MANCHESER-BY-THE-SEA HARBOR MANAGEMENT PLAN
FEBRUARY 2026

The Town Treasure
A plan for protecting and enhancing Manchester's Harbor

Funding for the Manchester by the Sea Harbor Management Plan was provided by the Town of Manchester by the Sea.

The plan was developed by the Urban Harbors Institute at the University of Massachusetts in collaboration with the Town of Manchester by the Sea.

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Executive Summary

Manchester by the Sea's (MBTS) rich coastal resources have shaped its history for millennia, creating a community known today for its beaches, boating, and coastal charm. Along with the many benefits of being a shoreside community come many responsibilities. Recognizing its obligations and opportunities, the Town embarked on a planning project that sought to celebrate its coastal treasures and lay out key findings central to its protection for future generations.

Recognizing that the harbor and waterways are a treasure and shared resource, the MBTS Harbor Management Plan builds on extensive public engagement and input gathered through a public workshop, interviews, and a public survey. Further, this plan is informed by existing planning documents, data, laws and regulations, and best management practices from around the state.

The plan documents historic and existing conditions along the Town's coastal waterways and identifies a number of key findings and recommendations within five strategic goals, as summarized below.

Goal 1: Protect the Town's commercial and public facilities, municipal services, and residential property from sea level rise and flooding from storms.

Key Finding:

- Climate change is impacting coastal infrastructure, disruption services, and altering natural resources.

High Priority Actions:

- Plan for climate change and update laws and regulations to address climate impacts.

Goal 2: Provide safe and navigable waterways.

Key Findings:

- The harbor is a limited resource, and it may be at or above peak capacity in certain areas and at certain times.
- The location of the Harbormaster's office is an impediment to the timing of basic access and emergency response for on-water activities.
- Waterways-related infrastructure must be regularly maintained to support harbor uses and to withstand potential future climate change impacts.

- The harbor requires dredging on a regular basis to support existing activities.

High Priority Actions:

- Determine harbor capacity and address capacity concerns.
- Support appropriate harbor activity and safe navigation.
- Improve emergency preparedness.

Goal 3: Maintain and enhance public access and awareness.

Key Findings:

- MBTS provides considerable public access to the harbor, ocean, and scenic views that should be protected.
- There is a need for consolidated information regarding public access, shoreside fishing, harbor regulations, and emergency preparedness.

High Priority Actions:

- Preserve access and protect views.

Goal 4: Ensure healthy water quality and protect natural resources in and adjacent to the Town's coastal waterways.

Key Finding:

- The Town needs local comprehensive assessment and/or monitoring of water quality and other natural resources.

High Priority Actions:

- Gather data on water quality and natural resource conditions.
- Protect and improve natural resource conditions.

Goal 5: Support the marine economy.

Key Findings:

- Water-dependent businesses provide essential services to the recreational, commercial, and public safety in and around MBTS.
- Establishing recreational shellfishing will require a permitting system and regulatory framework for management of potential fishery.

High Priority Actions:

- Preserve land-use for water-dependent uses.
- Improve outreach.
- Sustain fisheries infrastructure.
- Assess local shellfish populations.

Completion of the plan itself will not result in immediate action. Instead, the Plan will need to be implemented by a suite of partners identified throughout the document. An implementation committee should be established to help coordinate and track implementation and consider necessary updates to the Plan. The Plan should be formally updated every ten years.

The Plan was developed by the Urban Harbors Institute at UMass Boston with significant input and guidance from the Harbor Management Task Force.

Introduction

Purpose, Scope, and Authority of the MBTS Harbor Management Plan

MBTS (Manchester) is a historic New England community located on the North Shore of Massachusetts. While residents have a great deal of appreciation for their coastal community, the area is facing various pressures from coastal development, congestion, conflicting uses, and climate change. As the community considers the state of the harbor, waterways, and shoreline, there is a strong interest in balancing human uses and the natural environment for both current and future generations.

The MBTS Harbor Management Plan works to strike that balance, providing a series of goals and recommendations to inform decisions relative to the waterways and coastline. The plan reflects the interests of the community and has been informed by existing plans and documents, interviews, a public meeting and public survey, and the Harbor Management Task Force.

The background information contained in this document (Appendix A) establishes a baseline and provides context for understanding the goals and recommendations.

As a municipally-approved harbor plan - *i.e.,* one that does not require State approval because it does not include licensing guidance pertaining to the State's Waterways Regulations (Chapter 91) – any implementation of the recommendations included will be made through the normal governmental processes of the Town. Acceptance or adoption of the Harbor Plan by the Town

will not bring any automatic implementation of the recommendations. The Town should develop a plan for coordinating and tracking implementation and identifying necessary updates to the plan.

As the first Harbor Management Plan for the MBTS community, this plan identifies core needs for harbor maintenance and key data gaps to inform future actions. The Plan should be formally updated every ten years, with more detailed recommendations developed over time as new data become available and recommended actions are implemented.

Planning Area

The harbor planning area was established by the Harbor Management Task Force to help facilitate the planning process. It encompasses the entire shoreline of MBTS including beaches, Manchester Harbor, and Magnolia Harbor (Figure 1). However, the issues around the management of Singing Beach and the specific issues of the day-to-day management of the harbor were not included since they are managed by Town staff. The harbor plan focuses on issues and opportunities within the boundary but recognizes that some of the plan's topic areas are impacted by factors outside of the boundary, such as sources of freshwater inputs to the ocean, and water quality impairments. The harbor planning boundary extends to the offshore extent of municipal jurisdiction.

While the MBTS planning area includes private property, the recommendations in this plan focus on public assets. However, these recommendations contain several important considerations that also relate to land stewardship around private property to ensure long-term health of MBTS's natural resources and protection of the coastline.

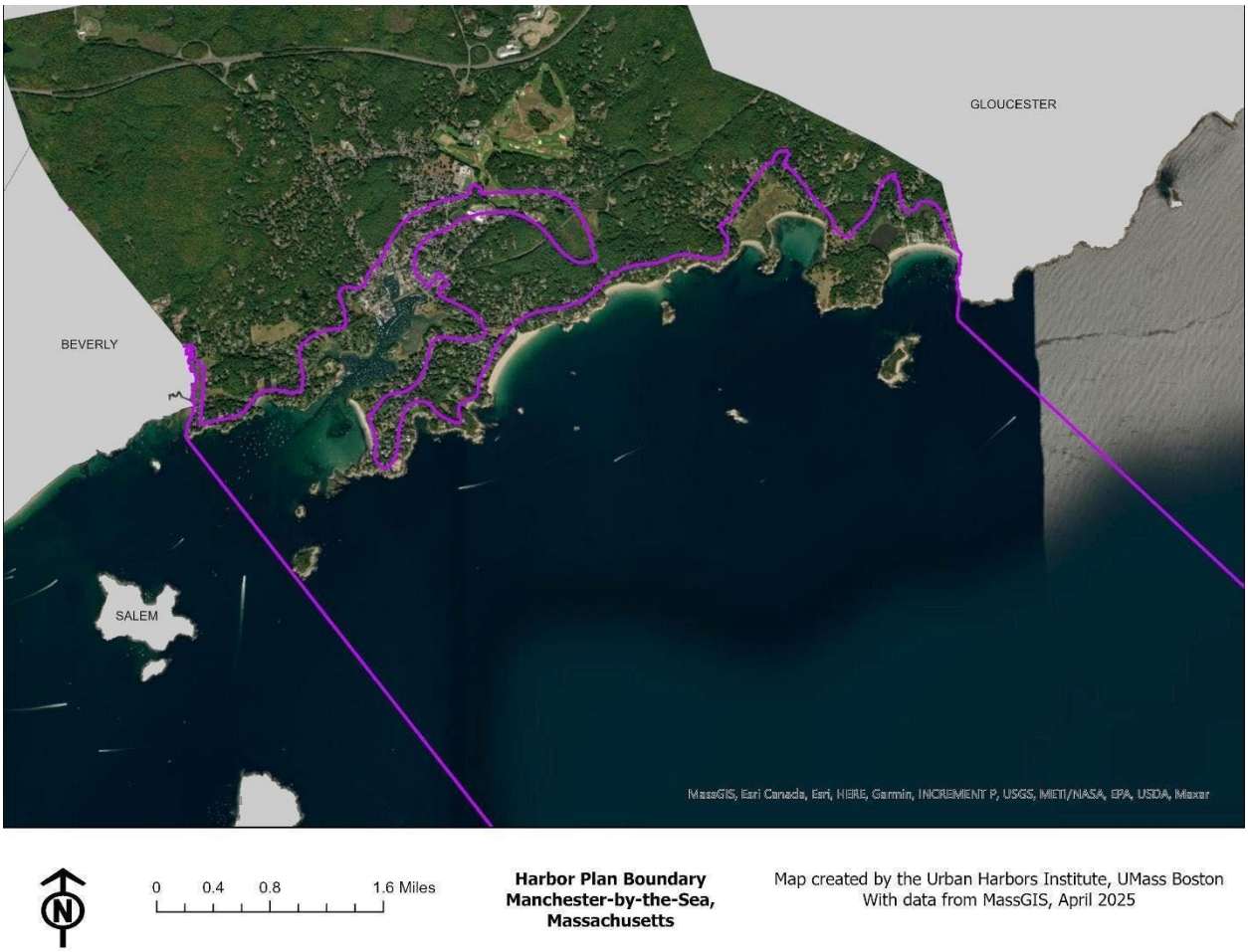

Figure 1: The extent of the planning area for MBTS Harbor Management Plan. The boundary extends three miles offshore to the extent of municipal jurisdiction.

Planning Process

The Harbor Management Task Force, consisting of individuals with different interests in the coast and waterways, guided the planning process and plan development, with a goal to ensure the harbor plan reflected the needs and opportunities identified by the community. Members of the Task Force included:

- Sarah Creighton, Chair, *Planning Board*
- John Croft, *Recreational Boater*
- Tom Baker, *Marine Business (resigned)*
- Henry Oettinger, *Conservation Commission*
- Jim Elder, *Shellfish Warden*
- Jim Doucette, *Commercial Fisheries (resigned)*
- Deb Fraize, *Stream Team*
- Chris Glass, *Recreational Boater (resigned)*
- *Peter Yukins, member of Harbor Advisory Committee*

Monthly Harbor Management Task Force meetings focused on key topics and issues, public engagement, and the development of plan recommendations. Information about the planning process was available on the Urban Harbors Institute (UHI) webpage at https://www.umb.edu/uhi/projects/current/. Members of the public could also provide input via email and phone.

A public meeting was held on March 19, 2024, to gather input for the plan and share updates. The meeting was held at the Manchester Essex Regional High School. Approximately 40 members of the public participated in that meeting.

The planning team from UHI conducted more than a dozen interviews, including all members of the Harbor Management Task Force, members of other town committees and town staff, key stakeholders, and members of the public to ensure a comprehensive approach to issues analysis and an accurate reflection of the current and anticipated initiatives. Further, a public survey received 486 responses, serving as an additional source of public input to guide plan development.

Goals, Findings, and Recommendations

Recognizing that the harbor and waterways are a treasure and a shared resource, this plan builds on extensive public engagement and input gathered through a public workshop, interviews, and a public survey. Additionally, this plan is informed by existing planning documents, data, laws and regulations, and best management practices from around the state.

Five goals provide the organizational framework for the Plan. The goals outline priority issues in the short and long term that should be the basis for Town planning.

Findings provide a synthesis of the issues that are key to implementing the plan's goals. The findings are directional and provide the basis for recommendations. Each recommendation is assigned a priority, responsible and participating parties (entities who will advise and/or lead implementation), and timeframe.

Appendix A of the Plan documents historic and existing conditions in and along the town's waterways and should be used as an important background to Town planning and policy makers. Appendix B includes a summary of results from the public survey.

Goal 1: Protect the Town's commercial and public facilities, municipal services, and residential property from sea level rise and flooding from storms.

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
Climate change is: ● Impacting coastal infrastructure ● Disrupting services ● Altering natural resources	**Plan for Climate Change:** The Town should complete a Coastal Vulnerability Action Plan for the portion of MBTS not included in the existing Coastal Vulnerability Action Plan. The existing plan is limited to the downtown area, but significant impacts exist beyond the geographic scope of that plan. Consistent with the downtown plan, this new plan should consider long-term planning horizons and the variety of perspectives on how best to address rising seas, prioritizing nature-based approaches where feasible. Other adaptation strategies to consider include shoreline hardening and retreat. As the Town works to implement the existing Coastal Vulnerability Action Plan, ensure that the decisions consider factors important to ● Storm preparedness and emergency access ● Marine infrastructure ● Marine economy including boating and fishing ● Water quality and natural resources ● Public access	High/Urgent	Town Administrator, Planning Board, Building Inspector, Select Board, Conservation Commission	Ongoing
	Update Laws and Regulations to Address Climate Impacts: The Town's bylaws and regulations provide some protection for coastal areas, however there are opportunities to update municipal bylaws and regulations to address impacts of climate change. For example: ● Boundaries of the floodplain overlay district could extend beyond historic flood projections to include areas projected to flood in the future. ● Wetland Bylaws and Regulations could be expanded to incorporate future flooding and natural resource migration. ● Opportunities to streamline permitting for planned climate mitigation strategies could also be modified to expedite and facilitate implementation, while maintaining appropriate protection. The Town should also develop a set of best practices for structures to facilitate planning and permitting consistent with the goals of this harbor plan, the Coastal Vulnerability Action plan and other municipal planning efforts.	High	Town Administrator, Planning Board, Building Inspector, Select Board	Ongoing

Determination of Findings:

The state has adopted projections for mean sea level rise along the North Shore that suggest an increase of 0.6 to 1.1 feet by 2030, 2.4 feet by 2050, and 4.2 feet by 2070, using 2000 as the base year for comparison.[1] These increases pose a significant threat to MBTS and other coastal communities in Massachusetts. Using these projections, the Town's 2023 Coastal Vulnerability Action Plan focused on town infrastructure and the built environment, identified multiple locations likely to experience daily tidal flooding by 2050, including the boat ramp behind Town Hall and portions of the bulkhead at Manchester Marine. However, the plan doesn't extend across the entire coastline nor focus on impacts to MBTS's natural resources.

By 2070, projections suggest tidal flooding could reach other important sites including the wastewater treatment plant, the fire station, and the Town's piers. Elevated storm surges will exacerbate the impacts of coastal storms. Flooding and erosion will have effects on natural resources as well, such as submerging tidal flats, marshes, and rocky intertidal areas which serve as habitat and play an important role in the local ecosystem. The impact of rising waters is already being felt in MBTS, and the Town must continue its efforts to proactively adapt in a way that reduces risk and increases resilience for both built and natural systems.

[1] Eastern Research Group, Inc. 2023. ResilientMass Plan: 2023 Massachusetts State Hazard Mitigation and Climate Adaptation Plan, Chapter 3. Online at: https://www.mass.gov/doc/resilientmass-plan-chapter-3-profile-of-massachusetts-setting-and-climate-projections/download.

Goal 2: Provide safe and navigable waterways (see also related findings in Goal 4).

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
The harbor is a limited resource, and its capacity may be at or above peak capacity in certain areas and/or at certain times. Determining the capacity is key to establishing policies and regulations, and several key data sources are needed to ensure assessment is accurate. .	**Determine Harbor Capacity:** Assess the harbor's capacity and utilize the study to develop policies and municipal budgets. The following areas should be considered in the assessment (see also findings under Goal 3 and Goal 4): ● Space for moorings and docks ● Safe navigation and vessel operation ● Harbormaster functions including staffing, the ability to enforce harbor regulations and assist waterway users. ● Emergency preparedness and responses ● Competing uses ● Funding ● Data on on-water incidents and harbormaster interventions	High	Select Board, Harbormaster, Harbor Advisory Committee	2-3 years
	Address Capacity Concerns: Based on the results of the carrying capacity analysis, consider: ● Limited expansion or reduction of moorings. Expansion may include into other areas of the harbor (e.g., Tuck's Point, Area 7). ● Conversion of moorings to new/different technologies (e.g., bow and stern, conservation moorings) to address capacity and impacts to eelgrass. ● Limiting expansion of existing/construction of new docks and piers that would present safety or environmental concerns.	High	Harbormaster	3-5 years
	Ensure Adequate Staffing of Harbor Operations: Increase harbormaster capacity during summer weekends, holidays, and special events. Ensure that municipal budget requests include funding for the additional capacity.	Medium	Select Board, Harbormaster, Harbor Advisory Committee	1-3 years

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
	Support Appropriate Harbor Activity: Update Town Harbor regulations and enforcement. Conduct education and outreach to ensure that all mooring owners are complying with existing mooring regulations, including continuing steps to ensure that moorings are regularly serviced. Ensure that moorings are appropriately sized and inspected.	High	Select Board, Harbormaster, Harbor Advisory Committee	1 year
The location of the Harbormaster office, inland of the MBTA railroad tracks, is an impediment to the timing of basic access and emergency response for on-water activities.	**Improve Emergency Preparedness:** Locate harbormaster facilities on the water to shorten response time to on-water incidents.	Medium/High	Select Board, Harbormaster, Harbor Advisory Committee	Ongoing
Waterways-related infrastructure including docks, piers, landings, moorings, fuel stations, etc. must be regularly maintained to support harbor uses and to withstand potential future climate change impacts.	**Maintain Harbor Infrastructure:** Develop a management and maintenance plan for harbor- and waterways-related infrastructure. As part of this, conduct an inventory and engineering assessment of infrastructure to determine deficiencies and provide actionable recommendations with cost analyses for maintenance and/or repair. Address climate vulnerabilities and impacts for key sites including docks, landings, boat racks, sea walls, and beaches. As appropriate, evaluate and support the need to modernize safety equipment in the harbor and by the Harbormaster's office to maintain safety in MBTS waterways	Medium	Town Administrator, Harbormaster, Harbor Advisory Committee, Finance Committee	2-5 years
The harbor requires dredging on a regular basis to support existing activities.	**Support Safe Navigation:** Continue to implement the established 40-year dredging cycle, with approximately 25% of the harbor dredged every 10 years. Coordinate with private users as well.	High	Town Administrator, Harbormaster, Harbor Advisory Committee, Finance Committee	Ongoing

Determination of Findings:

MBTS's harbor and waterways are a hub of activity supporting several uses including recreational boating, paddleboarding and kayaking, sailing programs, swimming, and commercial and recreational fishing. In its natural state, the harbor is a shallow

embayment characterized by mudflats, but in the 1800s, the harbor was created through dredging activity, which remains necessary to maintain safe and navigable waters, and the Town is responsible for funding and managing the dredging.

The Harbormaster's office manages 648 moorings, in addition to public docks and a public boat ramp, and No Wake buoys in town waters. This harbor and waterways-related infrastructure is essential to harbor operations and there is a need to ensure that the infrastructure remains operable with challenges of aging and future climate threats. The management of infrastructure and activity in the harbor has improved significantly over the years, however, the harbor is congested with some moored boats swinging into each other and into navigable channels, and space conflicts between on-water activities.

The harbor itself is a finite resource, and its capacity is unknown. This Plan urges the Town to think carefully about the capacity within the harbor and the capacity of the town staff and budgets to meet the growing demand for expanded moorings, docks, and programming, balancing it with congestion, damage to vessels, and impacts to public safety and natural resources. Understanding the capacity of the harbor and sustaining harbor infrastructure are also crucial to emergency preparedness and response times to waterway emergencies.

Goal 3: Maintain and enhance public access and awareness.

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
Manchester provides considerable public access to the harbor, ocean, and scenic views. This includes beach access, public parks, boat launching facilities, small boat storage, and public docks. Public access is important, should be protected, and expanded, where appropriate.	**Preserve Access and Protect Views:** Ensure public access remains and maintain existing harbor access points. Additionally, recognize the importance of all scenic views and pedestrian access in future town planning. When appropriate, the Town should continue to pursue public access benefits such as easements on all new or expanded waterfront developments.	High	Town Government	Ongoing
	Encourage MBTS Visitors: Welcome and support visitors and encourage them to support town businesses. ● Provide necessary amenities ● Provide information about town businesses	Medium	Town Government	Ongoing
	Enhance Parking for Harbor Uses: Continue to address parking challenges to accommodate a wide range of access-related need, communicate existing parking opportunities, and provide different opportunities for resident and non-resident parking including: ● Overnight parking for boaters and fishers ● Trailer parking; short-term parking for unloading and launching at ramps ● Beach and fishing-related parking ● Bike racks ● Exploring opportunities for shuttle service ● Offsite parking (e.g., at the high school, behind Town Hall) ● Types of parking passes Specific sites to address parking needs identified during this planning process include the Town boat ramp, Tucks Point, and partnerships with American Legion.	Medium	Planning Board, Select Board	Ongoing
	Ensure Walking and Equitable Access: Take steps to enhance and promote existing walking paths. Maintain and increase access for those with disabilities. Examples include adding parking, maintaining views for those in wheelchairs, ensuring that dockage is ADA accessible, and creating accessible paths along the harbor for those with disabilities.	Medium	Planning Board, Select Board, Downtown Improvement Committee	3-5 years

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
	Sustain Access for Boating: Maintain access for launching small vessels, increase small-boat storage for non-motorized personal watercraft, and continue to support programs that utilize harbor access points, like Manchester Sailing Association and the Manchester Essex High School sailing team.	High	Town Government, Harbor Advisory Committee	Ongoing
There is a need for consolidated information about public access, shoreside fishing, harbor regulations, and emergency preparedness.	**Enhance Boating Safety:** Continue to provide in-depth boater education to improve skills, and explore ways to include skills such as navigation, docking, and safety. Develop and distribute boater education materials, such as ● A map of the Inner Harbor channel, no-wake zones and reduced speed areas, mooring fields, and the location of services including fuel, pump out, and emergency. ● Post signs where possible such as the Town boat ramp, dinghy racks, kayak/canoe launches, and by the harbormaster's vessel. Educational materials should also be made available online and in paper format, and provided when new permits are issued and with paddle/dinghy craft stickers.	Medium	Harbormaster	Ongoing
	Increase Awareness of Natural Resources: Pending results of water quality testing and natural resource monitoring (see recommendations in Goal 4), enhance public education on issues and improvement efforts such as: ● Factors that lead to beach closures ● Safe and proper fertilizer use and application ● Impacts of excess nutrients from fertilizer, runoff, and septic systems ● Importance of natural resources such as salt marsh, and eelgrass ● Impacts of invasive species Opportunities may include information in municipal bills, sharing data online and through social media, signage in strategic locations, hosting public events on water-quality topics, and partnerships with environmental organizations such as Salem Sound Coastwatch.	Medium	Conservation Commission, Stream Team, others	3-5 years

Determination of Findings:

Access to the shoreline and waterways is a defining feature of MBTS and has been since pre-Colonial times. The ability to enjoy the coast, both physically and visually, attracts boaters, tourists, residents, and others. Five beaches, two town-owned parks, two town

owned commercial fishing docks, a public boat ramp, 648 town-managed moorings, and a number of publicly accessible private facilities provide significant opportunities to enjoy the coast in a variety of different ways. However, confusion about public and private rights along the shore, parking limitations, long mooring waitlists, congested waterways, and ADA accessibility issues are among the challenges people identified regarding access. Residents and non-residents alike require information about the appropriate use of the harbor, as well as awareness of human impacts to and protection of natural conditions will provide valuable information about potential drivers of impairment that can be shared widely to promote protection and restoration.

Goal 4: Ensure healthy water quality and protect natural resources in and adjacent to the Town's coastal waterways.

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
The Town needs a comprehensive assessment and/or monitoring of water quality and other natural resources. This information should be used to inform decisions such as policies and regulations.	**Gather Water Quality Data:** Establish baseline water quality conditions and a comprehensive monitoring program.	High	Select Board, Conservation Commission, Harbor Advisory Committee, Board of Health	1-3 years
	Improve Water Quality: Pending results of water quality testing, take actions to improve water quality, such as: ● Developing fertilizer regulations in accordance with the state's bylaw such as adding a coastal overlay district that would restrict use of non-organic fertilizers and pesticides. ● Collaborating with boatyards to reduce pollution to the marine environment, including soil and fuel spills and marine debris ● Addressing nutrient and bacterial inputs from septic systems via homeowner education, reviewing and updating regulations, and requiring the installation of Innovative/Alternative (I/A) septic systems for new construction and/or upgrades to a septic system within a set boundary in a natural resource area (e.g., I/A is required at property within 500 ft. of wetland resource area).	High	Select Board, Conservation Commission, Harbor Advisory Committee	3-5 years
	Gather Natural Resources Data: Establish baseline conditions and develop a comprehensive monitoring program for natural resource health and extent. Resource areas of particular concern include: ● Salt marsh ● Eelgrass	Medium/High	Select Board, Conservation Commission, Harbor Advisory Committee	3-5 years
	Protect and Improve Natural Resource Conditions: Pending results of natural resource monitoring, take actions to protect and restore resources, such as: ● Develop and implement an eelgrass monitoring and management plan which identifies threats to the population (e.g., anchoring at Sand Dollar Cove), strategies to protect and restore eelgrass, and	Medium/High	Select Board, Conservation Commission, Harbor Advisory Committee, Planning Board	3-5 years, ongoing

Findings	Recommendations	Priority	Responsible/ Participating Parties	Timeframe
	data and research needs. ● Monitoring and removing invasive species such as the European green crab, Asian shore crab, and European oyster. ● Protecting, restoring, and enhancing salt marsh both as a Town and in partnership with private-property owners ● Increase community and municipal waste removal efforts			

Determination of Findings:

MBTS's coastal natural resources include its waterways, coastal beaches, salt marshes, and marine species. They support both commercial and recreational activities such as fishing, boating, swimming, tourism, and more. The health of these natural resources is significant to the Town's maritime economy and culture. Land-based sources of pollution, such as fertilizers, pesticides, and leaking septic systems, can impair water quality. Boat mooring and anchoring can destroy eelgrass. Coastal development can compromise natural processes such as beach and salt marsh migration. More comprehensive monitoring of water quality and natural resource conditions will provide vital information about potential drivers of impairment. Once those drivers are understood, appropriate policies can be developed.

Water Quality

To date, the Town has only tested water quality for Enterococci bacteria at swimming beaches during the summer months per state legislation, and in the Wolf Trap Brook estuary since 2006 to address pollution from runoff as part of the Salem Sound Coastwatch Tributary and Water Quality Monitoring Program. There have been additional one-time studies in 1997 by the Massachusetts Division of Marine Fisheries (DMF), and in 2018 by Salem Sound Coastwatch (SSCW) that also assessed Enterococci in the inner harbor (DMF, 1997) and at several potential shellfishing beaches
(Black, White, and Gray beaches).

MBTS does not have long-term data in each area of the harbor and coastal waterways on critical water quality criteria required to sustain habitat and recreation including pH, salinity, temperature, turbidity, dissolved oxygen, and nutrient impairment. This lack of data evidence makes it difficult to (1) assess water quality currently, and (2) evaluate potential impacts of land-use and on-water

activities over time. Comprehensive water quality monitoring could provide missing data on specific impairments and related impacts to marine life.

Natural Resources

Similar to water quality, the Town has not conducted comprehensive monitoring of its marine life and coastal habitats to assess the conditions of these ecosystem features. Among the many natural resources found in MBTS, two of great public interest include eelgrass and salt marsh. Eelgrass is marine vegetation that helps secure sediment, capture carbon, and provide essential habitat to fish and shellfish species. Both water quality and harbor activity impact eelgrass in MBTS waterways. In 1994, the Massachusetts Department of Environmental Protection began an Eelgrass Mapping and Monitoring Program to assess the extent of eelgrass resources statewide. Data through 2023 indicates a noticeable loss of eelgrass habitat in MBTS; however local annual monitoring is needed to better measure the loss and understand the causes in MBTS. Salt marshes provide essential habitat, water filtration, and flood protection. There is a need to assess if erosion and/or migration of these resources has occurred overtime. Further, it is important to track how natural processes and/or anthropogenic impacts (*e.g.,* of land development and sea level rise) change the health and extent of these areas moving forward.

Goal 5: Support the marine economy.

Findings	Recommendations	Priority	Responsible/Participating Parties	Timeframe
Water-dependent uses such as Manchester Marine, Crocker's Boatyard, and Manchester Moorings provide essential services to the recreational, commercial, and public safety in and around MBTS. These uses, and additional commercial and recreational uses of the waterways: ● Require shoreside and water-based infrastructure ● Require funding to maintain and support ● Provide a source of revenue for the Town. ● Require a knowable and engaged public Real estate pressures on water-dependent uses and shoreside services are significant and may impact these critical water-dependent uses.	**Preserve Land-use for Water-dependent Uses:** Consider tools such as zoning strategies and easements to ensure that land used for water-dependent uses is maintained and preserved. The Town should propose to amend Zoning Bylaws to adopt a Commercial Waterfront/Harbor Overlay zoning district to protect existing water-dependent uses and define commercial uses that are allowed within the overlay district. The regulation can require that any new non-water dependent use or extension of an existing non-water dependent use does not: ● Displace or disrupt existing water dependent uses ● Diminish the capacity of the site to accommodate future water-dependent uses ● Impede or infringe upon existing public access	High	Planning Board	5 years
	Sustain Fisheries Infrastructure: Maintain and improve commercial fishing infrastructure – docks, piers, hoists, Morss Pier, etc. – as needed and where appropriate. As part of this, seek funding through the municipal budget and grants (e.g., the Seaport Economic Council).	High	Select Board, Harbormaster, Harbor Advisory Committee	5 years
	Improve Outreach: Increase knowledge of fishing and boating programs and events, especially for younger generations, to grow interest in and awareness of waterway uses and issues.	High	Harbormaster and Harbor Advisory Committee	1-2 years
	Assess Local Shellfish Populations: Conduct shellfish habitat surveys to assess the feasibility of and work toward opening areas for recreational shellfishing.	Medium/High	Harbormaster and Shellfish Warden	1 year

Establishing recreational shellfishing will require a permitting system and regulatory framework for management of the potential fishery.	**Create Infrastructure for Shellfishing:** Develop and adopt recreational shellfish regulations including areas, permits, harvest limits, etc. Install informational signs as needed. Use other towns as models for regulations.	Medium	Harbormaster, Shellfish Warden, Harbor Advisory Committee	3-5 years

Determination of Findings:

MBTS's marine economy consists of commercial fishing, recreational boating, boat maintenance and repair services, recreation, and tourism. This "economy" includes a commercial fishing industry that supports a small, but important fishing workforce, two boat yards, and a marine mooring service. Tourism from land-based and water-based visitors supports local businesses (as referenced in Goal 3). Boat excise tax, and from various fees including mooring and slip fees help defray Town costs as well as grant funding that is awarded to the Town to support the commercial fishing industry. The working waterfront of MBTS provides shoreside services such as boat repairs, fuel, and pump-outs that are necessary to sustain commercial and recreational activity, and harbor operations, which supports the marine economy through revenue from waterway users. In 2024, harbor usage fees were about $250,000 and boat excise tax was $16,542.[2]

Like many coastal areas of Massachusetts, the working waterfront of MBTS faces coastal development pressures for residential conversions and non-water-dependent uses, which can replace necessary water-dependent uses. The Town should preserve the land and infrastructure that is the foundation for its working waterfront industries, along with exploring initiatives to enhance future community engagement in commercial and recreational water activities.

While recreational fishing (*e.g.,* finfish species) is federally (NOAA Fisheries) and state-regulated (MA DMF), recreational shellfishing is regulated and managed by individual municipalities and is an active part of the marine economy in many municipalities of the North Shore region. However, shellfishing has been prohibited in MBTS for many years due to contamination by bacteria as determined by previous research. More recently, ad hoc sampling by DMF, and substantive sampling by Salem Sound Coastwatch

[2] Town of Manchester-by-the-Sea. 2024. Manchester-by-the-Sea 2024 Town Report. Online at: https://www.manchester.ma.us/ArchiveCenter/ViewFile/Item/360

(SSCW) have shown signs of improving water quality, which has led to Town discussions about developing a limited shellfishery outside of the main inner harbor. Recreational shellfishing can provide town residents with an opportunity to be part of the maritime culture and connect with the natural environment. Shellfish beds also create habitat for additional marine species and provide shoreline stabilization. To change growing area classifications the state requires MBTS to provide updated data on available shellfish habitat, water quality impairments, and public access to potential growing sites.

Appendix A - Background Information

The following sections provide background information on a variety of topics to document existing conditions and provide context for the recommendations above.

Climate Change

Like coastal communities everywhere, climate change is having and will continue to have impacts on MBTS. Of greatest relevance to the harbor, waterways, and coastal areas are the impacts associated with flooding, erosion, and coastal storms. Furthermore, adaptation strategies may have impacts on natural resources, navigation, and boating.

Daily tidal flooding

The 2023 Coastal Vulnerability Action Plan identified several areas that may be vulnerable to daily tidal flooding by 2050, including areas of Masconomo Park, buildings on the lower end of School Street, paved areas behind Town Hall including the boat ramp, and southern portions of the Manchester Marine bulkhead.[3] As soon as 2070, tidal flooding could reach residences on Beach and Tappan streets, the wastewater treatment plant, fire station, and other important locations as shown in Figure 2.

Not described in detail in this plan are the impacts beyond the harbor.

[3] Fuss & O'Neill. 20023. MBTS Coastal Vulnerability Action Plan. Version 1.0 – June 2023.

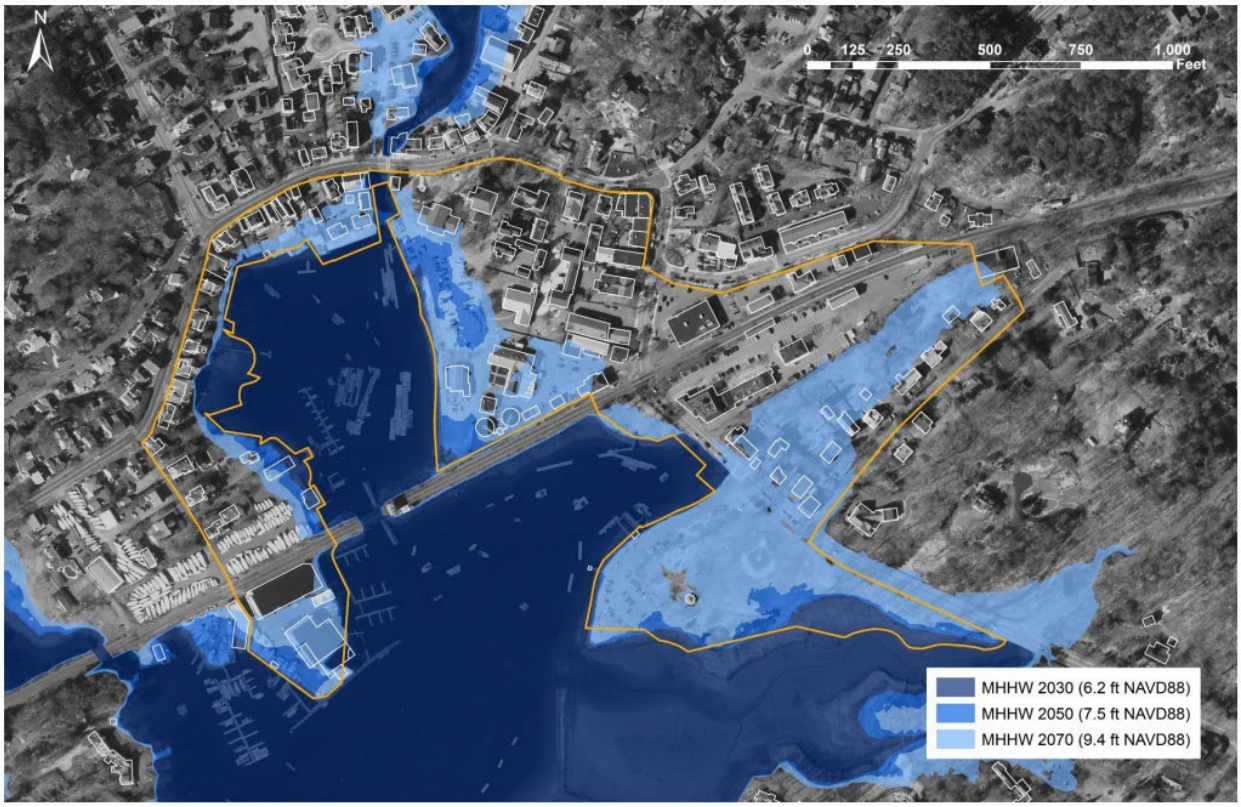

Figure 2: Locations of tidal flooding identified in the Coastal Vulnerability Action Plan for the years 2030, 2050, and 2070.[4]

Storm-related flooding

Flooding associated with coastal storms presents an additional flood risk for MBTS, with areas White Beach, Magnolia Beach, Town Hall, and Ocean Street already impacted by recent storms.

[4] *Ibid.*

Figure 3: Drone image of Masconomo Park following a winter storm. January 2025.[5]

Storm intensity and timing, along with adaptation measures, will determine the extent of flooding. Around 2050, for example, there is a 25-50% chance that Town Hall and the School Street Fire Station, as they exist currently, could flood in any given year as shown in Figure 3, taken from the Coastal Vulnerability Action Plan.[6] To date, adaptation measures have not been implemented in scale, although some individual property owners have raised sea walls and a project to raise the iconic Tuck's Point Rotunda is underway.

[5] Image source: MBTS Police Department Facebook page.

[6] Fuss & O'Neill. 20023. MBTS Coastal Vulnerability Action Plan. Version 1.0 – June 2023.

Figure 4: Building Flood Probability as Mapped in the Coastal Vulnerability Action Plan.[7]

Beyond the downtown area, other areas likely to see storm-related flooding in the coming decades include properties on the southeastern side of Norton's Point, Manchester Yacht Club and the Rotunda at Tuck's Point, properties abutting Sand Dollar Cove, and the marshy area behind Black and White beaches. The extent of other coastal flooding and erosion has not been extensively studied.

In addition to impacting the built environment, climate change will also impact the natural resources in and around MBTS's shoreline. Coastal features such as beaches, marshes, swamps, and tidal flats rely on specific conditions to exist in any given location. As sea levels rise, some beaches and marshes, for example, will be limited in their ability to migrate landward given the existing upland development. Similarly, important tidal flats and rocky intertidal areas may become submerged with rising seas. The loss of these areas can limit the ability of the coast to buffer against storms and flooding and can impact habitats for local wildlife such as migratory birds, fish, and shellfish. These impacts can also affect tourism and recreation opportunities.

Plans and Projects

MBTS is already engaged in planning for climate change as described below, while none of them specifically address the same suite of topics as the harbor plan, many of their recommendations have been incorporated into the goals and recommendations of this plan.

[7] *Ibid.*

Coastal Vulnerability Action Plan – This plan, finalized in 2023, serves as a conceptual roadmap to increase resilience and reduce flood risks in the downtown and inner harbor areas. The plan offers different scenarios to address anticipated short and long-term conditions. Scenarios range from protecting existing conditions to the extent possible in the near-term, to the installation of a harbor gate to keep water out, to a complete retreat from vulnerable areas. Example actions include wet floodproofing and elevating Manchester Marine, exploring options to turn Masconomo Park into a floodable park, relocating vulnerable infrastructure such as Town Hall and the wastewater treatment facility, building a floating walkway, creating berms, buying out vulnerable properties, elevating roadways, and deploying flood barriers and a flood gate.

Master Plan – The Town's Master Plan articulates the community vision and a series of recommendations to achieve that vision. The coastal character, significant natural resources, risks associated with climate change, and the role of the harbor and beaches in contributing to the culture and economy of the Town are constant throughout the Master Plan. The Plan includes several recommendations aimed at promoting resiliency to climate change in the harbor area, with a focus on nature-based strategies when possible.

Community Resilience Building Workshops – In 2018, the Town engaged residents and community members in workshops designed to identify top climate hazards as part of the state's Municipal Vulnerability Preparedness (MVP) Program. Coastal flooding, inland flooding, severe storm events, and drought rose to the top of the list of concerns. Examining past natural hazard events, the planning team concluded that flooding was likely the most prevalent serious impact.

Several sites within the harbor planning area—including the harbor, downtown area, beaches, brooks, wetlands, railroad tracks, coastal roadways, wastewater treatment plant, Town Hall, and others—were identified as vulnerable to the effects of climate change.

MBTS Coastal Resilience Advisory Group (CRAG) – The Town formed this group in 2014 to develop the MBTS FEMA Hazard Mitigation Plan Enhancement and recently formed a new group to update the plan.

Central Street Bridge and Culvert – In 2006, the Central Street culvert was damaged during a flooding event, and the tide gate and culverts had been creating hydraulic restrictions that contributed to water quality and habitat impairments in Sawmill Brook and exacerbated flooding. A feasibility study was conducted, and efforts are now underway to remove the tide gate, replace the Central Street culvert, and improve the stream banks and surrounding wetland area.

Wastewater Treatment Plant – The wastewater treatment plant is in the FEMA 100-year flood zone and is at significant risk of flooding. The facility serves half of the town and if compromised, poses several impacts from disruption of services to contamination. The Town issued a request for bids on a series of upgrades at the plant that includes numerous flood proofing measures such as elevating electrical panels out of flood zones. Design work on a protective seawall around the plant is being pursued as well. Relocating the plant inland is a possibility in the coming decades.

Tuck's Point Rotunda – Having identified the rotunda as a landmark vulnerable to climate change and storm damage, the Town has been exploring options to protect it. After considering a range of options, they have decided to raise it to 19 feet, keeping it in its existing location. Funding is being secured to complete this work.

Masconomo Park Redesign – The Town received a Coastal Resilience grant from the Massachusetts Office of Coastal Zone Management that included funding for the community to design a floodable Masconomo Park. Three concepts emerged from that effort and were presented to the Selectboard in the Spring of 2024. A public forum informed the selection of a preferred option, and efforts to secure funding for implementation will occur in the coming years.

Elevating Municipal Generators – The Department of Public Works is exploring opportunities to raise vulnerable infrastructure including the generators at Town Hall and the Fire Department. Platforms will be raised to elevation 13 feet to reduce impacts from coastal storm flowage and the 100-year storm event.

Boating and Infrastructure

Boating and Harbor Use

The harbor regulations are detailed in the Manchester Harbor and Mooring Regulations (2024).[8] These regulations are updated on a regular basis and are the applicable regulations for the harbor. If any conflict in regulation occurs, it is the latest published regulations that shall apply.

MBTS's harbor and waterways are home to a wide variety of boat types and sizes: kayaks and paddleboards, small outboards, small unpowered sailboats, large power and sail boats up to feet, and commercial fishing boats. Boats are captained by children and adults alike and boating

[8] *Town of Manchester-by-the-Sea. 2024. Manchester Harbor Mooring & Waterway Regulations. Online at: https://www.manchester.ma.us/DocumentCenter/View/8341/Harbor-Rules-and-Regulations-2025*

skills and knowledge vary widely. Over the decades the boats have transitioned from predominantly sailing boats to a mix of sail and power. Over the last decade the harbor has seen considerable growth in center console boats and boats with much higher horsepower. The wide diversity of boat types, the harbor congestion, and the range of nautical skills present a challenge for the Harbormaster's staff.

Moorings and Anchorage

Within the harbor planning area, the Town manages a total of 648 moorings, located throughout nine mooring areas. Each mooring permit holder is provided with an identification sticker with the mooring number for the Vessel of Record that must be attached to the vessel. Mooring holders must use the mooring for a minimum of 45 days between June 1st and October 1st. The moorings of Manchester Harbor are in high demand, and the Harbormaster can make underutilized moorings available for reassignment. If a mooring is vacant for two years, the permit will be revoked. With permission from the Harbormaster, a mooring holder may permit the use of their mooring by a transient vessel for a period no greater than 2 weeks per vessel. There are eight separate mooring areas in town (Table 1 and Figure 5), which include Magnolia Harbor (Area 9, Table 1, and Figure 5). Shallow moorings (designated as "8" in Table 1 and Figure 5) have been installed in low-water areas of mooring Areas 2, 3, and 5. The maximum boat length, except for Area 7 and shallow water areas (limit is 21 ft in length), is 45 feet, and Area 2 is designated as a commercial area where boat length is at the discretion of the Harbormaster. All ground tackle for a mooring must be approved by the Harbormaster before being installed.[9]

Waterway permits for the Town's moorings are designated as recreational, commercial service, and temporary, with each fee equaling $12.50/foot of vessel (for commercial boatyard rentals, this is based on the maximum length that the mooring can accommodate). Commercial fishers pay $6/ft. Mooring holders must renew their waterways permit each year. An individual can hold a maximum of two permits. No mooring permit can be sold, rented, swapped, relocated, or bartered. The Town maintains a Temporary Mooring Site Program, where a mooring holder can place his/her mooring in the program for a reassignment for a minimum of one season, upon approval by the Harbormaster.[10]

[9] *Ibid*.
[10] *Ibid.*

Table 1: MBTS mooring areas and number of moorings in each area.[11]

Mooring Area	Number of Moorings	Location
Area 1	80	Inner harbor inside the drawbridge
Area 2	34	NE of drawbridge bound by Amtrak rail bed, Beach St. And Masconomo Park
Area 3	95	SW from Masconomo Park to the Narrows bound by Day's Creek marsh, Manchester Marine, and Crocker's Boat Yard.
Area 4	73	Whittier Cove bound by Norton's, the channel, and Tuck's Point, and Whittier Creek
Area 5	95	Proctor Cove bound by the Narrows, Proctor St., the channel, and Bow Bell Ledge
Area 6	59	Bow Bell Ledge SW to Sand Dollar Cove bounded by the channel
Area 7	84	SW of Glass Head to Chubb Creek Entrance Bound by Harbor St. and the channel
8	---	Shallow water moorings – Long Beach/Black Beach. Areas 2, 3, and 5
Area 9	76	Magnolia Harbor

Figure 5: MBTS mooring areas.[12]

[11] *Ibid.*
[12] *Ibid.*

Mooring Management and Waitlists

Prior to 2012, mooring management in Manchester Harbor was inconsistent and poorly documented. Between 2006 and 2011, there was a lack of clarity as to exactly how many and to whom moorings were assigned each year. In 2009, the Town tried to address this issue by using *On-Line Mooring*, so holders could renew online, however, there were still challenges. This is reflected in the lack of data on the number of mooring permit holders, and names on the mooring waitlist for those years 2006-2011. In 2012, a new system was implemented with the assistance of the Harbormaster which proved to be successful and accepted by the Town and continues to be used to this day. The updated mooring management system provides broad historical data for all moorings, slips, kayaks, tenders, and several waitlists. The system also supports revenue collection from mooring fees and ensures appropriate mooring assignment from the waitlists and use of moorings. All mooring assignments are mapped in GIS with mooring holder info, and this map is updated each year to reflect any changes in the mooring fields and assignments.

MBTS harbor and waterways have experienced high congestion and instances of vessels swinging into each other, and into navigable channels going in and out of the harbor. However, over the past 13 years, the Harbormaster's department has worked to convert moorings to reduce intrusion of boats into the channel and prevent boats from hitting each other as they move around with the currents and weather. Starting in 2012 there was an overall reduction in moorings to reduce overcrowding in the mooring fields. Specifically, in 2015, there was an introduction of shallow water moorings in several areas of the harbor (Figure 5), and the conversion of single point moorings with no swing, including some with float to accommodate more vessels. Furthermore, all vessels in Area 1 of the inner harbor as of 2015 are required to use a bow and stern moorings as well as Areas 2 (as of 2016) , 4 (as of 2018) and portions of 3 (as of Area 2021).[13] These changes have decreased the frequency of vessels hitting one another and have provided an opportunity for the potential to add moorings back that were once removed to address overcrowding. The Harbormaster's department will continue this effort where needed, and appropriate to mitigate congestion in the channel and mooring areas.

Additional improvements have been made to the mooring areas of the boatyards in town. This includes the recent transition of ten of the 12 Manchester Marine mooring locations (which have been in place since the 1940s) to bow and stern with the float in between. The conversion was required by the Massachusetts Department of Environmental Protection (MassDEP) as part of an initiative with Manchester Marine and has resulted in the reduction of their harbor footprint without a reduction in their mooring sites. Manchester Marine is allowed to rent these

[13] *Ibid*

moorings seasonally, a process which was vetted by MassDEP and the Town's legal counsel, to individuals on the harbor's mooring waitlist.

While these changes have improved congestion and safe navigation in the harbor, obtaining a mooring in MBTS can take 15 to 20 years due to a long waitlist and minimal turnover. Additionally, the pandemic led to a surge in the demand for moorings. As of 2025, there were 475 names on the Town's Mooring Waitlist, with 18 new names added. To remain on the mooring waitlist, applicants must file an annual renewal application each year and provide the associated renewal fee. There is also a Mooring Change List for current mooring holders who wish to change their mooring location. For instance, vessels on the waitlist are typically assigned to a mooring in the Outer Harbor (Area 7), at which time a permit holder can become eligible to put their name on the Change List for an Inner Harbor mooring. There are several other waitlists including: a Commercial Fishermen Wait List for commercial fishermen seeking moorings located in harbor Area 3 a Tender Wait List for those requesting space for a tender at town dock facilities; and a Shallow Mooring Waitlist. Active commercial fishermen receive priority for mooring locations that become available in Area 3.

Mooring reassignments are rare, and occur in the instance of death, improper use, or non-payment of fees. Mooring holders may transfer their mooring to an immediate family member which includes parents, spouse to child, or child to spouse – a state level rule – with approval of the Harbormaster. Mooring holder data is transparent. There is an electronic version of the mooring waitlists on the Town's website, and there is a Ledger of the waitlist in the Harbormaster's office that residents and mooring holders can review anytime, which is encouraged.

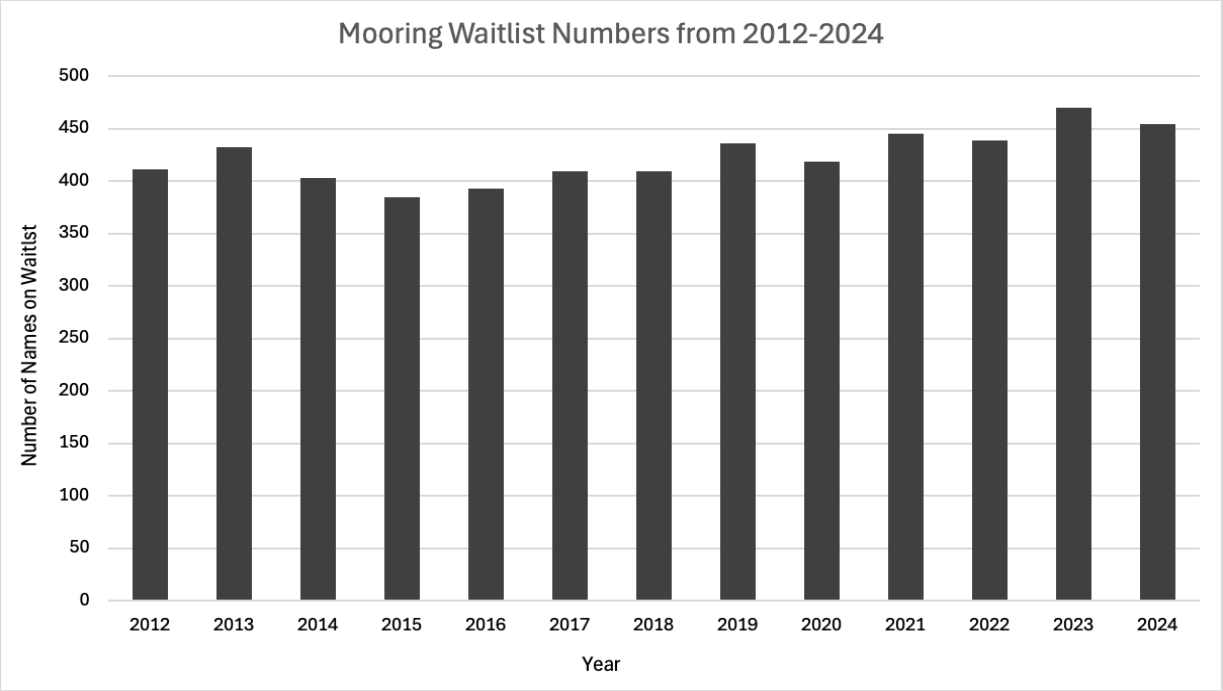

Figure 6:Annual mooring waitlist numbers from 2012 to 2024. Data sourced from Town Annual Reports.

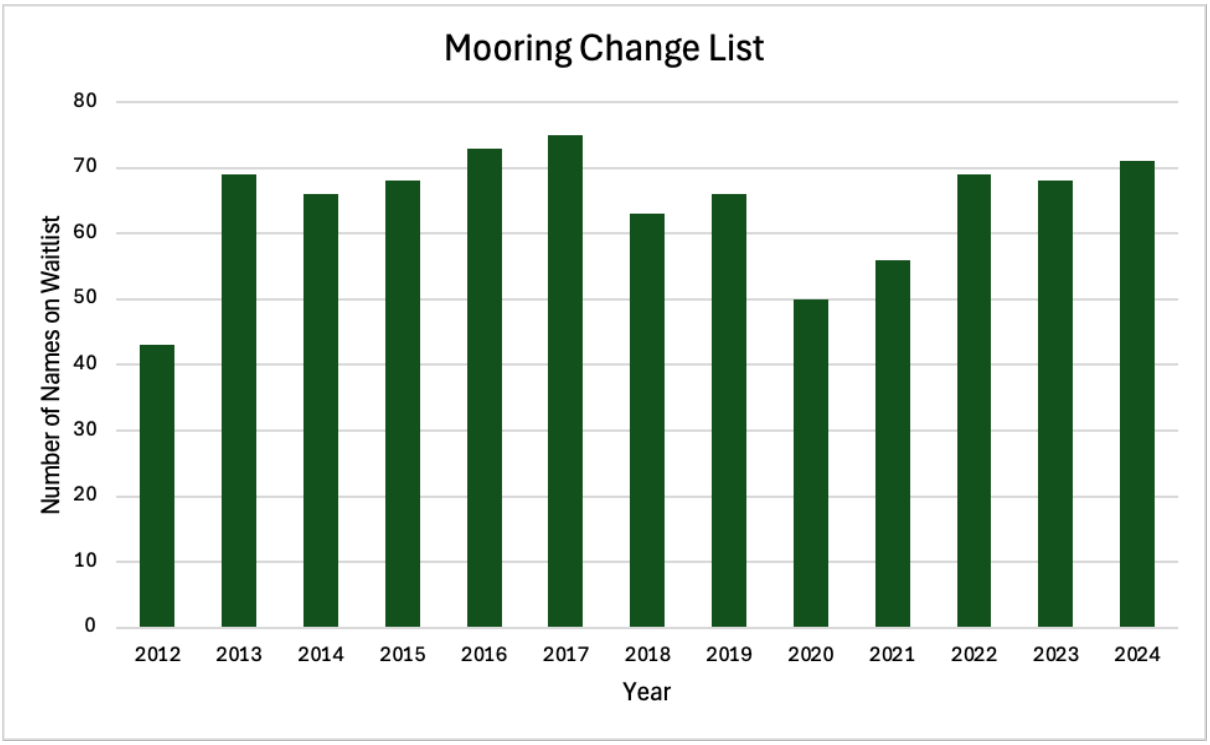

Figure 7: The number of names on the Mooring Change List from 2012 to 2024, for permit holders who would like to move their vessel to a new mooring location, often to the inner harbor. Data sourced from Town Annual Reports.

Conversation Moorings

Between 2011 and 2018, the Massachusetts Division of Marine Fisheries led the implementation and monitoring of conservation moorings in several Massachusetts harbors with well-established eelgrass beds, one of them being MBTS harbor. From 2011 to 2013, eight Hazlett Moorings were installed in the waters of Manchester Harbor, with an additional 70 Eco-moorings installed in 2014 in Area 7. Four years later, in 2018, Stormsoft moorings were installed in Manchester Harbor to replace several Eco-moorings from 2014 that had failed or been damaged.[14] As of 2025, there are still established eelgrass beds in mooring Areas 6 and 7, which are also popular areas for anchoring. When mooring holders replace their mooring tackle in these two areas, they are required to install the Helix-type mooring or an equivalent type.[15]

Anchoring

Popular anchoring areas by residents and seasonal visitors include Sand Dollar Cove, Kettle

[14] Massachusetts Division of Marine Fisheries. 2019. Conservation Boat Mooring Recommendations in Eelgrass and Other Sensitive Aquatic Habitats. Online at: https://www.mass.gov/doc/conservation-mooring-recommendations/download

[15] Town of Manchester-by-the-Sea. 2024. Manchester Harbor Mooring & Waterway Regulations. Online at: https://www.manchester.ma.us/DocumentCenter/View/8341/Harbor-Rules-and-Regulations-2025

Cove, and Magnolia Harbor.

Dock and Floats

Docks are considered a floating structure held in place by mooring tackle or pilings.[14] There are public docks in the Inner Harbor including Tuck's Point, Town Hall, Reed Park, and Morss Pier, which is for commercial fishermen and transient boaters.

Private non-commercial anchored floats that are not part of a Massachusetts Department of Environmental Protection (DEP) Chapter 91 permit requires a waterway permit and are subject to the same permitting procedures as other mooring permitted vessels which includes an Army Corp of Engineers Permit and issuance of a DEP 10-A permit from the Harbormaster. All commercial floats require a DEP Chapter 91 permit on file in the Harbormaster's office.[16] There are currently 264 active Chapter 91 licenses in MBTS.

There are 193 vessels in Manchester Harbor at slips located in the Inner Harbor, Manchester Marine, Crockers Boat Yard, and private docks.

Morss Pier

Morss Pier is managed by the Town's Harbor Department. The floats are intended for the primary use by commercial fishermen. Other water-dependent access is upon approval by the Harbormaster. The crane and hoist at the Pier are also for use by commercial fishermen, and other waterfront users may use the equipment if it does not interfere with commercial fishing operations. Fishing gear, lobster traps, bait, and other individual property items are not allowed to be stored at the pier.

[16] *Ibid.*

Figure 8: Image of Morss Pier (2024), MBTS Harbor.

In 2018, Morss Pier underwent restoration and structural improvements. Prior to repair, the seawall abutting the pier was eroded and failing. The seawall was partially rebuilt, and part of the pier was redecked. The pier is now bolted to the seawall to improve stabilization. In 2024, a new docking facility at the pier was approved by the Town. This addition will be strictly for the use by fishermen for tying up and unloading/loading gear and catch.

Town Boat Ramp

A town operated public boat ramp is located by the Town Hall on Church St. Both residents and visitors are allowed to use the ramp. There is parking at the Town Hall lot for residents and visitors (limited to 2 hours), including Boater placards for specific parking right by the boat ramp, however there is no boat storage or trailer parking allowed. The Boater placards are also valid for parking at Tucks Point. A kayak storage rack at the boat ramp is available for kayak permit holders.

Figure 9: Image of MBTS Town Boat Ramp, kayak storage rack, and parking behind Town Hall.

Manchester Yacht Club

The Manchester Yacht Club, located on Tucks Point, was established in 1892 and hosts a fleet of more than 300 boats. Active membership is open to both MBTS residents and non-residents, requires annual dues and includes access to the docks, launch service, boat launch, a small parking area, and the clubhouse. The MYC hosts cruising, racing, and social events April - October and off site in the off season. This includes social and cruising events with other clubs in Massachusetts. The club hosts the Patton Bowl in the spring/summer, the MYC Fall Series in September, and co-hosts the annual Crocker Memorial Race which includes boats from Beverly, Marblehead, and Salem. In the past small boat (Rhodes 19 and Laser) races would be held in the outer harbor, however, congestion in the Sand Dollar Cove has resulted in moving races to outside the harbor beyond House Island. The MYC location is also used for emergency access to the water, where rescue services will meet a rescue boat. MYC co-hosts the Manchester Sailing Association summer activities. MYC is also concerned about the impacts of sea level rise to infrastructure and has discussed the need for future planning to lift the clubhouse and other boating infrastructure.

Figure 10: Image of Manchester Yacht Club facilities and docks.

Manchester Harbor Boat Club

Founded in 1948, “the purpose of the Club is to foster good fellowship, promote and stimulate interest in boating and to encourage a full enjoyment of the advantages of Manchester Harbor”. Located in Masconomo Park, the Club has over 250 member families and provides floats, dinghies, and moorings for member use. The Club also holds social activities throughout the year, including dinners, speakers, gatherings, and an Annual Lobster Bake at Tuck's Point. The MHBC co-hosts the Annual S.S. Crocker Memorial Race each year with

the Manchester Yacht Club. In addition, the MHBC sponsors an oyster upweller, located on Morss Pier, with the Massachusetts Oyster Project. As part of the Club’s continuing community contribution to the health and enjoyment of the Harbor, the upweller grows young oysters to help repopulate oysters on the North Shore, while demonstrating their environmental value by cleaning the Harbor water and providing many educational opportunities.

Manchester Sailing Association

The Manchester Sailing Association (https://www.manchestersailing.org) is a not-for-profit

community sailing program located on Tucks Point, and at MYC docks and office space. Originally a junior sailing program of MYC, MSA became its own organization in 1971, and has been a vibrant and long-standing sailing program that promotes access to the water through a variety of programs. They teach sailing and racing to children (youngest 7 years old) and adults of all abilities, and to both residents of MBTS and surrounding municipalities. Each summer 165 to 180 school-aged kids and 25 adults participate in their sailing programs. Congestion in the harbor can interfere with MSA activities.

MSA does not own any land abutting. They currently use MYC docks, and other floating infrastructure, including independent floats and docks attached to Tucks Point rotunda, in the harbor that isn't permitted, as it has been in place since before permitting was required. The floating infrastructure needs to be replaced, but updated regulations also require it to be permitted, however, MSA does not currently own land abutting the harbor by the infrastructure. They are working with adjacent local property owners to determine a path forward, including privatizing the new floats and implementing a long-term lease for their use by MSA.

Junior Varsity and Varsity High School Sailing

During the spring school year, the harbor is home to school sailing teams from Manchester Essex High School, Landmark School, and Pingree School. The fleets of 420 sail boats are stored on MYC, MSA and Town docks and generally sail off Tuck's Point starting in March, before moored boats are in the water.

Figure 11: Floating docks used by Manchester Sailing Association.

There are two privately owned, full-service marinas in MBTS, including Manchester Marine and Crocker's Boatyard. Both are located adjacent to each other, in Manchester's Inner Harbor by Area 3.

Table 2: Town of MBTS private marina services.

Boat and Engine Sales	**Capacity**	**Transient Boating**	**Boat Ramp**	**Fuel**	**Pump-Out**	**Haul -Out**	**Repair Services**	**Boat Sales**	**Winter Storage**
Manchester Marine	40 slips, 1 mooring	Yes	No	Gas and Diesel	Yes	Yes	Yes	Yes, and engine	Yes, up to 200vessels
Crockers Boatyard	66 slips, 5 moorings	No	No	No	Yes, via Town or Manchester Marine	Yes	Yes	Yes, and engine	Yes, up to 200 vessels

Manchester Marine

Manchester Marine is a full-service marina that has been around for over a century, with slips and dockages accommodating up to 40 vessels (Figure 12). Most slips can accommodate vessels between 20 and 30 ft in length, with a handful of slips that can hold vessels up to 60 ft in length. There is a waitlist for the slips, which is renewed each year with no cost to the vessel owner, and as of 2025 there were an estimated 20 vessels on the list. The marina also operates one single point mooring in the outer harbor that can be rented out to transients if they are unable to get into the inner harbor. Manchester Marine provides winter storage for up to 60 vessels, and is often at capacity each year, noting a high demand for off-season storage in the region and a lack of supply to accommodate the need.

Figure 12: Image of Manchester Marine.

The marina offers gas and diesel year-round and is the only spot to obtain fuel in Manchester. However, the fuel tanks are old, and aging and the marina has worked with the Town to develop an agreement for a private fuel service to operate on their docks. This allows them to continue fueling the harbor, but the private service will maintain the tanks and equipment. The

marina also provides pump-out services, which has been via a mobile cart hooked into a lift pump. In 2024, they received grant funding to develop a fixed pump-out system on the fuel docks. Their pump-out services are open to the public. In 2023, the marina worked with the Harbormaster's office, and U.S. Army Corps of Engineers to switch single point moorings to docks to expand capacity and reduce swing radius of boats to prevent them from swinging into the channel. These docks are also available to transients.

The marina has experienced flooding from storms, noting substantial flooding in 2018. They do their best to prepare and prevent damage by moving equipment when there is a threat. In addition, in instances of needing repair, the marina will repair damage to increase resilience of the facility, *i.e*., replacing damaged wood wall and base board with material that can withstand water.

Crockers Boatyard

Crockers Boatyard is a full-service marina established in 1946, with slips for up to 66 vessels that can accommodate boats up to 45ft in length, apart from one large slip for a vessel up to 145 ft. (Figure 13). As of 2025, there were 70 vessel owners on the slip waitlist, and there is minimal turnover each season (1-2 vessels). They also operate five double-point dock moorings.

The boatyard offers storage for up to 200 vessels and utilizes a storage yard off-site in Essex. Each year they provide repair and maintenance services for approximately 300 vessels.

The boatyard has noted coastal erosion at their site, and does experience frequent flooding, however, most of the time it is minimal as the building was designed for flood water to flow underneath the building.

Figure 13: Image of Crockers Boatyard.

Dredging and Navigation

Dredging was first conducted in Manchester Harbor in 1895 by the US Army Corps of Engineers or similar federal entity. Several historical images illustrate the harbor conditions and surrounding environment at that time.

Figure 14: 1985 photograph of MBTS Harbor.[17]

First, Figure 14 shows an 1895 photograph looking out of the harbor from in front of the current Crocker's Boat Yard and Manchester Marine area.

[17] Photograph provided by MBTS Harbormaster.

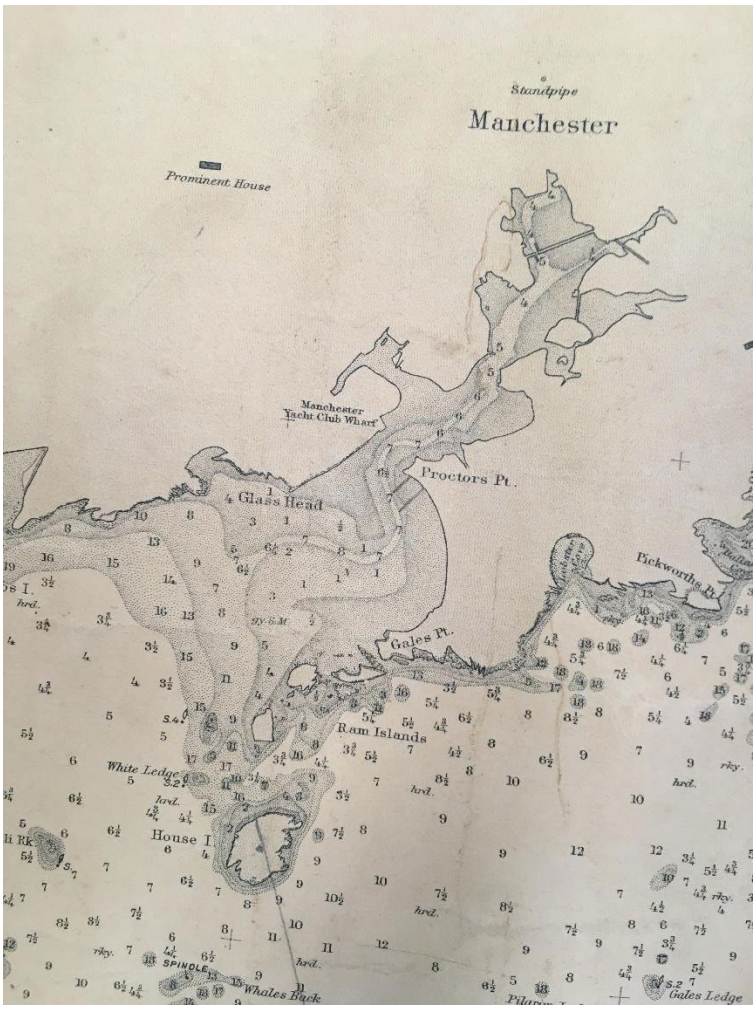

Figure 15: Navigational chart of MBTS harbor from 1906.[18]

Second, Figure 15, a 1906 chart shows the navigation channel through the harbor. Two piers at Long Beach are visible in addition to the channel as it curves along the beach and continues up the harbor and inside the drawbridge. The channel depth begins around 6.5 to 7 feet in the outer harbor. In comparison, Figure 16 shows a current chart of the existing straight-line channel that does not extend as far up the harbor.

[18] Photograph provided by MBTS Harbormaster.

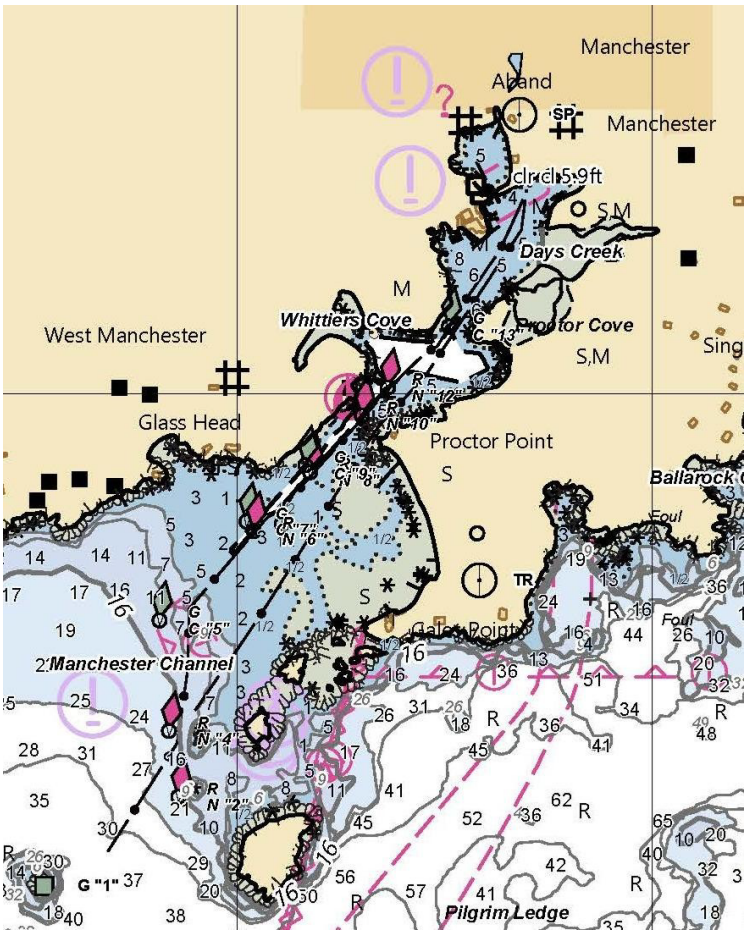

Figure 16: Navigational chart of MBTS harbor.[19]

Finally, Figure 17 shows a 1936 aerial photograph of the harbor at low tide with significant mudflats on either side of the channel. Given the natural processes occurring in the harbor, the movement of sediment and accretion in various areas is expected.

[19] National Oceanic and Atmospheric Administration. Office of Coast Survey. 2025. Nautical Charts. Online at: https://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml

Figure 17: Aerial photograph of MBTS harbor from 1936.[20]

For decades, the federal government dredged and maintained Manchester Harbor and channel as a Federal Navigation Project under the U.S. Army Corps of Engineers. Under this designation, the federal government will fund and conduct all dredging operations but also will impose requirements and restrictions on the municipality regarding the harbor's use.

During the 1970s the Town voted to deauthorize the harbor as a Federal Navigation Project. As a result, the Town does not have to abide by previous requirements, and the Town is responsible for all dredging costs.

In 2017/2018, the Town dredged approximately 22,500 cubic yards to -8 feet MLW in most of Area 2 and a portion of Area 3 on the boatyard side (see Figure 5: MBTS Mooring Areas - dredging areas generally correspond to the numbered mooring areas in this figure). At the same time, there was also private dredging of approximately 5,753 cubic yards in the inner harbor by Manchester Marine and Crocker's Boat Yard in coordination with the Town's dredging.

The next round of dredging is estimated to start in October 2026 and continue to February 2027 and will include the entire channel from Can 5 to Can 13 and Area 5 in Proctor Cove. The estimated volume to be dredged is approximately 53,185 cubic yards over 11.5 acres.

In June of 2025, after completing the necessary biological tests, the Town received a

[20] Photograph provided by MBTS Harbormaster.

suitability permit to allow the dredged material to be dumped offshore. The material dredged in 2017/2018 was removed from the area around the boatyards, an area with perhaps the highest potential for contamination, but still the dredged material met the standard for offshore disposal.

Once this next dredging project is complete in 2027, the Harbormaster recommends the Town immediately begin the process for the next round of the dredging. This future project would occur around 2034/2035 and would include Area 4 by Tuck's Point, the remainder of Area 3 along the shoreline where silting in has occurred, and Area 1 by the docks adjacent to Town Hall. Area 4 was converted to all shallow draft boats and does not require deeper water like some other areas of the harbor. The Town could choose to dredge to -6 feet MLW instead of -8 MLW in this area to save volume and cost.

Most of Area 6 and all of Area 7 would not be dredged due to the presence of eelgrass habitat. There is a portion of Area 6 that is not restricted from dredging, but there is no need for it yet. Area 6 is currently used for shallow-draft vessels. Area 8 includes shallow-water moorings on the edge of the harbor at Long Beach and further up the coast at Black Beach. The area by Long Beach is another area that would not be dredged due to the presence of eelgrass habitat. The area by Black Beach is outside of the main harbor and it is unlikely the Town would want to spend significant funds to promote and improve that area. Area 9 in Magnolia Harbor does not require dredging due to its isolated and exposed location.

Funding

Several years ago, the Harbormaster Department instituted an annual dredge assessment of $2.50/ft. for all vessels. The dredging assessment fees go into the general fund to support dredging projects.

For the dredging conducted in 2017/2018, the Town paid for all engineering and permitting through the Waterway Fund. In FY18 they received a $500,000 grant from Massworks for the dredging implementation.[21] This state program will fund up to 50% of the cost of a dredging project up to a maximum of $5 million dollars. This grant included a $500,000 municipal match for a total project cost of approximately $1 million dollars.

In FY24 the Town was awarded a $205,300 grant from the Seaport Economic Council for engineering and permitting related to the upcoming dredging project in the channel and Proctor Cove. This grant included a $60,325 municipal match from the Waterway Fund. This

[21] Town of MBTS. 2024. Town of MBTS Grants – A 10 Year Look Back. Online at: https://www.manchester.ma.us/DocumentCenter/View/6454/Grant-Data----10-Year-Reflection

dredging is estimated to cost $5 million dollars. The Town intends to apply for a Massworks grant of approximately $2.5 million dollars to help fund this dredging project.

Prior to recent dredging in 2017/2018, the harbor was last dredged in the 1980s. The Town has now established a 40-year cycle for dredging projects. The Town aims to complete 25% of the dredging projects every 10 years. This timeframe allows the Town to plan financially for dredging projects and keep up with dredging needs before any areas become too problematic.

The harbor exists in its current form due to manmade intervention. Due to ongoing natural processes, if dredging did not continue on a regular basis, the harbor has the potential to return to its natural state of a shallower channel with significant mudflats in the current mooring areas.

Navigation

Speed in the harbor is limited to headway speed, which is the slowest speed at which a vessel may be operated and maintain steerage.[22] The Harbormaster and staff regularly patrol the harbor and enforce speeding violations. Congestion on a busy day can be significant in the channels and in the outer harbor areas.

Waterways users note that more boater education is needed to address unsafe boating practices exhibited often by new boaters or those unfamiliar with the area. The state's Hanson-Milone Boater Safety Act enacted in 2025 requires boater education for all motorized vessel operators in Massachusetts.[23] These boaters will be required to complete an approved boating safety course and carry proof of course completion while on the water. Starting on April 1, 2026, a valid boater safety certificate will be required for all individuals born after January 1, 1989, operating motorboats and personal watercraft (PWC) in Massachusetts. Boaters born on or before January 1, 1989, will have until April 1, 2028, to obtain their certificate.

With the conversion of many single point moorings to double point moorings (bow and stern), navigation in the harbor, particularly in the channel, has improved significantly. This configuration prevents vessels from swinging both into other vessels and into the channel thereby impeding navigation. In addition to helping to better define the channel, this setup improves the structure of the mooring areas and can free up space to potentially add a limited number of moorings. While this double point configuration is beneficial and works for many vessels, it is not universally applicable to all vessels and areas of the harbor.

[22] Town of MBTS. 2024. Manchester Harbor Mooring and Waterway Regulations. Online at: https://www.manchester.ma.us/DocumentCenter/View/8341/Harbor-Rules-and-Regulations-2025

[23] Commonwealth of Massachusetts. 2025. Massachusetts Boating Law Summary. Online at: https://www.mass.gov/info-details/massachusetts-boating-law-summary

Conversion to double point moorings is complete in Areas 1, 2, and almost all of 4. A portion of Area 3 is complete, with the goal of eventually converting all moorings in this area. At least a portion of Area 5 eventually will be converted to double point moorings, but it is likely that some moorings will remain with a single point configuration. Other mooring areas are unlikely to be converted to double point moorings.

The largest accretion of sediment is occurring at Sand Dollar Cove and Long Beach, with some sediment extending into the channel. This material cannot be used for nourishment because it is mixed with organic material. There are no other notable areas of accretion.

Public Access

The ability to access the shoreline has long been an important feature of MBTS for fishing, seafaring, and recreating. Though much of the coastline is held privately, several beaches and parks provide physical and/or visual access to the public. These areas are significant to the character of the Town and many existing plans, such as the Town's *Master Plan* and *Open Space and Recreation Plan* highlight the importance of maintaining public access to the shoreline.

Regulatory Context

The use of tidelands (*i.e.*, the land under the ocean and the current and historic land between high and low tide) is governed by the *Public Trust Doctrine*, a concept in law that can be traced back to ancient Roman law. The *Public Trust Doctrine* states that people's rights in tidelands and the water are held "in trust" by the state for public benefit. Originally, this meant that all tidelands were public. When the Massachusetts Bay Colony decided to allow private ownership of tidelands along much of the coast to encourage activities such as private wharf construction, they significantly reduced the public's rights. Today, the general public is allowed to use private tidelands for the purposes of fishing, fowling, and navigation, along with their "natural derivatives." The state has interpreted "fishing, fowling, and navigation" in modern contexts, suggesting that "natural derivatives" include activities such as surfcasting (fishing), birdwatching, and loading and unloading related to vessel-based transport of people and materials.[24] Public rights in the intertidal zone do not extend to general recreational activities such as strolling or sunbathing. Private rights in the intertidal zone do not extend to the water itself, so a water-based activity such as swimming would be allowed as long as the swimmer did not touch the bottom while swimming. Below the low water mark, in most cases, the land belongs to the state and the public can legally engage in recreational activities beyond those associated with fishing, fowling, and navigation.

[24] Massachusetts Office of Coastal Zone Management. 2005. Public Rights Along the Shoreline. Online at: https://www.mass.gov/info-details/public-rights-along-the-shoreline.

The *Massachusetts Public Waterfront Act* (also known as "Chapter 91"), protects and promotes use of the tidelands through its licensing process. Activities including placing and building structures, filling, dredging, altering structures, and changing uses of structures located in flowed and filled tidelands, great ponds, and navigable non-tidal rivers and streams, any of which requires Chapter 91 authorization (MGL CH 91). When a Chapter 91 license is issued, it often contains conditions regarding public access. Common language requires:

- Protecting the public's rights of lateral passage between the high and low water marks, allowing passage over all structures within the intertidal area if necessary to preserve that access
- Placing and maintaining public access signs on the sides of structures for purposes of facilitating lateral passage in the intertidal area
- Allowing the public to pass, on foot for *any purpose*, from dawn until dusk, within the area of a property lying seaward of the high water mark. This condition is often included as partial compensation for private use of a structure on public
- Commonwealth tidelands. When this condition is in a CH 91 license, public access in the intertidal area is no longer limited to fishing, fowling, and navigation.

Public access to the shore and related activities are also addressed at the municipal level through various municipal bylaws:

- Dogs: "No owner or keeper of a dog shall permit such dog to trespass on any Town beaches from April 15 through October 14."[25] Further, dog owners must remove and dispose of any feces left by a dog on a beach.
- Parking – "Every passenger vehicle having a capacity of less than one (1) ton registered to a resident and is so garaged is entitled to a resident sticker…. Each resident parking sticker shall entitle the bearer to park his or her vehicle on any street in the Town of Manchester, provided there is space available and provided parking is permitted in said area. Said sticker does not permit parking in an area otherwise restricted by the Traffic Rules and Regulations of the Town of Manchester. Said parking sticker shall have a printed expiration date. Each residence is eligible to obtain up to two (2) visitor placards from the Parking Clerk. Such placard is to be used in any resident area that is not otherwise restricted by the Traffic Rules and Regulations of the Town of Manchester. Visitor placards shall have a printed expiration date. Visitor placards may be used in any of the following municipal lots: Norwood St, Brook St, Town Hall, and Masconomo Park. Visitor placards are not permitted at Singing Beach, Tuck's Point or White Beach."[26]

[25] General By-laws of the Town of MBTS. Article X Police and Other Regulations. Section 28 – Animal Control.
[26] General By-laws of the Town of MBTS. Article XIV – Resident Parking, Section A2 – Resident Parking, Resident

- "There shall be no skin-diving, scuba diving or any other underwater activities from Singing Beach at any time, and from Black Beach and White Beach, other than from the extreme ends of these beaches, from Memorial Day to the day following Labor Day."[27]

Beaches, Parks, and Public Access

As noted in the Town's *Open Space and Recreation Plan*, "Some of the most often cited natural resource treasures belonging to the coastal community…are its beaches, coves, and harbor parks."[28] Those sites are described below, highlighting some of the significant features, needs, and opportunities of each.

Figure 18: Map of public access sites.

Masconomo Park

This grassy park at the Head of Manchester Harbor is a popular destination with beautiful views of the water. The Town purchased the land and swamp at this site in 1903 and created the second official harbor park in town.[29] The site offers benches, picnic tables, a playground, sports fields, and a gazebo/bandstand that is the location of summer concerts. Seasonally, a

Parking Sticker, Application Procedure, Visitor's Permit.

[27] General By-laws of the Town of MBTS. Article X Police and Other Regulations. Section 31 – Underwater Activities.

[28] Town of MBTS. 2014. Open Space and Recreation Plan. Online at: https://www.manchester.ma.us/DocumentCenter/View/1148/MBTS-Open-Space-and-Recreation-Plan.

[29] *Ibid.*

portable toilet is available at the park. Direct-water access is not available from the park apart from the dock maintained by Manchester Harbor Boat Club.

The parking lot has approximately 60 spaces. Parking along the perimeter of the lot is resident-only. Non-resident parking (three-hour limit) can be found in the 19 spaces in the middle of the parking lot. Additional two-hour parking is available along Beach Street.

This site is prone to flooding and was the subject of community planning activities to create a floodable park moving forward.

Reed Park

A small grassy park with benches, Reed Park is adjacent to the railroad tracks and offers excellent views of the water. Paid access to transient dockage is provided by the Harbormaster at Reed Park. Additional two-hour parking is available along Beach Street. Additional docks are planned for construction in 2026 and public access along the docks is allowed.

Tuck's Point

Figure 19: Picnic: Tables at Tuck's Point.[30]

The Town purchased the land that is now Tuck's Point in 1895, creating the Town's first harbor park.[31] This popular 5.4-acre park has a small pebble beach, benches, a swing set, a comfort station with bathrooms, an iconic rotunda, and picnic tables. The pier at this site is a popular place for young children to crab. A paddleboard program has recently been established at this

[30] Image taken from Town of Manchester Facilities: Tuck's Point. Online at: https://www.manchester.ma.us/facilities/facility/details/Tucks-Point-1.
[31] Town of MBTS. 2014. Open Space and Recreation Plan. Online at: https://www.manchester.ma.us/DocumentCenter/View/1148/MBTS-Open-Space-and-Recreation-Plan.

site, and others use it to launch small car-top watercraft.

The Chowder House, a covered but not enclosed building, has a kitchen, tables, and chairs. The space can be reserved for events up until 9:00 PM during the summer and fall. Parking at this site is resident-only. Tuck's point offers access to the water for small boats. Swimming is allowed at the Tuck's point beach. The Town maintains public docks and a dinghy tie up. The Manchester Sailing Association offers sailing lessons to children and adults–their programs are open to all.

Lobster Cove Beach

A small relatively sheltered area, Lobster Cove Beach is a sand and pebble beach surrounded by a rocky shore. There is no public parking, lifeguard, or other infrastructure at this site. People typically use this site for swimming and non-motorized boating.

Figure 20: Painting of Lobster Cove by Winslow Homer.[32]

Singing Beach

This popular recreational beach is approximately ½ mile wide and draws roughly 4,000 visitors a day on busy weekends[33]. A survey conducted as part of the 2021 Open Space and Recreation

[32] Painting, Lobster Cove, Manchester, Massachusetts; Winslow Homer (American, 1836–1910); USA; brush and oil paint on mahogany wood panel; 31.3 × 54 cm (12 5/16 × 21 1/4 in.); Gift of Charles Savage Homer, Jr.; 1915-17-1. Online at: https://collection.cooperhewitt.org/objects/18185713/.
[33] Town of MBTS Master Plan. 2019. Online at: https://www.manchester.ma.us/DocumentCenter/View/2931/Master-Plan-Final-2019.

Planning process identified Singing Beach as one of the top three parks and open spaces in town, with 89% of respondents noting they visit the beach ten or more times a year.[34]

The beach has seasonal lifeguards, a small privately-run snack shack, and restrooms with showers and changing stalls. Dogs are allowed on the beach between Oct. 15-April 15, with a limit of two dogs per person. Resident parking is available year-round. In the off-season (October 15-April 15), non-resident parking is limited to designated parking spaces. Between April 15-June 20, parking is limited to residents only. From June 17-Labor Day, non-resident parking is available for $30/day until capacity is reached –unless it is a holiday or a parking attendant is not on-duty, in which case non-resident parking is not allowed. Additional off-site parking is available at Masconomo Park and on Summer Street as well as behind the train station. Walk-on residents and non-residents (ages 12-65) visiting between Memorial Day and Labor Day can purchase a day pass ($10/person) or season pass ($35/person).

White Beach

White Beach is a popular site for walking, swimming, kayaking, paddleboarding, and enjoying views of the water. Dive groups and school groups use the area for lessons and exploration of the rocky shore. Open year-round, parking in unpaved spaces along Ocean Street is resident-only during the summer season. This area experiences erosion from storms. DPW has added sand to the dunes in past years, but that sand is frequently washed out by storms.

Black Beach

A sand and pebble beach with a rocky shore, Black Beach is located in Kettle Cove. The sheltered location attracts boaters who anchor here in the summer. This beach does not have parking or other amenities, apart from trash barrels. Some people park at nearby White Beach and walk to Black Beach. Like White Beach, Black Beach experiences erosion and other impacts from storm activity. As a result, the seawall and rip rap at this location are in poor condition.

[34] MBTS Open Space and Recreation Plan. 2021. Online at: https://manchester.ma.us/DocumentCenter/View/5020/MBTS-2021_OSRP-Final-Plan-DCS-Approved-

Figure 21: Crumbling pavement near White Beach.

Gray Beach's Landing

Much of Gray's Beach is private, however there is limited public access, including unmarked parking, a bench, and a picnic table. The 2021 Open Space and Recreation Plan highlights the need for an accessible path from the parking lot to the picnic area.

Magnolia Beach

Located on Shore Drive, Magnolia Beach is a small stretch of sand abutting Gray Beach, which is privately owned. Visitors to Magnolia Beach must access it via Shore Drive, and access is technically property owned by the City of Gloucester. A Gloucester parking permit is required to use those parking spaces. A sandy boat ramp is accessible at low tide and is owned by MBTS.

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Figure 22: Image of Magnolia Beach.

West Manchester Beach

A small sandy beach located on Harbor Street, West Manchester Beach has two resident parking spaces and no amenities.

Boat Ramp behind Town Hall

The boat ramp behind town hall and associated docks provide access for boat launching from a trailer as well as small boat access. There are kayak racks at this location and public docks. Parking is resident only and there are no boat-trailer parking spots.

Boat Tours

In 2024 MBTS began operating a launch service that provides the public with access to the harbor for tours and access to moorings, both for a fee. Payments for the service are electronic and can be done via the *Dockwa* app. Pick-up and drop-off is available at Tuck's Point, Crocker's Boatyard, Manchester Marine, Manchester Harbor Boat Club dock, and Reed Park dock.

Natural Resources

The MBTS harbor planning area encompasses many natural resources including ocean, beaches, dunes, coastal banks, salt marshes, tidal flats, eelgrass beds, and scenic views. These coastal natural resources support many recreational and commercial activities including boating, fishing, swimming, and wildlife viewing.

MBTS's ocean, harbor, wetlands, and coastal natural resources are important resources, but development pressures in the Town risk impacting these natural resources. For example, in some parts of the study area, such as in the Town Center, there is considerable impervious surface. These growth pressures extend into the harbor where the demand for moorings continues. Further, the increasingly intense use of Sand Dollar Cove as a weekend anchoring destination may contribute to habitat loss.

MBTS's Conservation Commission is required by law to administer and enforce the Massachusetts Wetlands Protection Act as well as local by-laws. The Planning Board has some authority over Chapter 91 permits and includes stormwater management and protection of viewscapes in its special permit authority. Beyond municipal entities, several nonprofit organizations are working to protect MBTS's natural resources. Salem Sound Coastwatch works directly with the Manchester Coastal Stream Team – a municipal committee – on its water-quality testing work in the Town's coastal streams and salt marsh areas.

The Trustees of Reservations also owns and protects Coolidge Reservation, which is an open, grassy area by rocky headlands with scenic views of the ocean. Further, Manchester Essex Conservation Trust and Essex County Greenbelt are dedicated to protecting important land and wildlife habitat in MBTS and beyond.

Wetlands, eelgrass, and wildlife in MBTS are important to the recommendations included in this plan and are described in detail below.

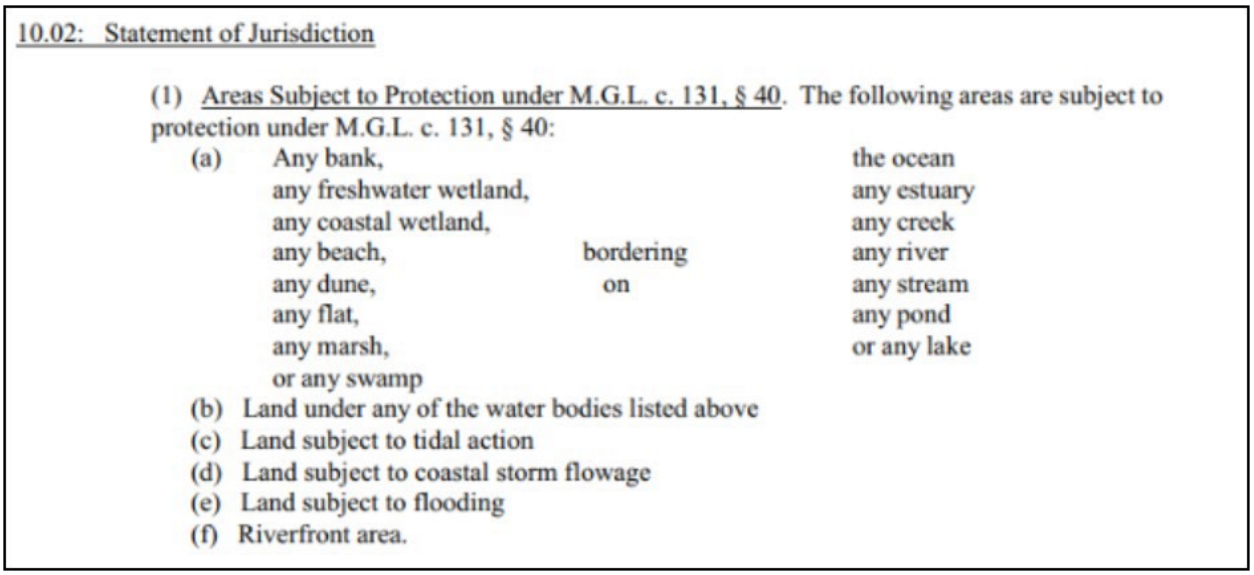
Wetlands

Wetlands are areas where groundwater is at or near the surface, and come in many different forms including swamps, bogs, coastal marshes, wet meadows, estuaries, beaches, and freshwater marshes.[35] In the context of the Massachusetts's Wetlands Protection Act, the definition of wetlands is broad, as shown in Figure 18.[36] Given their ability to absorb large amounts of water, wetlands provide flood protection which can reduce the potential for

[35] Town of Manchester-by-the-Sea. Wetlands as a Resource Area. Online at: https://manchester.ma.us/362/Wetlands-as-a-Resource-Area.

[36] Massachusetts Department of Environmental Protection. (n.d.). *310 CMR 10.00:* Wetlands Protection Act Chapter. Online at: https://www.mass.gov/doc/310-cmr-1000-the-wetlands-protection-act/download

property damage. Wetlands also provide important habitats and breeding sites for wildlife. The largest areas of wetlands are in Wolf Trap (the area north of Ocean St), Chubb Creek and Days Creek.



10.02: Statement of Jurisdiction

(1) Areas Subject to Protection under M.G.L. c. 131, § 40. The following areas are subject to protection under M.G.L. c. 131, § 40:

(a) Any bank, / any freshwater wetland, / any coastal wetland, / any beach, / any dune, / any flat, / any marsh, / or any swamp — bordering on — the ocean / any estuary / any creek / any river / any stream / any pond / or any lake

(b) Land under any of the water bodies listed above

(c) Land subject to tidal action

(d) Land subject to coastal storm flowage

(e) Land subject to flooding

(f) Riverfront area.

Figure 23: Resource areas subject to protection in the Massachusetts Wetland Protection Act.[37]

[37] *Ibid.*

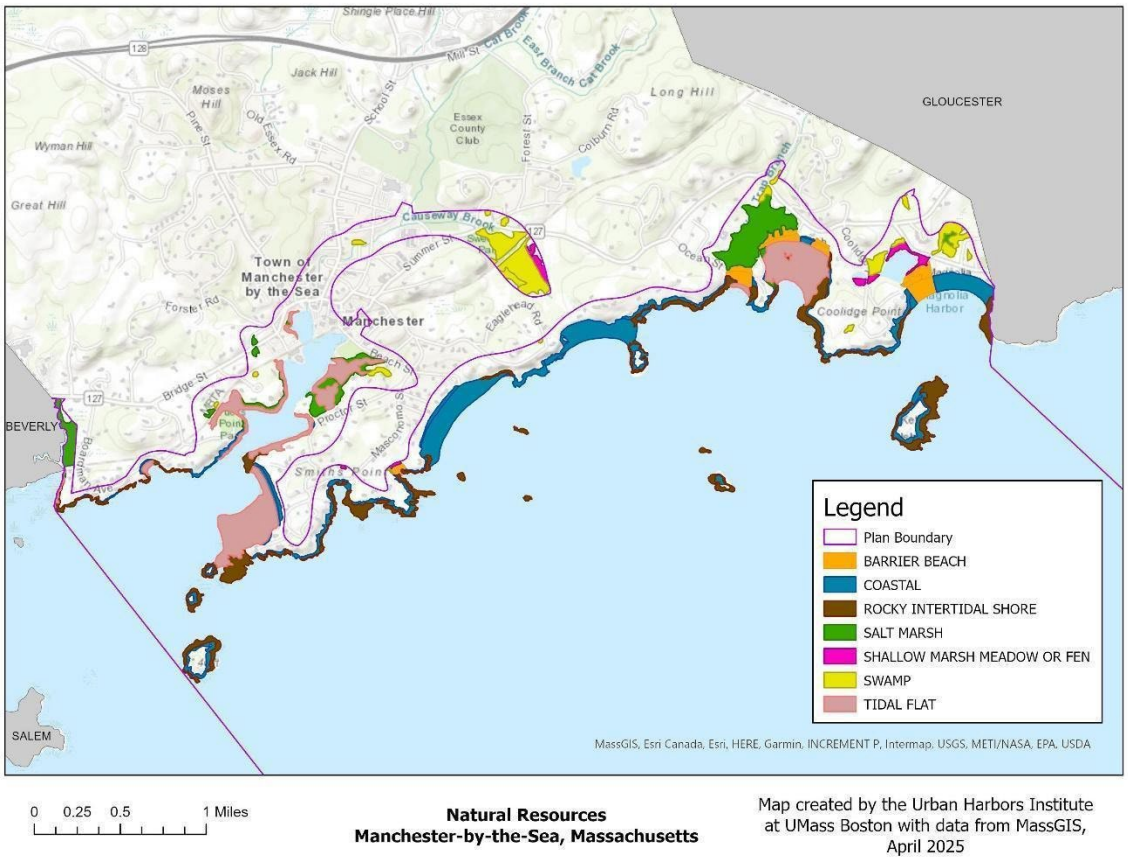


Figure 24: Map of natural resource areas in MBTS.

All wetlands and bordering vegetation are protected by the State's Wetlands Protection Act.[38] Prior to landscaping or an addition, homeowners must determine if they are within 100 feet of a wetland (200 feet for riverfront), and if so will need to file with the Conservation Commission.[39]

There is currently nothing pending in terms of updating bylaws. The last change added an area of land under the ocean section to the bylaws to protect shellfish and eelgrass. Ideally, many would like to see more protection for wetlands.

Salt marshes

A salt marsh is a coastal wetland that "extends landward up to the highest high tide line... and is characterized by plants that are well adapted to or prefer living in saline soils" (310 CMR 10.32.2). Salt marshes are critical spawning habitats and act as a nursery for young marine life. They also provide shelter and food for many species including finfish, migrating birds, muskrats, etc. Salt marshes also have a network of roots and rhizomes under the marsh vegetation which creates peat that can absorb storm surges and prevent erosion.

[38] *Ibid.*
[39] *Ibid.*

MBTS is located at the edge of New England's largest salt marsh, Great Marsh. This salt marsh extends over 25,000 acres. Within the Town, most salt marshes are privately owned, but a portion of the salt marsh in Masconomo Park is publicly owned along the edge. There are also salt marshes along Sawmill Brook, Chubb's Creek, and Wolf Trap.

In addition to Town funding, the Massachusetts Office of Coastal Zone Management awarded MBTS a grant in 2023 to support the Sawmill Brook Restoration project. This project was aimed at restoring salt marsh habitat and enhancing resilience through nature-based and hybrid approaches. This project plans to restore an acre of salt marsh as tidal flow returns. As of now, it is believed that the salt marsh population has stabilized.

Tidal flats

The MBTS inner harbor in its natural state is made up of tidal flats, however, this area is dredged regularly to maintain safe navigation. Tidal flats are also located in Sand Dollar Cove, Magnolia Harbor, and Grays Beach. Tidal flats are also types of wetlands that include areas of unconsolidated sand and mud that are exposed at low tide and submerged at high tide. Per the Massachusetts regulations, a tidal flat is a "nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach".[40] Tidal flats are important for nutrient cycling and support a high degree of biodiversity. These flats also provide an important habitat for shorebirds and shellfish.

Beaches

Both coastal beaches and barrier beaches are found in MBTS beaches, as shown in Figure 19, and are of great importance to the community. Coastal beaches are composed of sand, clay, or gravel which moves with storm and/or wave action.[41] Per the Massachusetts regulations, coastal beaches are defined as a "gently sloping shore of a body of salt water…that extend from the mean low water line landward to the dune line, coastal bank line, or the seaward edge of manmade structures when these structures replace one of the above lines…".[42] Singing Beach is MBTS's publicly accessed coastal beach.

[40] Massachusetts Executive Office of Energy and Environmental Affairs. (n.d.). *310 CMR 10.27(2)(b): Coastal banks*. Code of Massachusetts Regulations.

[41] Town of Manchester-by-the-Sea. Beaches. Online at: https://www.manchester.ma.us/366/Beaches.

[42] Massachusetts Executive Office of Energy and Environmental Affairs. (n.d.). *310 CMR 10.27(2)(b): Coastal banks*. Code of Massachusetts Regulations.

A barrier beach is "a narrow, low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast…separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. It may be joined to the mainland at one or both ends."[43] Barrier beaches are surrounded by water on at least three sides, their shape, location and volume are greatly affected by storms, wind, and water. That said, they provide many beneficial services, including protecting from storms, providing habitat on the beach, and serving as a recreational resource. White, Black, and Gray beaches are the main barrier beaches in MBTS. The public beaches that make up the town's 12.8-mile shoreline include Singing Beach, Lobster Cove, Graves Beach (only accessible by boat), White Beach, Black Beach and Gray Beach. Singing Beach is the most popular beach and is known for the sound of sand "singing" as you walk. The beautiful beaches of MBTS are heavily used by both residents and visitors, making it critical to protect this precious resource.

Sawmill Brook

Sawmill Brook and its tributaries function as an important drainage system for freshwater from the upland central region of town, replenishing groundwater and eventually discharging inputs into MBTS Harbor.

[43] Massachusetts Executive Office of Energy and Environmental Affairs. (n.d.). *310 CMR 10.29(2)(b): Coastal banks*. Code of Massachusetts Regulations.

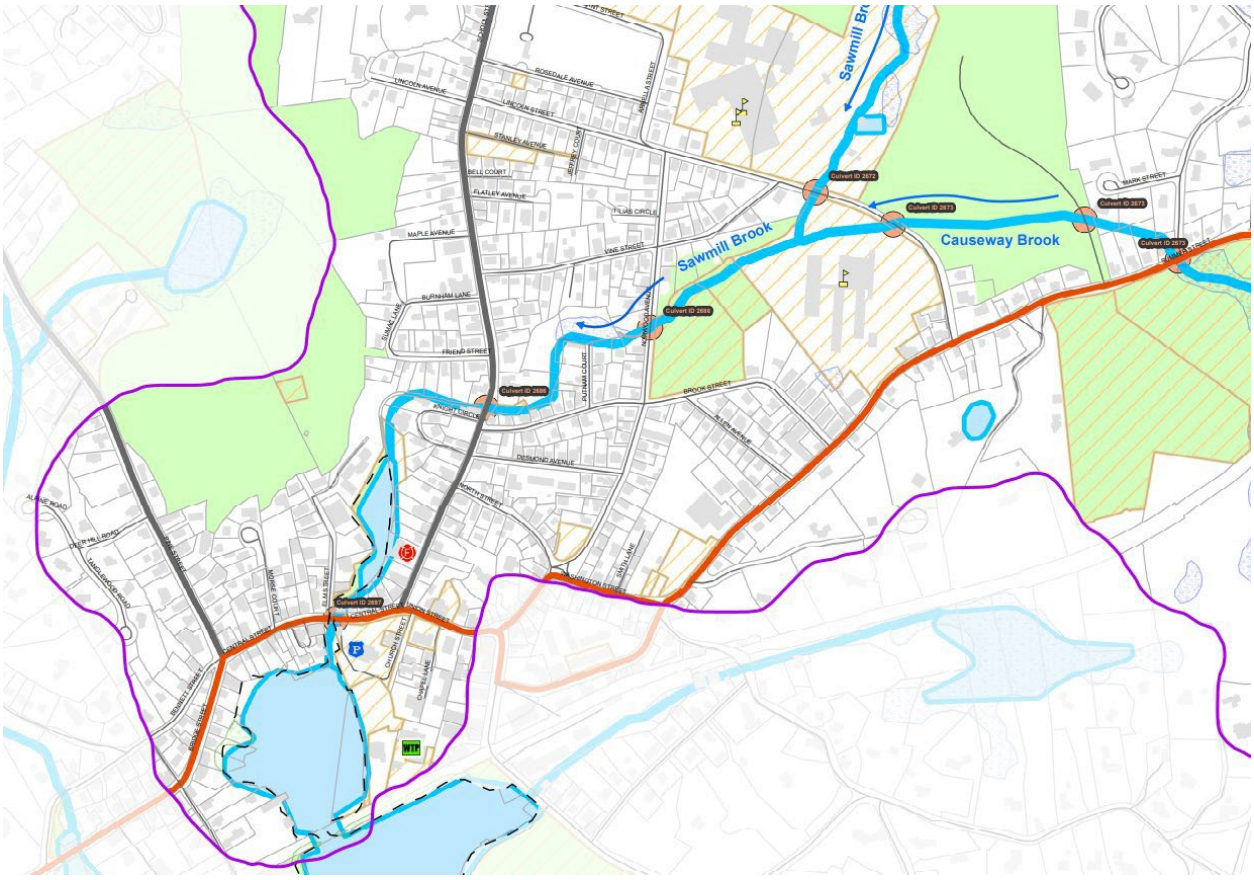


Figure 25: Location of Sawmill Brook in downtown MBTS. The purple line represents the boundary of the Sawmill Brook Watershed, and the orange line is MA Route 127 that runs through Essex County.[44]

From early settlement, Sawmill Brook was an essential part of daily life providing water for drinking, cooking, and fire response, and once powered the Town's cabinet industry. In the 1930s, the Central Street dam was built on the brook to create a fish pond and ice rink.

The brook was identified by the MA Division of Marine Fisheries (DMF) as a spawning ground for rainbow smelt.[45] Further, Sawmill Brook is home to a wild brook trout population.[46] In 2021, a small population of sea-run brook trout were observed downstream, making Sawmill Brook one of two coastal streams in Massachusetts (and the only one on the North Shore) with sea-run brook trout. Sea-run brook trout face potential stressors from stormwater runoff into the

[44] Town of Manchester-by-the-Sea. n.d. Sawmill Brook Watershed Map Downtown Area. Online at: https://www.manchester.ma.us/DocumentCenter/View/620/Sawmill-Brook-Watershed-Map-Downtown-Area-PDF

[45] Town of Manchester-by-the-Sea. n.d. Sawmill Brook River Watershed. Online at: https://www.manchester.ma.us/354/Sawmill-Brook-Watershed-Project

[46] Town of Manchester-by-the-Sea. n.d. MassWildlife Letter on Coldwater Fisheries. Online at: http://manchester.ma.us/DocumentCenter/View/4627/MassWildlife-Letter-on-Coldwater-Fisheries

brook, sedimentation, reduced passage due to the presence of dams, and demands on groundwater (groundwater is a natural source of freshwater to the Sawmill Brook watershed). The brook is experiencing water habitat degradation due to water quality impairments and from the addition of culverts and dams along the brook. The Central Street dam and tide gate hamper drainage and the Town experiences frequent flooding in the Sawmill Brook watershed, specifically in the downtown area. Flooding is exacerbated by climate change impacts of increased frequency and intensity of storms. There is a plan in place to remove the dam and widen the culvert at Central Street to alleviate flooding and enhance fish passage.

Sawmill Brook was recently designated as a Coldwater Fish Resource (*i.e.,* a State designation for a stream, river, or tributary that supports reproducing coldwater fish) to afford the watershed some protection, and, along with the adjacent and connected Cat Brook in Manchester, and is the only coldwater fish resource in the north coast district, which includes coastal towns from Revere to Newburyport.

Eelgrass

Eelgrass (*Zostera marina*) is a submerged plant that is found mainly in Long Beach and Sand Dollar Cove along with smaller areas located by Graves Island and Kettle Island. Eelgrass provides many different services including trapping sediment, filtering runoff, capturing carbon, absorbing nutrients, dissipating wave energy, creating habitat for juvenile fish, and providing food.

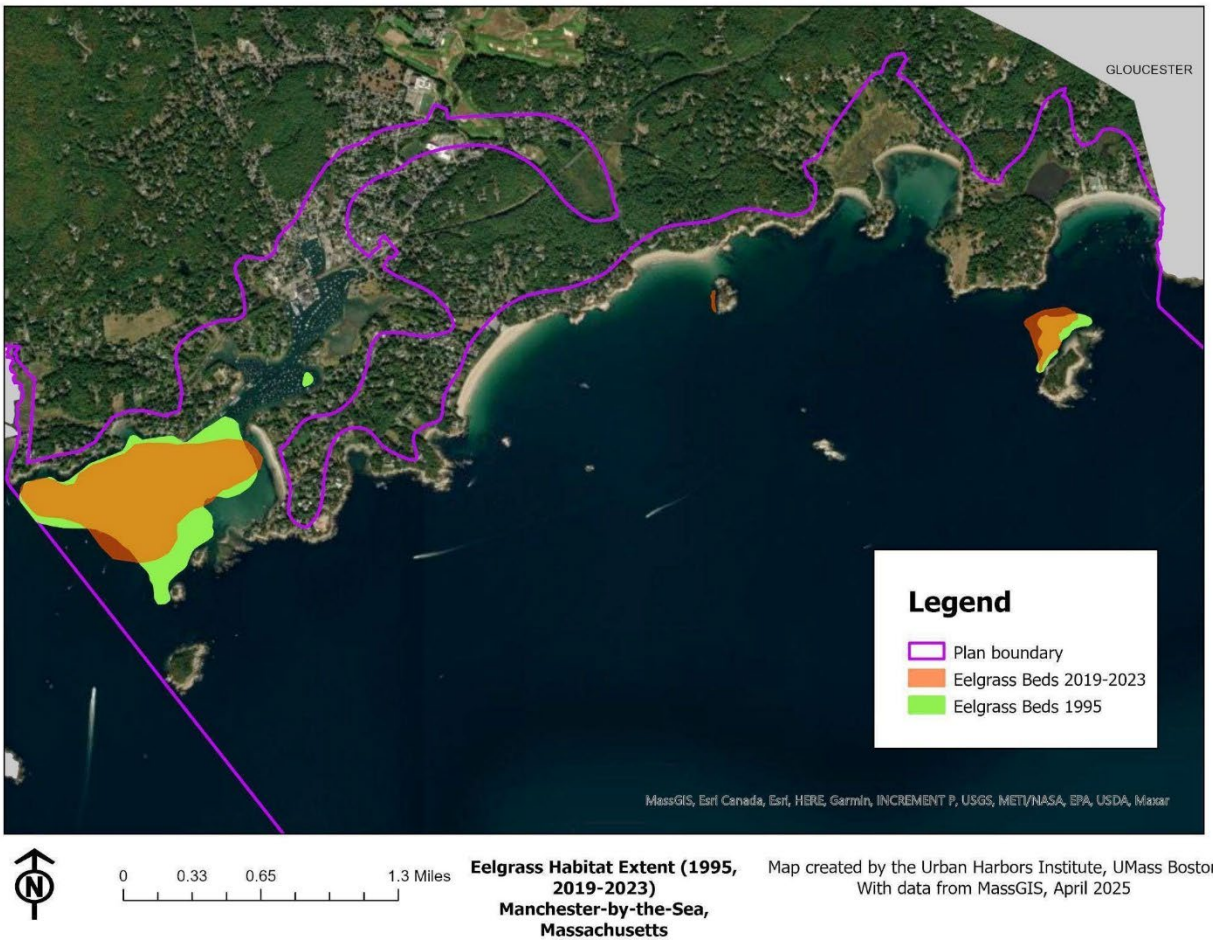


Figure 26: Map of eelgrass beds in MBTS from 1995 and 2019-2023 survey periods.

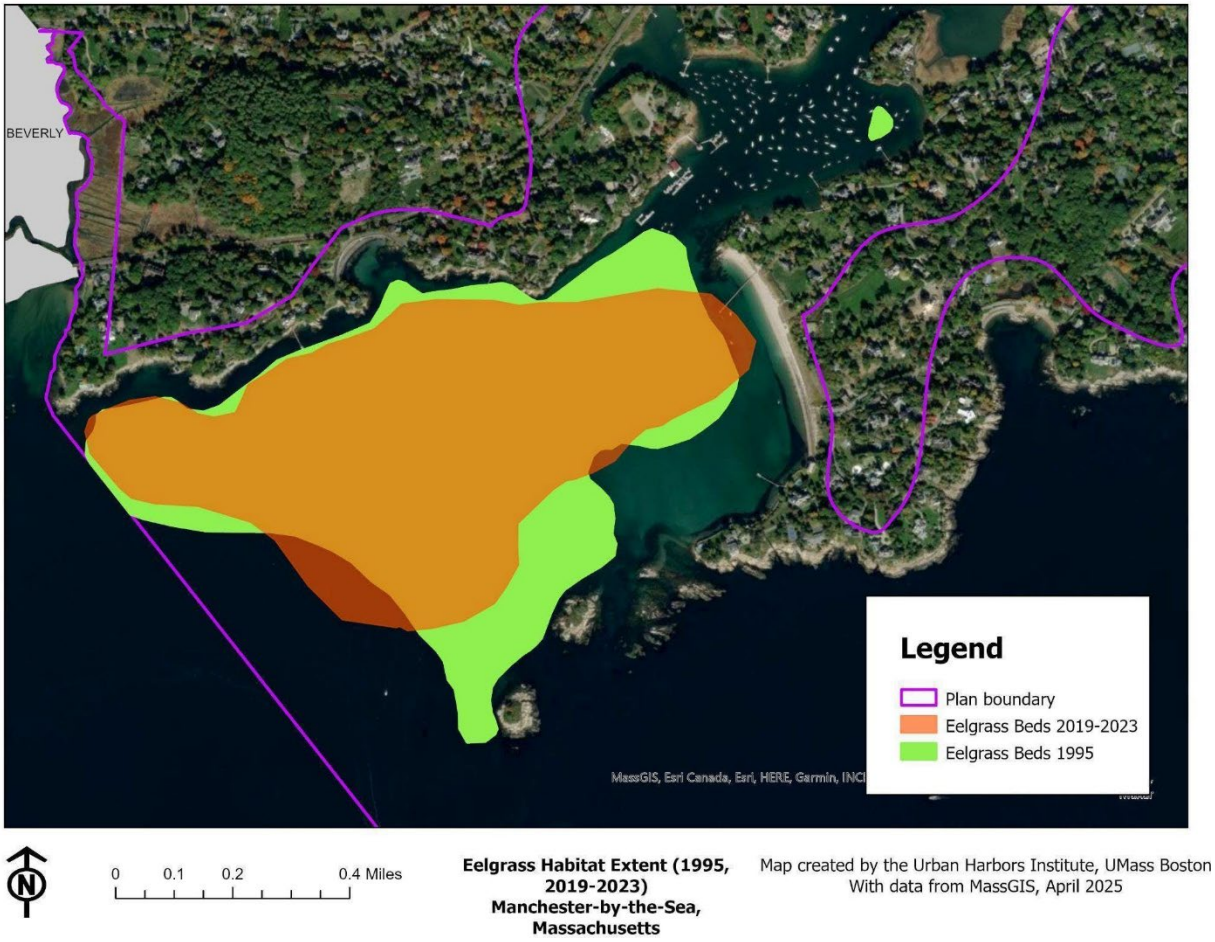


Figure 27: Map of eelgrass beds in the inner and outer areas of MBTS harbor from 1995 and 2019-2023 survey periods.

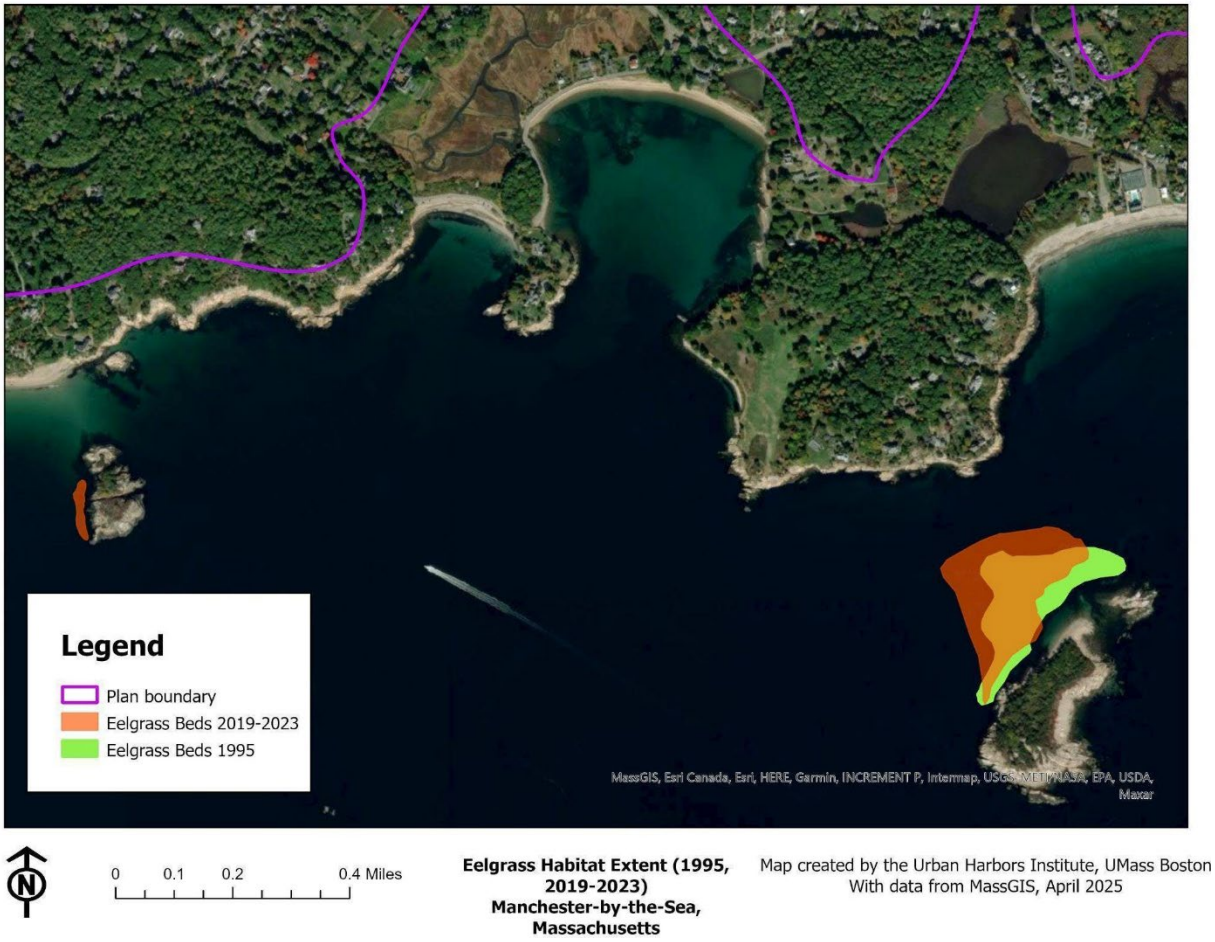


Figure 28: Map of eelgrass beds on the most eastern coastline of MBTS.

Due to many different stressors, eelgrass is declining both globally and locally. Stressors can include disease, changes in water temperature, turbidity and light limitation, excess nitrogen, and mechanical reasons. Mechanical stressors include daily boating activity, dredging and the installation of moorings, all which have been major drivers of eelgrass loss in Salem Sound, with the greatest losses occurring in highly utilized areas (Table 2). Boating also leads to localized eelgrass loss through disruption to beds from propeller scouring, grounding, and anchoring.

Beds were completely lost in Collins Cove, Lobster Rocks, Marblehead, Hawthorne Cove, and inner Manchester Harbor since 1995. Studies on mooring scars determined that in Manchester Harbor the average mooring scar size is 40-50 m2 (Evans 2012, DMF unpub. data), resulting in an estimated 4-6 acres of eelgrass loss from mooring scars in the 2013-2014 timeframe.[47]

Anecdotal evidence indicates that the eelgrass habitat has remained relatively unchanged, but

[47] Massachusetts Division of Marine Fisheries. Historic eelgrass trends in Salem Sound, Massachusetts Final Report. 2016. Online at: https://www.mass.gov/files/2017-08/2016_Salem%20Sound%20Eelgrass.pdf

the damage to and loss of eelgrass in Sand Dollar Cove from moorings and boating activity including anchoring is likely since the cove is an increasingly popular spot for daily boaters and waterway users in the summertime. This Plan calls for comprehensive and longitudinal monitoring to determine the health of these important resources.

In 2019, The Environmental Protection Agency (EPA) did a pilot project for reseeding the eelgrass, including putting leaves with seeds in bags and anchoring them in potentially productive locations for eelgrass growth. This should be monitored on an ongoing basis.

Table 3: Eelgrass abundance changes in acres.

Site	**1995**	**2022**	**% Change**
Sand Dollar Cove	147	124	16% (loss)
Kettle Island	9	12	33% (gain)

Wildlife

MBTS's coastline hosts a variety of wildlife which includes birds, fish, shellfish, and more. More details on this wildlife can be found below.

Birds: Mass Audubon owns both the islands of House Island and Kettle Island. The islands are a sanctuary and not allowed for public access. These two islands make up a wildlife sanctuary which are home to large colonies or birds, including Great Egrets, Ibises, American Oystercatcher, Gulls, Roseate Tern, and more. The Roseate Tern is listed as endangered and has a critical habitat in the coastal areas. Mass Audubon monitors the colony once a year and counts the number per year. The main goal of the islands is to maintain a healthy natural ecosystem which helps maintain birds or wildlife in search of habitat. Beyond Mass Audubon, there has been no additional comprehensive study of bird species along other parts of the MBTS coastline.

Figure 29: Roseate Tern.[48]

Mass Audubon is currently monitoring vegetation on Kettle Island and is working on an island restoration project. Mass Audubon recently removed 15 non-native trees that are not used by the birds, and they are looking to create a habitat that is better for the birds to increase the size of the colony. There are two cruises out of Gloucester where you can visit the islands and learn about the birds and local ecology.

Fish and Shellfish: The most commonly caught fish species in and around MBTS include striped bass, bluefish, winter flounder, summer flounder, scup, and black sea bass. The Sawmill Restoration Project will remove the barrier (tide gate) to fish passage to make the Sawmill Brook habitable again to the once-abundant rainbow smelt and other diadromous fish species. Although there are suitable habitat areas for shellfish species, there is currently no recreational shellfishing in MBTS. However, it should be noted that the MassOyster project has oyster spat in an upweller on Morss Pier. They grow oysters each season and distribute them in oyster beds in neighboring communities to encourage the restoration of the population.

[48] Commonwealth of Massachusetts. Learn about Roseate Terns. Online at: https://www.mass.gov/info-details/learn-about-roseate-terns.

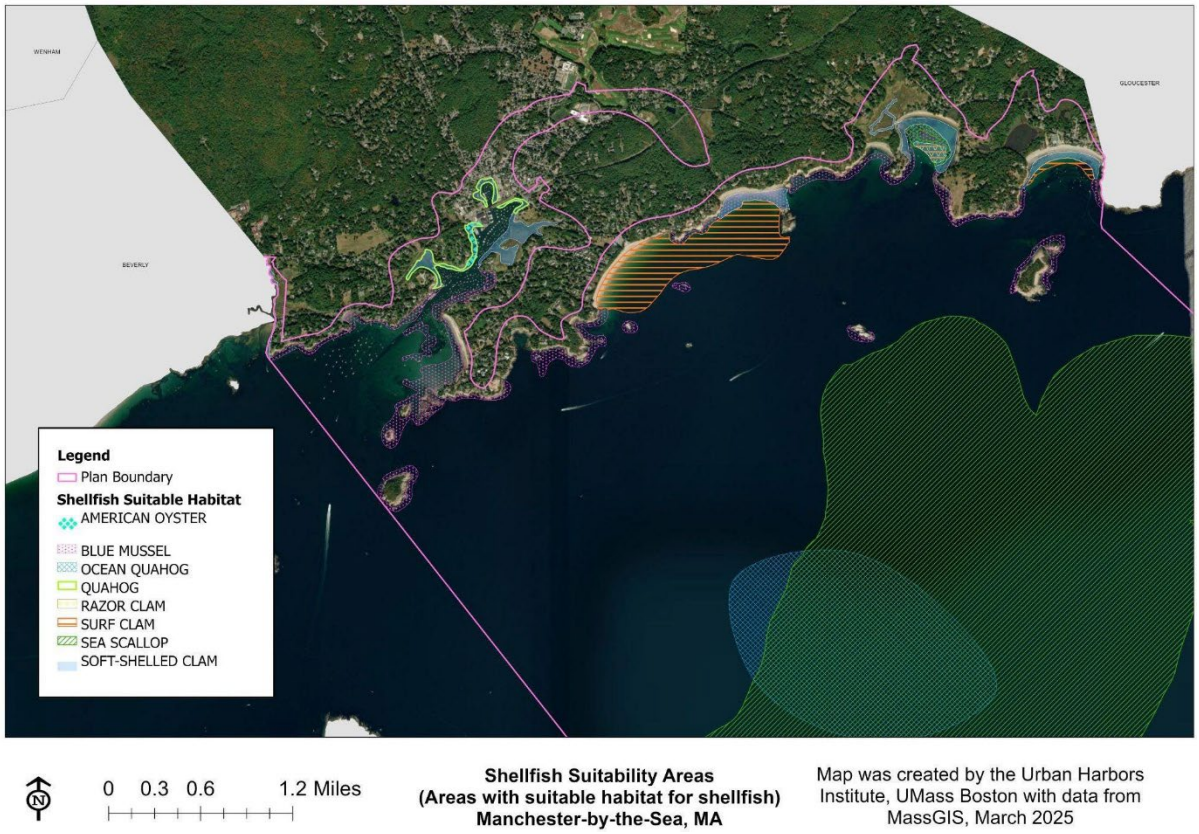


Figure 30: Map of Shellfish Suitability Areas in MBTS. Note: This map highlights general areas where suitable shellfish habitat may exist; however, further verification to determine if shellfish are active.

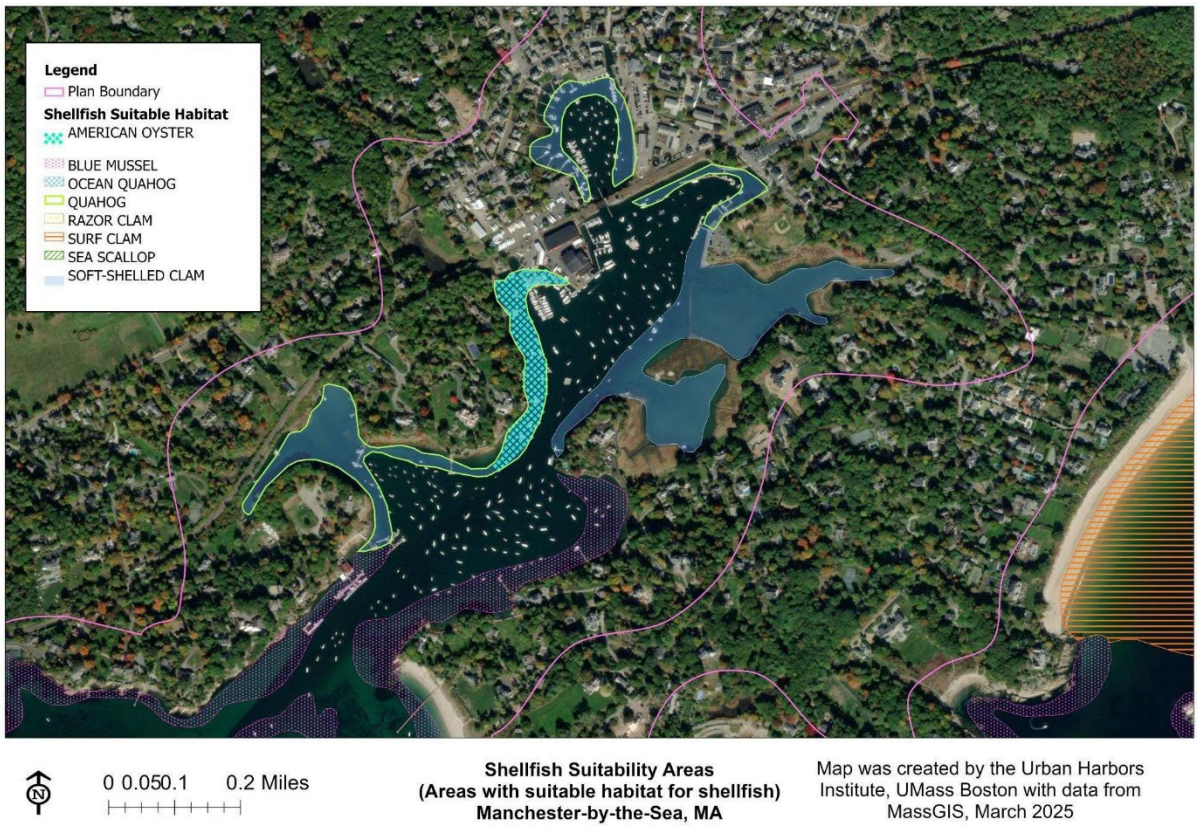


Figure 31: Map of Shellfish Suitability Areas in MBTS. Note: This map highlights general areas where suitable shellfish habitat may exist; however, further verification is required to determine if shellfish are active.

Several invasive species have been observed in the harbor area, with a recommendation to remove and cull invasive species such as the European green crab, the Asian shore crab, and the European Oyster. Salem Sound Coast Watch conducts invasive species monitoring of crustaceans, tunicates, seaweeds, and more as community science projects at White Beach.[49] The data are shared with CZM, which tracks the marine invasive species abundance in Massachusetts.[50]

[49] Salem Sound Coastwatch. Marine Invasive Species Monitoring - Manchester White Beach. Online at: https://salemsound.org/events/marine-invasive-species-monitoring-manchester-white-beach/.
[50] *Ibid.*

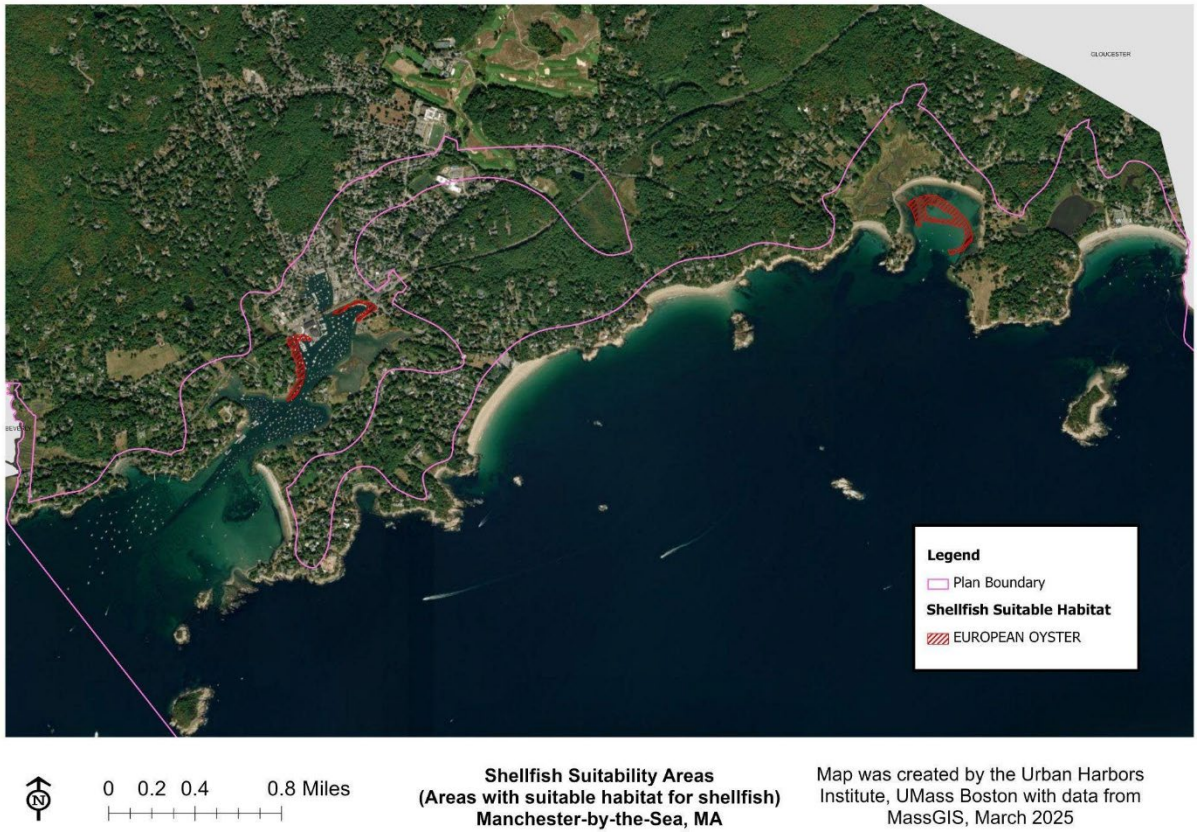


Figure 32: Map of Shellfish Suitability Areas in MBTS for the European Oyster, an invasive species. Note: This map highlights general areas where suitable habitat may exist; however, further verification is required to determine if shellfish are active.

Given the importance of natural resources to MBTS, it is critical to promote the continued health of the ecosystem. Below is a list of issues and opportunities for improvement to MBTS's natural resources.

Water Quality

MBTS has 12.8 miles of coastline. The health of MBTS's marine water quality is directly connected to the health of the harbor's natural resources and supports commercial and recreational fishing, swimming, recreational boating, and tourism.

According to the Clean Water Act, Manchester Harbor is considered a Class SB waterbody, that is, of good quality and suitable habitat for fish, other aquatic life (e.g., eelgrass), and wildlife, and for primary and secondary contact recreation, such as swimming and boating.[51] Pollutants such as environmental chemical contaminants, bacteria (*e.g.*, fecal coliform and *Enterococci*) marine debris, and excess nutrients can impact water quality.

[51] United States Environmental Protection Agency. n.d. *314 CMR 4.00:* Massachusetts Surface Water Quality Standards. Online at: https://www.epa.gov/system/files/documents/2023-06/mawqs-2023.pdf

In MBTS, water quality testing for *Enterococci*, a fecal bacteria indicator, is conducted weekly by the Board of Health during the summer season each year at all public bathing beaches in town (Singing Beach, White Beach, Black Beach, Gray Beach, Tuck's Point, and West Manchester Beach, Figure 29). However, testing for other parameters such as dissolved oxygen, pH, turbidity, temperature, salinity, and nutrient impairment (nitrogen and phosphorus) has been infrequent. Thus, the community lacks long-term data (past and present) and the ability to assess changes to water quality in the waterways.

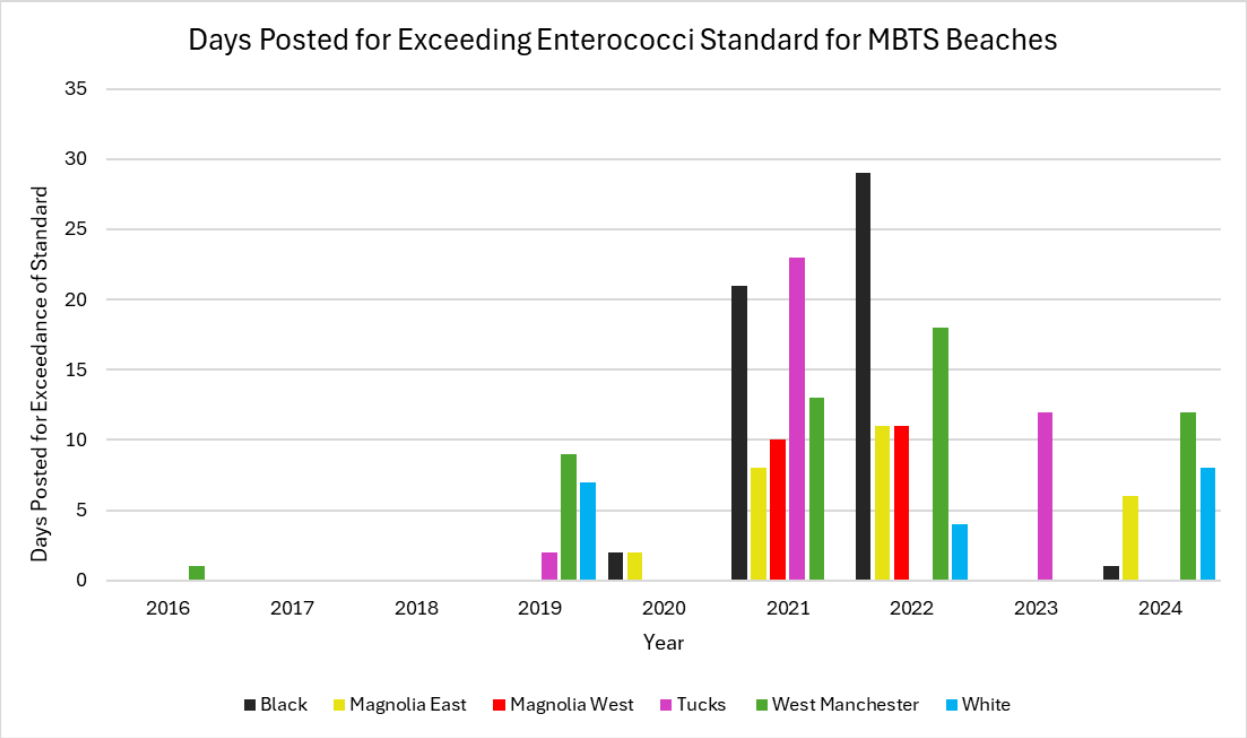


Figure 33: The number of days posted (public notification of beach closures) at swimming beaches in MBTS tested for Enterococci in 2016 through 2024.[52]

[52] Massachusetts Division of Environmental Toxicology, Hazard Assessment and Prevention. 2016-2024 Marine Beach Data. Online at: https://www.mass.gov/lists/water-quality-at-massachusetts-swimming-beaches

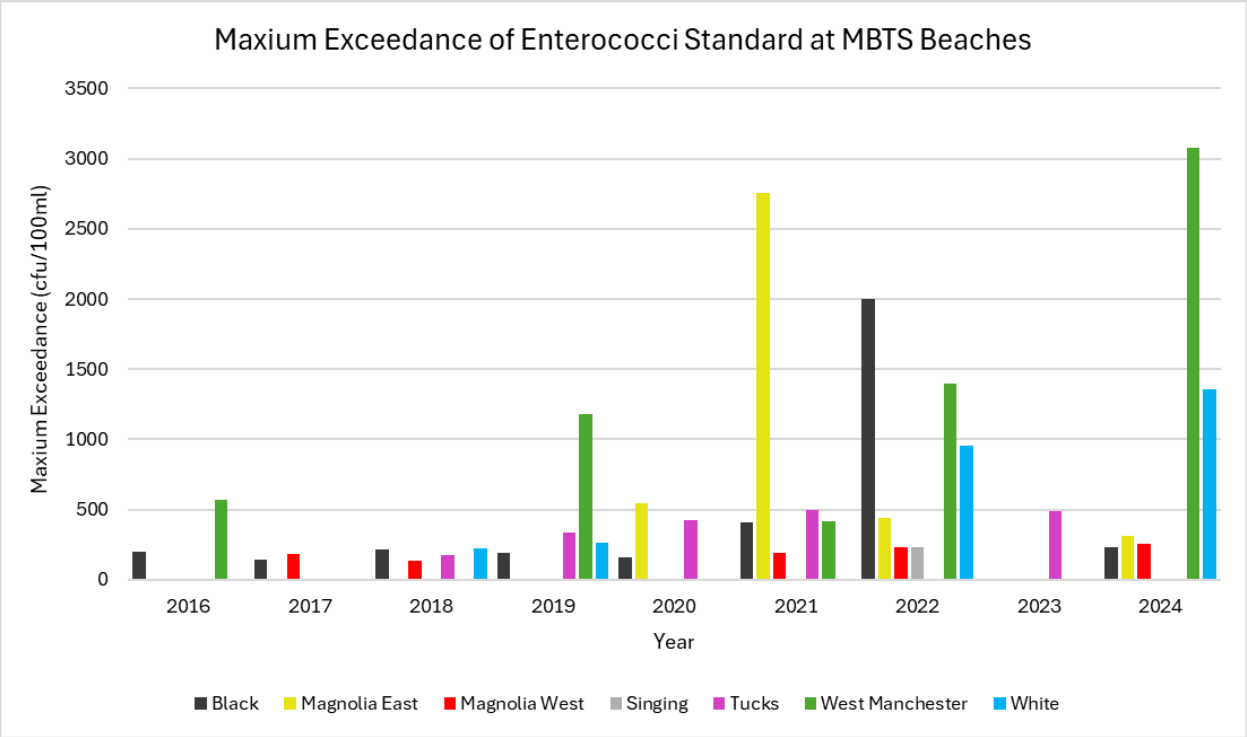


Figure 34: The maximum exceedance, above the 104 cfu (coliform forming units)/100 ml standard for Enterococci at swimming beach testing sites in MBTS from 2016 through 2024.[53]

The majority of pollutants entering waterways come from land-based sources including wastewater, fertilizers, and runoff from impervious surfaces (*e.g.,* stormwater runoff carrying pollutants). The overapplication of fertilizer and faulty septic systems are two major sources of excess nutrients such as nitrogen and phosphorus in marine water bodies. Nutrients can leach into ground water and enter coastal waters through ground water inflow. They can also be caught in runoff from both vegetated and impervious surfaces, and storms often exacerbate this issue through increased runoff from precipitation. Bacteria in waterways can also be a result of wastewater pollution from leaky sewage pipes, failing septic systems, stormwater runoff, agricultural runoff, and wildlife and pet waste. Marine debris from land-based and ocean- based sources along with improper management of boat waste are also concerns.

Much of MBTS's tidal shoreline is exposed to the open Atlantic Ocean. However, MBTS has pockets of enclosed and semi-enclosed beaches, coves, and harbors. The amount of flushing (the exchange of water between the open ocean and an enclosed water body) and water circulation along the shoreline depends on the proximity of the coastal area to faster currents. Water bodies with exposed shorelines and with higher wave energy, such Singing Beach and West Manchester Beach, and the mouth of bays or coves, and major channels *(e.g.,* Manchester Channel to the Inner Harbor) experience higher rates of water exchange and thus

[53] *Ibid.*

increased water circulation. Within semi-enclosed to enclosed water bodies, like the Inner Harbor (including Tuck's Point and Proctor Cove), water circulation can be reduced as these areas are protected from the high energy of the open ocean. MBTS's coastal waters are also influenced by freshwater input from tidal streams, which can be potential sources of runoff from impervious surfaces and developed land in the watershed. Moving from east to west, Wolf Trap Brook directly inputs to Kettle Cove/Black Beach, Sawmill Brook and Bennett Brook empty into the inner harbor, and finally Chubb Creek, which is located in both MBTS and Beverly meets the ocean by West Manchester Beach.

Poor water quality can have a direct impact on water-dependent activities such as boating, commercial and recreational fishing, and tourism. Water quality impacted by excess nutrients can lead to increased and harmful algal blooms. This reduces water clarity, and the ability of sunlight to reach marine life such as eelgrass, an important habitat for shellfish. The decomposition of excess algae uses up dissolved oxygen, reducing the amount available for marine species of finfish and shellfish. Furthermore, contaminated water from fecal waste can lead to closed beaches, limiting access for recreation and potential revenue obtained from beach passes.

History of Water Quality Testing

Analysis of Salem Sound in 1997

The Massachusetts Division of Marine Fisheries conducted a year-long study in 1997 on the status of marine fishery resources and water quality in Salem Sound. The study analyzed basic water chemistry, fish and decapod species composition in the intertidal area (beach seining), and fecal coliform pollution, a human health pathogen indicator.[54]

Samples site by Masconomo Park and Manchester Yacht Club (Tuck's Point) in MBTS's inner harbor, selected for their proximity to shellfish beds, were evaluated for fecal coliform bacterial contamination. Fecal coliform may not threaten marine organisms but their presence in seafood species can limit harvest and/or consumption and thus evaluating fecal coliform levels is utilized for shellfish management.[55]

Beach seine net sampling, which is used to collect and document fish and decapods at intertidal habitats, was conducted at Proctor Point. Basic water chemistry measurements - temperature, salinity, pH, dissolved oxygen, and turbidity - were also measured at Proctor Point. A single site in Sawmill Brook, close to the opening of the inner harbor, was evaluated for nutrient pollution and fecal coliform to assess discharge of freshwater inputs to the harbor system, along with the

[54] Massachusetts Division of Marine Fisheries. 1997. Technical Report TR-6. The Marine Resources of Salem Sound, 1997.
[55] *Ibid.*

analysis of basic water chemistry measurements.[56]

The basic water chemistry measurements at Proctor Point were within limits that support aquatic life. Fecal coliform at MBTS sites were variable and influenced by inputs from Sawmill Brook. The inner harbor sample site by Masconomo park had high bacterial contamination (max. 1587 fcc/100). Among river stations in the study, Sawmill Brook had the lowest pH and DO levels, and fell below the SB criteria for pH and SA criteria for DO. SB and SA refer to coastal and marine water classifications by the Massachusetts Department of Environmental Protection based on water quality standards and criteria for Massachusetts. SB and SA classifications, specifies that areas are "designated as habitat for fish, other aquatic wildlife and for primary and secondary contact recreation". Fecal coliform counts in Sawmill Brook exceeded the surface water standard for fecal contamination required for supporting primary recreation.[57]

Analysis of Wolf Trap Brook Estuary

Beginning in 2006, Salem Sound Coastwatch (SSCW) and the Manchester Coastal Stream Team began sampling in the Wolf Trap Brook estuary, specifically at the outflow onto Black Beach (161) as part of SSCW Clean Beaches and Streams Program to assess fecal contamination via enterococci concentrations. Enterococci are used as the pathogen indicator for fecal contamination in waters used for recreation (*e.g.,* swimming beaches). Results from 2006 indicated high bacterial counts of *Enterococci* and thus monitoring was expanded to additional parts of the estuary in 2007. There are 68 septic systems located in the immediate Wolf Trap Brook watershed; failing septic systems along with runoff of wildlife and pet feces from two brooks that flow into the estuary were considered potential sources of *Enterococci* contamination. Along with the tidal stream to Black Beach, the two brooks, a small unnamed stream on the westerly side (161W, Figure 31) and Wolf Trap Brook on the easterly side (161E, Figure 31), were sampled in the salt marsh through 2010. Results showed high *Enterococci* concentrations from the east side of the estuary, and subsequent focus was shifted to gaining a better understanding of inputs to the eastern side of the estuary. From 2006 to the present, sampling has taken place at the Wolf Trap Brook outflow onto Black Beach, along with additional sites upstream of the salt marsh and within the middle of the marsh.[58]

In 2009, the Town passed an action requesting the Board of Health to develop a plan for regular

[56] *Ibid.*
[57] *Ibid.*
[58] Salem Sound Coastwatch Manchester-by-the-Sea Clean Beaches and Streams Program Report for Manchester-by-the-Sea, MA June through August 2024. Online at: https://salemsound.org/wp-content/uploads/2025/02/SSCW-CBS-Final-Report-2024-Manchester.pdf

Title V testing of septic systems that are 5 years or older, giving priority to systems in areas of environmental vulnerability. This goes beyond the state Title V regulations which only require testing of septic systems during the sale of property. As of 2018, many of the required septic systems in the watershed had a Title V inspection and those that failed were replaced. However, *Enterococci* concentrations have remained high from 2016 to the present at the outflow to Black Beach and within the salt marsh on the easterly side.[59]

Nonpoint sources in the Wolf Trap watershed make it difficult to identify the origins of inputs, though preliminary testing suggests manmade sources (e.g., the presence of caffeine). The Board of Health has been requested to resume Title V testing of all area septic systems that drain toward the marsh.

Enterococci sampling was discontinued for three years due to the COVID-19 pandemic, and officially resumed in 2023, when additional sites were added to identify a source of bacterial pollution.[60]

Sawmill Brook

Sawmill Brook was also tested as part of the SSCW Tributary and Water Quality Monitoring Program in 2024 to determine the stream's health for aquatic life. Sampling occurred at sites starting at Manchester Harbor, moving upstream to the cross of Brook St/School St, Lincoln St, Causeway Brook and Atwater Ave., north of Route 128. Testing identified high levels of *Enterococci* bacteria from Manchester Harbor (169A-Town Hall Boat Ramp) to Lincoln St (152) and Causeway Brook (153). Surfactant levels were elevated at Manchester Harbor (169A) and found in three of seven downstream samplings. Sawmill Brook was added to the list of Clean Beaches and Streams sampling sites in the summer of 2025.[61]

[59] *Ibid.*
[60] *Ibid.*
[61] *Ibid.*

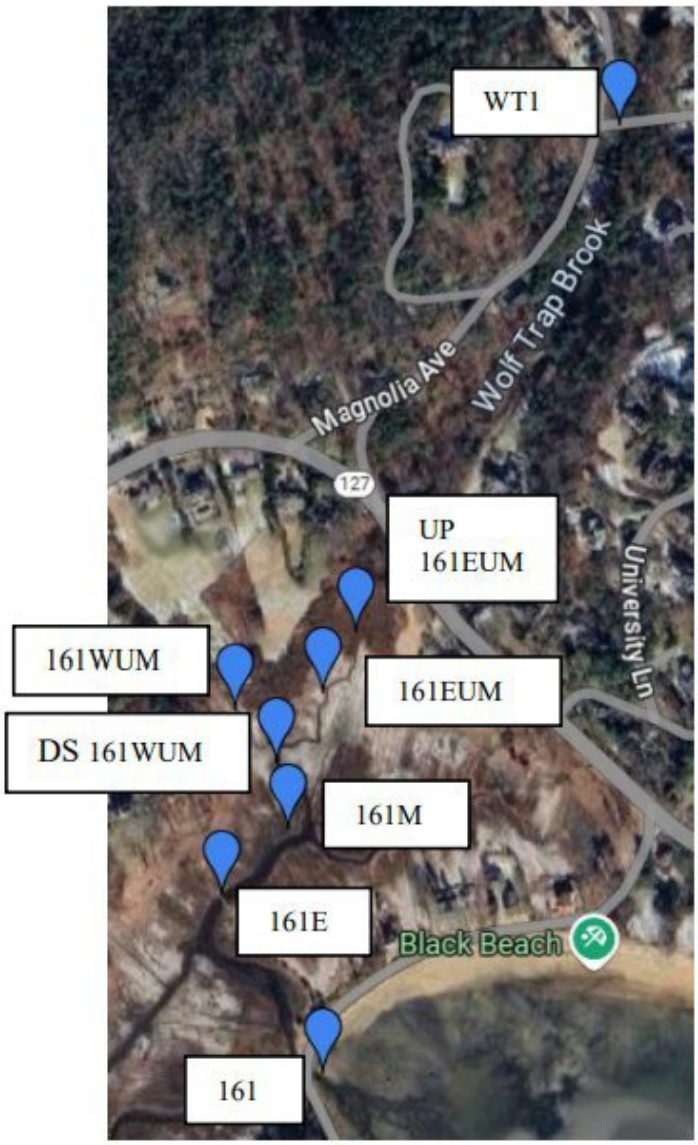


Figure 35: SSCW Tributary and Water Quality Monitoring Program 2024 Sampling Sites in MBTS Sea Wolf Trap Brook Estuary.[62]

Commercial and Recreational Fisheries

MBTS is a historic fishing and maritime community. Fisheries were the leading industry of the Town for more than 100 years and were a major source of revenue. The ocean largely shaped daily life, with residents in the 1600s depending on the sea for their livelihoods. During this time, there were mostly small-boat and subsistence fishermen.[63] The harbor environment was

[62] *Ibid.*

[63] Lamson, D. F., 1895. History of the Town of Manchester, Essex County, Massachusetts, 1645-1895. Online at: (https://www.google.com/books/edition/History_of_the_Town_of_Manchester_Essex/97foVsXyy7EC?hl=en&gbpv=1&printsec=frontcover)

ideal for small-boat fishermen, with protection from Cape Ann and offshore islands, and a single shallow accessible channel that became a mudflat at low tide. In the 1700s, MBTS fishermen became involved in offshore cod fishing and shipbuilding.[64] The fisheries industry continued to thrive in the early 1800s, with the addition of fish-curing ashore and merchant marines. At one time, the Town had more merchant captains than any other in Essex County. In 1835, there were 150 men in the fishing industry, seven fish yards, and ten fish storage houses.[65] However, it was also during this time that the industry began to decline with the boom of the furniture industry, which became the basis for the Town's economy.[66][67]

Commercial fishers of MBTS are facing new challenges.[68] This includes the "graying of the fleet" and lack of succession from younger generations, along with a changing climate that is shifting species habitat and increasing severe weather and the potential for damage to critical infrastructure. While the number of commercial fishers in MBTS is not what it once was, the modest fleet of lobstermen and purse-seine fishers remain essential to the maritime culture and to the economy of the Town.[69] In addition to income from landings, the Town has been awarded close to one million dollars in grants over the last decade due to the presence and effort of the commercial fishing industry.[70]

In 2019, the Town designated two docks to the commercial fishing fleet, and those who utilized the tie-up spots noted that the move from moorings to the dock increased their likelihood to continue fishing for more years due to improved and efficient access.[71] Since then, the Town obtained funding for the Morss Pier infrastructure update, which will add additional docks specifically for commercial fishermen, helping to improve and expand dock access for the commercial fleet, while creating an inviting facility for younger generations to enter the industry.

Snapshot of Commercial Fishing Effort

[64] MBTS Museum. Online at: https://www.mbtsmuseum.org/explore
[65] Lamson, D. F., 1895. History of the Town of Manchester, Essex County, Massachusetts, 1645-1895. Online at: (https://www.google.com/books/edition/History_of_the_Town_of_Manchester_Essex/97foVsXyy7EC?hl=en&gbpv=1&printsec=frontcover)
[66] *Ibid.*
[67] MBTS Museum. Online at: https://www.mbtsmuseum.org/explore
[68] Pike, Bion. Manchester was Founded by Fisheries. Online at: https://manchester.ma.us/DocumentCenter/View/6429/Manchester-was-Founded-by-Fisheries
[69] Pike, Bion. Seaport Economic Council Program. Online at: https://manchester.ma.us/DocumentCenter/View/3640/SEC-Morss-Pier
[70] Pike, Bion. Manchester was Founded by Fisheries. Online at: https://manchester.ma.us/DocumentCenter/View/6429/Manchester-was-Founded-by-Fisheries
[71] https://manchester.ma.us/DocumentCenter/View/3640/SEC-Morss-Pier

Permitted commercial fisheries include Lobster Pot, Gillnetter, Rod & Reel, Aquaculture, and For Hire/Charter. Commercial lobstermen make up much of the industry today (2025).

In 2023, a total of 758,064 live pounds (this number includes all harvested species) were caught, which amounted to an ex-vessel value of $894,934. During that year, Manchester's commercial fishing fleet consisted of:

- 39 permitted harvesters with a MBTS address.
- 43 vessels with a MBTS homeport.
- 506 trips landing in MBTS.
- 7 active permitted harvests landing in MBTS.
- 3 active dealers purchasing in MBTS.

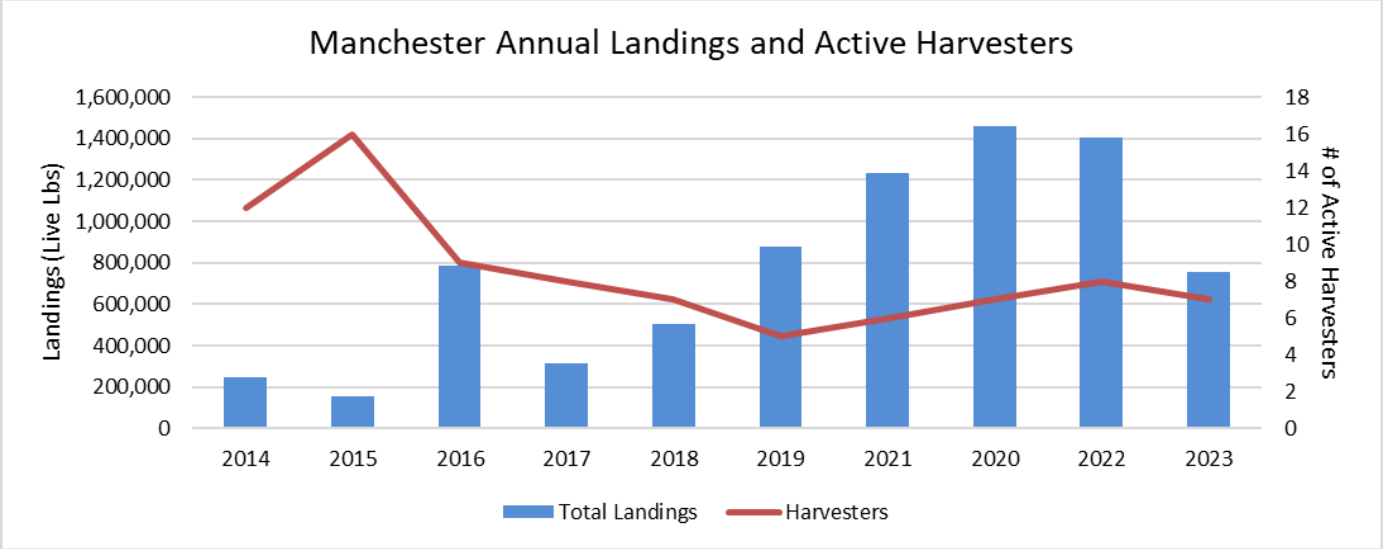


Figure 36: Commercial landings and number of active harvesters from 2014-2023 in the Town of MBTS.[72]

[72] Image Source: Massachusetts Commercial Fishing Port Profiles, MBTS. Data source: DMF Permitting and Statistics Data; ACCSP Data Warehouse

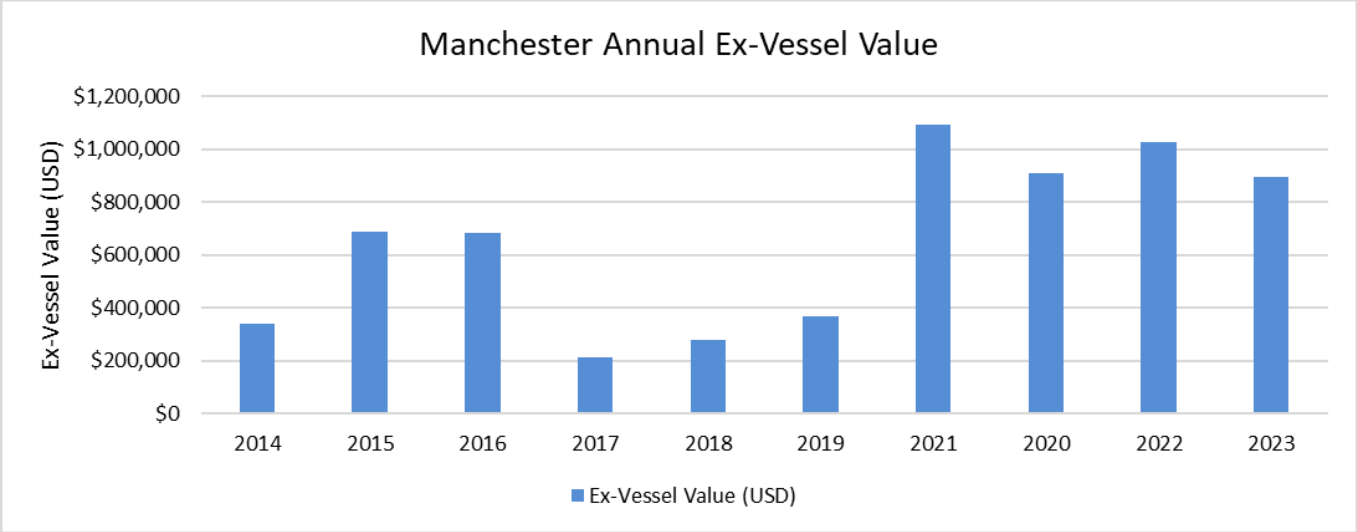


Figure 37: The ex-vessel value from commercial landings from 2014-2023 in the Town of MBTS.[73]

Available data from 2014 to 2023 shows the top three species landed in Town, determined by live pounds of caught fish, were Menhadens, American Lobster, and Atlantic Sea Herring. When ranking by monetary value, determined by the ex-vessel dollar value of landings, the top three species are American Lobster, Menhadens, and Bluefin Tuna. Between 2014 and 2023, MBTS commercial fisheries landed a total of 923,773 live pounds of American lobster, with a value of $4, 469, 598. In comparison 2023, the dollar value from all other species combined, with a total of 6,818,322 live pounds landed, is $2,019,598.

Shellfish

The establishment of recreational shellfishing in MBTS could provide:

1. A way for town residents to connect with and appreciate the natural environment, hopefully fostering a greater sense of stewardship.
2. Improved water quality, given that shellfish filter large volumes of water, removing pollutants like nitrogen while improving water clarity.
3. Habitat creation from shellfish reefs, which provide habitat for other marine species contributing to biodiversity and healthy ecosystems.
4. Shoreline protection from shellfish beds helps stabilize shorelines and reduce erosion from waves and storms.

Shellfish beds in Massachusetts are found in coastal bays, estuaries, and tidal flats throughout the state, as well as in certain freshwater rivers and ponds. These beds are typically located near shore in harbors, beaches, and estuaries, but can also be found in deeper waters. Edible

[73] *Ibid.*

shellfish present in Massachusetts' waters include quahogs, soft-shell clams, oysters (European and American), scallops, razor clams, and mussels.

The Massachusetts Division of Marine Fisheries (MA DMF) oversees the shellfish beds of Salem Sound. All Salem Sound beds have been closed for consumptive harvest for much of the 20th and 21st centuries, meaning that shellfishing currently is prohibited in Manchester. To open a bed for shellfishing, a resource survey needs to be conducted which shows that enough shellfish are present to support a sustainable harvest. Also, a sanitary survey needs to demonstrate suitable water quality to avoid human illness from eating contained shellfish. While no beds in Salem Sound have ever been reopened, one bed in the area (Marblehead's Devereux Beach, which technically is not on Salem Sound) was successfully reopened in 2000.

A broad shellfish survey of Salem Sound was conducted by MA DMF in 1997. It indicated specific locations in the Sound which showed some promise to reverse this trend. In MBTS, the survey determined that approximately 28 acres (34%) out of 82 acres of intertidal habitat were potentially suitable soft shell clam habitat; and only 3.5 acres (16%) were currently productive, with an estimated 1,205 bushels of legal-sized clams present in the area.

However, at that time, most of Salem Sound was still subject to chronic bacterial inputs that precluded conducting sanitary surveys in these areas without first successfully implementing a significant amount of pollution remediation. Sanitary surveys evaluate pollution sources that may impact an area, consider the physical characteristics of the coastal area and weather conditions that could influence distribution of pollutants, and assess water quality. Since the 1997 study was conducted, significant pollution remediation has taken place in Salem Sound.

In 2018, the MTBS Shellfish Constable initiated a water quality survey of three MBTS beaches, led by the Manchester Stream Team with support from Salem Sound Coastwatch and MA DMF. The study identified chronic sources of bacteria on the most promising beach. While some of which have since been remediated, many remain. In addition, a shellfish resource survey of Black Beach/Kettle Cove is currently underway to determine whether enough shellfish are present to support a recreational fishery.

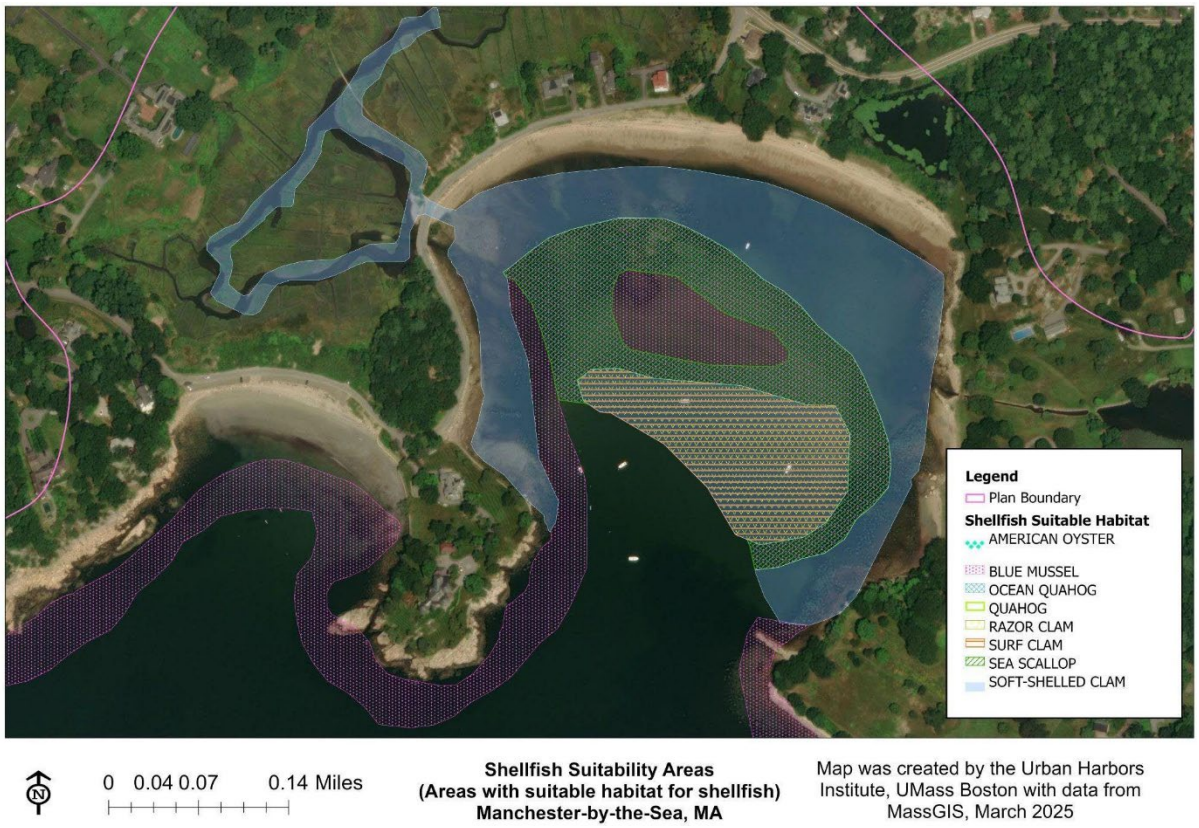


Figure 38: Map of Shellfish Suitability Areas in MBTS Black Beach/Kettle Cove. Note: This map highlights general areas where suitable shellfish habitat may exist; however, further verification is required to determine if shellfish are active.

MA DMF tests routine stations in MBTS for fecal coliform bacteria a minimum of monthly, plus occasionally ad hoc stations in proximity to pollution sources (ad hoc testing was conducted in 2025 due to expressed interest by MBTS in recreational shellfishing) (Figure 37). They have also updated calculations for the required mandatory closure zones around the two wastewater plant outfalls that could impact Manchester: South Essex Sewage District (SESDE) and Town of Manchester. These zones will help to better determine where shellfishing could be feasible (given acceptable water quality data) or will be off-limits permanently due to the mandatory safety zone requirements.

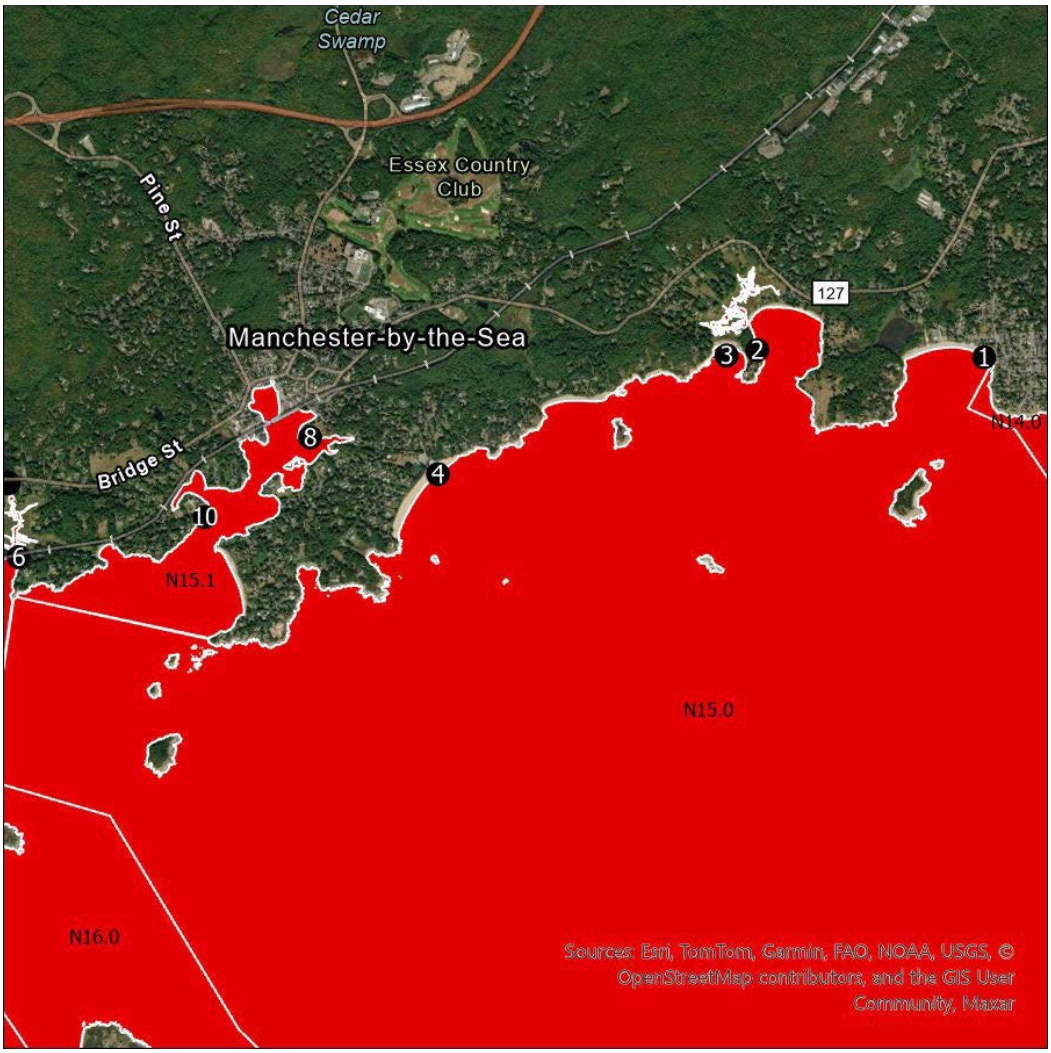


Figure 39: Massachusetts Division of Marine Fisheries routine fecal coliform testing stations (from east to west N14.0, N15.0, and N16.0).

To reclassify a shellfish growing area from “closed” to “partially/conditionally open” to “open” requires significant administrative, treatment, and enforcement resources from DMF. Prior to DMF moving forward with their assessment for reclassification, they require the Town to provide evidence of suitable water quality in growing areas and sufficient numbers of shellfish to support a limited and sustainable recreational fishery, along with public access to the beach with open shellfish areas.

Appendix B: Public Survey Results

The following pages describe the results of the public survey conducted as part of the harbor plan development process.

Public Access

A **total of 56 comments** were made on the topic of public access, with six of them noting that access is town is good and that they're appreciative of recent improvements. One also noted the important roles that the launch service and commuter rail play in creating access opportunities and someone highlighted the importance of visual access in addition to physical access.

Two people noted that access should be limited for non-residents, while several others noted the need for more non-resident access—especially tied to parking. The most common issue raised (by about 13 people) had to do with parking. In addition to non-resident parking, people noted the following:

- Tucks Point parking. Any event at the Chowder House should be limited in the number of cars they can have. Some days they take up all of the parking for boaters and residents.
- Trailer parking for the boat ramp.
- Recognize the need for and then providing opportunities for leaving vehicles near the key harbor access points for short and long-term parking for cruising boat owners.
- Public access, the town should open the lot behind town hall for all boaters. No 2 hour limit.
- Public access is already is difficult even for non resident mooring holders, however, after attending 3 select board meeting this past spring we were able to secure long term parking with a $100.00 boater placard on Lincoln street and we were the only car that used it.
- The town of Manchester has systematically increased restrictions on access for non-resident mooring permit holders.
- Petition coast guard for a spindle off of whites ledge/ Ram Island. More trailer parking next to the boat ramp
- People should have a short term boat trailer parking option. Many boaters need an
- hour or so to launch their boat. Get it to the dock or mooring and the. Get a ride back to the ramp. To give these people parking tickets is against the spirit of a seaside community.
- No overnight parking limits offshore fishing opportunities.
- Masconomo park and parking at the harbor should remain accessible. It is a visual and recreational space
- I have a boat in Manchester but do not live there so I have no access to park anywhere near the harbor

- If u want to jam more people on singing beach use school parking's lots and coa shuttles to bus them in. No parking in town. Increase boat ramp revenue by allowing trailer parking behind town and create more spots at school too or by new cell sig.etc.
- Dockage was also raised by a few people, with comments including:
- Additional public (for a fee) dockage for day visit boats in the inner harbor could provide summer economic boost by allowing visitors to wander the town and visit shops, restaurants, etc.
- Reeds park dock expansion enables more public access
- More public access is needed to support local business. A starting place would be to increase the public docking time to 1 hour. Additionally adding a longer dock to the police dock as well. A section of the Dockwa dock at Reeds Park should also have a "first hour free" section.
- Better facilities for boaters at downtown docks. Love to see more paid visitor docking and facilities for all boaters (visiting and otherwise) - more tie ups, bathroom/changing (and maybe showers) facilities, and maybe lockers for mooring holder stowage?

On the topic of small-boat and paddle craft access, people expressed an interest in kayak racks on White Beach (N=1) and a kayak rental program (N=1). Four people also expressed an interest in kayak, SUP, dinghy (one design dinghies were specifically mentioned) and small day craft access (and storage) at Tuck's point. New dinghy and small sailboat launching at the Chowder House was also brought up as a possibility by one person.

People suggested some new programming such as signage about natural resources and historical signage and QR codes that would take visitors to online information about the history of the area (N=1), and designated swimming areas near Masconomo Park (they referenced Crocker's Park in Marblehead as an example) (N=1).

The importance of being able to walk along the harbor was identified by a small number of respondents, with some suggesting the Town consider a harborwalk or designated paths to the water. Three people noted the need for ADA access – at any future paths/harborwalks and elsewhere – Reed Park was cited as not being ADA compliant.

Two people expressed preference for natural areas – one in town parks and the other at the site of the wastewater treatment facility if it is removed. Their interests included climate protection, habitat creation, and enjoyment of natural resources.

Activities at Sand Dollar Cove were mentioned twice, with one noting a need to protect eelgrass and the other stating that, "The amount of people who anchor off in "sand dollar cove" on weekends is overwhelming to locals living along Long Beach and anyone trying to enjoy that area. In addition to the noise and constant trespassing on Long Beach they are a safety hazard for anyone trying to enjoy the area."

Other comments that were mentioned by single individuals included a need for more signage (though the type was not identified), an observation that the railroad bridge can take a long time to open, a comment that flood mitigation is paramount, a comment that it is important to

provide access for aging commercial fishermen ("I do believe the aging population of commercial fishery workers deserve direct access to their vessels. The value of their existence in the harbor visually, financially, and culturally exceeds their costs to the town."), issues with lack of CH 91 enforcement, issues with crowds at Singing Beach and complaints over rocks and seaweed and insects, a need to balance crowding with access, a need for more moorings, concerns over the future of the Rotunda and the need to repair it, an interest in maintaining Ocean Street, and providing access for the commercial users.

Climate Change

Responses from 56 people were gathered on this topic during the survey. All except one comment acknowledged that climate change is an issue for the Town, with several noting it is a regional and/or global issue and a few indicating they felt helpless. A number of sites were identified as vulnerable, including:

- Manchester Yacht Club
- Wastewater treatment plant
- Ocean Street
- White Beach
- Singing Beach
- Black Beach
- Town Hall
- Masconomo Park
- Reed Park
- MBTA tracks
- Tuck's Point
- 127 at the Beverly line and just beyond the railroad bridge
- Boardman Ave. near the railroad tracks
- Beach Street between Tappan St. and Old Neck Rd.
-

Strategies to address vulnerability varied. Some (N=7) advocated for seawalls and other hard structures (sites specifically identified were behind Town Hall, around the inner harbor, and on Ocean Street) and addressing risks on private properties. One person suggested exploring raising the land at Masconomo Park as a solution and another suggested a wall across the harbor entrance with a lock system. Others (N=10) advocated for nature-based approaches such as protecting eelgrass beds, existing marshes, and natural shorelines, closing Ocean Street, removing the tide gate, creating floodable parks, and moving to higher ground—perhaps in coordination with other entities such as the MBTA and the Town of Essex. Short of retreat, a number of people commented that there should not be additional development in the harbor area (both on land and in the water) to avoid making things worse and incurring additional costs.

Mitigating climate change through reduced emissions was raised by a small number of people who suggested strategies such as promoting walking and biking, preventing additional boats and their emissions, and reducing traditional motor vessel emissions.

Many (more than 20) comments focused on the need for the Town to proactively plan now, with a call for engaging experts, other towns, property owners, and all stakeholders. A small number of people also noted the need to monitor changing conditions and impacts. Planning on an individual level was also identified, including making sure each boater had a plan for responding to a storm event.

With regard to actions the Town has already taken, two people appreciated the new tall pilings while another person noted they were ugly. One person also commented that the gangway at the Rotunda would not operate correctly if seas were higher than the walkway.

Education and outreach was also raised by a small number of people – and comments targeted both educating residents and decision-makers, as well as taking steps to learn from others dealing with similar issues.

Funding for responding to climate change was raised as a need, as was requirements to elevate buildings. One person also suggested that sea level rise presents an opportunity to add moorings in the harbor.

A few people raised safety concerns related to climate change, including being able to evacuate boats/a need for a boating evacuation plan and providing access for water-based responses, including federal actions.

Recreational Boating

Total Responses = 156

Moorings - In summary, people are frustrated with the waitlist, and for some feel there is no end in sight/no way they will ever get a mooring. There is a feeling that MBTS residents on the waitlist should be prioritized over non-residents. Additionally, there are many in favor of adding more moorings. Two people said that mooring fees need to be increased to reflect the high demand, and low supply of mooring spaces. There were a few who agree with current limitation on moorings to help protect natural resources.

- Mooring availability and waitlist list huge issue – seems unfeasible
  - Commercial fishermen, and residents should have priority over nonresidents
  - Mooring waitlist should be restricted to in-town residents/tax payers
  - There is a lack of visibility to the public on how mooring selection works
  - Unused moorings should be returned to next person on list
  - Overall feeling of catering to out of town boats vs residents
  - Increase boat size for mooring
- Need/want for additional moorings
  - For residents only, In Area G, Implement guest moorings

    - Maximize mooring space to allow public use and provide income from fees
    - Expand bow and stern
    - How can parts of the harbor be more utilized for additional moorings?
- Increase mooring fees
    - Fees should represent scarcity of supply and high demand
    - Low fees deprives town of cash
- Mooring sharing
    - A single mooring should be able to be co-owned by / passed down to family members
    - Sharing of mooring permits should not be allowed
- We've been told we no longer need to cover our outboard because boats in the area are no longer swinging, regulations still say we could be fined. Update regulations.
- Continued diligence removing mooring owners who do not utilize moorings.

Dockage - There are a handful who would like to specifically see the town/public dock space increase. Additionally, there are concerns with dinghy sizes getting too big, and tie up areas becoming too crowded.

- Increase downtown dock space (5)
    - More transient and short term dock space
    - New marina with ample slip space
    - People disregard tie up limits at docks
- Dingy concerns (6)
    - Dinghy size/type getting too big – need to enforce a size limit
    - Management needed at Tucks
    - Tie ups are too crowded
    - New stickers each year
- Offering water, pump and shore power services at town docks
- Free access to public dock downtown for MBTS residents/mooring holders

Congestion - There is a general feeling that the harbor is overcrowded and has reached or is almost at capacity. Many feel that safety is a priority over expansion of slips and docking, followed by impacts to natural resources. There are a few who agree with adding slips, but keeping this within means, and not allowing it to change the character of the harbor. For example, many are concerned with keeping the harbor "small-scale" maintaining the harbor's natural/historical charm, and the town should not strive to create a marina. There is also concern with expansion in the face of climate change – why expand infrastructure of facilities/dock space with the anticipated (and already experienced) impacts?

- Bigger moored boats still swing into the channel
- Too many boats in harbor, overcrowding is happening, keep harbor small-scale (16)
    - The prioritization of transient vessels above that of boaters within the harbor has caused the harbor to lose its charm. Soley serve boats within the harbor and not out-of-towners.
    - Reduce harbor staff and vessels. Seems to be more than needed.

    - Set a maximum limit of number of slips/moorings in harbor
    - Do not keep expanding town docks
- Stiffer penalties should be required for outboard owners with engines in raised position.
- Enable use of other area beaches (i.e., anchoring) to reduce congestion in current areas
- Commercial expansion
    - Put more limits on the commercial expansion in harbor - Crocker's Boat Yard. The private enterprise growth in public waterways is more extensive than found anywhere in the town of Manchester.
    - As more docks with slips are added by Crockers, and the impact it is having on mooring holders by moving/changing the size allowed.
- A separate channel is needed for paddleboarders/kayakers to reduce safety hazards
- Floating docks are a great idea
- Push/pull of more shoreside services for non-residents but MBTS residents want to keep

harbor "small"

Access

- Little access for those who don't have a mooring or slip
- Community Boating Program/promote boat sharing
- Increase shoreside services (public docks, café/restaurant access)
- Better access to boats moored at Magnolia
- Devote some town land for dry storage
- Tucks Point
    - A ramp to launch small boats at Tucks point would increase access for people who do not otherwise have water access (2)
    - We need 1-2 more public docks at Tucks point
- Restroom/shower facilities downtown and/or Reed Park (3)
- Town lacks good launch place for small sailboats
- More in town tie up spots
- Promote launch service for non-boater use
- Non boating taxpayers should not subsidize recreational boaters unless with full transparency it can be shown how much revenue to town recreational boaters are providing.
    - Nonboaters, nonfishers should not pay for any upgrades to docks, piers, etc.

Parking

- Lack of all day parking spaces in town for tow vehicles/trailers is a constraint
- Mooring holders need adequate accessible parking to access their boats.
- Parking placard program
    - Fee was doubled for the permit and the designated area was restricted to day parking only. Seems the lot sat empty all summer.
    - Why is there no overnight parking for non-residents? (2)

    - Why is overnight parking limited at Tucks where there are a large number of spots.
    - One resident felt that limiting overnight parking at Town Hall increased available spots.
- Need more public spaces or free 30min tie up if you have a mooring sticker.
- Need to have short term parking, hour or two, for trailers near the town ramp.

Safety and Education

- Safety should come first vs expansion
- Add pin to the large rock people keep hitting near two red buoys on entrance to the harbor
- Vessels travel quickly near Area 7
- Monitor distracted skippers
- More enforcement of speeding
- Continue support to modernize safety and equipment to keep with influx of out of towners
- Need more resources on a busy weekend in summer to monitoring channel
- Ramp to dinghy dock is unsafe
- Emphasis on non-motorized vehicles
- Getting in and out of harbor on sailboat on weekends is tricky
    - Power boat operators not understanding right of way, and not obeying wake zone
- Vessel speeds/wakes not enforced in channel
- Monitor mooring locations

Sand Dollar Cove – This area has gotten out of control and anchoring should be forbidden, and moorings should be installed. A permit should be required to gather in SDC, which is enforced by the harbor master, and the proceeds go to the harbors operation.

Natural Resources

Total Responses = 56

Eelgrass

- Need better protection for eelgrass
- Anchoring on or near eelgrass beds should be discouraged (rafting and/or pony docks in these areas should be encouraged)
- Maintain constant watch on weekend traffic anchoring in eelgrass areas and channel entrances
- Helix moorings are working to protect the eelgrass in Area D

Invasive Species

- Support community education around invasive species and what can be done to mitigate

- The green crabs are eating everything; they should be harvested
- Red seaweed and phragmites have become issues

Coastal Resiliency

- Need to mitigate consequences of sea level rise
- Possibly implement naturalization plan for milk pond after new culvert is installed to encourage coastal resilience and establish new wildlife
- Seawalls should be maintained
- Flooding concern, especially at Masco Park
- Town needs to be forward thinking
- Erosion is a problem at Tucks Point

General Protection of Natural Resources

- Preserve animal habitat
- Every effort should be made to protect and enhance our coastal areas
- Need more conservation of natural resources and protection of the local ecology
- Should provide natural resource information to all boaters and visitors
- Concern over health and survival of our small salt marshes
- Ban chemicals and substances which may have a toxic effect on marine life (plants and animals) from use disposal or use in coastal streams and rivers, harbors, beaches, estuaries and wetlands
- Consider limiting the number of boats that can be in Sand Dollar Cove for the day/night; heavy anchoring in Sand Dollar Cove has destroyed the marine habitat and bottom dwellers
- Humans are encroaching on ocean life (e.g., pilings, docks, pollution, oil, etc.); need to reduce our static footprints in and on the waters
- Biodiversity is suffering from boating activities in and beyond the harbor
- Too much human traffic on the marshes around Tucks Point
- Need more wetlands maintenance
- Wetlands at the head of the inner harbor are important for marine life and shorebirds; perhaps a boardwalk through that area could raise awareness of the habitat and provide another activity along the inner harbor
- Limit number of transient boats; keep docks away from tidal flats
- Oxygen depletion around Boardman, and the mud and marsh grass are very stressed

Water Quality:

- Need to address illegal dumping of waste tanks and campaign for pump out services
- Need more attention to septic systems that may be leaking and causing water quality and natural resource issues
- Need to ensure no sewage runoff from storefront property
- Need to prohibit anchorage in Sand Dollar Cove to cut down on sewage from power boats
- Need to stop using fertilizers on lawns that drain into the ocean

Shellfish:

- Our shellfish populations need to be assessed for human consumption
- Intertidal mussels are missing

Other:

- Need to evict visitors from Sand Dollar Cove/Long Beach; an obvious environmental disaster; or put a limit on the boats that can go through there
- Concern over coastal birds
- Need more studies on fish, birds, eelgrass, invasive species, and climate impact as they relate to our town
- Need more research from marine life professionals
- Clean Singing Beach more during the beach season

Water Quality

Total Responses = 73
Overall, there is a feeling that the Town should take "every effort" to preserve water quality in the harbor and surrounding waters.

Shellfishing – 8 responses expressed interest and desire for the town to foster oyster restoration in/around the harbor, and other areas of the coastline for both improving water quality. Additionally, many were interested in bringing back recreational shellfishing to the town.

Regulations – Water Protection Act and local bylaws need continued support, and increased/better enforcement. Increase management/action of restricting pollutants to the harbor, and policing of illegal dumping of water tanks into harbor. Continue to monitor water quality and maintain strict standards. The town should align rules/guidance of water quality regulations with MA DEP. Fuel stations and pump-outs need regular monitoring.

Wastewater
Septic – There is a concern about failing and antiquated septic systems impacting water quality, specific, the runoff from these systems entering the harbor. Need to address and evaluate septic systems. 2 responses though that septic systems were impacting water quality at beaches, resulting in beach shutdowns.

WWTP – Residents are concerned with the capacity of the WWTP, and feel that water quality is being impacted by failures of the WWTP. One commented that "numerous days this summer saw illicit discharges and strong sewage odor present in the waters near the discharge at House Island." Further, the plant needs a protection plan from storm surges and other climate change impacts. High tides and combined stormwater overflows lead to sewage entering the harbor. Does the town monitor wastewater from outflows into harbor?

General Run off/Pollution Concerns

For swimming, kayaking and paddleboarding, water quality is a major concern. There is concern that the harbor is not safe for swimming. The Town needs to identify and mitigate runoff, including stormwater runoff, fertilizer runoff, to the harbor – determine what the sources are before implementing a solution. Residents are also concerned about the activity in Sand Dollar Cove impacting water quality and would like the town to do some testing and take action. Whtie and Black beaches seem to be closed regularly due to bacteria – need more attention to reduce closures. Tucks Point was also brought up as an area of water quality concern.

Education

Education is key for water quality improvement. Provide more info to residents on the status of water quality in the harbor and surrounding waters. There is a need for more education on fertilizer use and runoff impacts to the harbor. The Town needs to campaign for pump out services. Manchester waters should be an environmental study area for the local colleges – i.e., a water quality monitoring program.

Commercial Fishing

Total Responses = 47

Overall, 15 respondents shared that the commercial fishing community is vital to the town and thus the towns should continue to do what it takes to support this industry, and maintain balance with the recreational boating industry (i.e., do not let rec boating take over commercial fishing).

Conflicting uses

The harbor is overcrowded and one respondent mentioned that the distance between the fishing fleet and residents should be maximized. Another respondent noted that MBTS should not be doing anything more than support the limited commercial fleet that is present now and should explore regional solutions to support the commercial fishery.

One respondent felt that commercial fishing mooring holders should pay the same rate or higher than recreational holders, as commercial fishers use the most services, while another noted that local fishers should have a break on harbor fees.

Infrastructure and Access - 15 respondents felt that is was very important to improve and maintain infrastructure and access for the commercial fishing fleet as they are a significant part of the economy and culture of the town. This includes improvements to and/or additions to:

- Commercial docks, hoist, wharfs
- Fisher access to parking and floats
- Safe and convenient mooring and loading/unloading facilities
- Restrooms

- Public safety boats taking up prime dock spaces for fisheries
- Maintain local economy and access to fresh fish and lobsters

Assessment of Fishery/Fleet - One respondent noted that there is a need for transparency on how much revenue commercial fishing provides for the town and does the revenue cover improvements to fisheries infrastructure. Three respondents felt that issues with regulations/harvest limits, and water quality falls to state and federal agencies. One mentioned that the Task Force should engage NOAA for input, and a plan should not be completed without a comprehensive analysis by NOAA.

Harvest Limits

- The limits/allowable types of fishing are detriment to the stocks and marine ecosystem
- Ensure fisherman have the advantages to fish as efficiently as possible in an environment where it seems every new rule and regulation works against them. This will help town leadership engage in state/federal grants to continue to support the waterfront infrastructure.

Climate Change and Water Quality Impacts
Water quality is paramount for commercial fishing, and climate change is affecting fish populations, so fisheries will need to adapt. Flooding tides in Manchester limit access to boats.

Recreational Fishing

Total Responses = 47
Shoreside - 7 respondents wanted an increase of opportunities for residents without boats to fish, and for the town to be better about providing locations for shore-side based fishing – allow fishing from Reed park, and maintain/continue fishing from Masconomo.

Harvest Management – There should be no contests for catching the most or largest fish. One person mentioned they have seen quite a few people fishing off shores or at town docks taking fish below regulation. Another noted that they've seen people taking undersize lobster right from the dock. Other comments from people were related to finfish catch limits and stocks that is regulated by the state.

Access and Infrastructure

A couple respondents were concerned about overcrowding of the harbor, and that residential fisherman are using town docks and in the way of boaters trying to dock for guest pick up.

4 respondents requested a fish cutting/cleaning station. One noted that there needs to be access to a temporary dock and fresh water for boaters, as fishing boats get dirty and equipment change over needs a place to secure the boat and offload gear.

Education – The town needs to add more signage with size and catch limits (1 respondent). 3

respondents also felt the town needed to engage younger generations in recreational fishing (field trips to the harbor), and hold events that would help increase interest in recreational fishing.

Dredging and Navigation

A total of 68 comments were received on the topic of dredging and navigation.

Dredging

The comments received about dredging were almost unanimous in acknowledging the importance of and need for dredging on a regular basis. Dredging was described as “very important to do and stay on top of”, “necessary in the harbor”, “critical for vessel access”, “a needed maintenance item that can’t be ignored”, and “essential for a functional harbor”. Several commenters felt the town currently does a great job at managing the dredging process. Responses about dredging locations were numerous and included the following:

- Channel (12)
    - Most responses identified dredging needed in the “channel” or “central channel”, noting it is very shallow at low tide.
    - Some comments described dredging needs in the “outer part of the channel [to be widened]”, “outer channel from the MYC to the mid-channel buoy”, “portions of the channel between cans 5 and 9”, and “[sandbar] close to the green can”.
    - Two sailboat respondents described navigation challenges: (1) The channel cannot be navigated by a 4.5 ' draft, Rhodes 19 at some tides and certain wind directions. There are places between the moorings that are silted in and even some right in the middle of the channel; (2) As a skipper of a 44ft sailboat that draws 8.5ft, we have run around on low tides in the channel while entering/exiting the Manchester Yacht Club. Please deepen the channel if possible.
- Mooring Areas (2)
    - Responses noted that in addition to the channel, dredging is critical in the boat mooring areas which are more often neglected and silt fills in over time. Maintaining the mooring areas at a reliable depth is essential for a functional harbor.
- Inner Harbor (2)
    - One response noted that boaters in this area pay the same fees as mooring owners, so this area should be dredged to keep it usable in the same way dredging is done for the mooring areas
    - The inner harbor by the dinghy dock is barely accessible to load boats.
- Reed Park (2)
    - Additional dredging in this area would provide additional dock space
    - Water behind the dinghy dock at low tide is not enough for some outboards to be down

- Masconomo Park (1)
- Whittier Cove (1)
- Tuck's Point/MYC facilities (2)
    - Responses noted these areas should be included in the town's dredging plans
- Proctor Cove (2)
    - Portions of this area have shoaled to the point that moored boats run aground

Regarding the **goals of dredging**, responses (4) mostly focused on an interest in increasing harbor capacity and access for the public, including expanding the number of recreational moorings. One respondent felt that dredging should not be necessary to add more capacity to the harbor and should only be used to keep the channel open.

Responses (5) also acknowledged the importance of **planning and permitting for dredging**. Several comments emphasized the need for a long-term dredging plan to maintain the depth of the harbor on a predictable schedule. One commenter hoped that all parties interested in dredging, e.g., the town, marinas, MYC, and abutters, could work together on this issue.

The topic of funding for dredging received many responses (15) with several people voicing general support for more funding for dredging and others providing suggestions for funding sources.

- Several people suggested the town **plan for this capital expenditure** on a regular basis and put funds aside on a regular basis to **build up a fund** to dredge when needed. This could help **limit the need for special assessments**, especially on those that may not use the harbor. One comment suggested a portion of the funding could come from **bonding** with the payments coming from the Waterways Fund. Another recommended that any costs have to be **paid by direct harbor revenue**. One comment asked if the town has a **dredge stabilization fund**.
- Responses also focused on state and federal grants as a partial source of dredge funding. One comment recommended the town create a committee focused on grant writing and implement any requirements that would broaden the town's grant eligibility. Another comment noted the efforts to secure the grants should not become more costly than the grant revenue sought.
- The importance of working with private entities was noted in several comments. Particularly, the town should coordinate with the boat yards and yacht clubs to make dredging more economical for all. Others noted that the harbor benefits boat owners and downtown businesses by bringing in visiting and local boaters. As a result, the cost of dredging should be shared by the town and boat owners.
- One commenter felt the cost of dredging should be paid by those using the location that needs to be dredged.
- One commenter felt the state should shoulder the majority of the costs because the dredging benefits all state residents. Several comments were disappointed in the town previously taking over federal dredging projects in the harbor and suggested engaging the US Army Corps of Engineers (USACE) for dredging, particularly if state funding will decrease over time. Beverly and Gloucester were cited as examples where USACE has

assisted harbors with a federal interest.

One commenter suggested investigating sea grass plantings as a method to offset the dredging needs.

Navigation

Regarding **navigation**, several comments (3) noted support for the change to **bow and stern moorings**. They noted the system is working well and the channel is much easier to navigate and feels safer as a result. One comment recommended that all moorings be converted to bow and stern, while another comment felt this mooring type should not be required in areas with wave action.

Other than the depth of the channel, comments about **channel concerns (4**) emphasized the importance of defining and controlling the channel. One commenter noted the channel around Tuck's Point can become narrow due to swinging boats. Another commenter felt that there were too many boats in the harbor, which led to the federal channel often feeling obstructed.

One commenter mentioned **anchors** and recommended that all anchoring should be as environmentally friendly as possible, for example through the use of helical anchors.

Responses about **navigation aids** (2) recommended repairing broken navigation aids, marking shallow rocks and ledges, and adding no wake buoys at Tuck's Point and the inner harbor.

Several responses (4) focused on **enforcement** of boating safety rules, including speed monitoring in the outer harbor, the need for more water safety officers on holiday or party weekends, and concern that Sand Dollar Cove creates a safety problem for the town.

One commenter noted **overcrowding** was an issue at Sand Dollar Cove and White Beach and this negatively impacts recreational boating.

The topic of **mooring, dredging, and harbor fees** received several comments (6), with most people noting the high fees in Manchester as compared to surrounding harbors and wanting to lower or eliminate the fees. One commenter noted "harbor use fees should reflect what it costs to operate a safe, clean, and well managed harbor". Another commenter suggested the mooring fee exceeds the legal requirement for use only in the administration of mooring permits and should not include funding police work. Several responses suggested the town pursue additional revenue streams to help contribute to the fees and ensure the harbor department has the staff and resources needed.

The importance of **boater education** on a range of safety concerns was emphasized in several comments (4). Responses noted the boating population continues to increase, often with no formal training. One response recommended requiring a minimal operating and safety course to captain a vessel, while another response recognized that boating safety is a big issue that will require action beyond the local level.

Working Waterfronts

A total of **54 comments** were received on the topic of working waterfronts.

Respondents (7) expressed **general support for the working waterfront**, with one person noting it is "a vital part of Manchester's harbor…and should be well supported". Another response went further and asserted the working waterfront "should have priority in needs and tax dollars over recreational boaters". Maintaining waterfront assets was noted as important for supporting industry and also beneficial for eligibility for state and federal funding.

Several responses (4) expressed **support for the expanded Town Dock** and felt the setup was working well and would recommend it to others. These responses supported the opinion that "visiting boaters should have a place to dock their boat to be better able to visit our town to dine, shop and stroll through our town for a reasonable amount of time". One person recommended adding a food/beverage station.

Regarding the idea of other expanded dockage, support varied widely among responses. Several responses **(2) support expanded dockage** as proposed by the Harbormaster, particularly more slips for commercial and transient boaters. In contrast, other responses (6) **did not support expanded dockage**. These responses felt maintaining a certain scale to waterfront activities was important and to not make the harbor overdeveloped or busier than it currently is. One person was concerned about the burden on taxpayers, while another expressed aesthetic concerns about pilings. One response focused on maintaining or improving resident experience not attracting non-resident boaters, while another felt expansion would ruin tourist appeal in addition to resident enjoyment. Another portion of responses (3) expressed the importance of **balancing waterfront interests**, recognizing the importance of having an accessible, welcoming harbor with improved commercial and visitor access while not promoting excessive tourism. As one respondent noted "…a quiet, quaint harbor that's beautiful to look at, enjoyable to use, and matches the needs of the town should be the goal. That doesn't mean it can't also be bustling with activity with boats coming in and out, fishermen doing their jobs, pedestrians strolling along admiring the view".

Specifically, regarding the **Reed Park Plan**, respondents (4) supported expanding the docks, noting it will encourage boaters to visit, bring more business to the downtown area, and make the harbor and town more vibrant. Several responses also encourage the addition of public restrooms, a visitor's center, and a new Harbormaster office. In contrast, other responses (2) felt **Masconomo Park** near Morss Pier would be the preferred location for these amenities (restrooms, visitor's center, and Harbormaster office). Other responses (4) noted interest in these same amenities, but did not specify a location. Additional **facilities and services** of interest noted in those responses include showers; water, electricity, and pumpout services at the docks; and handicapped parking at the town docks. One response suggested the town offer parking with a trolley service similar to Rockport.

Respondents noted interest in **waterfront dining** (2) particularly with dock access. Potential locations for facilities at least with water views include a year-round restaurant at Singing Beach, Masconomo Park, or Tuck's Point. This could be a revenue opportunity for the town.

Regarding **moorings**, one response focused on the limited availability of deep-water moorings for recreational sailors and another response felt that Manchester Marine has more moorings than they should have given the long waiting list for moorings.

Several responses (4) addressed **commercial fishing**, with two people noting their support for facilities for commercial fishermen. One response noted "the town's commercial fishing fleet has always been a significant part of the town's character for both residents and tourists and should be protected, not only for the financial benefits accrued to the town but also the historic and character value that a working fleet provides". In contrast, two responses did not support the proposed fishermen's facility, noting concerns about cost, aesthetics, and other pressing needs in town.

Respondents (3) also noted their **support for Crocker's Boat Yard and Manchester Marine**, noting "both marinas need to be successful as they are part of the engine that drives the economy". The facilities offer more water access to boaters and take some of the burden off the town regarding parking, transient dockage, restrooms, pump out facilities, etc. One facility owner felt the boat yards work well with the town and thought they can continue to work together to improve not just the harbor but some of the downtown area.

The **threat of climate change and flooding to working waterfront infrastructure** received several comments (3). One response felt that the town has made an effort to maintain the harbor infrastructure, although noted there are places that are not keeping up with the changing water levels. Masconomo Park, Reed Park, and the Beach Street area were noted as areas in danger from flooding. One response felt that government agencies should be focused on mitigating flooding in the parks around the harbor and was opposed to the concept of a "floodable park".

Regarding **tourism**, comments (3) include two responses noting the importance of tourism and suggesting the town encourage experiential opportunities for visitors and residents. One response felt the harbor was too small for tourism.

Several comments (2) expressed concern for the **finances** of the working waterfront. One response suggested the working waterfront should be self-sustaining and should not be subsidized. Another comment felt the cost of expanded docks and infrastructure plus the ongoing maintenance costs were a future financial burden for the town with questionable revenue and benefits.

Several topics received one comment each, including proper monitoring and design of **regulations**, use and maintain **best quality equipment**, and **support for oyster projects**, including the Mass Oyster Project and MHBC Oyster Project.