harbors.
4.2	Create public education campaigns around boating safety for all craft.
Goal 5	DEVELOP POLICIES AND IDENTIFY INVESTMENTS TO ADDRESS SEA LEVEL RISE.
5.1	Incorporate findings from current Coastal Resiliency process for the area from Parker’s Boatyard to the Cliff Street Boatyard, including the Marblehead Electric Light building.
5.2	Conduct impact study of sea level rise on entire coastline for 2030, 2050, and 2070.
5.3	Investigate the feasibility of a breakwater vs. wave attenuation strategies in the harbor.
5.4	Develop a master plan to protect the Causeway/Ocean Avenue from inundation and overtopping.

Partners		Priority/Timeline		
	Select Board, Town Planning Office, Harbor & Waters Board, Harbormaster	Medium	3-5 years	
	Harbor & Waters Board, Harbormaster	High	1-3 years	

Partners		Priority/Timeline		
	Select Board, Town Planning Office, Harbor & Waters Board, Harbormaster, Sustainable Marblehead, Sailors for the Sea, Salem Sound Coastwatch	Medium	3-5 years	
	Select Board, Recreation Dept., Marblehead Sail and Power Squadron	High	Annual	
	Select Board, Town Planning Office, DPW, Harbor & Waters Board, Harbormaster	High	1-3 years	
		Medium	3-5 years	
		Medium	3-5 years	State and Federal agencies with jurisdiction including CZM and the Army Corps of Engineers.
	Harbor & Waters Board, Harbormaster	High	1-3 years	

FUNDING RESOURCES

WATER-DEPENDENT AND OTHER INFRASTRUCTURE RESOURCES

FEDERAL RESOURCES

Two recent programs may have implications for funding that could assist Marblehead with some of the larger projects. The full extent of these programs is not yet known, so the Town should watch for specific funding announcements.

Infrastructure Investment and Jobs Act

This act will support many programs, including rebuilding and repairing roads and bridges and addressing the resiliency of infrastructure to climate change, including flooding.

Inflation Reduction Act

This act focuses on the clean energy economy, and may provide incentives for some of the recommendations for electrification in this plan.

MASSACHUSETTS RESOURCES

Seaport Economic Council Grant

This grant addresses economic growth in the maritime sector by providing funds for capital projects. More information can be found here: <https://www.mass.gov/seaport-economic-council-programs-and-grants>

CZM Coastal Resilience Grant Program

This program provides funds to address coastal flooding, erosion, and sea level rise. The StormSmart Coasts program provides funds for planning, design, permitting, construction, and monitoring. More information can be found here: <https://www.mass.gov/service-details/coastal-resilience-grant-program>

CZM Coastal Pollutant Remediation Grant Program

This program helps communities address nonpoint source pollution, including stormwater runoff from paved surfaces and the construction of pumpout facilities for commercial boats. More information can be found here: <https://www.mass.gov/service-details/coastal-pollutant-remediation-cpr-grant-program>

EEA MVP Program Action Grant

These grants help communities implement infrastructure improvements to address the impacts of climate change. The program prefers those strategies that are nature-based. More information about the criteria to apply can be found here: <https://www.mass.gov/service-details/mvp-action-grant-eligibility-criteria>

EEA Dam and Seawall Removal or Repair Program

This program helps fund repairs to dams and seawalls. More information can be found here: <https://www.mass.gov/dam-and-seawall-repair-or-removal-program>

Hazard Mitigation Grant Program

The Commonwealth provides funding for hazard mitigation plans. More information can be found here: <https://www.mass.gov/hazard-mitigation-assistance-grant-programs>

Information on this page also includes the Flood Mitigation Assistance Grant; and the Pre-Disaster Mitigation Grant.

MA DEP s319 and 604(b) Grant Programs

These address water quality, including nonpoint source pollution, management planning, and stormwater management. More information can be found here: <https://www.mass.gov/info-details/grants-financial-assistance-watersheds-water-quality>

Massachusetts Boating Infrastructure Grant/US Fish and Wildlife Sport fish Restoration Program

This grant funds facilities for transient recreational boats longer than 26 ft. More information can be found here: <https://www.mass.gov/service-details/boating-infrastructure-grant-funding-opportunities>

Massachusetts Division of Marine Fisheries Marine Recreational Fisheries Development Fund

The fund can support improvements to recreational fishing. More information can be found here: <https://www.mass.gov/service-details/the-marine-recreational-fisheries-development-fund>

MassWorks Infrastructure Program

Administered by the Executive Office of Housing and Economic Development (EOHED); this is a competitive grant program for public infrastructure projects and is part of the Community One Stop for Growth program (see below). Priority is given to those projects that support multi-family housing in walkable mixed-use districts; immediate job creation; and/or economic development in weak or distressed areas. MassWorks grants may be used for streetscape improvements, bridge repairs, and other such improvements. Municipalities must demonstrate that the application is consistent with the Commonwealth's Sustainability Principles and meets the programs investment goals. More information is available here: <https://www.mass.gov/service-details/massworks-infrastructure-grants>

MassWorks Dredging Grant

First announced by the Baker-Polito administration for fiscal 2018 as part of the MassWorks Infrastructure Program and intended to support the blue economy by the saltwater dredging of public waterways. EEA and CZM will coordinate this program. More information is available here: <https://www.mass.gov/service-details/about-the-massdredge-program>

PLANNING AND CULTURAL GRANTS

These grants may be useful for the land-side planning, including the land use plan for Parker's Boatyard and the plan to refresh State Street Landing and better connect it to the downtown.

Community One Stop for Growth

In 2021, the Commonwealth of Massachusetts rolled the application process for ten grant programs into a single process. Programs that may be relevant to Marblehead include the following:

- MassWorks (see above)
- Massachusetts Downtown Initiative
- Community Planning Grants
- Site Readiness
- Underutilized Properties

More information can be found here: <https://www.mass.gov/guides/community-one-stop-for-growth>

Massachusetts Downtown Initiative (\$25,000)

The focus of this grant is downtown revitalization. The Technical Assistance program provides a consultant and funding for that consultant's work to communities who need help with specific problems. MDI also aids with the development of a Business improvement District, or BID. This grant is part of the Community One Stop for Growth program.

More information can be found here: <https://www.mass.gov/service-details/massachusetts-downtown-initiative-mdi>

Community Planning Grants (\$25,000-\$75,000)

This is a new program and provides funding for planning projects at a larger scale than the MDI program. Project Recommendation for which this grant would be appropriate might include zoning changes, particularly those that support density, studies for development within a 1/2-mile of a commuter rail station or a multi-town corridor that look at both density and multimodal connections, or other similar planning processes. This grant is part of the Community One Stop for Growth program.

More information can be found here: <https://www.mass.gov/how-to/community-planning-grant-program>

District Local Technical Assistance Grant (DLTA)

Funds for this program are allocated to the regional planning agencies. These funds may be used for planning projects. Each Regional Planning Agency (RPA) has a different focus on how these funds may be used to meet the state's funding goals. All municipalities are eligible to apply directly to their RPA. The RPA will work with the municipality on the program; a separate consultant is not usually required. MAPC is Marblehead's Regional Planning Agency. Information about the North Shore task Force can be found here: <https://www.mapc.org/get-involved/subregions/nstf-2/>

Mass Cultural Council

Mass Cultural Council offers several grant programs that may be appropriate for the recommendations of this plan. More information can be found here: <http://www.massculturalcouncil.org/programs/programs.asp>

Other Resources

TOWN RESOURCES AND POTENTIAL PARTNERS

HARBORMASTER'S OFFICE

The webpage for the Harbormaster's Office hosts the *2022 Manual for Marblehead Waters*. This document includes important information about regulations for the harbor, including the applications for a Mooring Permit, information about the waiting list, and current mooring fees. The webpage can be found here: <https://www.marblehead.org/harbormasters-office>

TOWN PLANNER'S OFFICE

The Town Planner's Office will be responsible for managing the proposed additional land use studies recommended in this plan. See also Sea Level Rise and Climate Change, below.

<https://www.marblehead.org/town-planners-office>

MARBLEHEAD HISTORICAL COMMISSION

The Historical Commission has specific responsibilities under state law (MGL Ch. 40, Section 8d). Their mission includes preserving artifacts and archives and educating people about Marblehead's history.

<https://marbleheadhistory.org/>

<https://www.marblehead.org/historical-commission>

MUNICIPAL LIGHT DEPARTMENT

The Municipal Light Department is located on a critical property discussed in **Chapter 3. Existing Conditions**. This property was included in the first coastal resiliency study and is part of the recommended land use study for the area between and including Parker's Boat Yard and the Cliff Street Boat Yard.

<https://www.marbleheadelectric.com/index.html>

OLD & HISTORIC DISTRICTS COMMISSION

The Select Board appoint the members of this board, which has responsibility for determining the "historical appropriateness of buildings and structures visible from any public way." The boundary of the historic district includes most of the shoreline along Marblehead Harbor. This includes many of the sites discussed in **Chapter 3. Existing Conditions**.

<https://www.marblehead.org/old-historic-districts-commission>

RECREATION & PARKS DEPARTMENT

This department oversees many of the beaches and parks along the waterfront.

<https://www.marblehead.org/recreation-parks-department>

OTHER POTENTIAL PARTNERS

MARBLEHEAD MUSEUM

This is the former Marblehead Historical Society (the name changed in 2013). As with the Marblehead Historical Commission, this private organization has an important role in educating people about Marblehead's history.

<https://marbleheadmuseum.org/>

MARBLEHEAD SAIL AND POWER SQUADRON

This organization offers boating safety courses.

<https://www.abcnorthshore.org/>

SAILORS FOR THE SEA POWERED BY OCEANA

449 Thames Street 300D
Newport, RI 02840

<https://www.sailorsforthesea.org/>

As noted by one of the Harbor Committee members, all six of Marblehead's yacht clubs have adopted one or more of Sailors for the Sea's three sustainability programs at the club level: Clean Clubs, Green Boating, Clean Regattas. Avoiding single use plastic is one key objective across these programs. A new organization has been formed—Marblehead Clean Regattas—to promote harbor-wide collaboration using SftS Clean Regattas best practices and achieving SftS certification. There are close to 100 regattas featuring more than a dozen one design sailboat classes, so this effort will have a significant impact.

SALEM SOUND COASTWATCH

This organization is working with the Town of Marblehead to evaluate its coastal resiliency as part of the three-phase process described in **Chapter 1. Executive Summary** and **Chapter 3. Existing Conditions**. The organization has many programs related to coastal resiliency in the region.

<https://www.salemsound.org/>

SUSTAINABLE MARBLEHEAD

<https://www.sustainablemarblehead.org/>

Sustainable Marblehead sponsors several initiatives related to the Harbor, including educational programs, Marblehead Ocean Week 2022, and green boating practices in partnership with Sailors for the Sea (see above).

TRUSTEES OF RESERVATIONS

The Trustees of Reservations own Crowninshield Island (formerly known as Brown's Island) and Gerry Island.

<https://thetrustees.org/place/crowninshield-island/>

<https://thetrustees.org/place/gerry-island/>

THE BLUE ECONOMY

Understanding how harbors contribute to the local economy is an increasing area of research. Here are some sources of data about the Blue Economy in Massachusetts:

UMASS AMHERST SCHOOL OF EARTH & SUSTAINABILITY

<https://www.umass.edu/ses/gloucester-marine-station/north-shore-blue-economy>

UMASS BOSTON URBAN HARBORS INSTITUTE

Port Profile Project: <https://www.mass.gov/lists/port-profile-project>

Other Research: <https://www.umb.edu/uhi>

COMMERCIAL FISHING

Commercial fishing is regulated at the state and federal levels. In Massachusetts, it is the Division of Marine Fisheries. At the federal level, it is NOAA Fisheries.

<https://www.mass.gov/orgs/division-of-marine-fisheries>

<https://www.fisheries.noaa.gov/>

SEA LEVEL RISE AND CLIMATE CHANGE

MARBLEHEAD COASTAL RESILIENCY STUDIES

Information about this process and the Coastal Resilience Project is hosted on the Town Planner's webpage. The link is here: <https://www.marblehead.org/town-planners-office>

The information is available under the News and Announcements page to the right.

CZM

The Massachusetts Office of Coastal Zone Management sponsors an interactive map for learning more about sea level rise. The map is here: <https://mass-eoeaa.maps.arcgis.com/apps/MapSeries/index.html?appid=6f2797652f8f48eaa09759ea6b2c4a95> and the "how to use" site is here: <https://www.mass.gov/service-details/massachusetts-sea-level-rise-and-coastal-flooding-viewer>

CZM also has an interactive map on changing shorelines which may be of interest:

<https://www.mass.gov/service-details/massachusetts-shoreline-change-project>

RESILIENT MA

More information about climate change is provided by Resilient MA. The data clearinghouse is here: <https://resilientma.mass.gov/home.html> and an interactive map is here: <https://resilientma.mass.gov/map/>

SHELLFISHING AND CLIMATE CHANGE

The northward migration of the American Lobster, a prime component of Marblehead's shellfishing industry, is well-documented. Here are some resources:

<https://blogs.umass.edu/natsci397a-eross/impacts-of-climate-change-on-southern-new-england-lobster-fisheries/>

<https://www.climate.gov/news-features/climate-and/climate-lobsters>

<https://www.fisheries.noaa.gov/region/new-england-mid-atlantic#science>

Glossary

Note to reviewers: this section is populated by terms that have been identified by readers. Feel free to suggest any terms that you think belong in this section.

- **Dry sailing.** This term refers to boats that are not kept in the water (mooring or slip) but instead are stored on land. When the sailor wants to use the boat, they need access to either a ramp or lift to put the boat into the water before sailing and remove it at the end of the sail.
- **Hoyer lift.** “A hoyer lift is a tool used by some sailing clubs to transfer individuals in wheelchairs from the dock to their position on the sailboat. Usually, hoyer lifts require an installed base, batteries, and a crew of trained volunteers to operate the lift and transfer the individual.”¹
- **Nature-based solutions.** Rising seas and more intense and more frequent storms will contribute to erosion of coastal lands and damage to properties. Past efforts to solve the problem of erosion have relied on hard infrastructure such as seawalls and revetments. However, the use of these structures can have significant unintended consequences on other parts of the shoreline. Nature-based solutions rely on creating or restoring “living shorelines” to reduce wave energy and erosion. Living shorelines include dune nourishment and marsh restoration. See <https://www.nature.org/en-us/about-us/where-we-work/united-states/massachusetts/stories-in-massachusetts/reducing-coastal-erosion-living-shorelines/> for a local project in Collins Cove, Salem. Nature-based solutions may be eligible for certain grants.
- **Revetment.** “A revetment is a facing of stone, concrete units or slabs, etc., built to protect a scarp, the foot of a cliff or a dune, a dike or a seawall against erosion by wave action, storm surge and currents.”²
- **Trawl line.** As used by participants in this process, a long line suspended between bouys that Town Class and other small sailboats can tie onto for moorings.
- **Wave-attenuating strategies.** Wave-attenuation refers to reducing wave energy (such as from storms) to reduce erosion of the shoreline and damage to docks, boat ramps, and moorings. Some options include floating structures and oyster reefs. Please see Marblehead’s Coastal Resiliency projects in **Resources** for more information.

¹ <https://clagettsailing.org/Post/What-is-a-hoyer-lift-and-how-do-I-use-it>

² <http://www.coastalwiki.org/wiki/Revetment>

Appendix A Summary of Public Meetings

SUMMARY OF WORKSHOP RESULTS

The consultant team held three workshops as part of the planning process. A full report of the results is in Appendix A.

- April 27, 2022: Stakeholder workshop.
- May 16, 2022: Public Workshop.
- September 19, 2022: Public workshop.

This summary of the three workshops provides information about the key results.

APRIL 27, 2022: STAKEHOLDER WORKSHOP.

Attendees discussed the recommendations of the previous Harbor Plan and identified actions that were completed and topics that were missing from the original plan. Participants also reviewed Marblehead Harbor to identify concerns in the different areas of the harbor. The three highest priorities at that meeting were

- (1) Breakwater.
- (2) Support commercial fishing.
- (2) Support/implement EPA Stormwater Regulations and DEP and Marblehead Conservation Commission Regulations and Guidelines regarding stormwater management and erosion control mitigation.
- (3) Prepare a long-term capital improvement and maintenance plan for municipal waterfront property and facilities. Explicitly include ADA compliance.
- (3) Dredge Little Harbor.

MAY 16, 2022: PUBLIC WORKSHOP

Participants were introduced to the planning process and commented on maps of Marblehead Harbor and the West Shore (Salem Harbor). The maps of the West Shore had been added in response to early comments about missing amenities on the West Shore (the planning process was originally meant only for Marblehead Harbor). Some comments may have been edited for clarity; edits are shown in [].

Participants indicated that they loved or valued Marblehead Harbor and want to protect it. Concerns included the lack of mooring availability, vulnerability to Nor'easters, and lack of accessibility. One person was concerned that Marblehead Harbor was "no longer the leader it once was."

People expressed their hopes and concerns for the harbor; these were grouped into themes:

HOPES (THEMES)

- Accessibility.
 - Public access points.
 - ADA.
- Sailboats/small boats.
 - Second trawl line.
 - Dry sailing from Parker's.
 - Place for public sailboats.
- Safety.
 - From storms.
 - Boater education.
- Other.
 - Parking.
 - Enhance 'business friendly' approach for harbor management.
 - Publicize information on commercial moorings online.
 - Control of Parker's [Boat Yard], similar to Stramski.
 - Return to leadership position as a harbor.
 - Opportunity for ocean-based (ex. wave) energy for town power needs.

CONCERNS (THEMES)

- Sea Levels.
 - Rising water.
 - Rising storm surge.
- Accessibility.
 - Erosion of public access points by private abutters.
- Sailboats/small boats.
 - Lack of dry sailing [venues].
- Safety.
 - Crowded with people without navigation skills.
- Other.
 - Parking.
 - Breakwater too expensive.
 - Trash on beaches.
 - Harbor leadership.

Recommendations from participants in this workshop included the following:

PARKER'S BOATYARD TO MARBLEHEAD TRADING COMPANY [CLIFF STREET BOAT YARD]

- Parker's [Boat Yard]. Community boating center, dry sailing center, access to small boat/kayak launch, ADA accessibility, public access, improved docks, replace crane.
- Improve ADA access to harborwalk and at Back Beach.

BOSTON YACHT CLUB TO MARBLEHEAD TRADING COMPANY [STATE STREET LANDING]

- Protect from storm surge.
- Trawl-line extension for centerboard boats.
- Expanded dinghy dock access.
- Mobilize pump-out board.
- Enforce DEP wetlands regulations.

LITTLE HARBOR LOBSTER COMPANY TO FORT SEWALL

- Dredge Little Harbor.
- ADA compliance at all beaches.
- Storage of kayaks at Gas House [Beach].
- Kayak rentals.

- Prohibition [of] private piers.
- Concerns about public access points.
- Parking at Fort Sewall.
- Boat storage on Crowninshield [Brown's] Island.

STRAMSKI'S BEACH AND VILLAGE DOCK

- **STRAMSKI'S BEACH.** Proper launch ramp; ADA compliant dock with Hoyer lift; ADA porta-potty.
- **VILLAGE STREET DOCK.** ADA accessibility, opportunity for more services to regular boaters.

Participants were divided on the idea of building a breakwater with slightly more votes in favor than against.

SEPTEMBER 14, HARBOR COMMITTEE MEETING AND SEPTEMBER 19, 2022: PUBLIC WORKSHOP

These paired workshops encouraged participants to review the draft recommendations, provide comments about missing items, and identify their priorities. Comments from both workshops can be grouped into the following themes:

- Include Marblehead Electric and Marblehead Yacht Club in the planning for Parker's Boatyard.
- Accessible bathrooms are a key concern at the major access areas for boating and for State Street Landing.
- RibCraft USA is a Marblehead-based employer and manufacturer who cannot test their product in Marblehead.
- More facilities are needed to encourage transient boaters to visit Marblehead and support Marblehead businesses. The new launch services could allow transient floats closer to the mouth of the harbor.
- Dredging Little Harbor had some support from the Harbor Committee but none from the attendees at the public workshop.
- Crocker Park swim platform was identified as an underutilized asset.
- Refreshing State Street Landing was popular. Other ideas such as waterfront dining and historical signage as part of wayfinding were suggested.
- Seasonal food at Village Street dock was also a suggestion.

Appendix B Survey Results

SUMMARY OF SURVEY RESULTS

395 people responded to the survey released in May 2022. The questions focused on Marblehead Harbor as the survey was developed before the West Shore was added to the evaluation based on public input.

Key results shared with the community include the following:

- 75% of respondents spend time along the waterfront.
- 76% eat at restaurants along the waterfront.
- 55% of respondents swim.
- 53% spend time at the beach.
- Recreational boaters responded more than commercial fishermen. Of the recreational boaters:
 - 56% use sail.
 - 52% use motor.
 - 63% use kayak, paddleboard, dinghy, or other self-propelled.
- Top 3 areas (~59% each): Devereux Beach, Crocker Park, and Fort Sewall.
- 52% of respondents said that Marblehead has adequate access to the waterfront; 48% disagreed.
 - 7% of respondents have a disability or a member of their household has a disability that impaired their ability to engage with the waterfront.
 - Of those 7%, 90% reported limited mobility which impaired access to most activities, including simply spending time along the waterfront.
- 59% of respondents were not aware of the Town's planning process for assessing the harbor's vulnerability to sea level rise.
- The top four concerns from respondents were:
 - Access to the water for boating (motor, sail, self-propelled) (59%).
 - Ecological health of the harbor (58%).
 - General public access to the water (50%).
 - Increase in future flooding (41%).

NOTE:

Presentations from all workshops and meetings and the full results of the survey are provided as separate documents.

[Add links when final documents are posted.]



Tighe&Bond