



Manchester-by-the-Sea Open Space and Recreation Plan

2021-2027



Acknowledgements

This plan would not be possible without the support and leadership of many people in the Town of Manchester-by-the-Sea. Sincere thanks to Mary Reilly, Grants Administrator for the Town of Manchester and Sue Brown, Town Planner. Members of the Open Space and Recreation Committee, Open Space and Recreation Plan Advisory Committee, and supporting Town staff are listed below and in Section 2 of the plan. Funding for this project was provided by the Community Compact Best Practices Program through the Massachusetts Governor's Office and a technical assistance grant from the Metropolitan Area Planning Council (MAPC).

Town of Manchester-by-the-Sea

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- Mary Reilly, Grants Administrator

Manchester Open Space and Recreation Committee

- Steve Gang, Co-chair, Conservation Commission Rep
- Olga Hayes, Co-chair, Parks & Rec Committee Rep
- Deb Fraize, Manchester Coastal Stream Team Rep, 2023
- Parker Harrison, Bicycle and Pedestrian Committee Rep, 2022
- Helen Bethell, At-Large, 2021
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Section 1: Plan Summary

The 2021-2028 Manchester Open Space and Recreation Plan (OSRP) updates and revises the town's 2014 Open Space and Recreation Plan approved by the Massachusetts Executive Office of Energy and Environmental Affairs. This document has been prepared to serve as a planning guide for the various Town staff, committees, boards, commissions, nonprofits, and volunteer groups in town working to support open space and recreation.

The foundation of Manchester's unique charm is its exceptional open space and natural resources including its harbor, beaches, tidal lands, fresh water, wildlife habitats, and breathtaking vistas. These irreplaceable resources were driving forces of Manchester's historic development patterns and remain significant components of the town's essence and identity¹. This plan seeks to offer opportunities for improving and protecting open space and recreation land in Manchester, and for developing actions to meet community goals.

The quality of life for Manchester residents and visitors of surrounding communities is enhanced dramatically by Singing Beach, Dexter Pond Conservation Area, Powder House Reservation, Coolidge Reservation and many of the Town's other playgrounds, parks, and natural open spaces. An inventory of these areas is included in this OSRP as both an educational resource and as a base for the Seven-Year Action Plan (Section 9), which highlights open space and recreation priorities for the next seven years. The Action Plan provides detailed steps for achieving the plan's goals and objectives, including the relevant responsible parties, timeframe for achieving the action, and potential funding sources. This OSRP also includes an overview of the history of Manchester, its physical development, demographic characteristics and an environmental analysis.

This OSRP was prepared by the Metropolitan Area Planning Council (MAPC), which is the regional planning agency serving the people who live and work in the 101 cities and towns of Metropolitan Boston. MAPC prepared the plan under the direction of the Open Space and Recreation Committee (OSRC) and the Open Space and Recreation Plan Advisory Committee (OSRPAC) as well as staff from the following Town of Manchester departments: Parks and Recreation, Planning, Public Works, Conservation Commission and Harbormaster. During the course of the OSRP update process, MAPC held two virtual public forums, gathered resident input from virtual open houses, created an online survey with over 200 responses, and met numerous times with the OSRC, OSRPAC and staff from the Town of Manchester.

In addition to serving as the town's blueprint for park and open space planning, an approved Open Space and Recreation Plan allows Manchester to apply for specific types of grant funding for projects related to open space and recreation. With final plan approval from the Massachusetts Executive Office of Energy and Environmental Affairs (MA EOEAA) Division of Conservation Services (DCS), Manchester is eligible for funding opportunities like the Local

¹ "Manchester Community Preservation FY2021-2025" (2021), The Manchester Community Preservation Committee

Acquisitions for Natural Diversity (LAND) and Parkland Acquisitions and Renovations for Communities (PARC) grants, which the Town can use for land acquisition and improvement of parks and other open spaces.

The OSRC, with the help and assistance of the OSRPAC and various town departments and committees, developed seven goals on which the OSRP is based. They are as follows:

- **Goal 1:** *Ensure that the objectives and actions identified in the Open Space and Recreation Plan (OSRP) are implemented and that the plan is updated as needed for resubmission in 2028.*
- **Goal 2:** *Protect Land Significant to Drinking Water Protection, Wildlife Habitat, Natural Resource Protection and Climate Change (for carbon storage).*
- **Goal 3:** *Manage existing town-owned or town-managed open space parcels for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.*
- **Goal 4:** *Promote awareness, enjoyment and stewardship of Manchester's open space parcels and natural resources through outreach and education.*
- **Goal 5:** *Identify the town's recreational needs and create action plans to address those needs.*
- **Goal 6:** *Promote the use and improvement of the town-owned waterfront resources for the purposes of water-related activities.*
- **Goal 7:** *Continue to advocate for accessibility by ensuring that town officials, boards and committees are aware of Universal Design Standards and ADA requirements and that ADA considerations are incorporated into town projects.*

Section 2: Introduction

Statement of Purpose

Why was this Plan Update Written?

The Town of Manchester-by-the-Sea (Manchester or MBTS) is known and beloved for its scenic beauty, unique natural features, and recreational resource areas. Improving and preserving Manchester's parks, open space and natural resources is critical to the town's character, environmental health, and social well-being.

Manchester's 2021 Open Space and Recreation Plan continues the work of previous open space plans completed by the Town, updating and replacing the most recent version produced in 2014. This document will serve to guide the Town's decision making around open space and recreation planning and implementation, including spending, for the next seven years. The Plan is designed to provide clearly defined open space and recreation priorities and goals, developed through a participatory public process, to ensure that the open space and recreational needs of the Manchester community are met.

This 2021 Plan Update has been compiled in accordance with the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA), Division of Conservation Services (DCS) requirements and guidelines. In order to be eligible for state and federal grant aid offered through the EOAA, an approved Open Space and Recreation Plan is required.

What is Open Space?

Open space is land that is undeveloped, usually without buildings or structures, and accessible to the public. Open space is typically divided into two categories: conservation lands and recreation resources.

Conservation land is usually left in its natural state and it is often, but not always, open to the public. Conservation lands may include animal and plant habitats, water resources/aquifer protection, and other natural, historical, or cultural features.

Recreation involves activity. Active recreation activities include team sports, tennis, swimming, golf, etc. taking place in or on developed facilities. Passive recreation is defined as any activity that can be performed outdoors with a minimum disturbance to an area's natural resources. For example, hiking, picnicking, canoeing, ice skating, cross country skiing, swimming in a natural water body, and informal sports activities on an open field are all considered passive activities. Conservation lands can offer passive recreation opportunities.

This Plan inventories both active and passive recreation areas, as well as open spaces such as cemeteries that serve as historical and cultural features that provide information about the

people, places, and events of an earlier time. The Inventory of Manchester’s recreation and open space resources is in Section 5.

Planning Process and Public Participation²

The planning process and preparation of this OSRP was coordinated by the Metropolitan Area Planning Council (MAPC), under the direction of, and with input from two key advisory bodies the Open Space and Recreation Committee (OSRC) and the Open Space and Recreation Plan Advisory Committee (OSRPAC). The members of the OSRC and OSRPAC and their affiliations are listed below:

Manchester Open Space and Recreation Committee

- Steve Gang, Co-chair, Conservation Commission Rep
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² Full documentation of the feedback collected through the public participation strategies described in this section is included in Appendixes C, D and E.

Town of Manchester-by-the-Sea Supporting Staff

- Mary Reilly, Grants Administrator
- Sue Brown, Town Planner

Planning Process and Public Participation

During this Open Space and Recreation Plan process, the OSRC and OSRPAC, whose members represent the park and open space stakeholders in Manchester, met regularly with Metropolitan Area Planning Council (MAPC) staff to review and contribute to elements of the plan and assist with community engagement.

In cooperation with the OSRC and OSRPAC, MAPC organized and hosted two virtual community forums. Due to the coronavirus pandemic and public health concerns, an in-person forum was not possible. Using Zoom's teleconferencing platform and Qualtrics' online surveying software, MAPC staff created a virtual meeting space mirroring the format of a traditional open house. Recordings of the virtual meetings and copies of the meeting presentation were posted online to allow residents who were unable to attend the live sessions to view content and provide feedback at their convenience. Information about the forums and the OSRP Community Survey, was distributed through the following means:

- Town website
- Press releases in local newspapers (Manchester Cricket, Gloucester Times)
- Town email listservs
- Social media (OSRC Facebook page)
- Individual outreach to nonprofits and community groups
- Individual outreach to Town Boards and Committees
- Individual outreach to recreation stakeholders and members of the community at large

The OSRP Committee hosted a virtual public forum on August 26, 2020, which 30 community members attended. The meeting started with an interactive presentation and live Q&A session via Zoom. The purpose of the first forum and open house was to introduce the OSRP planning process and gain insight into the community's open space and recreation use, goals, and needs. Immediately following the presentation participants were invited to visit the Virtual Open House where they could:

- Review informational content about the plan
- Review goals from the previous plan and suggest new goals for the 2021 OSRP update
- Provide feedback on park and open space use and priorities
- Provide input on current strengths, deficiencies, opportunities, and challenges in Manchester's park and open space facilities

Manchester residents and other open space stakeholders also had the opportunity to communicate their opinions and preferences through a town wide online survey, administered from October 26, 2020 through November 30, 2020. The survey allowed for open-ended comments and was

designed to help measure and evaluate what residents believe the Town should prioritize as it invests in its parks and open space, e.g. “Acquire land for conservation purposes, Acquire land for recreational purposes;” how frequently respondents visited particular park and open space properties; how respondents get to or would like to get to their parks and open space; what factors limit their utilization of Manchester’s open space and recreation amenities; and the types of programs and amenities they would like to see in the future. In total, the survey received over 200 responses. Information and results from the survey was shared with the OSRC and OSRPAC and used to inform reporting of Manchester’s community needs and priorities in Section 7.

MAPC and the OSRP Committee hosted a second community forum on May 26, 2021. This forum was set up as a virtual open house, with a brief presentation providing an overview of the OSRP planning process and the major phases of work to orient participants. During the presentation MAPC staff presented findings from the OSRP Community Survey and highlighted key themes of the draft 2021 Seven Year Action Plan. Following the presentation participants were encouraged to ask questions and were provided a link to visit the virtual open house to review, comment, and provide feedback on the proposed Seven Year Action Plan. Twenty community members attended the second forum, and several submitted written feedback on the proposed Action Plan which was incorporated into the draft OSRP. A Working Draft of the 2021 OSRP was posted on the Town website and circulated for public review comment, and feedback on June 7, 2021.

Section 3: Community Setting

Regional Context

Manchester-by-the-Sea is a coastal community situated in eastern Massachusetts (Essex County) and is bordered by Gloucester to the east, Essex and Hamilton to the north, Wenham and Beverly to the west, and the Atlantic Ocean to the south. Consisting of 7.73 square miles, or approximately 5,000 acres, the Town is located 32 miles north of Boston on what is considered Boston's North Shore. Manchester is also considered as part of Cape Ann which marks the northern limit of Massachusetts Bay and includes the communities of Essex, Gloucester, and Rockport.

Two state highways, Route 127 and Route 128, traverse the town from Beverly to the west and Gloucester to the east, as does the Rockport branch of the MBTA commuter rail line. Two local roads link the town with neighboring Essex to the north and Hamilton to the northwest. Manchester also shares large expanses of woodlands and wildlife habitats with neighboring communities. The Chubb Creek and Bennett's Brook watersheds and the Round Pond-Gravelly Pond watershed include extensive wooded areas of Beverly and Wenham as well as western Manchester. The Sawmill Brook watershed includes the major part of the woodlands north of Route 128, including a significant portion of the Essex woods. The Kettle Cove watershed combines a mix of forested areas adjoining Gloucester reservoirs and Manchester woodlands with two large industrial parks – the Gloucester Industrial Park which drains to Wolf Trap Brook and the Kettle Cove Industrial Park which drains through Coolidge Point. Both streams ultimately empty into Kettle Cove at Black Beach in Manchester. **Figure 1** is a map that shows the region's open space and recreation resources and how they are (or can be) interconnected between these municipalities.

Regional Planning Context

Manchester-by-the-Sea is one of 101 cities and towns served by the Metropolitan Area Planning Council (MAPC), the regional planning agency for the Greater Boston region. Manchester is a member community of the North Shore Task Force (NSTF), which also includes the communities of Beverly, Danvers, Essex, Gloucester, Ipswich, Hamilton, Marblehead, Middleton, Nahant, Peabody, Rockport, Salem, Swampscott, Topsfield and Wenham. Council membership consists of community representatives, gubernatorial appointees, and city and state agencies that collaborate around issues of regional importance. MAPC's professional planners, GIS specialists, demographers, and others provide extensive technical assistance to member communities through the development of comprehensive plans and recommendations in areas of housing, transportation, economic development, public health, environment, and more.

In 2008, MAPC adopted a comprehensive plan for the region with goals through 2030 entitled MetroFuture. MetroFuture guides the work of MAPC agency-wide and every project MAPC undertakes works towards reaching these goals. Many MetroFuture goals are applicable to Manchester's Open Space and Recreation Plan, including:

- **Goal 8:** Historic resources will be preserved and enhanced.
- **Goal 9:** The region's landscape will retain its distinctive green spaces and working farms.
- **Goal 10:** Growth in the region will be guided by informed, inclusive, and proactive

planning.

- **Goal 11:** The region will be prepared for and resilient to natural disasters and climate change.
- **Goal 23:** All neighborhoods will have access to safe and well-maintained parks, community gardens, and appropriate play spaces for children and youth.
- **Goal 25:** Most residents will build regular physical activity into their daily lives.
- **Goal 31:** The region's residents—including youth, seniors, and immigrants—will be well informed and engaged in civic life and community planning.
- **Goal 60:** The region will have better air quality, both indoors and out.
- **Goal 61:** Water resources will be carefully budgeted and sustainably managed so that clean water is available for appropriate uses and development.
- **Goal 62:** The region's rivers, streams, lakes, and ponds will have sufficient clean water to support healthy populations of native fish and other species, as well as recreational uses.
- **Goal 63:** The ecological condition of wetlands will improve, and fewer wetlands will be lost to development.
- **Goal 64:** The region will retain its biodiversity and will have healthy populations of native plants and animals, and fewer invasive species.
- **Goal 65:** A robust network of protected open spaces, farms, parks, and greenways will provide wildlife habitat, ecological benefits, recreational opportunities, and scenic beauty.

In addition, Manchester has made progress toward many MetroFuture goals through actions and policy by the Board of Selectmen, the Department of Public Works (DPW), the Conservation Commission and the Planning Board.

Planning Context

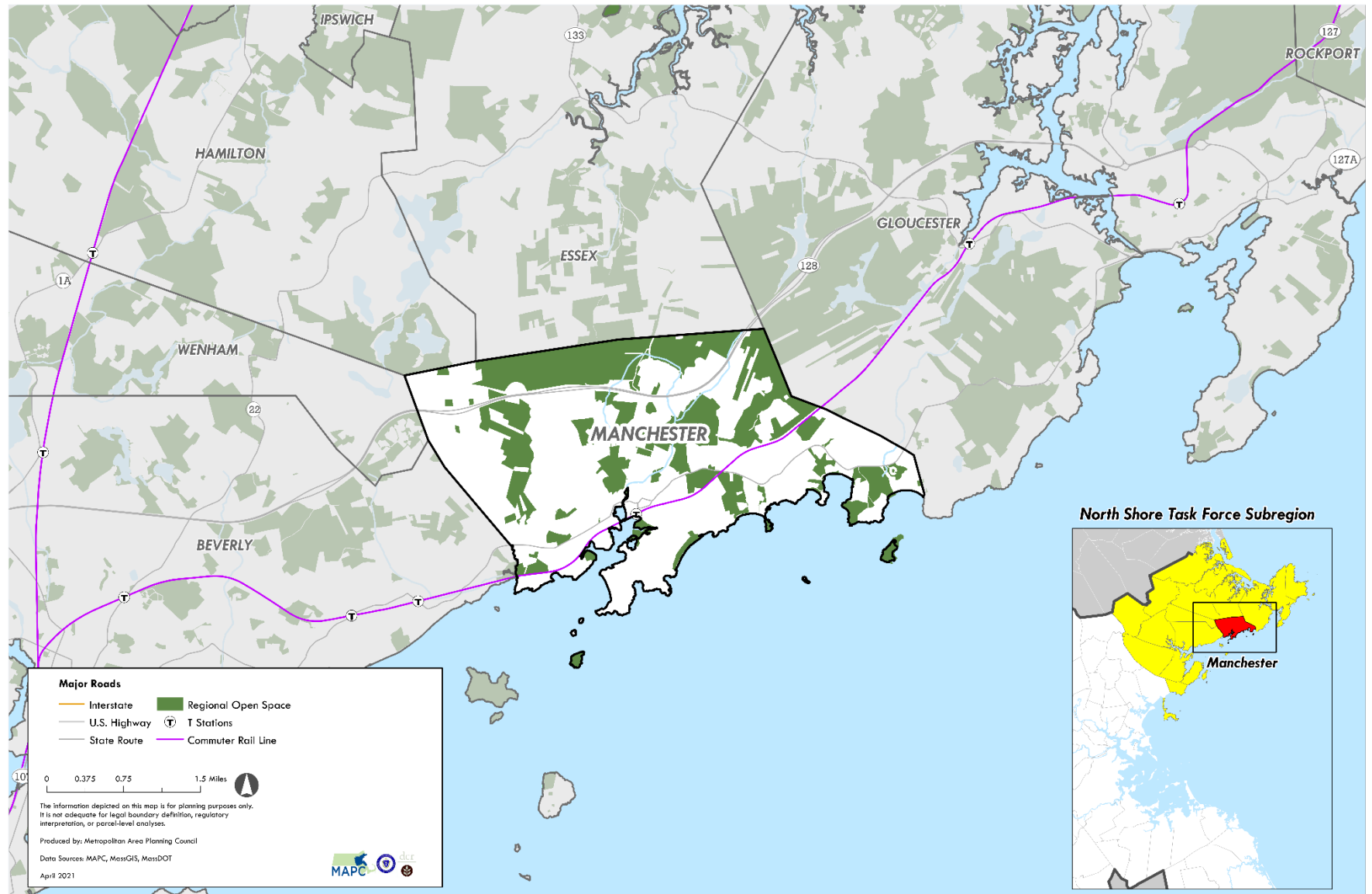
As listed below, several planning efforts in Manchester are on-going or have recently been completed, including:

- Athletic Fields Master Plan (2020)
- Town of Manchester Community Preservation Plan (FY2021-2025)
- Manchester Master Plan (2020)
- Sawmill Brook Culvert, Tide Gate Removal and Stream Restoration Feasibility Study (2018)
- Municipal Vulnerability Preparedness Plan (2018)
- Housing, Economic Development, and Land Use Scenario Study (2018)
- FEMA Hazard Mitigation Plan (2018)
- Visioning for the Master Plan (2016)

In addition, recommendations found in earlier planning documents have not yet been acted upon and remain viable:

- Horsley Witten Water Resources Protection Plan (1990)
- DEP Source Water Assessment and Protection (SWAP) Report (2003)

Figure 1: Regional Context Map



History of The Community³

The area that is now Manchester was originally part of the town of Salem. It was then called Jeffrey's Creek after an early adventurer, William Jeffrey. The first grants of land at Jeffrey's Creek were made by the town of Salem in 1636-1637. Eight years later, in 1645, the town was separated from Salem and the name was changed to Manchester after the town in England.

Figure 2: 1872 Map of Manchester



Image Source: Digital Commonwealth

In Manchester, as in many other New England coastal towns, the chief occupation was fishing. Cod, pollock and hake brought into Manchester were exported to the colonies in the South, the West Indies, and Europe in exchange for such commodities as coffee, molasses, bacon and rum. The fishing industry reached its height around the turn of the 18th century and began to decline after the War of 1812. Before the Revolution, a new era in the history of the town had begun when Moses Dodge opened a cabinet-making shop in Manchester. His craft was quickly taken up by others and the town gained a reputation for making fine furniture. Toward the middle of the 19th century, the prosperous furniture trade declined in importance as the business moved to other places where lumber, cheap labor and water power were more plentiful. By this time, the "era of the summer resident" began to change the face of the town.

In 1845, Richard H. Dana, Sr., a Boston resident and poet, purchased more than 30 acres of land and built a substantial house, thus becoming Manchester's first summer resident. In a sense, he reestablished a tradition already set by Native Americans who used to spend only the warm months along this shore. Referred to later as "Manchester-by-the-Sea," the town became a fashionable and popular summer haven. Today, many former summer residences have been winterized and are used year-round. The busy, well-protected harbor, sheltered by a narrow

³ Manchester OSRP, 2014

channel and wooded hills, provides an attractive setting for the many 18th and 19th century homes that have been preserved and are still found in the town.

Population Characteristics

Population and Projections

As of the 2010 U.S. Census, Manchester-by-the-Sea's total population was 5,136 people, though 2019 Census data estimates the population closer to 5,434. Manchester-by-the-Sea's population is older than that of Massachusetts and Essex County; about 20% of residents are 65 and older, compared to 14% of residents in the state and the county. Manchester's population has been generally stable since the 1990's; the population has changed less than 5% in the last 20 years, from 5,228 in 2000 to approximately 5,434 in 2019.

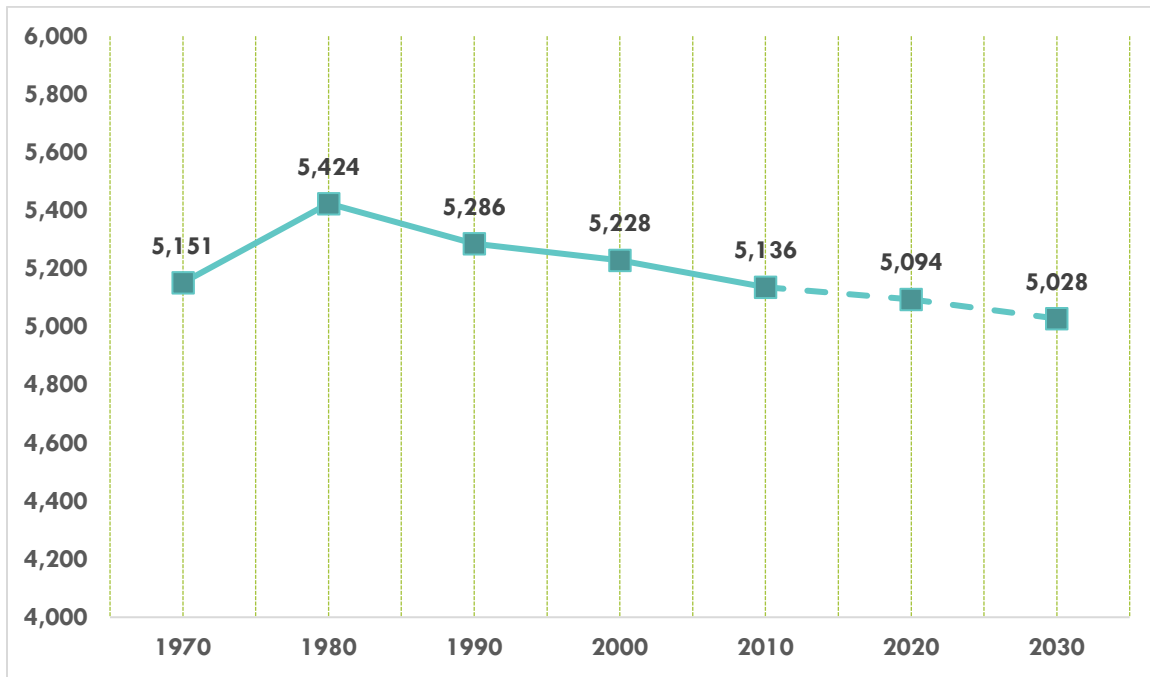
The Metropolitan Area Planning Council (MAPC) has prepared population projections through 2030 for the Metro Boston region. These projections are based on two scenarios: Status Quo (SQ), based on the continuation of existing rates of births, deaths, migration, and housing occupancy; and a Stronger Region (SR) that assumes higher population growth, greater housing demand, and a larger workforce. Specifically, the Stronger Region scenario assumes that in the coming years:

- the region will attract and retain more people, especially young adults, than it does today;
- younger householders (born after 1980) will be more inclined toward urban living than were their predecessors, and less likely to seek out single family homes; and
- an increasing share of senior-headed households will choose to downsize from single family homes to apartments or condominiums.

Current trends appear to bear this out, so the Stronger Region scenario was used to project population and demographic changes in this plan.

Looking forward to 2030, MAPC's 2014 Metro Boston Population and Housing Demand Projections indicate that the Town's population will decrease slightly, with a projected decrease of about 108 residents (2%) in the Stronger Region scenario.

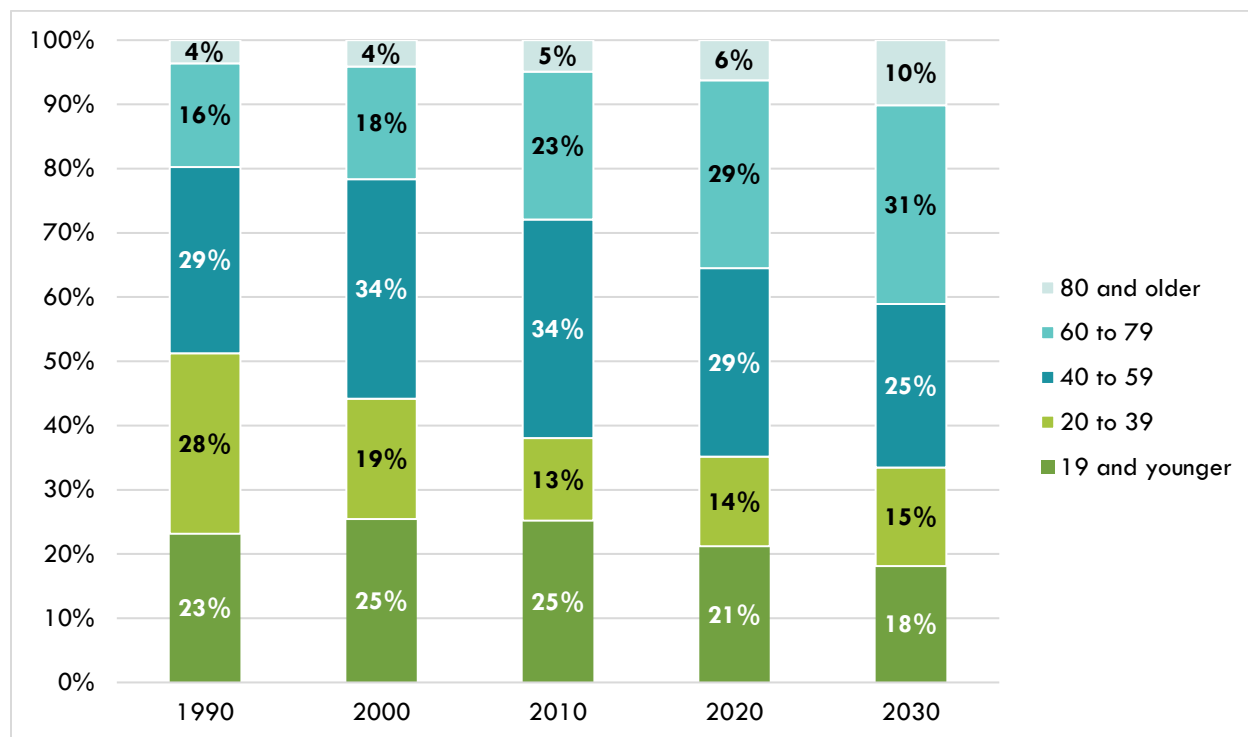
Figure 3: Total Population and Projections, 1970-2030



(Source: U.S. Census and MAPC Stronger Region Projections)

Over the years, population growth in Manchester has not been equally distributed amongst age cohorts, as shown in **Figure 4**. In general, there were significant declines in younger age cohorts and major gains in older ones. Individuals 60 and over are the fastest growing segment of the town's population, with close to 30% of residents falling into this age group based on the 2010 U.S. Census. As shown in **Figure 4**, this age cohort is expected to make up over 40% of the town's population by 2030, according to MAPC Stronger Region Projections. Growth for the younger age cohorts will likely increase at a slower rate as the town's population ages as a whole. In fact, the median age of Manchester has already increased from 43.7 years old at the time of the 2000 Census to 47.6 in 2010. According to the most recent ACS figures, the median age has increased further to 48.9.

Figure 4: Population and Projections by Age



(Source: U.S. Census and MAPC Stronger Region Projections)

Recreational Needs by Age Group

Population demographics can influence open space and recreation needs. For example, while residents young and old differ in their recreational needs based on individual interests, there are some assumptions that can be made about the demand for facilities based on age.

Families with young children tend to need neighborhood playgrounds that provide family recreational opportunities. Additionally, the availability of neighborhood parks and recreational facilities for physical activity may be particularly relevant for youth, seniors and disabled individuals, who are unable to drive and whose activity is limited to the immediate distance they are able to walk or bike. Therefore, their access to parks and open space is dependent on safe and convenient walking, biking, and transit options, or on others who can drive.

Children under five need structured preschool programs that focus on teaching basic social skills while school age youth are typically served recreationally through school and after-school sports programs. This can pose difficulty for those not interested in participating in traditional programs that are structured or involve adult supervision. For adolescents who are interested in being more actively involved in determining their activities, they may prefer programs like rock climbing, adventure programs, skateboarding, hiking, band concerts, cook outs, dances, and more.

Adolescents and adults need athletic fields for sports, and increasingly, areas for running, biking, and walking. Adults may choose to pursue an array of recreational activities including, but not limited to: sports, health and wellness, crafts and fine arts. Some may want to join an adult sports league or practice martial arts, while others may wish to participate in a yoga or fitness class.

It is important for older adults and seniors to remain active as they age. A community’s parks and open space should provide settings for both passive recreation (e.g., places to sit, read, socialize with friends) and active recreation (e.g., walking paths, exercise activities, gardening). As Manchester’s population continues to age, seniors will need recreational programming and spaces that accommodate their limitations in mobility and strength.

More active seniors may enjoy activities such as walking, golf, bocce, tennis, and swimming, while seniors suffering from an illness or disabling condition may be better served through therapeutic recreational activities such as arts and crafts or table and card games.

The needs of residents with disabilities also vary. Some residents with disabilities can participate in regular recreational programs without any modifications while others may need some assistance or programs specifically geared toward those with disabilities. Physical barriers are a key factor for consideration and are evaluated in the ADA Access Self-Evaluation and Transition Plan in Appendix A of this plan. Along with the evaluation, the appendix also includes recommendations for improving accessibility by removing physical barriers and enacting programmatic changes.

Population Density

Population density influences demand for public outdoor parks and recreation spaces. In high density areas, residences may lack private yard space. Typically, these areas would benefit from neighborhood parks or playgrounds. In residential areas with lower density where many properties have private yards, there may be less of a demand for neighborhood parks and more of a demand for trails, playgrounds, and sports fields.

Manchester has a population density of 585 people per square mile. Communities with similar densities are listed in the table below. Generally, these towns have suburban growth patterns with large amounts of open space. However, the open space may be challenging to access without a car and may not all be publicly accessible.

Figure 5: Population Density

Community	Population Density (persons per sq. land miles)
Littleton	614
West Boylston	608
Salisbury	599
Manchester By The Sea	585
Acushnet	573
Dudley	573
Holden	567

Source: Source: MA Department of Revenue, Community Comparison Reports.

Race and Ethnicity

In terms of race and ethnicity, Manchester's population is racially homogeneous and has very little diversity. According to ACS 5-Year Estimates 2015-2019, approximately 98.6% of residents identify as White. Members of minority groups make up approximately 1.3% of the population, with 0.7% identifying as Asian and 0.6% identifying as multiracial.

Households and Projections

Household characteristics can also influence community preferences for open space and recreation. For example, single parent households may increase the demand for public recreation programs that can serve as childcare during work hours. A large percentage of individuals living alone may have increased interest in organized adult recreational programs as people seek out social interactions. A high number of families with children can influence demand for playgrounds and youth recreation programs.

The most recent American Community Survey (ACS) 5-Year Estimates 2015-2019 show 2,075 households in Manchester. This marks a 3.5% decrease in the number of households since 2010 when that figure was 2,147 households. According to ACS 2015-2019, the average household size for Manchester is 2.59 people, slightly higher than the Massachusetts average of 2.52. Family households, those with two or more related persons living together, make up 67.2% of all households in Manchester while households with persons living alone make up 28.8%. **Figure 6** provides a snapshot of family and household characteristics for Manchester.

Figure 6: Household Types in Manchester

Household Type	Manchester
Total Households¹	2,075
Households with individuals under 18 years	30.1%
Households with individuals 65 years and over	39.4%
Family Households²	67.2%
Households with Persons Living Alone²	28.8%

Source:

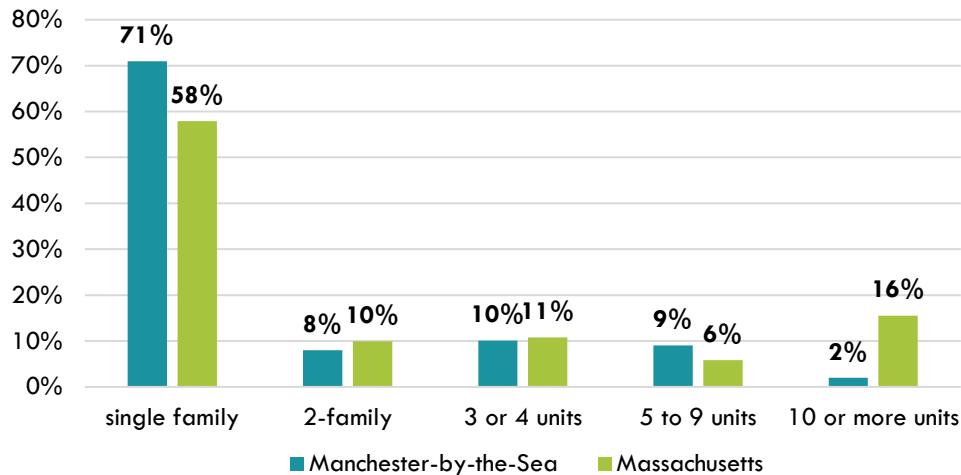
1. 2015-2019 American Community Survey

2. 2010 U.S. Census

Housing and Economic Characteristics

Manchester-by-the-Sea's real estate values are among the highest in the state and a vast majority of residents live in single-family homes. According to Warren Group Data, the median sales price for a single-family home in Manchester-by-the-Sea in 2017 was \$855,000 (for 61 sales), down slightly from the 2016 peak of \$942,000 (for 55 sales).

Figure 7: Housing Units in Structure



Source: 2019 ACS 5-Year Estimates

As shown in **Figure 7**, this particularly land intensive housing typology makes up 71% (1,627 units) of the town's total housing units (2,294 units), compared to 58% of units in the Commonwealth as a whole. Though 61% of all households in town consist of one or two people, only 23% of all houses have fewer than six rooms. Further, only 3% of households contain more than five persons yet over 43% of houses have eight or more rooms. In terms of housing tenure, two-thirds (66%) of Manchester residents own their homes while the other third (34%) rents. There is a need for more housing options for all life stages and household sizes in Manchester-by-the-Sea. In addition to options for seniors, affordable rentals for beginning householders and families are also needed.

Manchester's median household income is \$89,313, compared to \$67,846 for Massachusetts and \$68,776 for Essex County. About a quarter of households make more than \$200,000 a year, though over 20% of households make less than \$35,000 a year. The town has a low poverty rate (6.6%) compared to the county (10.7%) and the state (11.6%).

Employment

Employment characteristics provide a picture of the types of jobs that exist in the Town. According to the Massachusetts Executive Office of Labor and Workforce Development (EOLWD), Manchester had an average annual labor force of 2,865 people in 2019. A majority of the workforce is employed outside of town with nearly one in ten being self-employed. Approximately 65% of Manchester residents drive alone to work, 3% carpool, and 14% take public transportation.

Manchester's largest employers are the Real Estate firm of J. Barrett & Co, Crosby's Marketplace, Essex Country Club, and the Manchester Athletic Club. As of 2019, the town had 209 businesses and an average monthly employment of 1,650 people.

The majority of people who work in Manchester are employed in the Retail Trade, Educational Services, or Arts, Entertainment, and Recreation industries. Collectively, these three sectors make up half of all the jobs in town.

Figure 8: Employment by Industry

Industry	Average Annual Wage	Employees	Percent (%)
Health Care and Social Assistance	\$53,196	119	7.2%
Retail Trade	\$26,624	155	9.3%
Administrative and Waste Services	\$47,268	44	2.6%
Wholesale Trade	\$53,196	40	2.4%
Educational Services	\$61,932	316	19.1%
Accommodation and Food Services	\$23,348	144	8.7%
Other Services, Ex. Public Admin	\$31,772	70	4.2%
Construction	\$59,228	114	6.9%
Real Estate and Rental and Leasing	\$56,368	18	1%
Professional and Technical Services	\$93,964	82	4.9%
Finance and Insurance	\$188,084	72	4.3%
Arts, Entertainment, and Recreation	\$31,096	359	21.7%
Information	\$50,232	22	1.3%
Total, All Industries	\$53,872	1,650	100%

Source: MA EOLWD ES-202 2019

The average weekly wage among those employed by Manchester's businesses in 2019 was \$1,036 for an average annual income of \$53,872. Manchester's median household income in 2019 was \$ 148,854 significantly higher than the State at \$81,215 and Essex County at \$79,263.

The COVID-19 pandemic will impact the economy of Manchester in a variety of ways and may cause substantial changes in the total number of employed workers, as well as the distribution of jobs in different sectors. The implications of these changes for open space and recreation planning are yet to be explored. More people working remotely may increase demand for nearby parks and open space as well as active recreation resources such as hiking, biking, and water sports for youth and adults. The COVID-19 pandemic has shed light on the crucial role of parks and open space in communities and created a renewed appreciation for the physical and mental health benefits that they provide.

Growth and Development Patterns

Patterns and Trends

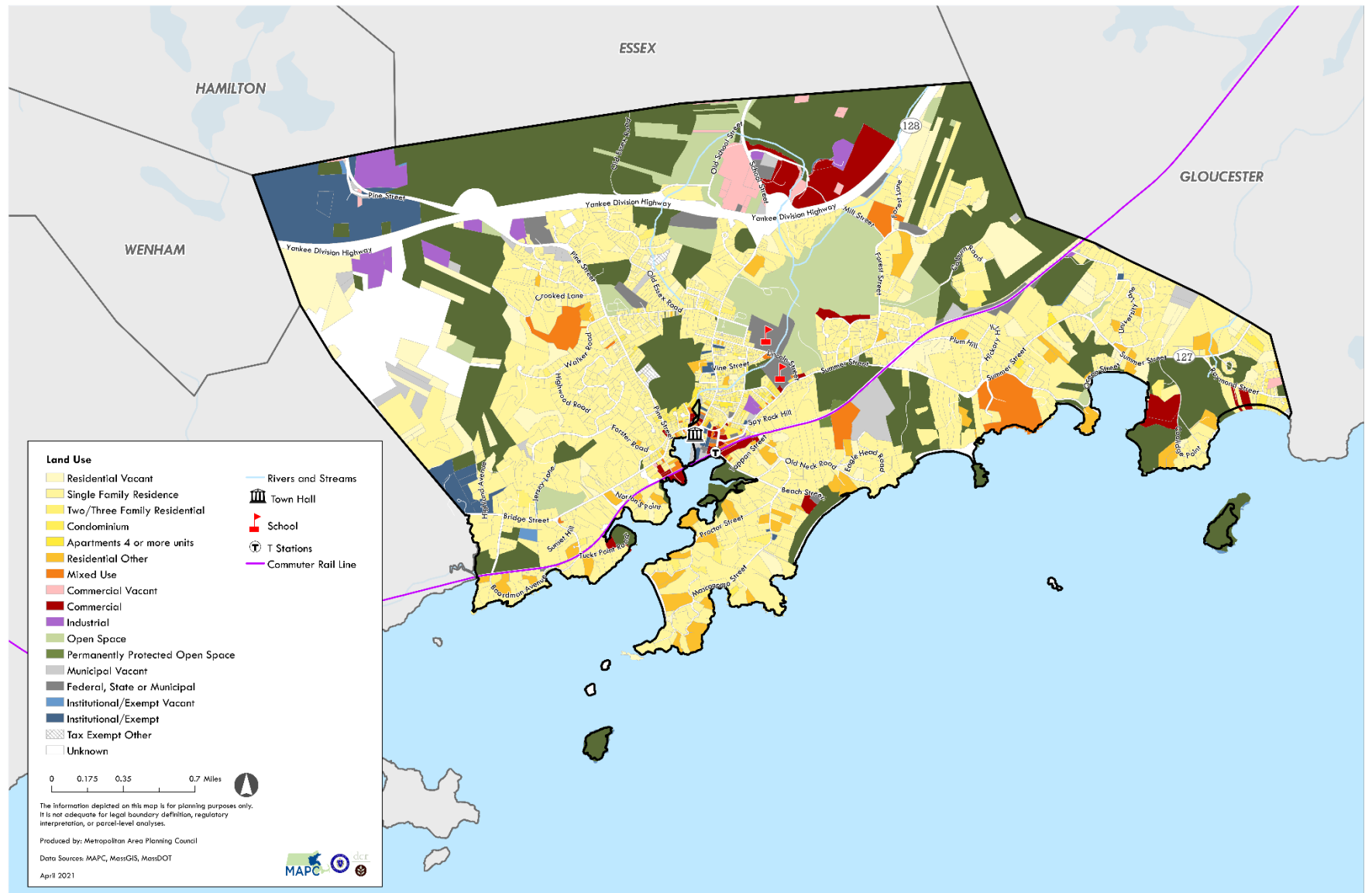
“Land use” is a term used to describe the primary use, or combination of uses, occurring on a parcel of land at any given time. Land use patterns are influenced by numerous factors, including historical development patterns, population and economic growth over time, infrastructure investment, transportation access, natural resources, and environmental constraints. Importantly, land use is not permanent – it can and often does change over time.

Since the earliest days of settlement, Manchester’s harborside location and surrounding topography have been consistent forces in shaping land-use patterns. Once known as Jeffries Creek, Manchester was primarily settled by fishermen upon its incorporation in 1645. Development activity clustered around the inlet while the higher hinterlands remained uninhabited.

Another early settlement pattern that influenced the town’s development was School Street, which stretched toward the northeast and served as a primary connection to Essex, an important shipbuilding town on the north side of Cape Ann. Pine Street was another significant traveling route leading to and from Manchester. Pleasant Street connects Pine and School streets by following a natural break in the rocky topography. These three streets, along with older coastal routes and the later development of Route 128, help us understand modern land-use patterns. A town of approximately eight square miles of land area, Manchester-by-the-Sea has grown to its current size as a primarily residential community.

Figure 9 depicts land use by parcel in Manchester as classified by tax assessment purposes, and **Figure 10** shows the breakdown by area. As previously mentioned, the primary land use in Manchester-by-the-Sea is housing, with over half of the land in town dedicated to residential use.

Figure 9: Land Use Map



Approximately a third of land is protected open space, made possible by robust planning and land acquisitions on the part of the Town, the Manchester Essex Conservation Trust (MECT), and the Trustees of Reservations. The town has two distinct commercial areas—the Limited Commercial District (LCD) north of Route 128 and Downtown Manchester—that serve both local and regional needs and are important contributors to the town’s commercial tax base. Less than 8% of land in the community is dedicated to commercial or industrial uses. Other land uses in Manchester-by-the-Sea include municipal, institutional, and nonprofit uses.

This combination of uses, along with the presence of scenic resources in town like the beaches and harbor, forested lands and open space, has created a sense of character for the community that residents want to see retained.

Figure 10: Land Use (Massachusetts Land Parcel Database FY 2019)

Property Type	Square Feet	Acres	% Total
Residential	109,573,772.37	2,515.47	50.29%
Single Family	78,970,830.04	1,812.92	36.24%
Two/Three Family	2,493,370.31	57.24	1.14%
Multifamily	289,140.79	6.64	0.13%
Other Residential	7,267,110.44	166.83	3.33%
Vacant	20,553,320.79	471.84	9.43%
Mixed Use	3,907,658.37	89.71	1.79%
Commercial/Industrial	17,321,684.66	397.65	7.95%
Commercial/Retail	12,081,185.82	277.35	5.54%
Office	217,893.46	5.00	0.09%
Industrial	3,053,705.07	70.10	1.40%
Vacant	1,968,900.31	45.20	0.90%
Public	62,249,454.95	1,429.05	28.57%
Exempt	837,013.40	19.22	0.38%
Institutional	39,655,964.37	910.38	18.20%
Chapter 61 Land	139,675.37	3.21	0.06%
Right-of-Ways	16,063,697.09	368.77	7.37%
Other	8,619,956.01	197.89	3.95%
Total	217,875,898.81	5,001.74	100%

Source: Massachusetts Land Parcel Database

Recent and Anticipated Development Activity

Development trends throughout the metropolitan region are tracked by MassBuilds, MAPC's Development Database, which provides an inventory of new development over the last decade. The database tracks both completed developments and those currently under construction. **Figure 11** lists recent and planned development projects in Manchester from 2014 to 2020.

Figure 11: Recent and Planned Development Projects in Manchester (2014-2020)

Development	Type	Status	Location
Knight Circle	Duplex	Completed	38 School St
Open Meadow Realty - Crooked Lane	4 Single Family Homes	Completed	22 Crooked Ln
Blynman Circle	12 Residential Units	Completed	601 Summer Street
Elm Street Village	12 Residential Units	Completed	2 Elm St

Source: <https://www.massbuilds.com/>

Infrastructure

Transportation Systems

Manchester-by-the-Sea's transportation and circulation system includes a variety of road types, a commuter rail, the harbor and coast, and bike and pedestrian trails. Of the 53 miles of roadway in Manchester, 24 miles are Town roads, 14 are state owned and 14 are private or semi-private. The major highways are Routes 128 and 127⁴.

Route 128 is a major state thoroughway that encircles the Metropolitan Boston area approximately 20 miles from downtown Boston. It is the primary vehicle commuting route for Cape Ann and Manchester residents. It runs through the northern section of Manchester near the Essex boundary. Route 127 runs along the southern edge of town and is the principal east west corridor from Beverly to Gloucester. The Massachusetts Department of Transportation (MassDOT) is responsible for both Route 128 and Route 127, except for Route 127 through the town center where it is under local jurisdiction. Pine Street, School Street and Route 127 at each end are considered the town's gateway corridors⁵.

The town is also served by the Massachusetts Bay Transit Authority (MBTA) with a commuter rail train stop on the Newburyport/Rockport line. The commuter rail provides service to destinations between Boston's North Station and Rockport. The Manchester commuter rail station includes 71 MBTA parking spaces. The spaces are open to the public at large on weekends and during the summer they are used extensively by beach goers. Manchester is not accessed by the MBTA's bus system, although this system can be accessed in Salem which can be reached by commuter rail⁶.

⁴ Manchester Master Plan, 2020

⁵ Manchester Master Plan, 2020

⁶ Ibid

Additionally, the Council on Aging (COA) provides transportation for seniors to medical appointments and nutrition-related destinations at no charge. COA also provides weekly trips to the Market Basket supermarket, monthly trips to the North Shore Mall, Trader Joe's and other retailers and monthly outings typically to North Shore venues.

Pedestrian/Trail Connections

Manchester's sidewalk system runs along most major local roads including Route 127, Pine Street, Pleasant Street, School Street, Norwood Avenue and Beach Street. Roads into subdivisions and local non-connecting roads away from town center generally lack sidewalks. A 2017 sidewalk and crosswalk inventory completed as part of the Complete Streets Prioritization Plan process provides a comprehensive overview of the Town's existing sidewalk network⁷.

There is a concerted effort on the part of the Town and the DPW to improve existing sidewalks and extend the system. One of the larger sidewalk improvement projects in recent years has been a Safe Routes to School project at Memorial School, which included sidewalks along Summer and Lincoln streets, sidewalks and crosswalks to the school entrance, signage, lighting, and other pedestrian improvements.

There are no marked bicycle lanes or shared lanes (sharrows) in Manchester, though Route 127, Pine Street and School Street are frequently used by local and regional cyclists. The Manchester Bike and Pedestrian Committee works to make bicycling and walking, safer and more accessible throughout town. This group is also instrumental in helping to implement the town's Safe Routes to School Program. In June 2019, the committee, along with Walk Boston and Mass in Motion conducted a walk audit between Manchester Memorial Elementary School and the village center. Following the audit, a report was produced that outlines the purpose of the assessment and provides a series of recommendations for improving safety, accessibility, and comfort.

The town has an impressive inventory of off-road trails and walking paths that provide access to open spaces and are primarily used for recreation. These trails are maintained mostly by the Manchester Essex Conservation Trust (MECT) and are all located within conservation areas. The Town has an opportunity to expand this network of trails to not only provide additional recreational resources but connect residents to major destinations in the community. A significant pedestrian connection that should be explored by the Town is one that connects downtown Manchester with the Limited Commercial District; this becomes even more important should that area see substantial development. Residents have also expressed a desire for a pedestrian connection in the downtown that would connect the Town Hall parking lot to Beach Street.

⁷ Ibid

Water and Sewer

Manchester's water supply system provides potable water to approximately 95% of all residents with 80% of the water used for residential purposes. The primary sources of water are the Gravelly Pond Reservoir in Hamilton and the Lincoln Street Well in Manchester with a secondary source at the Round Pond Well #1⁸.

Gravelly Pond has been used as the Town's primary water supply source since the early 1900s, providing approximately 60% of the drinking water with an estimated storage capacity of 320 million gallons. It is approximately 49 acres in size and has a maximum depth of around 57 feet. According to the Town's Annual Statistical Reports (ASR) the safe yield of Gravelly Pond is 0.12 million gallons per day (mgd)⁹. The watershed of Gravelly Pond is estimated to cover an area of 145 acres located in the towns of Hamilton and Manchester. The watershed includes conservation land, undeveloped land and single-family homes. While these uses are not considered to be significant threats to the supply, illegal disposal or discharges on these lands could become significant threats to the water supply.

The Lincoln Street Well (LSW) was constructed in 1958 and consists of a 68-foot deep, 24-inch diameter gravel packed well. It can provide up to 40% of the Town's drinking water. It was constructed to a depth of 68 feet in a confined sand and gravel deposit, with approximately 15 feet of clay overlying the water bearing material at the well. The Massachusetts Department of Environmental Protection (MassDEP) Water Management Act approved withdrawal rate is 0.38 mgd. An Order of Conditions issued by the Conservation Commission (#39-0800, Conditions #46 and #56) requires that permanent survey monuments demarcating the 400-foot radius be installed around the Lincoln Street well.

The source area for the LSW consists of recreational, residential and commercial properties. Most significantly, portions of a golf course are located within Zone I of the well, and a confirmed hazardous waste site is located within Zone II of the well. The LSW Chemical Feed Building was constructed in 1997¹⁰. Water from the well passes through the chemical feed facility which provides disinfection as well as corrosion control before it is pumped directly into the distribution system.

To supplement the Gravelly Pond supply and provide water recharge, the Town pumps water from Round Pond Well No. 1 located along Chebacco Road in Hamilton into a series of surface water ponds that flow by gravity to Gravelly Pond. The gravel packed well was constructed in 1966. In 1996 Round Pond Well No. 1 was permitted by MassDEP to act as an overland discharge to supplement Gravelly Pond with a maximum discharge rate of 300 gpm¹¹.

The Town's sewer system serves approximately two-thirds of the community with service primarily directed to the central areas of town. The outlying areas of Manchester must rely on septic systems. The Town owns, operates and maintains one wastewater treatment facility (WWTF). The

⁸ Town of Manchester-By-The-Sea Housing Production Plan, 2014

⁹ Water Treatment Plant Evaluation Report, Tata & Howard, 2017

¹⁰ Water Treatment Plant Evaluation Report, Tata & Howard, 2017

¹¹ Capital Efficiency Plan™, Tata & Howard, 2018

WWTF is located behind Town Hall. The facility was constructed in 1972 and last upgraded in 1999. The 1999 upgrades to the WWTF were designed and permitted to treat an average daily flow of 1.2 mgd, a maximum daily flow of 3.0 mgd, and an instantaneous flow of 5 mgd. The wastewater is discharged to Manchester Harbor through a 9,000 foot long 20-inch outfall pipe that was installed in 1992. A section of this outfall pipe was recently repaired. Permitted flows from the WWTF are limited under the Ocean Sanctuaries Act (OSA)¹².

Long-Term Development Patterns

Manchester is categorized by MAPC as a Maturing New England Town. This type of community is generally characterized by a mixed-use town center surrounded by compact neighborhoods on ¼ - ½ acre lots. Outlying areas are mostly low-density and there are large amounts of vacant and potentially developable land. New growth in these communities consists primarily of conventional subdivision development on vacant land.

Demographic trends for Manchester's population suggest minimal near-term external pressures on the town's remaining open spaces. Nevertheless, Manchester has a long history of concern for its natural assets, including preserving shoreline, water resources, and open spaces. Efforts to preserve and protect the town's natural assets date back to 1879, when private citizens purchased strips of land along upper School Street to save trees. In 1895 the land at Tuck's Point was purchased by the town, and a rotunda was erected there in 1896. In 1903, Manchester acquired land for Masconomo Park and in 1912 acquired land on Powder House Hill to prevent lumbering¹³.

Manchester-by-the-Sea is known for its grand estates, residential character, and historic charm, as well as its tranquil beaches, gorgeous harbor, and scenic vistas. Part of what gives any community its unique character is the way land is used, developed, and preserved. From a social, environmental, and financial perspective, land uses, and zoning greatly impact a town's character, livability, and sustainability.

Zoning

Zoning land use regulations are a tool for communities to slowly shape the physical landscape through permitting, determine the proportion of area dedicated to residential and non-residential uses, and affect tax revenue generation for the Town. Zoning dictates what can be developed on every parcel of land: the allowed uses (there can be multiple allowed), the placement and massing of structures, the amount of open space required, the number of parking spaces, and more.

Manchester is divided into seven (7) zoning districts which are shown in **Figure 13** and described in **Figure 12**. The town has two distinct commercial areas—the Limited Commercial District (LCD) north of Route 128 and Downtown Manchester—that serve both local and regional needs and are important contributors to the Town's commercial tax base. Five (5) of the town's districts are zoned exclusively residential. Residential District "D" allows 2-unit dwellings in certain areas, the General District "G" allows up to 4-unit dwellings, and all residential districts may allow an

¹² *Comprehensive Wastewater Management Plan*, CDR Maguire Inc., 2016

¹³ *MHC Reconnaissance Survey Town Report, Manchester-By-The-Sea, 1985*

accessory dwelling unit with special permission. Minimum lot requirements range from 6,000 square feet to five (5) acres.

Figure 12: Zoning Districts

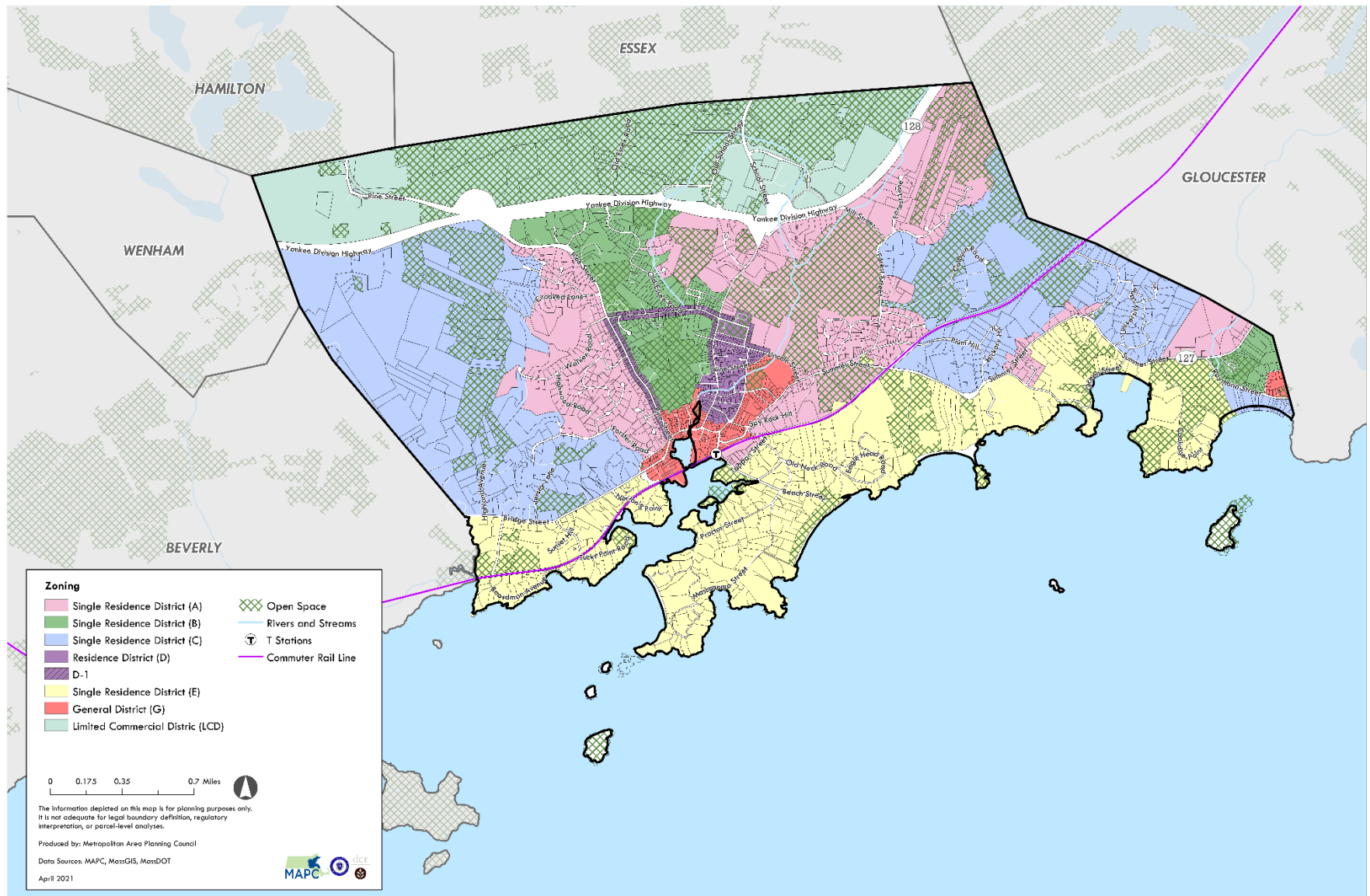
Zoning District	Minimum Lot Size	Minimum Frontage
Single Residential A	22,500 sf	150 ft
Single Residential B	15,000 sf	75 ft
Single Residential C	45,000 sf	150 ft
Residence D	6,000 sf	60 ft
Single Residential E	90,000 sf	150 ft
Limited Commercial	5 ac	
General	6,000 sf	60 ft

Section 6.13 of Manchester's Zoning Bylaw does allow for cluster-style residential development, which is more conducive to open space preservation than other forms of single-family development. The Residential Conservation Cluster (RCC) is a clustered residential development with reduced lot sizes and frontage where the land that is not included in the building lots is generally preserved as open space.

The bylaw suggests that the Town prefers this type of development or redevelopment for projects of five (5) or more acres and/or six (6) or more lots, but the Planning Board retains the final determination as to whether a particular property is best suited to the RCC or a traditional subdivision. Approval is through a special permit. The number of units allowed should not exceed what would be permitted through a conventional subdivision. Other conditions include –

- *The minimum lot size is one-half the square footage otherwise required by the Zoning District.*
- *No lot should have a frontage of less than 50 feet provided that this frontage is located on internal roadways.*
- *Setbacks may be reduced by one-half of what would otherwise be required in the Zoning District.*
- *All land not utilized for lots, roadways, drainage, etc. should be set-aside as open space with a minimum of 60% of the upland area. If the land will be deeded to the Town or other entity, such as a land trust, a minimum of 50% of the upland area must be provided as open space. Open space can be used for recreation, conservation, or agriculture as well as leaching facilities.*
- *As a condition of the special permit, any RCC development containing six (6) or more lots must comply with the provisions of Section 6.14 (Inclusionary Housing).*
- *Units are restricted to one and two-family residential structures.*

Figure 13: Zoning Map



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In addition to its base districts, the Town of Manchester has a Ground and Surface Water Resource Overlay District (GSWROD). The purpose of the GSWROD is to protect Manchester's water resources and ensure a future supply of safe and healthful drinking water for the residents and employees of the town and the general public. The designation of the Ground and Surface Water Resource Overlay Protection Districts and careful regulation of development activities within these districts can reduce the potential for ground and surface water contamination.

The zoning district in Manchester with the most potential for change over the next decade is the Town's Limited Commercial District (LCD). A 40B project has been proposed within the LCD along School Street on the far side of Route 128. The proposed project at Shingle Hill includes a 136 unit, 4-story multi-family building, consisting of a mix of 1BR, 2BR and 3BR units. In accordance with the State's requirements for a 40B project, 25% of the units are required to be rented as Affordable units.

Environmental groups and some residents of Manchester have expressed concerns about the Shingle Hill development and its effect on the surrounding environment. The 24-acre site is adjacent to the Town's 1,600-acre Wilderness Conservation Area, Sawmill Brook, and the groundwater recharge area for approximately 50% of Manchester's water supply.

By state statute M.G.L. Chapter 40B, cities and towns are encouraged to provide 10% of their total year-round housing units as deed-restricted Affordable Housing. Manchester has 2,275 year-round housing units, per the 2010 Decennial Census, of which 115 (or about 5.1%) are deed-restricted Affordable Housing units on the state's Subsidized Housing Inventory (SHI)¹⁴. In communities like Manchester, where less than 10% of housing units qualify as Affordable Housing, developers may override local zoning bylaws through a Comprehensive Permit for mixed-income housing development that includes Affordable Housing units.

A community may claim "Safe Harbor" and thereby deny a developer a Comprehensive Permit if the municipality has a locally adopted and state approved Housing Production Plan (HPP) and is making measurable progress toward reaching the state goal of 10% Affordable Housing. Measurable progress means that the community is producing Affordable Housing units at an annual rate of 0.5% or 1% of its year-round housing units (at these production rates, Safe Harbor lasts for a one-year or two-year period, respectively).

The Town is actively working to promote the development of more affordable housing. In 2019, the Town began working with MAPC on a planning process to rethink its Limited Commercial District and to proactively plan for mixed-use, mixed-income development by exploring the creation of a 40R Smart Growth Overlay District.

Chapter 40R is a state program that encourages cities and towns to implement zoning that allows compact, mixed-income, by-right development in areas with existing or planned infrastructure and adequate access to services. A 40R district must be primarily residential, must allow a certain amount of housing density, and must include at least 20% affordable units; it can include comprehensive development and design standards to ensure that new development is consistent with the town's vision for the area. As an incentive, the state makes payments directly to towns

¹⁴ Town of Manchester-By-The-Sea Housing Production Plan, 2014

that have successfully adopted a 40R district, as well as additional payments after new housing is built in the area.

Manchester's LCD is located north of Route 128. More than half of the LCD is protected land and will remain undeveloped. Establishing a 40R Smart Growth district in this area would advance two principal goals of Manchester's 2020 Master Plan: to increase Town revenue through planned development in that area of town and support a diversity of housing options throughout town.

The Town of Manchester is currently in the process of recodifying and updating the Town's Zoning Bylaws. The updates, changes and additions are intended to create regulations that are easier to understand, provide greater guidance to permitting Boards, reduce redundancy and help align Zoning regulations with the goals and objectives of the Town's recently completed Master Plan.

Section 4: Environmental Inventory & Analysis

Geology, Soils, and Topography

The entire North Shore is underlain by intrusive igneous rocks of the Cape Ann plutonic series. These granites and other rock types were formed approximately 400 million years ago. The rocky hills and outcroppings common to the town originated as expanding pressure in the earth raised and cracked the granite bedrock generally in a northeasterly direction. A series of northeast-southwest trending faults and joints dissect this bedrock. Wind, water, and frost eroded the fractures to create swamp- and pond-filled valleys. These valleys were subsequently widened by the scraping of the glaciers with the resistant bedrock forming the hills and ridges of the area.

Approximately 15,000 years ago, the ice sheets of the Wisconsin Glacier occupied this area. As the ice sheets advanced, they deposited a thin veneer of till over the surface of the bedrock. Later, as the ice sheets melted and retreated, the melt water streams deposited sands, silts and gravel as out wash deposits. These out wash deposits are concentrated primarily within the town's bedrock valleys.

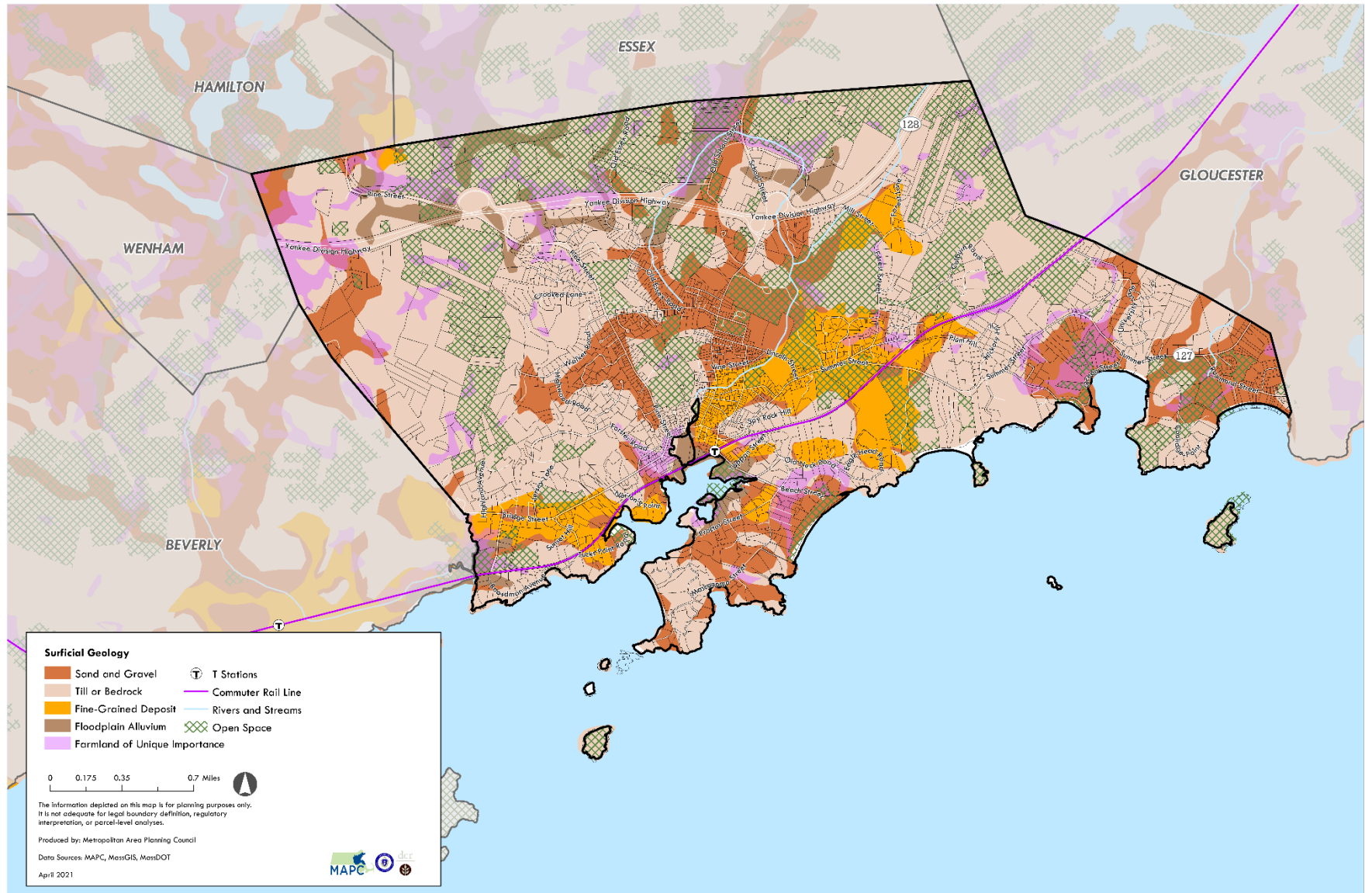
Glacial debris clogged much of the original drainage in the area with the exception of a small opening that is now Sawmill Brook. This opening allowed salt water to enter the valleys as sea levels rose and deposit a layer of fine-grained marine clays and silts over the sand and gravel in the flooded areas. These distinctive "blue" clays are widespread in the town at elevations below 50 feet mean sea level. Over time, many of the low-lying areas became filled with peat and muck and developed into the wooded swamps seen today.

Shallow-to-bedrock soils account for most of the soils in Manchester (see **Figure 14**). It is no surprise that rocky soils account for an even larger percentage of the undeveloped land in town. Next most common are wetlands and marine silts and clays found along brooks and other wetlands. Please refer to the "Custom Soil Resource Report for Essex County, Massachusetts, Manchester Soils and Geology" in Appendix H for more detailed information regarding the town's soils.

Virtually all the undeveloped land in Manchester is characterized as having "severe" or "moderate to severe" limitations for use as building or road sites. And all soils without exception are rated as having "severe" limitations for construction of septic tank absorption fields.

Given the soil characteristics of the town, access to municipal sewage treatment is essential for high-density development; Manchester's preponderance of poor perking soils suggests a need for municipal sewer service for all but isolated single-family homes. Clustered residential units or commercial buildings with moderately heavy water demand would definitely need sewage treatment beyond ordinary on-site septic treatment. Additionally, according to the Soil Conservation Service's soil hydrology rating, Manchester's soils tend toward fast runoff. This characteristic generally raises the cost of development by making it necessary to build detention basins or install infiltration systems on site to prevent flooding of lower elevations.

Figure 14: Soils and Surficial Geology Map



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Landscape Character

Manchester's rugged landscape is one of its most priceless assets. The diversity of landforms—marshes, beaches, rocky shores, inland woodlands and forested uplands, combined with a highly protected and centrally located harbor create great beauty. Fortunately, much of Manchester's natural landscape has been protected and is open to the public. A series of parks, beaches and reservations reveal the town's diverse geologic, cultural, and historic character. These major natural and scenic resources are discussed throughout this section.

Water Resources

Manchester contains a wide variety of surface and ground water resources, including streams, ponds, aquifers, wells, wetlands, vernal pools and coastal resources as shown in **Figure 15**. These water resources provide distinct, though often overlapping functions — providing public and private drinking water supplies, flood control, valuable wildlife habitat, nature study opportunities and passive recreational opportunities.

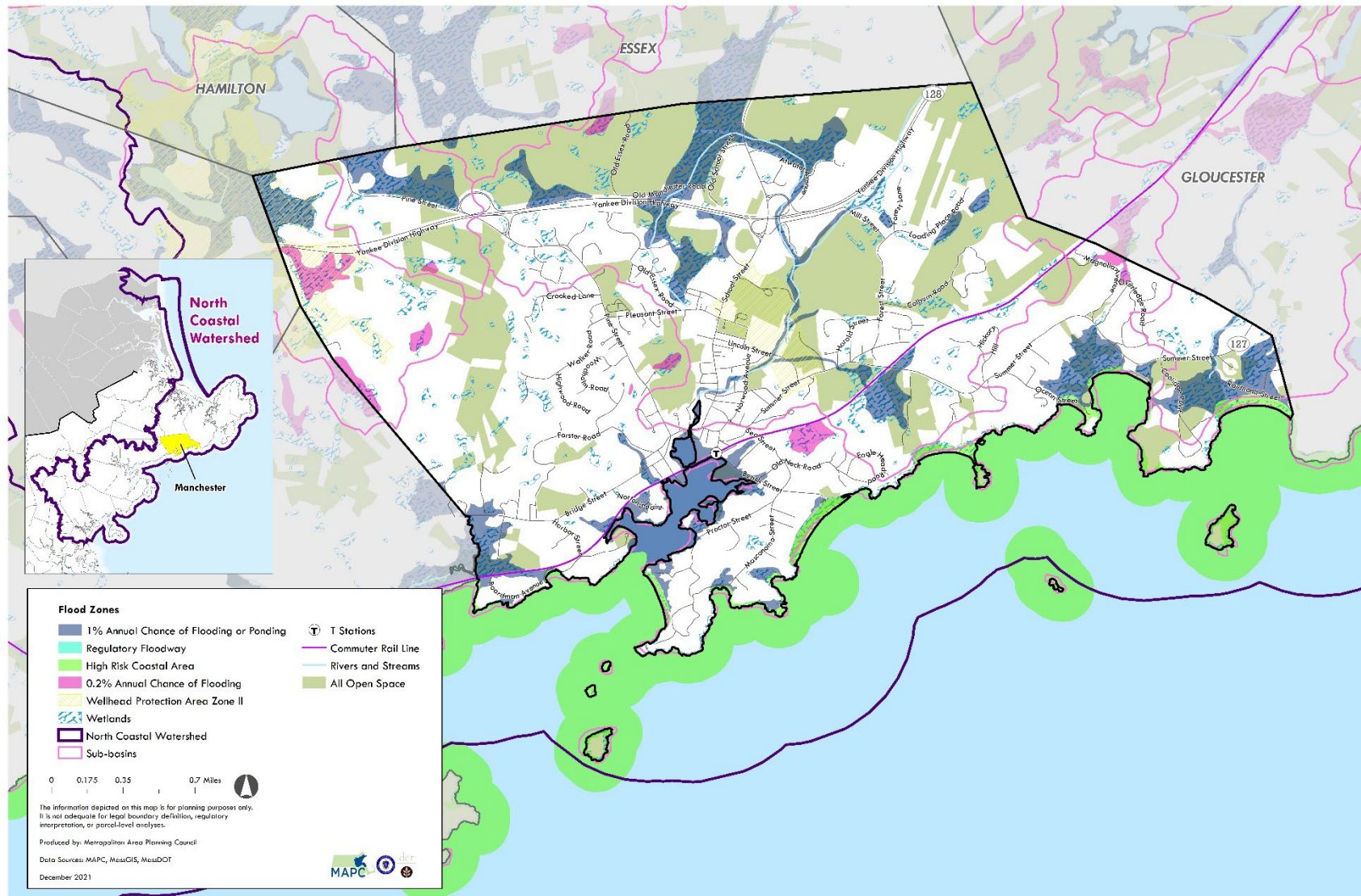
Watersheds

A watershed is an area of land that drains into one river system or body of water. Manchester-by-the-Sea is located in the North Coastal Watershed. The northern reaches of the North Coastal Watershed include the southern tier of the Hampton and the Seabrook salt marsh complexes, while further south, the watershed is dominated by the rocky shores of Cape Ann, which provide the most distinctive rocky coastline in all of Massachusetts. The southern reaches of the watershed consist of an irregular coastline of rocky peninsulas, interspersed with embayments, pockets of salt marsh and vibrant estuaries.

The North Coastal Watershed has a total drainage area of approximately 168 square miles. It encompasses all or part of five river sub-basins, including the Danvers, Essex, Saugus, Pines, and Annisquam Rivers. There are approximately 2,428 acres of lakes and ponds in the watershed. The North Coastal encompasses all or part of 26 Massachusetts municipalities, and supports a population of approximately 500,000 people. The major resources in the region include a major lobster fishery, as well as shell fishing.

Within the North Coastal Watershed, Manchester is part of five major surface watersheds: Gravelly Pond/Round Pond; Chubb Creek; Sawmill Brook Watershed, Kettle Cove and Magnolia Harbor. Most of the town's streams originate beyond the town's boundaries; therefore, a large proportion of their contributing watersheds are located in Essex, Gloucester, Hamilton, Wenham and Beverly.

Figure 15: Water Resources Map



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Drinking Water

Manchester's public drinking water comes from two sources — a deep well located in the village area near Lincoln Street and two surface-water ponds located in the town of Hamilton (Round Pond and Gravelly Pond). Both sources draw on extensive watersheds that include parts of neighboring communities as well as a major state highway, Route 128.

Manchester has in reserve a large aquifer under Cedar Swamp, which lies north of Route 128 and is shared with the town of Essex. Cedar Swamp is owned in part by the town of Manchester and in part by privately funded conservation groups, such as the MECT and The Trustees of Reservations.

Lincoln Street Well

The town's single in-town active water supply is a 68-foot-deep, 500 GPM, gravel-packed well located next to the Manchester-Essex Regional Middle and High School on Lincoln Street. Groundwater is pumped from a sand and gravel deposit that underlies the area. In 2020 the town performed cleaning and rehabilitation as well as replacement of the pumps and motors at both the Lincoln Street Well and Round Pond Well. According to the town's most recent Annual Drinking Water Quality Report, the Lincoln Street well provided approximately 38 percent of Manchester's public drinking water in 2020.

Sawmill Brook, which lies beside the well, appears to have an impact on the surrounding aquifer. This relationship was investigated using pump tests in 1990 as part of the work preceding adoption of a Water Resource Protection Plan. During these pump tests, the water level in the Brook was monitored in six locations. In areas upstream of the production well, it appeared that Sawmill Brook was a gaining stream, receiving water from the underlying aquifer. In the vicinity of the well, the reverse was true. Water appeared to flow from the stream into the aquifer below. Because downward flow only occurred in the vicinity of the pumping well, it is possible that under static conditions Sawmill Brook is a gaining stream along its whole length. The pumping of the well may then cause induced recharge from the stream into the aquifer.

The results of the testing procedures, performed by Horsley Witten Hegemann, Inc., were included in their plan for the town - "Water Resources Protection Plan, June 1990" and were used in numerical modeling to delineate the zones of contribution to the Lincoln Street well in accordance with Mass. DEP's Division of Water Supply guidelines. Zones I, II, and III for the Lincoln Street well are described below.

Zone I is defined as a radius of 400 feet surrounding the well itself and is afforded the highest level of regulatory protection by the Commonwealth. The location of the Manchester-Essex Regional Middle/High School — a large complex that includes paved roadways and parking areas, as well as several natural and artificial turf playing fields — immediately adjacent to Zone I has raised an ongoing threat of polluted runoff reaching the well. As the town's Department of Public Works noted in its most recent Annual Drinking Water Quality Report:

Unfortunately, over many years the Town did not protect its Lincoln St. well and there are numerous activities that would not normally be in a protective Zone I area that are currently there. The Town has or will have agreements with the Regional School District and Essex County Club to assure maximum protection of our drinking water resource is followed.

In addition, the town is under a Consent Order from the Department of Environmental Protection regarding Zone I. Among its requirements is removal of the old pump house, now used for storage, to be replaced by grass. This has not yet been done. It might also be helpful to mark the boundary of Zone I so that the school district could manage its own storage needs appropriately.

The Massachusetts Department of Environmental Protection (MassDEP) published its Source Water Assessment Program (SWAP) Report¹⁵ for Manchester's Public Water Supply on June 27, 2003. The SWAP report notes that both the Lincoln Street Well and Gravelly Pond sources have land uses adjacent to the source that would be prohibited under today's regulations. The SWAP report has seven recommendations. The two critical recommendations are as follows:¹⁶

1. Continue to inspect Zone A and Zone 1 areas regularly, and when feasible, remove prohibited non-water supply activities.
2. Develop and implement a groundwater and surface water supply protection plan.

Given the location of the Middle/High School complex, the first recommendation remains a vital and consistent task for the town. The second recommendation has been addressed through local regulations; now close monitoring and enforcement of protective regulations is needed.

Zone II is defined as the area of an aquifer contributing water to a well under the most severe pumping and recharge conditions that can be realistically anticipated. Zone II by definition extends upgradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock, or a recharge boundary). For the Lincoln Street aquifer, the Zone II boundaries to the north, east and west are the geologic contacts between the sand and gravel aquifer and the neighboring bedrock/till and clay formations. The southern boundary of Zone II is the groundwater divide resulting from the pumping of the well.

The high school complex consisting of paved roadways and parking areas, an adjacent artificial turf playing field and three paved tennis courts lie entirely within Zone II, as does a portion of one municipally owned cemetery. To the extent that rainfall within Zone II no longer infiltrates the ground through a grassy surface, but instead leaves the site as channeled runoff, the well may be deprived of a traditional supply. To the extent that rainfall within Zone II does enter the ground, but passes over paved areas before doing so, there is a risk that pollutants may adversely impact the well. This site clearly needs monitoring and, in time, may require adjustments.

Zone III is defined as the surface watershed area that contributes recharge to the aquifer through overland runoff. For the Lincoln Street well, this surface runoff is contributed in two ways: 1) overland runoff from the sides of the valley which recharges directly into the outcropping sand and gravel aquifer material; and 2) runoff into the streams, a portion of which enters the aquifer via induced infiltration.

The watershed to the Lincoln Street well is large and mainly wooded (Gloucester, Essex and northeasterly Manchester) or open grassland (Essex County Club). Streams that contribute include Sawmill Brook, its tributary Cat Brook, and Causeway Brook, as well as a host of intermittent woodland waterways and culverts under local roads and Route 128. Induced infiltration from

¹⁵ The complete SWAP report can be found here: <https://www.mass.gov/doc/northeast-region-source-water-assessment-protection-swap-program-reports/download>

¹⁶ Manchester by-the-Sea 2020 Annual Drinking Water Quality Report

these streams makes up approximately 15 percent of the water entering the aquifer under Zone II pumping conditions. As the Horsley Whitten Hegemann study demonstrated, the watersheds to these streams encompass a large area to the west, north and east of the aquifer.

Because of the large areas of exposed bedrock and shallow, poorly drained soils associated with much of the watershed area, surface runoff provides a significant proportion of the water reaching Sawmill Brook and its feeder streams. This is reflected in the "flashy" response of streams to heavy rainfall events. Consequently, control of surficial sources of potential contamination, such as road runoff, is essential to protect the water quality of these streams, and the Lincoln Street well.

While largely wooded, the watershed includes a commercial zone in Manchester occupied in part by a truck depot, athletic club, storage facility and medical office space. Apart from the Agassiz Rock Reservation, little of the watershed is under conservation protection.

Gravelly Pond/Round Pond

Gravelly Pond, which lies off Chebacco Road in the southeastern corner of Hamilton, is a surface water reservoir of 49 acres and a capacity of more than 360 million gallons when full. The pond is fed by rainfall, runoff from the surrounding area, and groundwater springs. The pond's watershed is relatively small, and the ability of the pond to recharge, or fill back up, is limited. To supplement the volume of water in Gravelly Pond, the town pumps water from a well beside Round Pond. In 2020 Gravelly Pond provided 62 percent of Manchester's public drinking water.

The Round Pond watershed extends mainly west and south further into the town of Hamilton, as well as into the towns of Wenham, Beverly, and Manchester. Large areas of wetlands and bedrock outcrops are common, with lesser areas of sand and gravel outwash. Surface runoff is an important component of Round Pond's water budget because of the surrounding geology.

As the Manchester Department of Public Works pointed out in its most recent Annual Drinking Water Quality Report noted above:

One of the best ways to protect your drinking water is to take measures so pollutants don't get into it in the first place. To protect Manchester's water supplies, the Town has acquired the land surrounding Gravelly Pond and restricts activities in this area to passive recreation such as hiking and cross-country skiing.

Much of the Gravelly Pond/Round Pond watershed is undeveloped, including 400 acres under joint conservation protection by both Manchester and Hamilton. But the watershed also includes a large paved footprint for Gordon College in Wenham and a half-mile stretch of Route 128. In addition, Gordon College owns more than 100 acres of wooded upland and wetlands between Route 128 and Round Pond that have been proposed for development on several occasions in the past, and may yet attract development interest once again.

A further, ongoing concern is the proximity of Gravelly Pond to the now capped Manchester and Hamilton landfills. Although these two landfills are outside the Gravelly Pond watershed, they lie within close proximity of the pond. Monitoring wells have been placed between the landfills and the pond. It is essential that the wells be monitored regularly for contaminants. It is the only way to determine whether contaminants are approaching the pond.

Under Massachusetts Drinking Water Regulations 310 CMR 22.21(2), as revised November 2020, each of these communities was required to establish a Ground Water Protection District. In compliance with this requirement, Manchester revised its Ground and Surface Water Resource Overlay Protection District. Each of the neighboring communities has done the same. However, while each community's protection district regulations address the protection of its own water supplies, none provide protection for that portion of their land that serves as watershed for a neighbor. Thus, the need to regionalize Water Protection Districts still exists.

The Open Space and Recreation Committee, with the support of other town boards and commissions is interested in forming a coalition with neighboring municipalities to address such issues. The coalition would function as a standing body focused on protection of regional resources as well as coordination, information-sharing, and implementation of cross-boundary environmental and climate resilience projects.

Cedar Swamp and Aquifer

Cedar Swamp, bound on the east by School Street in Manchester and Southern Avenue in Essex, is underlain by a sizable aquifer that is considered a potential alternative water supply source for Manchester, should such a need arise.

Water flows into Cedar Swamp from Millet's Brook and from numerous unnamed streams that cross and re-cross Route 128. The Swamp also receives runoff from many steep hills and small swamps in Manchester and Essex. The aquifer benefits from its location within a large, wooded conservation area. Nonetheless the Swamp also takes polluted runoff from more than a mile of Route 128, School Street, and Southern Avenue.

Tests in Cedar Swamp have shown it to have variable geological deposits. Generally, the swamp contains three to four feet of peat over 15 to 35 feet of fine sand, which is over 20 to 63 feet of clay. The water-bearing artesian aquifer below the clay, composed of out wash deposits from the melt water stream delta created by the melting glaciers, is fifteen to thirty feet thick. It is deepest in areas where the clay layer is missing.

In 1965 the city of Gloucester drew continuously on two 8-inch wells (one in Manchester and one in Essex) in Cedar Swamp for several months. The water was piped directly to Haskell Reservoir in West Gloucester. Temporary damming of Sawmill Brook and increased precipitation actually caused the water level in Cedar Swamp to rise during the pumping. Gloucester took additional water from Cedar Swamp in 1982. Despite a high concentration of iron and manganese, the water drawn from Cedar Swamp was rated as of excellent quality.

Besides its potential as a direct source of water for Manchester, Essex, or Gloucester, Cedar Swamp may be a major recharge area for the aquifer that underlies Manchester's Lincoln Street well. According to the Department of Environmental Protection, basic aquifer mapping suggests that there may well be subsurface flow linking the two via Sawmill Brook and Beaverdam Swamp to the east. Without extensive testing, however, it is difficult to quantify this relationship.

The Cedar Swamp aquifer has not been studied in terms of prolonged and extensive use; at a minimum, water treatment to remove excess minerals would be required. Additionally, measures of watershed and aquifer protection would be necessary and would require a coordinated approach by the towns of Essex and Manchester.

Flood Hazard Areas

Figure 15 delineates the location of the 100-year floodplain (shown as “1% Annual Chance Flood Hazard”) and 500-year floodplain (shown as “0.2% Annual Chance Flood Hazard”) in Manchester. These flood hazard areas are mapped by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (NFIP) and are based on historical flooding events. The most recent FIRM was issued in 2015, but several areas of map revision were approved in 2017.

Significant portions of the town lie within the 100-year floodplain (FEMA Flood Zones A and AE), areas with a 1% annual chance of flooding. Flooding within Zone A is primarily limited to inland areas in the Sawmill Brook North, West and East hazard areas, with limited impacts in Bennett’s Brook and other areas. Flooding within the AE flood zone includes the downtown area, Bennett’s Brook/Bridge Street, Raymond, Ocean, Beach and Proctor Streets, Magnolia, Highland and Boardman Avenues¹⁷. In the event of a hurricane or other extreme weather event, buildings in these zones are at risk of flooding.

High-risk coastal areas (FEMA Zones V and VE) are those that are subject to a 1% annual chance of flooding with velocity hazard, also known as wave action. Buildings and other structures in these zones are often most susceptible to damage during a hurricane or extreme weather event due to this wave action. Manchester’s entire southern border is considered a high-risk coastal area. Flooding within the VE flood zone includes the downtown area, Raymond, Ocean, Beach and Proctor Streets, Magnolia, and Boardman Avenues¹⁸. There are only a few small portions of town within the 500-year floodplain (FEMA Zone X) and subject to a 0.2% annual chance of flooding. Flooding in this zone is less likely than in the aforementioned zones.

Wetlands and Flood Control

Wetlands, including marshes, swamps, and bogs, serve a number of vital roles in both the natural and built environments. First, wetlands are highly productive systems and provide important habitats for many species of wildlife. They also act as “sponges,” absorbing and detaining surface waters. In this latter role, wetlands are critical to maintaining the quantity of water supplies by maintaining relatively stable groundwater levels. They also protect water quality by filtering out pollutants and thereby reducing the contamination of streams, lakes, and groundwater. Wetlands also prevent downstream damage from flooding.

Because of the important roles played by wetlands, it is essential that they be protected. Activities that create impervious surfaces result in increased runoff rates, reduced flood storage, and elevated peak flows, leading to more significant damage from storms. Alteration of wetlands reduces wildlife habitat and plant diversity and can increase contamination of streams, rivers, and ponds due to reduced filtration of pollutants.

Under the Wetlands Protection Act (M.G.L., Ch. 131, sec. 40), wetlands are defined in terms of vegetative cover and hydrological indicators (including soil characteristics), and the Act regulates dredging, filling or altering areas within 100 feet of such wetlands. Additionally, the Wetlands Protection Act also regulates activities in water resource areas mentioned throughout this section,

¹⁷ Manchester-by-the-Sea Hazard Mitigation Plan 2018

¹⁸ Manchester-by-the-Sea Hazard Mitigation Plan 2018

in order to contribute to eight interests: 1) protection of public and private water supply; 2) protection of groundwater supply; 3) flood control; 4) storm damage prevention; 5) prevention of pollution; 6) protection of land containing shellfish; 7) protection of fisheries; and 8) protection of wildlife habitat. Under Massachusetts law, local Conservation Commissions are responsible for implementing the requirements of the Wetlands Protection Act.

In addition, Manchester passed its own Wetlands Protection bylaw (Article XVII) and corresponding regulations that further protect natural resources. In particular, the Town's bylaw establishes a 30-foot "No Disturb Zone" and a 50-foot No Build zone to wetland resource areas.

Manchester benefits from wetlands, marshes, and floodplain swamps in wooded areas that provide a large, though incomplete, measure of flood control for village homes during most rainfall events. Flooding remains a recurrent problem in several residential areas, however, and solutions are often hard to find. Looking ahead, a lack of conservation protection for much of the wooded areas upstream of the village poses a danger of greater future flooding.

Cedar Swamp, Beaverdam Swamp and Sawmill Brook

Cedar Swamp provides highly significant floodwater storage for Manchester. For many years the swamp, as well as its neighbor, Beaverdam Swamp, regularly dried out between major storms. Recent beaver activity, however, has caused the swamps to have standing water most of the year. Most of its trees have died, as water levels have remained high for more than a decade. In the easterly portion of Cedar Swamp, as Sawmill Brook exits the area, the town maintains beaver deceiver fencing around three culverts to safeguard flood storage capacity for future storms.

Thanks to conservation efforts by the towns of Manchester and Essex and the MECT, Cedar Swamp itself is largely under conservation protection. Much of the Essex portion of the woods east of Southern Avenue is not protected, however, nor is the considerable wooded acreage in the watershed in Gloucester. The need for a regionally coordinated protection effort remains. At the least, a regional dialogue would give Manchester an opportunity to weigh in on decisions made in Gloucester and Essex that will impact its environmental well-being.

Sawmill Brook, which carries excess stormwater from Cedar Swamp down to the harbor, also plays an important role in flood protection. Its ability to handle swamp runoff, as well as runoff from the areas it traverses, was compromised years ago when its banks were pinched and many residences built up to its edge. The Metcalf & Eddy "Hydrologic Study of Millet's Brook and Sawmill Brook Watersheds"¹⁹, issued in February 2008, identified the cause of the overtopping of culverts during 10-year storms at Lincoln Street, Norwood Avenue and School Street as due primarily to the narrowness of the stream channel. Enlargement of culverts would not greatly reduce the flooding.

Development of wooded areas upstream is likely to exacerbate these flooding problems. In addition, the Essex County Club's golf course, which is zoned for half-acre residential use, is not permanently protected, although site plan review and subdivision regulations offer some safeguards. While achieving a conservation restriction on the club's land may be in the town's

¹⁹ *Hydrologic Study Millets Brook and Sawmill Brook Watersheds, Prepared for the Manchester-by-the-Sea Conservation Commission, February 2008 (Metcalf & Eddy| AECOM*

interest, an additional study would be needed to substantiate the environmental benefits. At present the Club has declined to take action toward implementing a conservation restriction.

Millet's Swamp and Brook

Millet's Swamp and Brook, important tributaries to Cedar Swamp and Sawmill Brook, lie just south of Route 128 and extends southward to Pleasant Street. The watershed for Millet's Swamp and Brook is bounded roughly by the peaks of Moses Hill, the low hills of the Reservation, and the hills on the west side of School Street. This watershed encompasses almost 200 acres. Prior to construction of Route 128, Millet's Swamp was an integral part of Cedar Swamp. Now the stream flowing out of Millet's Swamp runs under the highway into Cedar Swamp.

As with Cedar Swamp, Millet's Swamp provides significant floodwater storage. Much of the northerly portion of the Swamp and the brook that empties it into Cedar Swamp is under conservation protection. Approximately 13 acres are preserved by the MECT as a wildlife refuge. Thirteen privately owned acres are under conservation restriction to the town. The northerly half of Jack's Hill, which abuts Route 128 at the edge of the swamp, and is owned by the Commonwealth of Massachusetts, is being preserved as a scenic easement. The other half of Jack's Hill, 14 acres of town-owned land, is managed by the Conservation Commission for flood protection, wildlife habitat and passive recreation.

Flooding in the watershed for the swamp and brook occurs in upstream areas, which are heavily developed. Here, the topography is extremely flat and the brook moves very slowly. Much of the developed area is within the floodplain for a 100-year storm; several areas are in the floodplain for a 10-year storm. Yet the ability of the swamp and brook to handle major storms is limited not just by its flatness, but also because of a normally high-water table.

A hydrologic study of Millet's Brook and Sawmill Brook was completed by Metcalf & Eddy in February 2008. The purpose of the study was to determine whether enlarging the Millet Brook culvert at Blue Heron Lane would reduce the flooding in the area during major storms. It was determined that increasing the size of the culvert would indeed reduce local flooding during a 10-year storm but would increase flooding downstream. There would be no decrease in flooding during 25-year and 100-year storms. No changes were recommended.

Cat Brook

Cat Brook, a narrow stream in the northeast section of Manchester, is a tributary of Sawmill Brook, joining it after passing under Lincoln Street near the town well. The Cat Brook watershed extends well into Essex and Gloucester. Two small streams form the headwaters. One rises in woodlands in Essex just north of Route 128, runs along the highway, then crosses under it. A second branch originates in woodlands in Gloucester and enters Manchester in its northeastern corner, meandering via several ponds and small swamps. Before merging just north of Mill Street these branches each run for about one mile through more than two hundred acres of woodlands and sparsely developed residential land in Manchester, and twice that acreage in Essex and Gloucester. Cat Brook joins Sawmill Brook at Lincoln Street.

The watershed area is characterized by a mix of fairly level lowlands with a few hills of moderate height and occasional steep slopes, particularly along Route 128. Upland soils are rocky. Exposed bedrock or shallow depth to bedrock, and problems of rapid runoff are typical.

Near the highway, soils are deeper but filled with stones and boulders. Steep slopes and a high seasonal water table pose problems for building site development and the watershed is not yet heavily developed. The same is true in the portions of Essex and Gloucester that lie in Cat Brook's watershed. However, the city of Gloucester has studied the possibility of building a large-scale commercial development in its portion of the watershed and there is other land north of Route 128 on the market. A large conversion of woodlands in any of the three communities would cause increased flooding along Cat Brook, as well as add to the flooding problems on Sawmill Brook at Lincoln Street, Norwood Avenue and School Street.

Cat Brook's two branches regularly overflow their banks during periods of sustained rainfall. Most of this flooding occurs on unoccupied land, with the main problem in recent years being flooding where the brook crosses Loading Place Road.

Eaglehead Swamps and Ponds

Just behind the MBTA railroad tracks that mark the southerly boundary of Sweeney Playground on Summer Street, lies an extensive swamp behind the cluster of homes atop Eaglehead. A smaller swamp lies slightly to the west, backing onto the railroad tracks behind Spy Rock Hill and extending toward Old Neck Road. The Eaglehead swamps are wooded and include several shallow ponds. These swamps are important for flood prevention in the Summer Street-Lincoln Street and Beach Street areas in that they decelerate the release of runoff from the areas they drain.

The topography of this area is relatively flat, with a gradient of about 10 feet overall. These swamps take runoff from steep surrounding hills. The easterly swamp is fed by a seasonal stream exiting Dexter Pond, at the foot of Long Hill and the westerly one by local runoff. The easterly swamp drains via Causeway Brook, which empties into Sawmill Brook near Lincoln Street. The second Eaglehead swamp contains the headwaters for Day's Creek, which empties into the harbor.

As Eaglehead homes are at a considerably higher elevation than the swamp, flooding poses no problems to residences, though high groundwater often floods the nearby Sweeney Park playing fields as noted in the 2020 Athletic Fields Master Plan.

Bennett's Brook

Bennett's Brook lies south of the Round Pond watershed in the northwest and central west area of Manchester. It flows from the Walker Road-Highwood Road neighborhood south toward the harbor. The Brook is fed by the rapid runoff generated by the steep, rocky hills in the Walker-Highwood neighborhood.

The drainage area for the Brook's watershed is approximately 375 acres with several rugged hills dominating the area. Wyman Hill and Great Hill are broad as well as high. On the eastern edge of the area a broad flat plain descends gently to the homes along Walker and Highwood Roads. Due to the topography of the area and two major fires over the years, flooding has historically been frequent and severe during periods of high runoff. In 1984, the town established a Flood Control District Overlay for the Bennett's Brook watershed. The Flood Control District regulates building to "protect the public health and safety and property against the damages of flooding conditions caused by new development in areas with inadequate capacity of existing

drainage systems, brook channels, and street culverts to accept storm runoff from the areas drained”.

In 1995-1996, to compensate for development at Walker Road extension and off Forster Road (Brookwood Path) the town required a series of detention basins and a dam to be built at the east end of Walker Road, to meet the 25-year storm event. The new system has functioned well in that area and alleviated flooding elsewhere on Walker Road, although flooding at the base of Highwood Road has continued after several storms that exceeded the 25-year event.

Chubb Creek

The Chubb Creek marsh forms the southern part of the boundary between Manchester and Beverly. The salt marsh extends from Bridge Street to the ocean and covers approximately 40 to 50 acres. Chubb Creek marsh is part of a typical estuary, where fresh and salt waters merge. Characteristically, it includes salt marsh and tidal flat. Certain species of plant and animal life have evolved to live under the frequently harsh conditions that are a common element of the estuary environment — changing salinity, temperature and oxygen supply. The upland area adjacent to the marsh is a coastal buffer between the marsh and the highway to the north.

The Chubb Creek marsh once served as a test site for the Open Marsh Water Management project developed by the Massachusetts Audubon Society in conjunction with the Essex County Mosquito Control Project. This project created shallow ponds that flood at very high tide, thereby encouraging spawning of several anadromous fish species and discouraging mosquito breeding in these areas.

The marsh is privately owned in its entirety. The Essex County Greenbelt Association holds conservation restrictions on part of the marsh in Manchester and Beverly, while the town holds a 2- acre conservation restriction in Manchester. However, much of the marsh in Manchester still lacks deeded conservation protection. The watershed area includes the land in and around the Brookwood School and Brookwood Road, which is largely in the city of Beverly. The area is believed to be attractive for future development. Presently, seasonal flooding in the area occurs as tributary streams overflow their banks and cart paths become waterways. The remaining unprotected areas would benefit from conservation protection against future development.

Kettle Cove and Clark Pond

The Kettle Cove marsh lies between Summer Street and the ocean where Wolf Trap Brook empties behind Black Beach. The area consists of approximately 25 to 40 acres of salt marsh, tidal flats, sand flats and sandy beach. Kettle Cove marsh is part of a typical estuary, where fresh and salt waters merge.

Black Beach Cove is heavily used by recreational boaters. Dive groups and school groups use White Beach for lessons and rocky shore exploration. The marsh is largely owned by residents along Summer Street and Ocean Street whose properties end at the creek. The MECT owns approximately 4 acres and holds a conservation restriction on a large portion of the marsh.

Kettle Cove receives freshwater inputs from both Wolf Trap Brook and a brook that drains from Clark Pond. Clark Pond, an emergent tidal wetland and estuarine pond, receives fresh water from two sources as well. The first water source commences at Wallace Pond in Gloucester,

continues through a large expanse of freshwater marsh and forested wetland, into two small duck ponds north and south of Route 127, and finally into the emergent wetland lying adjacent to Clark Pond.

The second source of fresh water commences in an emergent freshwater swamp that is fed by road runoff originating on Magnolia Avenue in Magnolia and Butler Avenue in Manchester. This wetland drains via a ditch that crosses under Raymond Street and exits into the pond. This area of crossing is below the floodplain elevation and is frequently inundated during spring rains and high seasonal tides. This area is also the location of the outlet to the storm drain system that drains the entire length of Raymond Street. The outflow of Clark Pond runs through a manmade dike and into a narrow channel onto Black Beach and into Kettle Cove. Surf Park was constructed at the end of Raymond Street abutting Magnolia helping to control run off and flooding as well as creating a recreational area.

Since 2006 Salem Sound Coastwatch, in conjunction with the Manchester Coastal Stream Team, has been conducting water quality testing for bacterial contamination in the Wolf Trap Estuary. The results of the Clean Beaches and Streams Program testing have demonstrated bacterial contamination which has prompted the Board of Health to investigate potential upgrades of septic systems in the area. Another concern is the increase of Phragmites in the Kettle Cove Marsh due to probable tidal restriction at the mouth of the estuary at Black Beach.

For several years, the nutrient load of the pond has shown increased vegetation growth and algae blooms. As part of a Coastal Monitoring Grant, the Trustees of Reservations in conjunction with the Board of Health monitor water quality of the Clark Pond vicinity using testing parameters that include total coliform, fecal coliform, nitrate nitrogen, ammonia and phosphorus. Water testing at the reservation identified the presence of fecal coliform and low dissolved oxygen.

The Division of Marine Fisheries has two water quality stations in Kettle Cove which are tested for fecal coliforms. The water quality for the area is highly variable. Because of the elevated fecal coliform counts, the area was reclassified as “Prohibited” to shellfishing in 1988 and has not been officially changed to date.

Other Water Resources

Manchester Harbor

Manchester Harbor is a large tidal estuary around which the town is situated, and it forms the town’s geographic center. Two major streams, Sawmill Brook and Bennett’s Brook, as well as a few intermittent streams flow into the harbor. In relation to the harbors of neighboring cities, Manchester Harbor is small and does not have extensive commercial development or pollution problems. It is, however, a significant asset and defining feature of the town.

The harbor provides substantial recreational and commercial opportunities for the general public. There are approximately 700 boats located within the harbor. Of these, 25 are commercial fishing boats; the remainder are pleasure crafts. There are two yacht clubs with a combined membership of approximately 500 people. There are several public and private piers, two major boat yards, a public boat launching ramp, public kayak storage racks, a sailing school and a surfboard rental shop. The Harbormaster is responsible for the use and safety of the town’s harbor and oversees the placing and management of 653 moorings.

Tuck's Point, Reed Park, Masconomo Park, and Proctors Cove Landing provide easy access and enjoyment of the harbor. In 2021, the Town was awarded a \$943,504 grant from the state Seaport Economic Council. Approximately \$811,500 of the grant will be used to fund a project at Tucks Point. The project will include a new docking system that will be enforced by a string of pilings and an 80-foot ADA accessible ramp. The remaining \$132,000 of grant funds will be used to redesign the commercial fishing facilities at Morss Pier, which the town hopes will feature new floats and more slip space²⁰. In 2020, new floats were built at Reed Park to accommodate more transient boaters. This project added 260 linear feet to the existing docks. Additionally, rental and usage fees collected through the Harbor Department's Dockwa app help offset the cost of maintenance and future improvements.

Figure 16: Manchester Harbor



Image Source: Courtney Lewis

²⁰ Michael Cronin (2021), "Tuck's Point to Receive New Dock System This Summer," Gloucester Daily Times, https://www.gloucestertimes.com/news/fishing_industry_news/tucks-point-to-receive-new-dock-system-this-summer/article_5f39287d-c141-5f5f-9fed-1ed2f0eb8144.html

Tidal lands adjacent to Masconomo Park are held under two conservation restrictions by the MECT. At low tide, the harbor takes on a much different appearance and often attracts a variety of shorebirds. Several points of land jut into the harbor, and on some are located houses of significant architecture. This irregular shoreline, interspersed with numerous little inlets and coves, creates a picturesque feel which lends to the harbor's attractiveness. Certainly, this high scenic value of the harbor is one of its most important assets.

Manchester Beaches

Manchester has several large and various small beaches affording public access to residents and visitors. The larger public beaches are Singing Beach, White Beach, and Black Beach. The beaches also provide the opportunity for recreational fishing. Manchester's private beaches include Gray Beach (Magnolia Beach part is public), Graves (or Dana's) Beach and Long Beach. While these areas are for private use, they do afford scenic vistas for those traveling in the area. All of Manchester's beaches are tested by the Board of Health to protect the safety of the residents and to determine coastal water quality. The Board of Health monitors the following beaches on a weekly basis during the summer: Singing Beach, White Beach, Black Beach, Magnolia Beach, Tuck's Point and West Manchester Beach (Black Cove Beach).

Salem Sound Coastwatch's Adopt a Beach Program trains volunteers to become "beachkeepers" at their favorite beach. Beachkeepers clean up debris, identify and report issues affecting the beach and monitor for erosion, invasive species and pollution. Manchester's beachkeepers monitor and report on Magnolia Beach, White Beach, Black Beach and West Manchester Beach. The Manchester Coastal Stream Team, in conjunction with Salem Sound Coastwatch's Coastal Habitat Invasives Monitoring Program, annually monitors White and Black beaches for invasive species during the summer months.

Vegetation

Manchester's vegetative communities are a mixture of large forestland, fresh and saltwater wetlands, rocky open summits, water-bodies, and a network of streams and tributaries that support specialized communities of plants and wildlife. The terrain in Manchester is generally irregular with rocky uplands, areas with approximately 145 summits and peaks, and lowland areas, commonly intermixed, containing wooded swamps, streams and wetland areas and coastal resources providing many diverse vegetative features and ecological habitats. Manchester is home to many important plant communities that include: red maple swamps, woodland vernal pools, Atlantic white cedar swamps, oak forests and rocky outcroppings that support a number of rare plants and animals.

Originally, with much of the town's land area unsuitable for farming or development, a sizable inventory of open space remained outside of the village for timber and woodland. Currently, many of these historic woodland and timber lots are highly regarded natural communities providing important areas for conservation and areas for recreational use for nature study, birding, walking, hiking and limited hunting.

Generally, Manchester forestland, mostly secondary growth, includes large forested areas mixed of white pine, oak, chestnut, poplar, maple, birch and hardwood species and conifers dominate the upper canopy. Below the canopy, there is a large diversity of dense areas of common shrubs

such as shadbush, winterberry, blueberry, ferns and a mixture of forest flowers. With the terrain generally irregular, with upland and lowlands intermixed, forest areas contain both terrestrial and palustrine communities. Manchester has many significant forested parcels including Powder House Hill, and Great Hill areas, but the most significant areas are the Manchester-Essex Woods, Long Hill and the areas of Cranberry Pond and Rattlesnake Den.

According to information referenced in the 2014 OSRP that was obtained from MassWildlife's Natural Heritage & Endangered Species Program (NHESP), Manchester is one of the towns in Massachusetts with maps showing areas forested in the 1830s and untilled woodlots and wooded pastures that are areas of possible Primary Forest. Such lands have greater biodiversity than areas that have been tilled. These are not "Old Growth" forests, as they have been harvested and pastured, but the ground may never have been tilled. Harvard Forest digitized maps from the 1830s that the Massachusetts legislature mandated that the towns create. Manchester's map shows areas that were forested in the 1830s. NHESP's GIS staff took those data and combined them with information from MassGIS' landcover data layer made from 1999 aerial photos.

Although a great deal has occurred in those areas in the time between the map dates, some areas that were forested in both times won't ever have been tilled. Surveys of the soil structure in the individual sites are necessary to determine whether those sites are primary forest. The importance of primary forest sites is that they retain more native biodiversity than sites that have been tilled. Soil fauna and flora — microorganisms and plants that reproduce primarily vegetatively—contribute to the higher biodiversity. In addition, there are species of wildflowers that are more common in untilled forests than previously tilled lands.

The areas of 1830s forest on private land would be good targets for conservation acquisition to maintain the biodiversity of the town and region. In Manchester, these areas of possible primary forest are located away from the coast and town center, in the northern, eastern, and western areas of town. The Harvard Forest website contains information on the 1830's forest data layer and copies of papers with discussion of the information.²¹

Wilderness Conservation Area – the Manchester-Essex Woods

The 3,400 acres of undisturbed woodlands stretching from the Gloucester water supply area to the Hamilton-Wenham ponds, and from Route 128 in Manchester to the Essex salt marshes is a highly valued wildlife area. This area's unique ecological value derives largely from its size and regional significance. In addition, the soils in the area have never been disturbed (most of Massachusetts soils were plowed during the colonial period), and this factor is highly unusual and significant to the presence of rare and endangered species.

According to a conservation action plan completed by The Nature Conservancy in 1999, the plant communities of the Manchester-Essex Woods, together with the natural landscape that supports them, are among the best of their type remaining on the entire north Atlantic coast. In addition, the Wilderness Conservation Area is registered with the Commonwealth's Natural Heritage

²¹ <http://harvardforest.fas.harvard.edu/hf122-detailed-metadata>; Harvard Forest. 2002. 1830 Map Project. Harvard Forest Archives, Petersham, MA.; Hall, B., G. Motzkin, D. R. Foster, M. Syfert, and J. Burk. 2002. Three hundred years of forest and land-use change in Massachusetts, USA. *Journal of Biogeography* 129: 1319-1135.

Program, which keeps track of natural environments of particular worth. Much of the Manchester-Essex Woods is recognized as a BioMap2 Core Habitat and/or Critical Natural Landscape.

The MECT, which has worked with NHESP for many years, has recognized the need for more data within this large BioMap and BioMap2 Core Habitat. As a result, MECT applied for and received a grant from the Massachusetts Environmental Trust in 2003 for a two-year project to advance the ecological health and biological diversity of the valuable habitats and safeguard the purity of the waters that flow from the Manchester-Essex Woods to the sea. The first proposed objective was to gather specialized knowledge of wildlife habitats within the Manchester-Essex Woods. This data was to be used to assist NHESP reviews under the Wetlands Protection Act and other state statutes and enhance public support for bylaws and regulations that discourage development within the Woods. Another objective of the project was to strengthen land acquisition efforts in the Manchester-Essex Woods, including creating a support base to raise the large sums of money needed to acquire the parcels vital to the area's integrity and encourage property owners to grant conservation restrictions. The final objective was to incorporate the scientific knowledge generated by the project into a revised management plan for the Manchester-Essex Woods.

In 2004, more than 100 acres in the heart of the Manchester-Essex Woods was put under agreement for residential development. In an effort to conserve the land, MECT negotiated the acquisition of the property for \$1.4 million. The highly successful "Save Our Woods" campaign was launched, yielding more than \$3 million toward land purchases to complete the central portion of the Wilderness Conservation Area.

The MECT has conducted several studies over the years to assess, catalog, and protect the ecological value of the Wilderness Conservation Area. The most recent study, Wilderness Conservation Area Management Plan, was published in 2013.²² The plan provides a comprehensive summary of the flora, fauna, and geology of the study area. In 2019 MECT was awarded a grant from the Massachusetts Department of Conservation and Recreation (DCR) Forest Stewardship Program to develop a Forest Stewardship and Bird Habitat Assessment Plan.

Most of the land in Manchester located within the Wilderness Conservation Area has been deeded to conservation, either by private funds from MECT or by the town, with management by the Conservation Commission. Parcels not yet protected have evoked some development interest. This area is zoned for limited commercial use and could be utilized as such by the present owners.

Key unprotected parcels in Manchester include the Gordon College land on the west, the Old School Street/new School Street hill (the westerly half of Shingle Place Hill), and the wooded hills east of Agassiz Rock Reservation which is owned by the Manchester Athletic Club. The topography of these parcels includes steeply sloped knolls and numerous wetlands, including a small part of Cedar Swamp. Upland soils are characterized by shallow depth to bedrock, many rock outcrops, and fast runoff.

Low but steep hills predominate in the area of Dug Hill-Cheever Commons. Soils in the area are shallow to bedrock, with large rock outcrop and fast water runoff. These hills drain mainly toward

²² Wilderness Conservation Area Management Plan: <http://www.mect.org/wp-content/uploads/2013/09/WCA-Management-Plan-7.13.pdf>

Maple Swamp in Essex. This area lacks road access since the Route 128 interchange was built. A portion of an old fire road bisects the site from the northwest to southeast.

Cranberry Pond and Rattlesnake Den

The Cranberry Pond and Rattlesnake Den woodlots located in northeastern Manchester and southeastern Essex comprise a remote woodland that borders the town line with Gloucester and Route 128. This area is identified as Core Habitat featuring Forest Core, Priority Natural Communities, and a Species of Conservation Concern according to the Natural Heritage & Endangered Species Program *BioMap2*. White pine and mixed oak are the dominate species, and scattered throughout are red maple, hemlock, beech and hickory. Though, mostly lightly vegetated, the understory of blueberry, huckleberry, witch hazel, arrowhead, and princess pine are some of the upland species. With good foot trails running throughout the properties, the trails can be accessed from Forest Lane and Dexter's Pond. The Cranberry Pond trails link to the Long Hill and Gloucester trail systems throughout the area. Some of these trails are on private land.

On this property the Manchester, Essex and Gloucester boundaries converge on a hill. The location is marked with an ancient heap of rocks, called "Heap of Rocks Hill." The hillside southeast of Cranberry Pond is littered with boulders and a glacial moraine that is at least ten thousand years old. This rocky setting was a natural habitat for rattlesnakes that were eradicated by colonial farmers and foresters hundreds of years ago.

Cranberry Pond-Rattlesnake Den and much of the abutting land is mostly owned by the Essex County Greenbelt²³, with some parcels owned by the Town of Manchester and private individuals. This land which totals approximately 40 acres, was donated in three different years, 1984, 1999, and 2006, by Stephen and Marion Hall of Manchester. In 2011, the Harrington family donated 5.054 acres of land to the Essex County Greenbelt. The donated land is located off Loading Place Road by Cranberry Pond. This wooded lot features a prominent stand of American Beech (*Fagus grandifolia*). With several parcels in the area owned by private landowners, efforts should be made to protect the neighboring parcels from future development. Generally, the trails are in good condition and are maintained privately by local landowners.

Long Hill Conservation Area

The Long Hill Conservation Area is protected under two separate Conservation Restrictions, both held by the MECT. This area is by far the largest tract of land held under Conservation Restrictions in Manchester, comprised of just over 118 acres. Long Hill abuts the Dexter Pond Conservation Area to the southeast and connects to a large swath of land in Gloucester.

The Long Hill Conservation Area, along with abutting lands in Gloucester comprise 737 acres of *BioMap2* designated Core Habitat (Core 2517) which features Forest Core, Priority Natural Communities and a Species of Conservation Concern (the Sweetbay Magnolia). This area is also designated in *BioMap2* of a 1,127-acre Critical Natural Landscape (CNL 1202) for its large areas of intact, predominately natural vegetation which supports dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes – all of which help to support wide-ranging wildlife species and other elements of biodiversity.

²³ http://www.ecga.org/explore_and_engage/view_property/1167-cranberry_pond

The Conservation Restrictions on Long Hill permits public access for recreational and educational purposes to the property's trails and wetlands in perpetuity. Existing trails, local roads and cart paths, provide pedestrian access to Dexter Pond, Long Hill, the Hooper-Trask Pasture, out to Kettle Cove.

Dexter Pond Conservation Area

One of the most unique ecosystems in the town is the Dexter Pond Conservation Area, a highly valued resource for recreation and nature study. The town received ownership of 15 acres around Dexter Pond, as well as an area on the hill at the eastern end of the property to construct a water tower and an easement to get the water off the hill. The Conservation Restrictions permit public access for recreational and educational purposes to the property's trails and wetlands in perpetuity.

Figure 17: *Dexter Pond*



Image Source: Courtney Lewis

The Dexter Pond Conservation Area itself now comprises approximately 30 acres of forested uplands, bordering wetlands and a large open pond surrounded by a perimeter trail. Dexter Pond has a surface area of approximately 2.8 acres and an average depth of only 3-4 feet. The pond is fed from both groundwater flow and a surface stream that enters along its eastern shore. The pond freezes over in the winter months providing recreation for ice skaters.

The area also provides nature study of an assortment of predominantly native plant and animal life. Floating leafed plants such as white waterlily (*Nymphaea odorata*) and watershield (*Brasenia schreberi*) are visible on the surface of the pond, while purple bladderwort (*Utricularia purpurea*) and naiad (*Najas spp*) are submerged beneath the surface. Emergent cattails (*Typha latifolia*), pickerelweed (*Pontederia cordata*) and burreed (*Sparganium*) are common along the shore and extend out into the pond in some locations. A diverse native plant community lines the shore including tussock sedge (*Carex stricta*), buttonbush (*Cephalanthus occidentalis*), spice bush (*Lindera benzoin*), highbush blueberry, (*Vaccinium corymbosum*) and a variety of trees including maple (*Aceraceae*) and birch (*Betulaceae*).

Once a year the Coastal Stream Team organizes members and volunteers from the community to help remove invasive purple loosestrife from the pond and to clear the trail that winds around the pond's perimeter. In 2019, the Open Space and Recreation Committee was granted \$6,000 in CPA funds to replace a rotting pedestrian footbridge at Dexter Pond. The original footbridge was used by visitors to cross over the small stream that branches out from Dexter Pond to reach the site's hiking trails. The new bridge was constructed and installed by Ken King, a Manchester resident, and other volunteers.²⁴ In addition, the "Preservation of Dexter Pond Project", a study conducted using CPA funds was completed and submitted to the Conservation Commission in 2019. The study resulted in an ecological assessment of Dexter Pond and will help determine short and long-term management strategies. Future implementation discussions for the plan are ongoing.

Clark Pond

Clark Pond, a 12-acre coastal salt pond, part of the Coolidge Reservation managed by the Trustees of the Reservation, abuts the east side of Coolidge Reservation and is accessible from Raymond Street on the eastern side of Manchester. It is a former salt marsh cut off from the tide leaving a freshwater dominated pond. Although, still connected to the Kettle Cove through a narrow channelized stream, a combination of marsh and woodland, this site is known for its scenic value and natural setting, with several foot trails with scenic vistas of pond and woodland landscape leading to the Great Lawn. In 2011, the Trustees of Reservation completed a project restoring tidal flow to Clark Pond. They removed multiple restrictions to increase the water flow to the site. They also opened up flow between the pond and Kettle Cove to improve environmental conditions in Clark Pond and to address the serious flooding that was following major rain events.²⁵

²⁴ Michael Cronin (2019), "Manchester Volunteer Creates New Dexter Pond Footbridge," Gloucester Daily Times, https://www.gloucestertimes.com/news/local_news/manchester-volunteer-creates-new-dexter-pond-footbridge/article_203ed07f-a76c-588e-bcc5-628000fcd97.html

²⁵ Kate Kirby (2010), "Manchester's-Clarke-Pond-Targeted-For-Restoration," Gloucester Daily Times, <http://www.gloucestertimes.com/local/x1255113116/Manchesters-Clarke-Pond-targeted-for-restoration>

Offshore Islands

The offshore islands, including House Island, Kettle Island, Graves Island, and the Ram Islands provide important nesting and feeding areas for a variety of seabirds. House Island was recently given permanent protection through acquisition by Massachusetts Audubon and a Conservation Restriction managed by the MECT. The island contains two priority plant communities, the maritime rocky cliff and the marine intertidal rocky shore communities, both designated as “state imperiled” under the community state rank (S-RANK) system²⁶. Graves Island and the Ram Islands remain unprotected but would benefit from the same protections due to their potential for additional bird habitat and plant communities.

Figure 18: Kettle Cove Marsh



Image Source: Courtney Lewis

Saltwater Wetlands

There are two significant salt marsh areas in Manchester, Chubb Creek which is approximately 14 acres and Kettle Cove which is approximately 26 acres. Salt marshes are considered one of the most productive ecosystems on Earth. Vegetation in a salt marsh is salt-tolerant and it provides the basis of the complex food chains in both estuarine and marine environments. Both marshes are salt-water estuaries situated landward of barrier beaches. The upland areas contribute low-volume freshwater to the landward portion of the estuary. The intertidal areas are dominated by high cordgrass and salt marsh hay that provide habitat for birds and wildlife. Chubb Creek is a known spawning ground for Rainbow Smelt. Activities for these areas include kayaking, bird watching, nature study, fishing and other passive recreation.

²⁶ “NHESP Priority Types of Natural Communities,” <https://www.mass.gov/doc/nhesp-priority-natural-communities/download>

Public Shade Trees

Pursuant to Chapter 87 of the Massachusetts General Laws, all trees within a public way or on the boundaries thereof shall be public shade trees and shall not be cut, trimmed, or removed, in whole or in part, by any person other than the tree warden or his deputy, even if he be the owner of the fee in the land on which such tree is situated except upon a permit in writing from said tree warden, nor shall they be cut down or removed by the tree warden or his deputy or other person without a public hearing and said tree warden or his deputy shall cause a notice of the time and place of such hearing.

Manchester's public shade trees include those trees within the right of way along town roads as well as at municipal facilities including the town's parks, cemeteries, schools, library and town offices. These public trees are recognized as valuable to the town's visual character and for the physical comfort they provide in moderating temperatures, offering shelter from sun, wind and precipitation, and filtering pollutants from the air.

The Department of Public Works consults with the town's Tree Warden to assess and remove dead or dying trees and also performs pruning and other measures to keep public trees healthy. The town maintains and updates a Tree Inventory layer which is publicly assessable through MapGeo, the town's interactive online GIS platform.

Additionally, Manchester is a "Tree City USA" community as designated by the National Arbor Day Foundation. To achieve this recognition, Manchester met the program's four requirements: a tree department, observation of a tree-care ordinance which Manchester follows under the Massachusetts General Laws regarding public shade trees, an annual community forestry budget of at least \$2 per capita and an Arbor Day celebration and proclamation.

The town is also fortunate to have an active volunteer group called the "Friends of Manchester Trees" which coordinates the planting of memorial trees (including five years of aftercare) and donates trees for public spaces around town.

Rare and Endangered Species

As a part of the Massachusetts Endangered Species Act (MESA), the population status of rare species, whether they are plants or animals, is described using three categories: special concern (SC), threatened (T), and endangered (E). Species of special concern have either experienced a decline that could threaten the species without intervention, or whose populations are so small, localized, or dependent upon specialized habitats that they could become threatened.

Threatened species are likely to become endangered in the foreseeable future. Endangered species are in danger of extirpation from Massachusetts. The Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife has identified one rare vascular plant in Manchester: Heartleaf Twayblade (*Listera cordata*), with the last recorded siting older than 25 years. (**Figure 19**).

Figure 19: Rare Plant Species Observed in Manchester

Common Name	Scientific Name	Taxonomic Group	MESA Status	Last Spotted
Heartleaf Twayblade	<i>Neottia cordata</i>	Vascular Plant	E	Historic

Source: Natural Heritage & Endangered Species Program, Rare Species by Town Viewer

Mapping Projects

In partnership with the Nature Conservancy, the Natural Heritage & Endangered Species Program produced strategic biodiversity conservation plans for every city and town in Massachusetts in 2012. *BioMap2* is designed to focus “land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.”²⁷ The project was developed to protect the state’s biodiversity in the context of global climate change.

As a part of the *BioMap2* mapping project, two components in each community are identified: Core Habitat and Critical Natural Landscape. Core Habitat describes areas that are crucial to the long-term existence of rare species, as well as a wide diversity of species in an intact ecosystem. According to *BioMap2*, 569 acres in Manchester is considered Core Habitat. Of this, 324 acres are already protected in perpetuity.²⁸ **Figure 20** shows the locations of the *BioMap2* Core Habitat which include portions of the Manchester-Essex Woods, Agassiz Rock Reservation, and Cranberry Pond-Rattle Snake Creek, along with the majority of Cat Brook and Sawmill Brook.

Critical Natural Landscape describes large areas of natural “Landscape Blocks” that are not greatly impacted by development. As the world’s climate changes, these areas, if protected, will provide habitat for native species, enhance ecological resiliency to disasters, and connect habitats. Approximately 548 acres of Manchester is considered Critical Natural Landscape. Of this, 257 acres are protected in perpetuity. The Critical Natural Landscape areas shown in **Figure 20** overlap with many of the Core Habitat areas and include Kettle Cove Marshes and Chubb Creek Marshes.

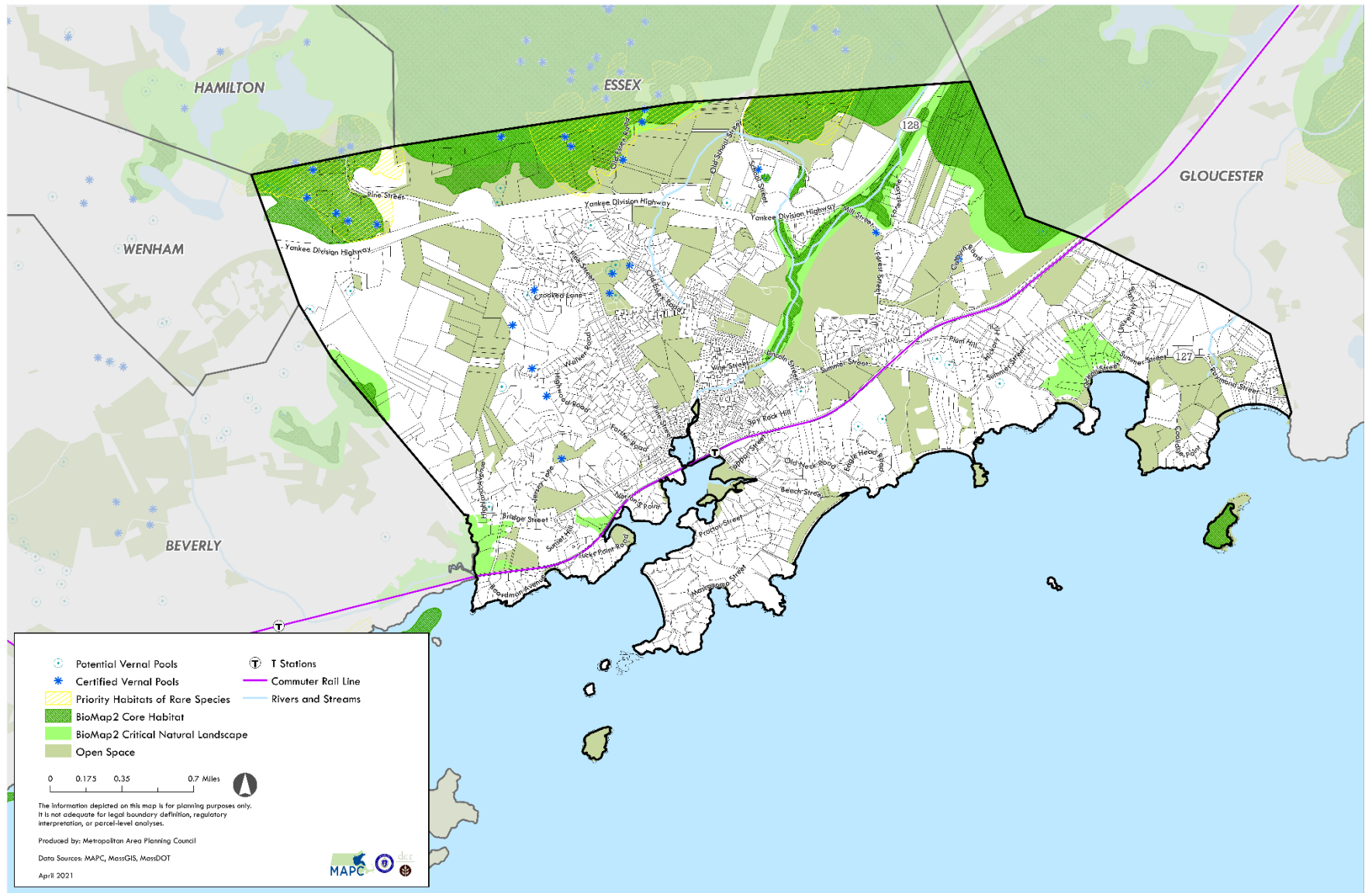
Also shown in **Figure 20** are Priority Habitats of Rare Species. According to MassGIS, “The Priority Habitats of Rare Species data layer contains polygons representing the geographic extent of Habitat of state-listed rare species in Massachusetts based on observations documented within the last 25 years in the database of the Natural Heritage & Endangered Species Program (NHESP).”²⁹ Priority Habitats of Rare Species in Manchester include portions of Agassiz Rock and the Wilderness Conservation Area and an area off Route 128 near the border with Hamilton.

²⁷ “BioMap2,” MA EOEAA, www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/land-protection-and-management/biomap2/

²⁸ “BioMap2: “Manchester” (2012), http://maps.massgis.state.ma.us/dfg/biomap/pdf/town_core/Manchester.pdf

²⁹ “NHESP Priority Habitats of Rare Species,” MassGIS, www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/prihab.html

Figure 20: Plant & Wildlife Habitat Map



Document Path: R:\Data\GIS\Projects\Current\Projects\OpenSpace_Plan\Harcroster_2021\38_Harcroster_Plan_5M\Habitat_Habitat_2020.mxd

Fisheries and Wildlife

With widespread forestlands, wetlands, and coastal areas, Manchester provides critical wildlife habitats that support both terrestrial and aquatic ecosystems. Manchester's animal population includes various species of birds, mammals, amphibians, reptiles, and fish. Below is an abbreviated list of birds and wildlife that were surveyed in Manchester for the Wilderness Conservation Area Management Plan³⁰.

Birds

- Canada Goose (*Branta canadensis*)
- Green Heron (*Butorides virescens*)
- Mourning Dove (*Zenaida macroura*)
- Downy Woodpecker (*Picoides pubescens*)
- Blue Jay (*Cyanocitta cristata*)
- Black-capped Chickadee (*Poecile atricapillus*)
- American Robin (*Turdus migratorius*)
- European Starling (*Sturnus vulgaris*)
- Black-and-white Warbler (*Mniotilta varia*)
- Northern Cardinal (*Cardinalis cardinalis*)

Mammals

- White-tailed deer (*Odocoileus virginianus*)
- Raccoon (*Procyon lotor*)
- Grey squirrel (*Sciurus carolinensis*)
- Chipmunk (*Tanuas striatus*)
- White-footed mouse (*Peromyscus leucopus*)
- Star-nosed mole (*Condylura cristata*)
- Mink (*Mustela vison*)
- Fisher (*Martes pennant*)
- Beaver (*Castor canadensis*)
- Striped skunk (*Mephitis mephitis*)

Amphibians

- Spotted salamander (*Ambystoma maculatum*)
- Blue-spotted salamander (*Ambystoma laterale*)
- Red-spotted newt (*Notophthalmus viridescens*)
- Spring peeper (*Pseudacris crucifer*)
- Gray tree frog (*Hyla versicolor*)
- American toad (*Anaxyrus americanus*)
- Northern leopard frog (*Lithobates pipiens*)
- Bullfrog (*Lithobates catesbeianus*)
- Green frog (*Lithobates clamitans*)
- Wood frog (*Lithobates sylvaticus*)

Reptiles

- Northern Ringneck Snake (*Diadophis punctatus*)
- Northern Brown Snake (*Storeria dekayi*)
- Redbelly Snake (*Storeria occipitomaculata*)
- Eastern Garter Snake (*Thamnophis sirtalis*)

³⁰ Readers should refer to Appendices 1-3 of the [Wilderness Conservation Area Management Plan](#) for a more comprehensive inventory of plants, birds, and wildlife.

- Northern Black Racer (*Coluber constrictor*)
- Eastern Milk Snake (*Lampropeltis Triangulum*)
- Snapping Turtle (*Chelydra serpentina*)

Fish

- Largemouth Bass (*Micropterus salmoides*)
- Striped Bass (*Morone saxatilis*)
- Common Carp (*Cyprinus carpio*)
- Haddock (*Melanogrammus aeglefinus*)
- Chain Pickerel (*Esox niger*)
- Yellow Perch (*Perca flavescens*)
- Atlantic Cod (*Gadus morhua*)

- Spotted Turtle (*Clemmys insculpta*)
- Eastern Painted Turtle (*Chrysemys picta*)
- Stinkpot (*Sternotherus odoratus*)

- Pollock (*Pollachius virens*)
- Rainbow Trout (*Oncorhynchus mykiss*)

In addition, to those named in the report, two other fish species of note are present in Sawmill Brook:

- Rainbow Smelt (*Osmerus mordax*)
- Sea-Run Brook Trout (*Salvelinus fontinalis*)

Rare Species

The Natural Heritage & Endangered Species Program (NHESP) has identified three rare animal species in Manchester: the Hessel's Hairstreak, the Hentz's Red-bellied Tiger Beetle, and the Pied-billed Grebe. Like with plants, they are described as special concern (SC), threatened (T), or endangered (E).

Figure 21: Rare Animal Species Observed in Manchester

Common Name	Scientific Name	Taxonomic Group	MESA Status	Last Spotted
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Bird	E	1959
Hessel's Hairstreak	<i>Callophrys hesseli</i>	Butterfly/Moth	SC	2013
Hentz's Red-bellied Tiger Beetle	<i>Cicindela rufiventris hentzii</i>	Beetle	T	2018

Source: Natural Heritage & Endangered Species Program, Rare Species by Town Viewer

The Pied-billed Grebes (*Podilymbus podiceps*) are small, stocky waterbirds with compact bodies, slender necks and a chicken-like bill. They prefer to nest in marshes, lakes, ponds and other wetlands which have an abundant supply of cattails, and other vegetation. They were last spotted in Manchester in 1959 and are considered an endangered species in Massachusetts³¹.

³¹"Pied-billed Grebe", Massachusetts Natural Heritage & Endangered Species Program, <https://www.mass.gov/doc/pied-billed-grebe/download>

The Hessel's Hairstreak (*Callophrys hesseli*) is a reddish-brown butterfly with a mint-green overlay. They are usually found within 30 miles of the coast and exclusively inhabit Atlantic white cedar swamps and bogs. It is a species of special concern and was last noted in Manchester in 2013³².

The Hentz's Red-bellied Tiger Beetle (*Cicindela rufiventris hentzii*) is a threatened species that was last seen in Manchester in 2018. This insect is mainly dark brown with a copper sheen, has white markings on its wings, and has a bright orange abdomen. It inhabits sparsely-vegetated bedrock outcrops, often of granite composition³³.

Wildlife Corridors

Wildlife corridors enable animals, particularly upland mammals, to migrate to new territories in search of food or breeding grounds. Biologists estimate that undisturbed linear areas of a minimum of 300 feet in width are necessary for many species to feel comfortable moving undetected through an area.

Manchester has vast areas supporting wildlife as described above, these areas support a wide variety of animal habitats and ecosystems. The most viable habitats for rare species and natural communities are located in northern Manchester along the municipal border, and are shared resources with the communities of Hamilton, Essex and Gloucester.

The areas of the Manchester-Essex Woods, Agassiz Rock Reservation, and Cranberry Pond-Rattle Snake Creek, along with the majority of Cat Brook and Sawmill Brook are within areas identified in BioMap2, as Core Habitats, which are considered areas to promote long-term persistence of rare species. While in the same general area, Cedar and Beaverdam Swamps and areas of upper Pine Street and Gull Pond are areas listed as having Species of Conservation Concern (SCC). In BioMap2, SCC include species native to Massachusetts that are listed under the state Endangered Species Act or listed in the State Wildlife Action Plan.

Vernal Pools

Vernal pools serve as an important breeding ground and home to a number of amphibians and invertebrate animals. Also known as ephemeral pools, autumnal pools, and temporary woodland ponds, these natural sites fill with water in the fall or winter due to rain and rising groundwater. They stay ponded through the spring and into summer but tend to dry completely by the middle or end of the summer. This occasional drying prevents fish from permanently populating the pools, allowing amphibians and invertebrate species to reproduce without being targeted by fish predators.³⁴

The Massachusetts Natural Heritage and Endangered Species Program has certified 26 vernal pools in Manchester as of 2019. Certification occurs according to the Massachusetts Division of Fisheries & Wildlife's Guidelines for the Certification of Vernal Pool Habitat. Certified vernal pools can usually be protected from development and are afforded protection under a number of state regulations, including those from the Water Quality Certification (401 Program), Title 5,

³²"Hessel's Hairstreak", Massachusetts Natural Heritage & Endangered Species Program, <https://www.mass.gov/doc/hessels-hairstreak/download>

³³"Hentz's Red-bellied Tiger Beetle", Massachusetts Natural Heritage & Endangered Species Program, <https://www.mass.gov/doc/hentzs-red-bellied-tiger-beetle/download>

³⁴ "Vernal Pools," MA EOEEA, www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/vernal-pools/

and the Forest Cutting Practices Act.³⁵ They are also protected by the State's Wetlands Protection Act regulations if they meet the definitions of "wetlands" under that law.³⁶ There are 22 potential vernal pools in Manchester that have been identified, but not certified, by NHESP. **Figure 20** shows the locations of both certified and potential vernal pools in Manchester.

More than 50 percent of the Certified Vernal pools are located in the Manchester-Essex Woods, the remaining are scattered throughout the town. The vernal pools of upper Pine Street are well known for yellow-spotted salamanders, which live in the area, and cross Pine Street every spring to mate in the vernal pools. Apart from the Manchester-Essex Woods, other well-known vernal pools of Manchester are located at the Agassiz Rock Reservation and contain a series of woodland vernal pools that support wood frogs, spotted salamanders and other obligate rare species. Also, there is the Minnie B. Ball Nature Study area, a 9-acre parcel within the Powder House Reservation which includes frequently visited areas to study vernal pools and their amphibian life. Future efforts should focus on identifying potential vernal pools suitability to be enrolled in the NHESP official vernal pool certification program.

Cold Water Fisheries

The Division of Fisheries and Wildlife maintains a list of environmentally sensitive streams throughout Massachusetts that are identified as Coldwater Fish Resources (CFR). CFRs provide important habitat for trout and other kinds of coldwater fish. Buffers and culverts along these areas are important for maintaining their water and habitat quality. Culverts in the streams should be maintained to allow movement of fish, turtles, and other aquatic species.

In Manchester, Cat Brook and portions of Sawmill Brook are identified as CFRs — the only CFRs in the North Coastal Watershed. Most of the CFR is in *BioMap2* Core 2480. The significant overlap of the CFRs with *BioMap2* Cores indicates good environmental conditions identified by each project and emphasizes the importance of the areas for biodiversity and natural resource preservation.

Scenic Resources and Unique Environments

Manchester is rich in scenic resources and unique environments, many of which have been noted throughout this plan. Below is a discussion of some of the areas not mentioned elsewhere and a further discussion of some of the areas that were mentioned with emphasis on their unique or scenic features.

Beaches, Coves, and Harbor Parks

Some of the most often cited natural resource treasures belonging to Manchester are its beaches, coves, and harbor parks. The town had several beaches and coves that were originally town landings including: Black Beach, Black Cove, Lobster Cove, Proctor Cove, Tuck's Point Beach and White Beach. In 1892, the town took title to Singing Beach under the Park Act. This beach continues to be a strong attraction for area residents and visiting tourists.

³⁵ "MassGIS Data - NHESP Certified Vernal Pools," MassGIS, <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/cvp.html>

³⁶ "Protecting Vernal Pools," Mass Audubon, <http://www.massaudubon.org/learn/nature-wildlife/reptiles-amphibians/vernal-pools/protecting>

Figure 22: Singing Beach



Image Source: Ralph Wilmer

In 1895, the town purchased additional land at Tuck's Point and created its first harbor park, still the frequent location of summer gatherings for residents. A second harbor park was anticipated in 1903 with the purchase of land and swamp along Day's Creek for Masconomo Park. Masconomo is a popular active recreation site with a sizable playground area and adjacent ball field. The Park is the site for many summer concerts.

In April 2001, Surf Park was established on a 2-acre property formerly known as the Surf Restaurant site overlooking Gray Beach by the Trust for Public Land. The establishment was a culmination of efforts from the Gray Beach Neighborhood Association and the Magnolia Neighborhood Association, and funding from the town of Manchester-by-the-Sea, the federal Coastal and Estuarine Land Conservation Program, Massachusetts Urban Self-Help program, and more than 250 private contributors. Surf Park is jointly owned by Manchester and Gloucester as it straddles the town line, with the majority falling within Manchester. The Park sits on a hillside opposite of Gray Beach, and provides scenic views of Magnolia Harbor and Kettle Island. The park offers a series of walkways, seating areas, open space for picnicking and passive recreation. The Surf Park Trust, a nonprofit established in 2003, oversees management of the park.

Scenic Vistas

The unique topography of Manchester offers many locations for fantastic scenic vistas with some even affording a view as far away as Boston on a clear day. The attractive expanse of woodlands along Route 128 as it traverses Manchester affords residents and passers-by a refreshing landscape view. Much of this vista is under conservation protection, but major stretches and high points remain open to development. These include the westerly portion of Shingle Place Hill and both sides of the highway by the Beverly and Essex-Gloucester borders. A few parcels are town-owned but are not dedicated to conservation.

Agassiz Rock Reservation is a historic scenic site that looks east to a steep forested hilltop in the northeastern corner of Manchester. Through a one-mile trail loop, visitors can enjoy the scenic landscapes of the beautiful wooded forest trees as they reach the smaller of the two glacial erratics known as Little Agassiz with views of Manchester-Essex Woods and Beaverdam Swamp. At the peak, Big Agassiz sits 199.51 feet above sea level. The best view is obtained by looking to the south where hikers can often see the Boston skyline. This reservation is bounded to the north and east by Gloucester's municipal watershed and extensive forested land in Essex. South of the site lies the developed portion of the town's Limited Commercial District (LCD) — rough terrain, a few commercial buildings, and a former rock quarry. All the land in this area is zoned for limited commercial use.

Winthrop Field, off Bridge Street (Route 127) is a beautiful wet meadow, stream, and upland field vista off the street just to the west of the town center; it was deeded to the town by the Winthrop family and its uses are limited by deed restriction. A small private barn and horses offer a more rural picture to the town, and the field is utilized by migratory birds and other wildlife. In the spring 2009, the Winthrop Field Committee and Friends of Manchester Trees sponsored a restoration project, planting 60 native shrubs on the perimeter of the pond to improve aesthetic and habitat values.

Figure 23: *Winthrop Field*



Image Source: Courtney Lewis

Recreational Areas

The town of Manchester is home to the **Essex County Club**, a 183-acre private membership organization founded in 1894 providing golf, tennis and other important scenic and recreational assets to members and non-members. Visually, the grounds provide a wide expanse of open space behind thickly developed School and Lincoln streets. During winter the grounds are open to public use for cross-country skiing and occasional ice-skating. Sheep Pasture Hill attracts numerous snow saucers, sleds and toboggans on snowy afternoons and weekends. As long as the Essex County Club thrives, there appears little cause for concern that any or all of this land will be developed; however, the golf course is zoned for single-family residential use, with a one-half acre minimum lot, and lacks any deeded conservation restriction. The site is within the Water Resource Protection District Zone 1 & 2.

The junction of Wenham, Hamilton and Manchester north of Route 128 and west of Pine Street is home to the trails of **Chebacco Woods**, which provide yet another opportunity for scenic exploration in the area. Chebacco Woods is comprised of 113 acres of woodlands and wetlands in Hamilton, jointly owned by the towns of Hamilton and Manchester, and abutting the 250-acre Manchester drinking water supply land, also in Hamilton. Where buffered from road noise, the dense swamps, ponds, evergreen and deciduous forest, and its stillness are much like the backwoods of northern Vermont or Maine. Chebacco Woods is managed by a volunteer land management committee from both Manchester and Hamilton. A large trail system extends from Chebacco Road around the perimeters of Round Pond, Gravelly Pond and Coy Pond that is part of the Gordon College campus. The trails provide superior access to the majority of the property, and those along pond shores offer beautiful views across the ponds. The property offers an excellent opportunity for walking, hiking, non-motorized boating, birding, fishing and hunting when allowed. In recent years, trails along Gravelly Pond and the other ponds restrict horseback riding and dogs due to high bacterial counts in the ponds.

The **Eaglehead Swamps and Woods** lie south of Summer Street and the major portion lies east of the MBTA rail line. Dexter Pond to the north drains into this swamp. The Eaglehead Swamp drains to Brickyard Pond and to Causeway Brook. The eastern portion of the swamp is privately owned and is protected by a permanent conservation easement held by The Trustees of Reservations. The western portion is owned by the town of Manchester and at present has no conservation protection. The area consists primarily of swamp, ponds, a stream, lowlands and a small upland forest. Over the past 20 years, more than 120 species of migratory and nesting birds have been spotted in the easterly swamp. The area provides critical wildlife habitat. The town owned portion is used as a wildlife study area.

The **West Manchester Woods** lie to the west of Pine Street, south of Route 128 and east of the town boundary with Wenham and Beverly. Much of the eastern portion of this area is included in the Wyman Hill, Christian Hill and Great Hill Conservation Area, the Brookwood Conservation Area and Owl's Nest Woodland. This area is generally upland forest with numerous rocky outcrops. Many foot paths and abandoned dirt roads provide for hiking in this area.

The area further to the west is privately owned and development is curtailed by lack of access from town roads. Much of the northwestern portion lies within the watershed to Gravelly Pond and Round Pond. It would be desirable if this could be placed under conservation to protect the watershed. The entire area provides wildlife habitat, flood control and recreational possibilities.

A town-wide initiative is now underway to protect parcels in the “Western Woods,” comprising approximately 500 contiguous acres along Manchester’s western border. Strategies for achieving this include putting town-owned parcels under Conservation Commission management, purchasing land, and securing conservation restrictions on private property where possible.

The land abutting Manchester in Wenham is primarily owned by Gordon College. The majority of the land in Beverly along the Manchester border is owned by the City of Beverly, taken by tax title. The remainder is privately owned. Most of the area is wilderness and inaccessible by road.

Reservations

In addition to the aforementioned Agassiz Rock Reservation, Manchester is home to Powder House Hill Reservation and Coolidge Reservation. The **Powder House Hill Reservation** is Manchester’s central park and is accessible from Pine Street, Elm Street, School Street, and Pleasant Street. It is currently managed by the Conservation Commission, with assistance from the Department of Public Works. This site provides a wonderful opportunity for scenic viewing, nature study and hiking. The area is in good condition and offers four-car parking by the Pleasant Street entrance. In 2007, the Powder House building was restored and brought back to its original condition and a bronze plaque was affixed to the building commemorating the site. Additional informative signage was also added to the entry of the Minnie B. Ball Nature Study area. In 2011, vista pruning was conducted opening views to the town village and harbor. In October 2020, a new walking trail was created at Powder House Hill and seven new informational kiosks were installed along with trail markers. There are also two signs along the trail by the vernal pool depicting information on how to identify plant and animal species that can be found in this location.

Figure 24: Powder House Hill Reservation



Coolidge Reservation is a 64-acre property located on Summer Street (Route 127) near the Manchester-Magnolia border. This site is owned and managed by The Trustees of Reservations. Within the reservation, Bungalow Hill provides panoramic views of the sea as well as picturesque walking trails leading to Clarke Pond. In late 2009, the Trustees of Reservations completed the replacement of a deteriorating stone bridge with a timber bridge and stream widening along the banks of the bridge. A design requirement of the project called for it to be handicap accessible, while the stream widening would provide for increased water flow to benefit wildlife of the stream and pond. This passive recreation site is home to many wildlife species and includes a parking area, nature study area, unique open space scenic vistas, a coastal pond, the "great lawn," and a coastal beach.

Figure 25: Coolidge Reservation



Image Source: Ralph Wilmer

Also in east Manchester is the **Hooper-Trask Pasture**, a 23.5 acre preserve that was donated to the MECT. A cart path off Magnolia Avenue leads to the pasture, which is frequented by migratory birds and home to woodland wildlife. A new trail crosses ancient stone walls and skirts many boulders left behind by retreating glaciers. The pasture is a lovely setting for picnics, nature study, and quiet enjoyment.

Historic and Cultural Areas

Despite its rich heritage, Manchester has no buildings listed in the National Register of Historic Places. However, in 1975, the town established the Manchester Village Historic District (MVHD), which is located on Route 127.

The Manchester Historic District Commission works towards surveying the eligibility of the Town's properties for historic preservation funding. In addition, it works to preserve the streetscape of the Town's historic district by reviewing the appropriateness of changes to structures within the MVHD.

The MVHD is 39-acres and encompasses most of Downtown and the village center. The buildings in the District represent vernacular architecture from the 17th to the early 20th Century and include commercial, residential and institutional properties. Of particular note is the Trask House that today houses the Manchester Historical Society Museum and Seaside No. 1.

The Trask House-Manchester Historical Museum is located on Union Street across from the Manchester Public Library. The building serves as the headquarters for the Historical Society and is open to the public. The museum features an impressive collection of period furniture, artifacts, fine art, and memorabilia reflecting the town's important maritime history and its later prominence as a summer colony³⁷.

Figure 26: Seaside No. 1 Firehouse Museum



Image Source: Manchester Historical Museum

The Seaside No. 1 Firehouse Museum was constructed in 1885 to house Manchester-by-the-Sea's first horse-drawn fire engine. Located on Central Street, this building now serves as a museum and home for the Town's two antique engines and a collection of firefighting equipment and memorabilia. The building also provides space for town offices and public meetings³⁸.

Forster Cemetery, Tappan Cemetery, the 1661 Cemetery, and the Manchester Common are also some of the district's historic landscapes. Located on the corner of Summer and Washington, the 1661 Cemetery is Manchester's oldest burial ground. It includes the former private cemeteries of the Tappan and Forster families, as well as graves of Revolutionary and Civil War soldiers. The earliest legible gravestone dates back to 1714. The iron archway at the corner with a date of 1661 was erected during the town's 250th anniversary celebration³⁹.

The Manchester Town Common is a small parcel of land but an important public place in the historic center of town. In its past the Common has been home to three Town Meeting Houses, the first built in 1656 and the last that stands today was built in 1809 and converted in 1844 to the First Parish Church. In 2019, Town Meeting voters approved \$100,000 in CPA funds to renovate the Town Common. Recently completed, the renovated Common includes improved and accessible circulation paths around a central lawn, porous pavement, new benches, pedestrian scaled lighting, as well as two ADA compliant parking spaces and an ADA access ramp to the entrance of Town Hall. The Common's mature honey locust, stewartia, crabapple, spruce, and elm trees were preserved, and nine new canopy trees were planted.

³⁷ Manchester Historical Museum, "Trask House," <https://manchesterhistoricalmuseum.org/trask-house/>

³⁸ Town of Manchester Community Preservation Plan (FY2021-2025)

³⁹ "A Walking Tour of Historic Manchester-by-the-Sea- The East Walk", Manchester Historical Society

While the historic district focuses attention on the historic architecture and development patterns in the town's core, there are also numerous historic and cultural resources outside the district including the coastal parks and grand estates from the Gilded Era, Crowell Chapel, and the Harbor's boatyards. Whether these resources continue to serve their original purpose or have been adapted to serve a new use, they continue to provide insight into the town's past and contribute to the visual qualities that make Manchester unique.

Following the Civil War, Manchester began a new chapter with the development of coastal parks and the start of grand summer estates. During what came to be called the Gilded Era, the Town purchased land at Tuck's Point creating its first harbor park. The Rotunda built in 1896 is perhaps the harbor's most distinct landmark. It extends into the harbor providing an excellent view of the channel and Misery Islands. Improved in 2008, and 2011 and repaired in 2018 with funding from the Community Preservation Act Fund, the Rotunda is open to the public and is frequently used for wedding, graduation and family portraits. Tucks Chowder House preceded the park, built first in 1880. It has been moved and updated over the years, most recently in 2018 with Community Preservation Act funding. The Chowder House today includes a small kitchen and is rented for events large and small throughout the summer and fall seasons.

The Crowell Chapel, a gothic looking stone structure surrounded by the Rosedale Cemetery was built in 1903 and donated to the Town to be used for many years for funeral and mortuary services. In the early 1980s the Town petitioned the Commonwealth to modify the trust to include weddings, recitals and readings or similar uses. The Chapel was restored and updated with fire safety equipment with Community Preservation Act Funding from 2009 through 2017 and today is available for rent for events with up to 150 people.

Figure 27: Crowell Chapel



Boatyards were also a product of the Gilded Era, arriving after the Harbor's first dredging and catering to the new yachting public. Today the town's boatyards anchor the inner harbor and are principal contributors to the commercial tax base and to community character⁴⁰.

Manchester's historic village center, municipal buildings, such as Crowell Chapel, and town recreation facilities such as those at Tuck's Point, are important historic resources that enhance public spaces, create town revenue, and boost the local economy⁴¹.

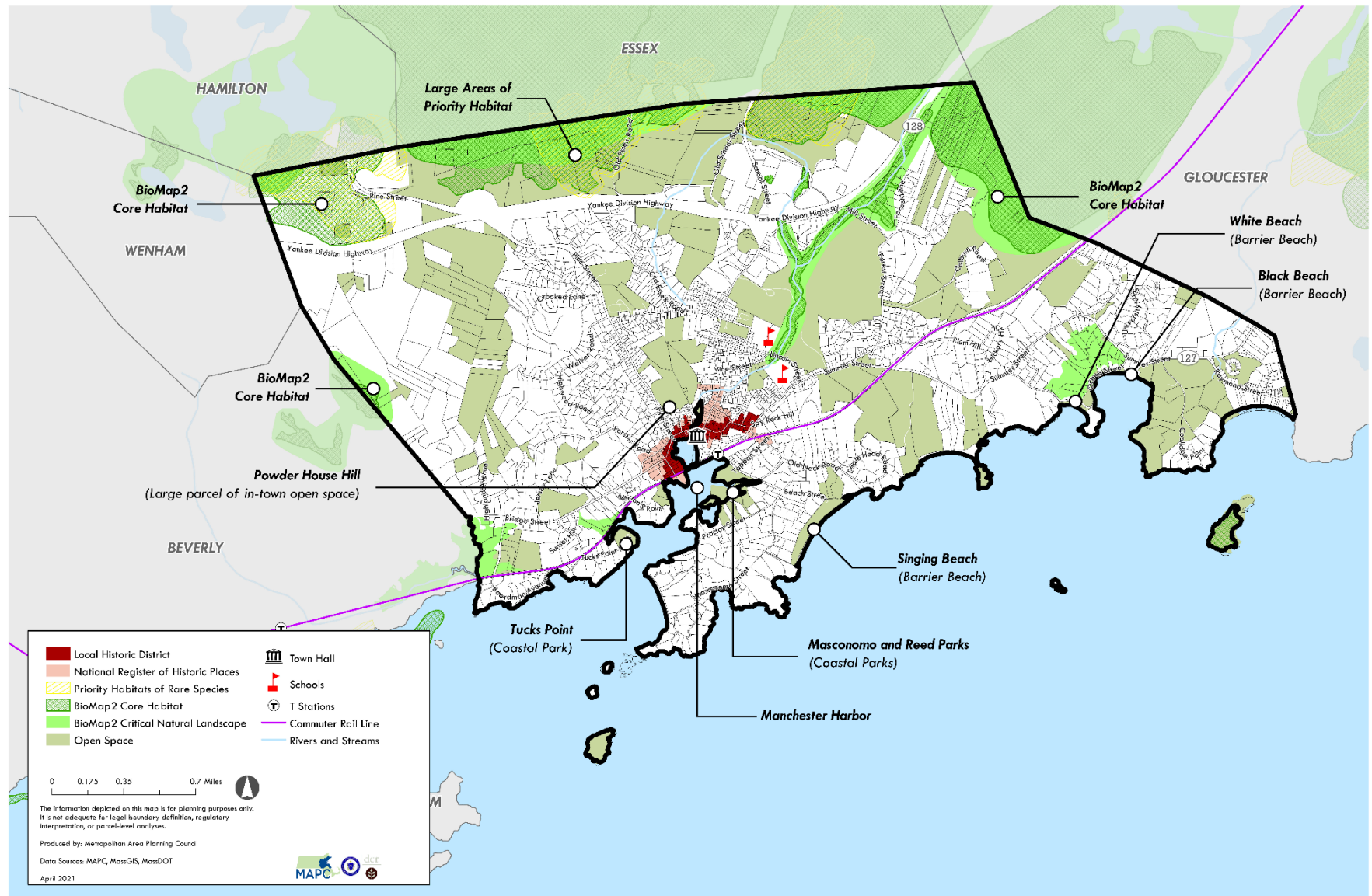
In addition to the Historic District Commission and Historical Society, the Manchester Cultural Council (MCC) is another important entity in the town. The MCC allocates money received from the

⁴⁰ Manchester Master Plan, 2020

⁴¹ Town of Manchester Community Preservation Plan (FY2021-2025)

Massachusetts Cultural Council on a yearly basis to fund programs in the arts and humanities. Past funding projects have included lectures, concerts (including the Manchester Summer Chamber Music series), arts programs and more. In addition, the Manchester Cultural Council makes space available in Town Hall for local artists to display their work.

Figure 28: Scenic Resources & Unique Environments Map



Document Path: R:\DataServices\Projects\Current_Projects\OpenSpace_Plan\Manchester_2020\2021_Manchester_Scenic & Unique_Resources.mxd

Environmental Challenges

Climate Change

As a coastal community, Manchester-by-the-Sea is particularly attuned to the impacts of climate change. Rising sea levels and the effects of extreme weather events have created and will continue to create challenges that must be met. Open space and recreation planning can help mitigate flooding, erosion, invasive species, extreme temperatures, and other climate change impacts.

To strengthen its resiliency to climate change, the Town has looked to both mitigation measures that address the causes of climate change and adaption measures that address the impacts of climate change.

Manchester's municipal mitigation measures may be considered to have started in earnest with the appointment of the Manchester Energy Efficiency Advisory Committee that focuses directly on measures that can be taken to avoid the increase of pollutant emissions. Their efforts have included:

- Greater energy efficiency in municipal buildings – upgraded systems, windows, and lighting
- Greater energy efficiency through conversion of streetlights to LED
- Support for efficient means of transportation through installation of electric charging stations
- Efforts to increase use of renewable energy by looking for sites for photo-voltaic installations

The Manchester-by-the-Sea Coastal Resilience Advisory Group (CRAG)⁴² was formed in 2015 to work with Town staff and consultants on a series of resiliency projects to address the potential impacts of climate change on the Town. This group has been involved with the proposed Sawmill Brook improvements, including the Central Street bridge replacement and widening; the removal of the existing tide gate; and the restoration of Central Pond. After years of studies, planning and securing permits, these projects are expected to commence in 2022.

Additionally, the Town's Bike and Pedestrian Committee also supports mitigation measures by working to create a network of streets, sidewalks, paths and trails that promote walking and biking and reducing citizens' dependence on their cars.

The Town is also focusing on adaptation measures aimed at reducing the town's vulnerability to the effects of climate change in particular flooding, but also other weather-related hazards including drought, storms and rising sea levels.

Manchester has been proactive in planning for becoming more resilient to the impacts of climate change, many of the Town's adaption projects have been initiated through studies funded by

⁴² CRAG formed for the Manchester-by-the-Sea FEMA Hazard Mitigation Plan Enhancement (2014) and includes Town and Grant Administrators, Police, Fire, DPW, Harbormaster, Conservation, and Planning; representatives from local stakeholder groups (Salem Sound Coastwatch, Manchester Coastal Stream Team, residents and businesses).

grants. In the past five years the Town has received over \$400,000 in grant funding for studies and for advancing projects that have resulted from the studies:

2014 Climate Change Impacts Study funded by a Pre-Disaster Mitigation (PDM) grant from Federal Emergency Management Agency (FEMA). This was the first Town study to identify impacts of climate change on the Town and recommend actions.

2015 Downtown Low Impact Development Feasibility Study funded by a Coastal Pollutant Remediation Grant from Coastal Zone Management (CZM). The focus of the feasibility study was on identifying and defining LID BMP solutions that reduce flooding, improve water quality and are workable within the Town's urbanized Downtown setting.

2015 Sawmill Brook Culvert and Green Infrastructure Assessment funded by CZM's Coastal Community Resilience Grant Program. The Assessment documents existing conditions within the Sawmill Brook watershed, and identifies opportunities for flood reduction including flood storage, culvert improvements, and green stormwater infrastructure to mitigate current and potential future flooding, while simultaneously providing water quality and habitat benefits.

2017 Hazard Mitigation Plan (HMP) and 2016 Enhancement funded by FEMA through its PDM grant program. This project identifies risks and vulnerabilities in Manchester associated with natural disasters, and offers long-term strategies for protecting people and property from future hazard events. Climate change impacts determined by the 2014 FEMA funded study were incorporated in the updated HMP. Examples of mitigation include raising seawalls to protect against more intense storms; resizing culverts to reduce flooding, developing reliable warning systems, evaluating and implementing flood proofing measures for municipal facilities.

2018 Municipal Vulnerability Preparedness Plan funded by Municipal Vulnerability Preparedness grant through FEMA. This Plan identifies a series of actions the Town should take to address natural and climate related hazards. Examples include evaluating long term options for the Wastewater Treatment Plant, enhancing emergency preparedness, protecting drinking water supplies, examining options for a more resilient Downtown and commuter rail, flood-proofing municipal facilities, and protecting parks, undeveloped land and conservation areas.

2018 Sawmill Brook Feasibility Study funded by Mass Environmental Trust (MET). This project monitored and evaluated conditions of Sawmill Brook at Central Street culvert to determine options for removing culvert to reduce flooding, improve habitat and improve water quality emptying into the harbor. The study showed removing the culvert would provide multiple benefits. The Town is implementing the study's recommendations.

As a coastal community with much at risk based on the current and future projections, Manchester must continue to take a proactive position to increase its understanding of the risks and opportunities and continue the process of discussing, developing, and implementing adaptive strategies to strengthen the town's resiliency to climate change.

Chronic flooding

Manchester is subject to two kinds of flooding; coastal flooding where wind and tide leads to flooding along the shore and tidal waterways and inland flooding where the rate of precipitation or amount of water overwhelms the capacity of natural and structured drainage systems to convey water causing it to overflow the system.

Areas at risk of flooding are mapped by FEMA as part of the National Flood Insurance Program (NFIP). The Flood Insurance Rate Maps (FIRMs) include areas impacted by 100-year, 500-year flood events, and storm surge and wave action. Floodplains and areas subject to coastal storm surge are shown as high-risk areas or Special Flood Hazard Areas. The most recent FIRM was issued in 2015, but several areas of map revision were approved in 2017. The value of municipal structures within the flood zone including Town Hall, emergency services, and water and wastewater facilities is over \$10 million⁴³.

Coastal flooding impacts low lying areas adjacent to the coast, embayments, and tidal rivers. Inland flooding also occurs along the main stem and tributaries of Sawmill Brook and Bennett's Brook as well as numerous wetland areas throughout Town. Inland flooding is worsened by poorly infiltrating soils, channelized stream flow, and undersized culverts that do not have adequate capacity to handle runoff from larger storm events, particularly in the stretch of Sawmill Brook that extends from the Central Street tide gate to the Manchester Essex High School upstream of the Lincoln Street culvert. Measures have been taken to try and clean several brooks, but owner assistance is needed to help this on-going maintenance problem⁴⁴.

Areas located where both coastal and inland flooding occur are especially impacted when storm surge, high tides, and stream discharge coincide in the same storm and high tides result in backups of water into the inland drainage networks.

Lands abutting Manchester Harbor are partly protected from some coastal storm flooding and subsequent damage by the headlands between Tucks Point and Proctor Point. Storm surge and wave heights are lesser here as compared to the open exposed south/southeastern facing shoreline along west and east Manchester-by-the-Sea. Singing Beach and Graves Beach are particularly exposed to storm waves and surge, where there are no coves or headlands to deflect wave energy⁴⁵.

The Town has implemented both structural and non-structural measures to withstand coastal storms. The shoreline has been fortified in locations with revetment and seawalls, the Town enforces a stricter building code than the State in flood prone areas (100-year floodplain as shown on the FIRM), and the Town has plans in place to respond to flood related emergencies including the Code Red system to inform residents of an emergency⁴⁶.

In spite of these best efforts, a storm with sufficient magnitude could result in damages far greater than any the Town has known, impacting the economy, natural resources, cultural and historic assets, and buildings and structures. Therefore, it is in the best interest of the Town and

⁴³ Town of Manchester-by-the-Sea Hazard Mitigation Plan 2018

⁴⁴ Ibid

⁴⁵ Ibid

⁴⁶ Ibid

residents to understand how climate change may influence flooding for both coastal and inland areas, and continue proactive planning to adapt or mitigate these impacts⁴⁷.

Erosion/Sedimentation

Erosion describes the wearing away of land surfaces (primarily soil and rock debris) by natural forces, such as running water, wind, ice, and others.⁴⁸ One of the most critical threats with respect to erosion occurs on Manchester's barrier beaches during coastal storms.

The 2018 Hazard Mitigation Plan notes that changing climate conditions may accelerate coastal erosion due to increase in frequency and severity of coastal storms and sea level rise. For Manchester-by-the-Sea, where the majority of the shoreline is facing southwest, coastal erosion due to hurricanes and sea level rise is the biggest concern⁴⁹.

Particularly susceptible are Black Beach and White Beach, both barrier beaches. Both of these small beaches are frequently hit by severe storms with considerable blowing of sand across Ocean Street into the marshes beyond and flooding of the roadway. Vegetation helps to hold soil in place and is the best defense against erosion. When soils are exposed erosion is intensified and can have serious effects on area resources including surface and ground waters. Salt-tolerant shrub and beachgrass plantings have helped to stabilize the dunes, but these remedies are only short-term.

New Development

Manchester is primarily a residential community and will likely continue to be so in the future. Its convenience to regional employment centers and attractive small-town character will continue to attract new residential development. At the same time, the community places a high value on its open spaces, public parks, and recreation areas. As allows, a balance will have to be struck between providing adequate services and affordable housing for residents while still protecting the valuable natural, scenic, and recreational resources of the Town.

The 2020 Master Plan promotes diversity in housing options through new planned development within the Limited Commercial District (LCD) and through incremental growth in the Downtown, rather than on previously undisturbed land. However, without permanently protecting open space by publicly acquiring the land, protecting it with conservation easements, and/or promoting Open Space Residential Design (in which natural resources are protected during the subdivision process and housing units are clustered), it is likely that privately-owned, unprotected open space will be developed at some point. The Town's Conservation Commission actively works to prevent or limit detrimental environmental impacts of development in wetland resource areas per the Mass Wetland Protection Act and its regulations and the Town's wetland bylaw and regulations; however, it does not have jurisdiction over non-wetland natural resources. The potential for development in neighboring towns in areas that drain to Manchester also pose a threat. Important examples include the Cedar Swamp/Sawmill Brook Watershed, the Wolf Trap Brook Watershed, and the Clark Pond Watershed.

⁴⁷

⁴⁸ MassDEP (2003), "Erosion and Sediment Control Guidelines for Urban and Suburban Areas," <http://www.mass.gov/eea/docs/dep/water/esfull.pdf>

⁴⁹ Town of Manchester-by-the-Sea Hazard Mitigation Plan 2018

Landfills

There are four abandoned landfills located within close proximity to existing or potential drinking water supplies to the town of Manchester. Two landfills are located near Gravelly Pond, the town's primary drinking water supply. One landfill, which closed in the 1980s, is 1,000 feet directly east of the pond and in the town of Hamilton. Ground water flowing beneath portions of this landfill is suspected of discharging to Gravelly Pond. The other landfill is located 1,500 feet to the southwest of pond, just north of Route 128 and east of Pine Street. It consists of a 10-acre, unlined landfill that stopped accepting refuse in 1981. Under a consent order with the DEP, Manchester closed and capped its landfill in 2000. Both landfills are being monitored by Wright-Pierce engineering firm on a yearly basis in accordance with DEP regulations. There is no sign of leakage.

An abandoned dump in the town of Essex is located off the old fire tower road to the north of Cedar Swamp. Cedar Swamp has previously been identified as a potential source of drinking water for the town of Manchester. There is also an abandoned dump in Manchester south of Route 128 and just east of the junction of Preston Place and Brookwood Road. This dump lies within the watershed of Round Pond but was not identified in the Water Resources Protection Plan of 1990. The characteristics of this dump, particularly its encroachment upon wetlands and its large quantities of exposed material, demand further attention.

Hazardous Waste Sites

Hazardous waste is considered to be any human-created or modified substance released into the environment that constitutes a present or potential threat to public health and safety, to plants and animals, and to the quality and quantity of Manchester's drinking water supply. Hazardous wastes can be solid, semi-solid, liquid, or gaseous in nature. These wastes pose a threat when improperly stored, used, transported, disposed of, treated, or mismanaged.

The Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup Reportable Release Lookup Database has identified 49 hazardous waste sites in the Town of Manchester-by-the-Sea in various stages of assessment and cleanup. MassDEP has files for each site regarding their contamination and associated remediation; the files can be viewed online through the Reportable Release Lookup Database. The listed sites are those that may contain potentially contaminated soil, water, and air. Most sites have been restored or deemed close to their original state.

Of the total number of sites, 2 have Activity and Use Limitations (AULs) placed upon them. AULs are legal restrictions meant to limit future exposure to contaminate that may remain on a site after cleanup. AULs are a part of the Massachusetts Contingency Plan and they allow the current and likely future use of a property to be considered during the cleanup of oil and hazardous material disposal sites. AULs provide critical information to the people who will control and use the property in the future about the risks remaining at the site. A full list of the AUL sites in Manchester is provided in Appendix F.

Sites with Activity Use Limitations include a 1.3-acre parcel at 156 Pine Street, owned by the Town and a 0.4-acre gas station site at 2 Pine Street. Sites with AULs are often prevented from being developed for future uses, such as housing, due to past contamination. While this may limit

their development potential, another excellent option for utilizing these sites is to turn them into parks and other open spaces after they have undergone some remediation.

Underground Storage Tanks

Petroleum products stored in underground tanks pose a severe threat to ground water quality. The volatile organic compounds found in gasoline and other petroleum products are known human carcinogens. The EPA has estimated that approximately one-third of all underground storage tanks are leaking nationwide. The average expected lifespan for steel tanks in acidic soils is estimated at 15 years; after this point, small pin-hole leaks may develop, resulting in a discharge of hazardous materials to the subsurface environment. A spill or leak of as little as 10-50 gallons may be sufficient to contaminate a drinking water supply. According to MassDEP's Underground Storage Tank (UST) Data Management System, there are eight known underground storage tanks in Manchester six of which, are in the vicinity of the Lincoln Street well field (see **Figure 29**).

Figure 29: Manchester Underground Storage Tanks

Facility Name	Facility Address
Seabreeze Variety	8 Beach St
Manchester Gas and Service	96 Summer St
Manchester Marine	17 Ashland Ave
Massdot Facility #70	162 Pine St
Phillips 66 - Gibbs Oil Manchester by the Sea	2 Pine St
Essex Country Club	155 School St
Doucette Const Co Inc	9 Morse St
Verizon Massachusetts #593407	52 Summer St

Source: MassDEP Underground Storage Tank (UST) Database

Ground and Surface Water Pollution Sources (Point and Non-point)

In addition to the hazardous waste release site and landfills, a number of potential point and non-point sources of ground and surface water pollution have been identified in the town of Manchester. Potential point sources include underground storage tanks (most of which have been removed), salt storage sites, the town's sewage treatment plant, and industrial, commercial, or agricultural chemical users or storage sites. Potential non-point sources include individual sewage disposal systems, herbicide, insecticide and fertilizer use, and road and driveway runoff from salt, sand and oil drippings.

The National Pollutant Discharge Elimination System (NPDES) permit program regulates water discharged into U.S. waters. Manchester is subject to the Municipal Separate Storm Sewer Systems (MS4) requirements of the NPDES Phase II Storm Water Program, which requires identification of stormwater outfalls, maintenance of the stormwater system, development and implementation of a stormwater management program (SWMP) and obtaining an NPDES permit.

Industrial/Commercial/Agricultural Uses

The town of Manchester offers free collection of household hazardous waste trash (including oil based paint, turpentine, paint thinner, herbicides, pesticides, pool chemicals, solvents, weed killers, and insecticides) each year in April. There are also vouchers available during every other month except for July for the disposal of hazardous waste by other towns nearby.

A variety of chemicals are used or stored in industrial, commercial, or agricultural businesses that may pose a threat to water quality through misuse, spills, or fires. These include fertilizers, pesticides, herbicides, solvents, petroleum products, paints, etc. Specific industrial, commercial and other entities that use or store hazardous materials in the town of Manchester are summarized below and include the schools, the DPW, Essex County Club, greenhouses and nurseries, marinas, dry cleaners, auto repair shops, etc. Eight of these have been issued small hazardous waste generator licenses by the DEP, Division of Hazardous Materials.

Figure 30: List of Massachusetts Hazardous Waste Generators, 2021

Name	Address
Beverly Hospital	195 School St
Black Earth Compost LLC	197 School St
Crocker's Boat Yard Inc	15 Ashland Ave
Essex Country Club	153 School St
Gibbs Oil Manchester by the Sea	2 Pine St
Hall & Emslie Inc	10 Atwater Ave
Manchester Department Of Public Works	85 R Pleasant St
Manchester Marine	17 Ashland Ave
Standleys Garage	2 Summer St
Thompson Auto Body Inc	6 Pine St
Cricket Press Inc	50 Summer St
Gravelly Pond Water Treatment Facility	2000 Pipeline Rd
L A D Co Inc	Rezza Pit Off Atwater Ave
Landmark School	167 Bridge St
Manchester Auto Body	6 Elm St
Manchester Auto Clinic	2 Pine St
Manchester Essex Regional Schools	36 Lincoln St

Source: MassDEP Bureau of Air & Waste: Hazardous Generator

Wastewater Treatment Plant

Manchester's Wastewater Treatment Plant (WWTP) serves half the Town. Adjacent to Manchester Harbor, it is entirely in the FEMA 100-year flood zone. The WWTP Vulnerability and Risk Assessment and the 2015 CREAT Report⁵⁰ both identified serious issues with WWTP's location. There are short-term adaptive flood proofing measures that should be started now, but for the long-term a comprehensive alternatives and cost/benefit analysis will be needed to determine the best course of action for the community⁵¹.

Individual Sewage Disposal Systems

Most of the densely developed portions of town are on public sewer, however, approximately 40 percent of the town is still serviced by on-site sewage disposal systems, including residences and commercial buildings located on Mill Street, Atwater Avenue, Forest Lane, Loading Place Road, and all of the area of town to the east of where the railroad tracks cross Route 127, Summer Street. On-site sewage disposal systems discharge a variety of contaminants into groundwater, including pathogens, nutrients, and synthetic compounds associated with septic system cleaners.

All six town beaches (Singing, Gray, White, Black, West Manchester, and Tuck's Point beaches) are tested by the Board of Health for high bacterial counts once a week. Testing occurs between the week before Memorial Day and Labor Day. High bacterial counts, particularly after heavy rain, have resulted in numerous beach closures including West Manchester, Tuck's Point, Black and White beaches. Failed septic systems in the past have been the cause.

These discharges have been improved in recent years because of Title 5 mandated septic system updates and cesspool elimination. Since Title 5 was instituted in 1995 mandated inspections occur now at the transfer of properties and are valid for two years. As a result, many new systems have been installed. Due to all the bedrock and wetlands in town, the vast majority are "alternative" rather than conventional gravity-based systems. These alternative systems discharge water that is almost as clean as drinking water and have strict operation and maintenance mandates.

Illegal Dumping

Illegal dumping is an issue at several open space locations throughout Manchester. This includes Cedar Swamp, Dexter Pond, Eaglehead Swamps, Powder House Hill Reservation, and the conservation areas off of Crooked Lane. Community-based cleanup projects coordinated by the Town of Manchester, Eagle Scouts, the Manchester Stream Team, students, and other volunteers have helped to remove debris and promote stewardship of these conservation areas. Additional efforts such as education, signage and better enforcement of the town's existing anti-dumping regulations are needed to reduce and prevent illegal dumping.

⁵⁰ Environmental Protection Agency Climate Resilience Evaluation and Awareness Tool

⁵¹ 2018 Manchester-by-the-Sea Community Resilience Building Workshops – Summary of Findings

Fertilizers, Herbicides, and Pesticides

Fertilizers, herbicides and pesticides are widely used for agricultural, recreational, and residential purposes and contribute varying amounts of nitrogen, phosphorus and chemical compounds to surface and ground water. The amount of nutrients that ultimately leach into ground water or enter surface waters as runoff is a function of the slope, soil characteristics, type of ground cover, climate, type of fertilizer used, application rates and extent of irrigation.

A detailed literature review suggests that for nitrogen, 30 percent of the nitrogen applied to lawns and golf courses typically leach into ground water in this region. The degree of surface runoff is much more variable, and depends on slope and soil characteristics. Although golf courses tend to be intensively maintained, fertilizer application rates are usually carefully controlled, and the use of slow-release fertilizers is commonplace. The Essex County Club operates under a special permit from the Planning Board that requires annual reports on all chemicals used on the golf and tennis facilities. Its use of fertilizers and plant protectorants is well below permitted amounts and water test results show the Club's sensitivity to the water supply.

Road Runoff

Typical contaminants found in road runoff include sodium chloride from road salt, oil and grease, gasoline, heavy metals, nutrients, bacteria and silt. The majority of Manchester's road runoff is directed to streams, ponds and other surface waters, most of which ultimately discharge into Manchester Harbor. Leaching catch basins, detention/retention basins and similar drainage mechanisms are uncommon in the town. The Sawmill Brook/Causeway Brook watershed directs a large volume of runoff to these streams, both of which pass within 100 feet of the Lincoln Street well field. The Manchester DPW primarily uses a 50/50 mixture of sand and salt for de-icing roads in the winter.

Salt Storage

Uncovered salt storage areas have been known to leach large quantities of sodium chloride, resulting in contamination of drinking water supplies through direct surface runoff or infiltration into ground water. Once in solution, sodium chloride can travel long distances and is a health hazard to people with high blood pressure and heart conditions.

Two salt storage areas are located within the town of Manchester. One of them is operated by the Commonwealth of Massachusetts and the other operated by the town's DPW. The Commonwealth's salt storage area is located on Pine Street and is used to store up to 2000 tons of salt, in covered sheds.

The salt storage area used by the Manchester DPW is located at 88 Rear Pleasant Street. Approximately 80 to 100 tons of salt and 200 tons of salt/sand mix are stored here in a covered shed. A small quantity is located outside the shed for use by the general public. The town uses approximately 300 tons of salt per year for road maintenance.

Gordon College Property

This 147.6-acre site of rocky hills and wetlands in the northwest corner of town contributes significantly to the watershed for Manchester's public water supply ponds in Hamilton. In addition, the Gordon College land is especially productive wildlife habitat. Studies have confirmed the

presence of a number of certified vernal pools and of essential upland habitat for many salamanders that breed in Maple Swamp.

From time to time the college has entertained development ideas for the area that eventually proved unfeasible. At present the college appears to be content to utilize the site to acquire and dispose of landscaping materials, for nature studies, and for passive recreation. An initiative to secure a conservation restriction that would permanently remove the threat of development should be considered.

Forestry Issues

Along with public shade trees (previously discussed in this section) and forested open space, Manchester has several privately-owned parcels which are managed as forest lands under Chapter 61. The total area of these parcels is approximately 66 acres.

By far, the largest contiguous forested area in town is the Manchester-Essex Woods, most of which is owned and managed by either the Manchester Essex Conservation Trust (MECT) or the town. MECT received a grant in 2012 to update its management plan and in 2013, the *Wilderness Conservation Area Management Plan*⁵² was completed.

Although the Manchester-Essex Woods supports a healthy and diverse upland forest, there have been issues with the introduction of invasive species. Hemlock (*Tsuga canadensis*) has been significantly reduced from its former dominance in the forest community since its decline—first due to the hemlock looper in the 1970s and later by the wooly adelgid which continues to threaten the remaining hemlocks. Open areas where the hemlocks used to reside are now occupied by black birch and understory vegetation including witch hazel, maple-leaf viburnum, teaberry, Canada mayflower and other native plant species.

The MECT and its volunteers actively monitor these woods and maintain its trails. They regularly inspect trails for hazard trees and other damage and signs of disturbance. MECT members also hold annual trail clean-ups. The town-owned parcels within these woods have greatly benefited from MECT's stewardship.

The Powder House Hill Reservation, Manchester's in-town forest, is frequented by residents because of its close proximity to downtown. Most of the reservation is owned by the town and is under the management of the Conservation Commission which responds to requests for removal of hazardous trees, tree limbs and removal of trail obstructions.

Environmental Equity

In the context of open space and recreation planning, environmental equity refers to differences in access to open space and recreational opportunities based on demographics and geography. In Massachusetts, a community is identified as an "Environmental Justice" community based on median household income, race, and English-language proficiency. Manchester does not have any formally identified Environmental Justice (EJ) populations. However, important differences in access to open space and recreation still exist between different groups of residents.

⁵² [*Wilderness Conservation Area Management Plan*](#); prepared for the Manchester-Essex Conservation Trust; July 2013 by Rimmer Environmental Consulting, LLC

For example, residents who do not have access to a vehicle or cannot drive, including the youth, elderly, people with disabilities, and some low-income residents, are unable to access some parks and open spaces in Manchester without the help of someone who can drive them. Generally, Manchester enjoys a relatively even geographic distribution of conservation lands and open space making travel time by car, 15 minutes at most.

In addition to the large swaths of open space located in northern Manchester, there are a number of open space parcels, parks, beaches and other recreational resources scattered throughout town with certain high use recreation and community event areas centrally located. For example, active recreation areas like Coach Field Playground and Sweeney Park are concentrated around the schools in central Manchester.

Powder House Hill Reservation, a 53-acre passive recreation site, is centrally located within an area of town with the greatest population density. The site has public access locations on Pine Street and Pleasant Street but neither access is ADA accessible. Access and recreation facilities specifically designed to serve residents with physical disabilities, as well as young children and elderly adults, presents an ongoing challenge and opportunity for improvement.

In order to promote greater equity throughout the Boston region, it is also important to promote access to public open space areas and parks across municipal lines. While Manchester does not contain any designated EJ areas, there are EJ populations in the neighboring communities of Beverly and Gloucester that could be served by outdoor recreation opportunities in Manchester. For example, during the COVID-19 pandemic in 2020, public beaches throughout New England were closed to non-Town residents, leaving many people without safe and healthy means of recreating and escaping the heat by swimming or walking in a forested area. In particular, lower-income households are often unable to afford homes near the beach or in areas with well-maintained parks. Therefore, providing access to open space areas and parks to non-Town residents, especially those acquired or improved with State and/or Federal monies, is an important equity concern.

In addition, certain environmental challenges affect vulnerable populations more than other populations. According to the Massachusetts Executive Office of Health and Human Services, the factors that lead to vulnerable population health impacts are:

- **Exposure:** Exposure is contact between a person and one or more biological, psychosocial, chemical, or physical stressors, including stressors affected by climate change;
- **Sensitivity:** Sensitivity is the degree to which people or communities are affected, either adversely or beneficially, by climate variability or change; and
- **Adaptive capacity:** Adaptive capacity is the ability of communities, institutions, or people to adjust to potential hazards, to take advantage of opportunities, or to respond to consequences.”⁵³

⁵³ Massachusetts Executive Office of Health and Human Services. *Vulnerable Residents and Areas*.

As climate change will affect different people in different ways, environmental equity is an important consideration in becoming more resilient to extreme weather. For example, older residents are more vulnerable to hot temperatures from climate change, due to their increased sensitivity. Low-income residents who cannot afford air conditioning are more vulnerable to heat due to their increased exposure and lack of adaptive capacity. To clarify, these populations are not inherently more vulnerable—instead, there are systems and policies that result in greater vulnerability for certain populations. If the systems and policies reduced vulnerabilities, the threat of climate change would be mitigated.

Section 5: Inventory of Lands of Conservation & Recreation Interest

Introduction to the Inventory

The first step in being able to make decisions about future needs for open space and recreation is to have an accurate account of existing lands and facilities. This section contains an inventory of all conservation, open space, and recreation lands, both publicly and privately owned. Information on ownership, management responsibility, level of protection, and primary use of the property are some of the other elements of this inventory. The areas shown in the table are depicted in **Figure 31: Open Space and Recreation Inventory Map**.

Open space has many different definitions and can mean different things to different people. What is considered open space in a suburban or rural community can be very different from what is considered open space in an urban community. The Open Space and Recreation Planners Workbook defines open space as “conservation land, forested land, recreation land, agricultural land, corridor parks and amenities such as small parks, green buffers along roadways or any open area that is owned by an agency or organization dedicated to conservation.” A broader definition of open space can and should include undeveloped land with conservation or recreation potential.

Open space and recreation resources in Manchester are important for various reasons that range from social health to economic stability to ecological integrity. Manchester is fortunate to have over thirteen hundred acres of open space within its borders. These parcels of land, which include parks, coastline, forests, and wetlands, are critical to residents' quality of life and provide a wide range of environmental and recreational benefits.

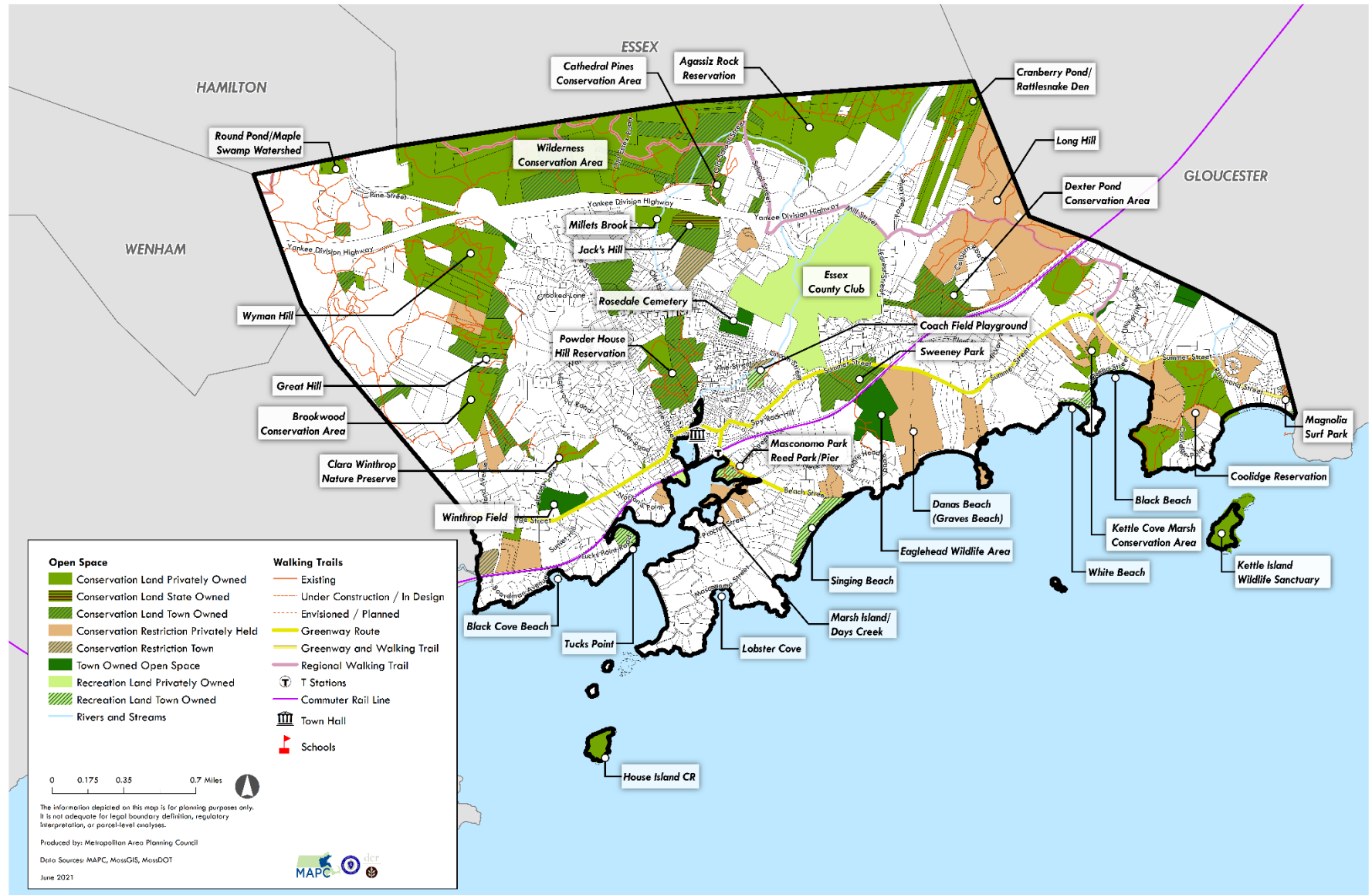
Access to parks and open space can provide public health benefits to youth, adults, and seniors and contribute to enhanced property values and improved environmental quality, including air quality, water quality, and the mitigation of urban heat island effects. Open spaces also provide habitat for a variety of fish, wildlife, and plant species, which increase ecological diversity and provide opportunities for nature study and education.

Determining where the open space and recreation land is located in Manchester is the beginning stage of fully understanding what resources the Town has and how best to manage them. Once this land has been identified, it is important to ensure its protection and maintenance into the future to help guarantee that many more generations of residents can enjoy them. According to the Division of Conservation Services, land within a community is permanently protected if it is managed by the local Conservation or Parks & Recreation Commission, by an Executive Office of Energy and Environmental Affairs (EOEEA) agency, by a nonprofit land trust, or if the municipality received state or federal monies for the improvement or purchase of the land. Typically, land

owned by other Town agencies or the local school system should not be presumed to be permanently protected.

The following inventory was created based on the 2014 Open Space Inventory, Manchester's online GIS mapping platform, MapGeo, and 2019 assessor's data. In addition, committee members, MAPC staff, and volunteers assessed town-owned open space parcels for condition, use, and ADA accessibility.

Figure 31: Open Space and Recreation Inventory Map



Inventory of Open Space and Recreation Resources

The inventory matrix below includes 212 parcels covering approximately 1,690 acres of open space and recreation land owned and managed either by the Town of Manchester-by-the-Sea, the Board of Selectmen, the Manchester Conservation Commission, the Parks and Recreation Department, the Commonwealth of Massachusetts, or private entities.

The column headings of the inventory are defined below:

- **Name** - Names the open space site.
- **Map/Lot** - Indicates the property map and lot number.
- **Owner** - Indicates the owner of the property.
- **Manager** - Indicates the agency or department responsible for managing and maintaining the property. May be the same as the owner.
- **Current Use** - Details the main use for the site and its facilities.
- **Condition** - Identifies the site condition (excellent, good, fair, or poor). Town-owned open spaces and parks were surveyed to obtain a general sense of the condition of the property and any facilities located on it.
- **Recreation Potential** - Indicates the recreational use of sites. For land not used for recreational purposes, potential for recreational activities is identified. Conservation land is generally deemed to have limited recreation potential except for passive recreation such as hiking and walking. Some small tax title lands and sensitive environmental areas are presumed to have no recreational potential.
- **Funds Used** - Identifies the funds used for the acquisition of or upgrades to the site, including grant funds.
- **Zoning District** - Identifies the zoning district in which the site is located.
- **Level of Protection** - Indicates if the site, either by virtue of its ownership, existence of deed restrictions, or by the fact that it has received state or federal funding, is protected against conversion to some other use. Levels of protection are described in more detail in this section.
- **Public Access** - Indicates if the public can access the site. All Town- and State-owned sites are publicly accessible.
- **Acres** - Gives the site's acreage or an approximation in cases where specific information was not attainable. One acre is 43,560 square feet or 1/640 of a square mile.

Figure 32: Open Space and Recreation Inventory Matrix

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Agassiz Rock	43/12	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking trails; forested woodland	Good	Passive	LCD	Article 97	N/A	Yes	2.07
Ancient Burial Place	6/42	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Historical/Cultural	Good	Passive	A	Limited	N/A	No	0.21
Ancient Burial Place	5/46	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Historical/Cultural	Good	Passive	C	Limited	N/A	No	1.34
Black Beach	7/26	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: small beach	Good	Passive	E	Article 97	N/A	Yes	1.48
Black Cove (West Manchester Beach)	22/34	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: small beach	Poor	Passive; could be made more accessible to kayakers w/safer access thru gate	E	Unknown	N/A	Yes	0.57
Brickyard Pond	11/18	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: Pond	Excellent	None	A	Article 97	N/A	Yes	2.51
Brook St Plgd (Coach Field Plgd)	47/5	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: playground; field hockey; football field; soccer field; lacrosse; tennis courts; portable restrooms	Good	Active; tennis; playing fields	G	Article 97	N/A	Yes	1.20
Brook St Plgd (Coach Field Plgd)	47/4	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: playground; field hockey; football field; soccer field; lacrosse; tennis courts;	Good	Active; tennis; playing fields	G	Article 97	N/A	Yes	3.68

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
				portable restrooms							
Brookwood Conservation Area	26/4	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	0.82
Brookwood Conservation Area	31/11	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	3.43
Brookwood Conservation Area	29/42	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	4.51
Brookwood Path Subdivision Open Space	29/51	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking paths	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	1.44
Brookwood Path Subdivision Open Space	32/30	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking paths	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	10.32
Brookwood Path Subdivision Open Space (Great Hill Cons Area)	29/47	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking paths	Excellent	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	7.02
Brookwood Rd (Stedman Hanks)	62/24	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation	Fair	Passive; great potential for hiking paths	C	Article 97	N/A	Yes	5.39
Cathedral Pines	43/15	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	1.18
Cathedral Pines	43/31	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	1.96
Cathedral Pines	43/30	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	4.86
Cathedral Pines	43/32	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	0.60

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Cathedral Pines	43/40	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	1.45
Cathedral Pines	43/41	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Good	Passive	LCD	Article 97	N/A	Yes	1.73
Cedar Swamp Conservation Area	61/11	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	1.55
Cedar Swamp Conservation Area	61/18	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	27.63
Cedar Swamp Conservation Area	61/21	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	2.88
Cedar Swamp Conservation Area	61/3	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	14.26
Central Pond	53/28	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: pond	Poor	Passive	LCD	Unknown	N/A	Yes	1.61
Cheever Commons Cons Area	60/50	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	37.33
Christian Hill	62/37	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation	Fair	Passive	C	Article 97	CPA	Yes	12.00
Dexter Pond Conservation Area	35/49	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails; pond; forested uplands	Fair to Good	Passive	C	Article 97	N/A	Yes	2.96
Dexter Pond Conservation Area	36/8	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails; pond; forested uplands	Fair to Good	Passive	C	Article 97	N/A	Yes	10.20

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Dexter Pond Conservation Area	36/13	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails; pond; forested uplands	Fair to Good	Passive	C	Article 97	N/A	Yes	9.96
Eaglehead Wildlife Study Area	11/19	Town of Manchester-by-the-Sea	School Committee	Habitat protection	Good	Passive	E	Unknown	N/A	Yes	27.55
Forest Street Triangle	11/1	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: Small green area	Good	Open space vista	A	Article 97	N/A	Yes	0.41
Forest Street Triangle	11/2	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: Small green area	Good	Open space vista	E	Article 97	N/A	Yes	1.48
Gloucester Border	5/15	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Buffer	Fair	–	C	–	N/A	–	0.56
Gloucester Border	5/9	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Buffer	Fair	–	C	–	N/A	–	0.54
Gloucester Border	5/37	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Buffer	Fair	–	C	–	N/A	–	1.99
Gloucester Border	5/36	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Buffer	Fair	–	C	–	N/A	–	4.16
Gray's Beach Landing	1/95	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; public landing	Poor	Passive	C	–	N/A	Yes	0.39
Great Hill Conservation Area	62/6	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking trails; hilly woodlands	Good	Passive	C	Article 97	N/A	Yes	6.10
Hatch Property	U/16	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking path	Fair	Passive	C	Article 97	N/A	Yes	0.00
Jack's Hill Conservation Area	59/7	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation: landlocked	Fair	Passive	A	Article 97	N/A	Yes	13.78

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
				wooded parcel							
Kettle Cove Marsh	6/29	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; salt marsh; tidal flats; sand flats	Good	Passive	E	Limited	N/A	Yes	0.07
Kettle Cove Marsh	8/5	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; salt marsh; tidal flats; sand flats	Good	Passive	E	Limited	N/A	Yes	0.08
Little Crow Island	8/4	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: walking path	Fair	Passive	E	Limited	N/A	Yes	2.05
Lobster Cove Beach	18/25	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: small beach	Good	Passive; non-motorized boating, swimming	E	Unknown	N/A	Yes	0.72
Long Hill	36/49	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: walking trails	Excellent	Passive	C	Article 97	N/A	Yes	9.31
Lot Adjacent to Wolf Hill	32/137	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Conservation: walking trails	Fair	—	A	Unknown	N/A	Yes	1.11
Magnolia Ave and Overledge Rd	5/7	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: wooded lot	Fair	—	—	Article 97	N/A	Yes	0.57
Magnolia Park (Surf Park)	1/59	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation: walking paths; benches; bike racks	Excellent	Passive	G	Article 97	Urban Self Help	Yes	1.36
Masconomo Park	16/34	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: playground; baseball field; gazebo; walking paths	Good	Active and Passive	E	Article 97	N/A	Yes	6.74

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Millstone Hill Cons Area	60/64	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	1.18
Millstone Hill Cons Area	61/14	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	10.66
Millstone Hill Cons Area	60/57	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	1.44
Millstone Hill Cons Area	61/20	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking trails	Excellent	Passive	LCD	Article 97	N/A	Yes	4.12
Moses Hill Conservation Area	58/55	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: watershed protection land	Good	–	B	Article 97	N/A		0.98
Moses Hill Conservation Area	58/57	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: watershed protection land	Good	–	B	Article 97	N/A		2.10
Moses Hill Conservation Area	58/56	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: watershed protection land	Good	–	B	Article 97	N/A		6.79
Powder House Hill Reservation	42/30	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	0.01
Powder House Hill Reservation	42/31	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	0.25
Powder House Hill Reservation	41/59	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	6.52

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Powder House Hill Reservation	41/96	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	8.74
Powder House Hill Reservation	42/10	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	12.27
Powder House Hill Reservation	42/4	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: walking paths; Powder House building	Excellent	Passive: walking trails	B	Article 97	N/A	Yes	17.53
Reed Park	16/37	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: dock; pier	Good	Passive; boating (dock)	E	Article 97	N/A	Yes	0.14
Reed Park	16/36	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: dock; pier	Good	Passive; boating (dock)	G	Article 97	N/A	Yes	0.35
Round/Gravelly Pond Watershed	63/33	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Water Supply Protection	Fair	–	C	Article 97	N/A	Yes	2.51
Round/Gravelly Pond Watershed	63/34	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Water Supply Protection	Fair	–	C	Article 97	N/A	Yes	1.51
Route 128 Buffer	37/40	Town of Manchester-by-the-Sea	Needs research	Conservation: vegetated buffer	Fair	Viewscape only	A	Unknown	N/A		0.52
Route 128 Buffer	63/25	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: vegetated buffer	Fair	Viewscape only	LCD	Article 97	N/A	Yes	1.69
Route 128 Buffer	63/26	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: vegetated buffer	Fair	Viewscape only	LCD	Article 97	N/A	Yes	3.24

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Route 128 Buffer	37/10	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Conservation: vegetated buffer	Fair	Viewscape only	A	Article 97	N/A	Yes	3.84
Singing Beach	17/24	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; bathhouse; canteen/snack stand; restrooms;	Good	Passive; non-motorized boating, swimming	E	Article 97	N/A	Yes	12.09
Sweeney Park	11/17	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: softball field; little league baseball field; basketball courts; concession stand	Good	Active	A	Article 97	N/A	Yes	13.07
Tucks Point	22/17	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; gazebo; swings; picnic tables; Chowder House; restrooms	Excellent	Passive; non-motorized boating, beach activities; picnicking, rental of Chowder House	E	Article 97	N/A	Yes	0.27
Tucks Point	22/16	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; gazebo; swings; picnic tables; Chowder House; restrooms	Excellent	Passive; non-motorized boating, beach activities; picnicking, rental of Chowder House	E	Article 97	N/A	Yes	5.72
Weems Conservation Area	14/22	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: no trails; undisturbed upland woodlands	Excellent	Passive; hiking nature study	A	Article 97	N/A	Yes	12.31

Town-owned Parcels											
Site Name	Map/ Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
White Beach	8/3	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen	Recreation: beach; portable restrooms	Good	Passive; non-motorized boating, swimming, scuba	E	Article 97	N/A	Yes	1.63
Winthrop Field	27/12	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Board of Selectmen and School Committee	Recreation: wet meadow; stream; upland field	Excellent	Passive	C	Limited	N/A		13.28
Wyman Hill Conservation Area	64/20	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops; walking paths	Good	–	C	Article 97	N/A	U	1.50
Wyman Hill Conservation Area	64/12	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops; walking paths	Good	–	C	Article 97	N/A	Yes	2.20
Wyman Hill Conservation Area	32/28	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea Conservation Commission	Recreation & Conservation: upland forest; rocky outcrops; walking paths	Good	–	C	Article 97	N/A	Yes	2.37
Town-owned Cemeteries											
1661 Cemetery	52/42	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Cemetery	Good	None	G	Permanent	N/A	Yes	0.88
Pleasant Grove Cemetery	58/57	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Cemetery	Good	None	B	Permanent	N/A	Yes	9.44
Rosedale Cemetery	48/1	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Cemetery	Good	None	D	Permanent	N/A	Yes	5.18

Town-owned Parcels											
Site Name	Map/Lot	Owner	Manager	Current Use	Condition	Recreation Potential	Zoning District	Level of Protection	Grant Type	Public Access	Acres
Rosedale Extension Cemetery	40/10	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Cemetery	Good	None	D	Permanent	N/A	Yes	3.29
Union Cemetery	49/18	Town of Manchester-by-the-Sea	Town of Manchester-by-the-Sea DPW	Cemetery	Good	None	D	Permanent	N/A	Yes	0.52

State-owned Parcels										
Site Name	Map/Lot	Owner	Manager	Current Use	Recreation Potential	Zoning District	Level of Protection	Public Access		Acres
Jack's Hill Conservation Area	59/8	Commonwealth of Massachusetts	Commonwealth of Massachusetts	Conservation	Passive recreation	A	Unknown	Yes		9.30
Route 128 Buffer	37/75	Commonwealth of Massachusetts, EOTC	Commonwealth of Massachusetts, EOTC	Buffer	None	A	Unknown	No		0.79
Route 128 Buffer	37/76	Commonwealth of Massachusetts, EOTC	Commonwealth of Massachusetts, EOTC	Buffer	None	A	Unknown	No		2.25

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)										
Site Name	Map/Lot	Owner	Manager	Current Use		Zoning District	Level of Protection	Public Access	Acres	
Agassiz Rock	43/16	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland		LCD	Permanent	X	1.21	
Agassiz Rock	43/1	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland		LCD	Permanent	X	0.62	
Agassiz Rock	43/6	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland		LCD	Permanent	Yes	0.79	
Agassiz Rock	43/9	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland		LCD	Permanent	X	0.82	

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Agassiz Rock	43/5	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	1.78
Agassiz Rock	43/13	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	Yes	2.50
Agassiz Rock	43/11	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	3.65
Agassiz Rock	43/10	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	4.73
Agassiz Rock	43/4	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	5.74
Agassiz Rock	37/1	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	7.05
Agassiz Rock	43/2	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	27.32
Agassiz Rock	43/14	The Trustees of Reservations	The Trustees of Reservations	Conservation: walking trails; forested woodland	LCD	Permanent	X	44.62
Bennetts Brook Salt Marsh	28/34	Manchester Essex Conservation Trust	Manchester-Essex Conservation Trust	Conservation: salt marsh	G	Permanent	X	0.21
Brookwood Conservation Area	31/8	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: upland forest; rocky outcrops	C	Permanent	Yes	4.57
C.B. Winthrop Nature Preserve	27/1	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: Small woodland with vernal pool	C	Permanent	Yes	7.72
Cedar Swamp Conservation Area	61/1	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: walking trails	LCD	Permanent	Yes	24.91
Cheever Commons Cons Area	60/55	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: walking trails	LCD	Permanent	Yes	67.06

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Coolidge Reservation	4/8	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	5.79
Coolidge Reservation	4/10	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	5.35
Coolidge Reservation	4/2	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	8.45
Coolidge Reservation	4/5	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	18.23
Coolidge Reservation (Ocean Lawn)	3/2	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	5.36
Coolidge Reservation (Ocean Lawn)	3/25	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	16.04
Coolidge Reservation (Observatory Lot)	3/6	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking paths; Woodlands and expansive lawn	E	Permanent	Yes	2.69
Cranberry Pd & Rattlesnake Den	37/39	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	0.51

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Cranberry Pd & Rattlesnake Den	37/11	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent		10.26
Cranberry Pd & Rattlesnake Den	37/69	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	10.14
Cranberry Pd & Rattlesnake Den	37/37	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	7.41
Cranberry Pd & Rattlesnake Den	37/38	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	1.18
Cranberry Pd & Rattlesnake Den	37/42	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	2.05
Cranberry Pd & Rattlesnake Den	37/46	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	5.01
Cranberry Pd & Rattlesnake Den	37/47	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	1.45
Cranberry Pd & Rattlesnake Den	37/48	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	1.48
Cranberry Pd & Rattlesnake Den	37/60	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	6.13
Cranberry Pd & Rattlesnake Den	37/70	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: Hilly woodland and wetlands	A	Permanent	Yes	3.40
Dug Hill-Spruce Swamp Area	64/1	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; hilly woodlands	LCD	Permanent	Yes	71.18
Great Hill Conservation Area	62/4	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; hilly woodlands	C	Protected	Yes	4.62
Great Hill Conservation Area	64/26	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; hilly woodlands	C	Permanent	Yes	2.22

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Great Hill Conservation Area	32/26	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; hilly woodlands	C	Permanent	Yes	5.31
Great Hill Conservation Area	32/27	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; hilly woodlands	C	Permanent	Yes	2.21
Harbor Mudflats	16/35	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation	E	Permanent	No	0.09
Hooper Trask Pasture	33/8	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation	C	Permanent	Yes	23.32
House Island	20/25	Massachusetts Audubon	Manchester Essex Conservation Trust	Conservation		Article 97	No	10.83
Kettle Cove Marsh	6/30	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: beach; salt marsh; tidal flats; sand flats	E	Permanent	Yes	0.10
Kettle Cove Marsh	7/18	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: beach; salt marsh; tidal flats; sand flats	E	Permanent	Yes	1.30
Kettle Cove Marsh	6/28	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: beach; salt marsh; tidal flats; sand flats	E	Permanent	Yes	2.77
Kettle Cove Marsh	6/47	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: beach; salt marsh; tidal flats; sand flats	E	Permanent	Yes	1.30
Kettle Island	3/15	Massachusetts Audubon	Massachusetts Audubon	Conservation: wildlife sanctuary		Permanent	No	17.37
MAC Parcel Donated To TTOR Adjacent To Agassiz Rock	37/79	The Trustees of Reservations	The Trustees of Reservations	Recreation & Conservation: walking trails; forested woodland		Permanent	Yes	30.83

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Millets Brook Reservation	60/20	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: vacant land with no facilities	B	Permanent	Yes	12.93
Millstone Hill Cons Area	60/62	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails	LCD	Permanent	Yes	1.14
Millstone Hill Cons Area	60/58	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails	LCD	Permanent	Yes	1.76
Millstone Hill Cons Area	60/60	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails	LCD	Permanent	Yes	1.93
Off Pine Street	63/26	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: vacant land with no facilities		Permanent	Yes	0.35
Off Pine Street	63/4	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: vacant land with no facilities		Permanent	Yes	0.12
Owls Nest Wldd & Nature Prsv	31/1	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: vacant land with no facilities	C	Permanent	Yes	23.95
Powder House Hill Reservation	41/35	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking paths; Powder House building	B	Permanent	Yes	9.27
Round Pond-Maple Swamp Wtsd	64/9	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Water Supply Protection	C	Permanent	Yes	0.20
Round Pond-Maple Swamp Wtsd	63/19	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Water Supply Protection	LCD	Permanent	Yes	4.86
Round/Gravelly Pond Watershed	63/37	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Water Supply Protection		Permanent	U	1.70
Route 128 Buffer	37/41	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: buffer	A	Permanent	Yes	1.02
Route 128 Buffer	37/77	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: buffer	A	Permanent	Yes	3.87
Route 128 Buffer	37/33	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation: buffer	A	Permanent	Yes	5.37
Welch Conservation Area	23/22	Essex County Greenbelt Association	Essex County Greenbelt Association	Conservation	E	Permanent	Yes	2.36
Wilderness Conservation Area	64/8	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails;	LCD	Permanent	Yes	5.77

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
				woodlands; wetlands				
Wilderness Conservation Area	60/61	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	3.47
Wilderness Conservation Area	64/31	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	7.51
Wilderness Conservation Area	60/63	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	14.63
Wilderness Conservation Area	60/48	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	20.14
Wilderness Conservation Area	60/51	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	23.57
Wilderness Conservation Area	61/15	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: walking trails; woodlands; wetlands	LCD	Permanent	Yes	27.22
Wyman Hill Conservation Area	64/21	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	6.73
Wyman Hill Conservation Area	64/26	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	4.73
Wyman Hill Conservation Area	64/23	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	6.60

Protected Open Space Parcels Owned by Non-Profits (Land Trusts)

Site Name	Map/Lot	Owner	Manager	Current Use	Zoning District	Level of Protection	Public Access	Acres
Wyman Hill Conservation Area	64/24	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	10.87
Wyman Hill Conservation Area	64/22	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	14.73
Wyman Hill Conservation Area	64/13	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Recreation & Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	44.40
Wyman Hill Conservation Area	32/25	Manchester Essex Conservation Trust	Manchester Essex Conservation Trust	Conservation: upland forest; rocky outcrops; walking paths	C	Permanent	Yes	12.49

Private parcels with Conservation Restrictions held by Land Trusts or the Conservation Commission (protected)

Site Name	Map/Lot	Owner	Manager	Current Use	Address	Zoning District	Level of Protection	Acres
204 Beach St	13/47	Philip R. Dupre, trustee, et al	Manchester Essex Conservation Trust	Conservation	204 Beach St	E	Permanent	1.53
Bigwood Road	57/2	Filius Janet M	Town of Manchester-by-the-Sea Conservation Commission	Conservation	1 Bigwood Rd	A	Permanent	14.02
Cat Brook Farm	36/1	The SRH Nominee Trust	Essex County Greenbelt Association	Conservation		A	Permanent	26.29
Chubb Creek Marsh	24/28	Melissa Landsvik	Town of Manchester-by-the-Sea Conservation Commission	Conservation	22 Boardman Ave	E	Permanent	6.87
Chubb Creek Marsh	23/19	Riordan	Essex County Greenbelt Association	Conservation	21 Boardman Ave	E	Permanent	1.65
Chubb Creek Marsh	23/24	Kiley	Essex County Greenbelt Association	Conservation	23 Boardman Ave	E	Permanent	0.49
Chubb Creek Marsh	23/25	Beach St Real Trust	Essex County Greenbelt Association	Conservation	19 Boardman Ave	E	Permanent	2.77
Chubb Creek Marsh	23/18	Lovett	Essex County Greenbelt Association	Conservation	23 Harbor St	E	Permanent	8.07

Private parcels with Conservation Restrictions held by Land Trusts or the Conservation Commission (protected)

Site Name	Map/Lot	Owner	Manager	Current Use	Address	Zoning District	Level of Protection	Acres
Coolidge Point	4/13	Lily Pond Trust	Essex County Greenbelt Association	Recreation & Conservation	3 Coolidge Pt	E	Permanent	3.01
Coolidge Point	4/3	Lastavica, Catherine	Essex County Greenbelt Association	Recreation & Conservation	Coolidge Pt	E	Permanent	3.89
Coolidge Point	4/4	Lastavica, Catherine	Essex County Greenbelt Association	Recreation & Conservation	1 Coolidge Pt	E	Permanent	6.53
Coolidge Point	4/12	Lily Pond Trust	Essex County Greenbelt Association	Recreation & Conservation	9 Coolidge Pt	E	Permanent	10.75
Coolidge Reservation	3/1	Lily Pond Trust	Essex County Greenbelt Association	Recreation & Conservation	11 Coolidge Pt	E	Permanent	4.64
Danas Beach	11/20	Colburn I W & F A	The Trustees of Reservations	Conservation	185 Summer St	E	Permanent	31.29
Danas Beach (Graves Beach)	12/1	Weems Katherine L	The Trustees of Reservations	Conservation	195 Summer St	E	Permanent	28.89
Graves Island	12/8	Spang Thomas J G & Joseph Peter	Essex County Greenbelt Association	Conservation	Graves Island	E	Permanent	3.73
Highland Avenue	26/42	Perkins, Florence	Manchester Essex Conservation Trust	Conservation	14 Highland Ave	C	Permanent	7.53
Image Hill	13/33	Keverian Kenneth M.	Manchester Essex Conservation Trust	Conservation	27 Old Neck Rd	E	Permanent	0.81
Image Hill	13/31	Miramar Trust William S. Bonaccorso, Tr	Manchester Essex Conservation Trust	Conservation	15 Old Neck Rd	E	Permanent	0.78
Kettle Cove Marsh	6/32	Mehlman Mary C Et Al	Manchester Essex Conservation Trust	Conservation	377 Summer St	E	Permanent	5.36
Kettle Cove Marsh	6/43	Pope Trust	Manchester Essex Conservation Trust	Conservation	398 Summer St	E	Permanent	0.40
Kettle Cove Marsh	6/44	Pope Trust	Manchester Essex Conservation Trust	Conservation	389 Summer St	E	Permanent	0.68
Kettle Cove Marsh	6/45	Pope Trust	Manchester Essex Conservation Trust	Conservation	395 Summer St	E	Permanent	1.23
Kettle Cove Marsh	6/46	Pope Trust	Manchester Essex Conservation Trust	Conservation	465 Summer St	E	Permanent	2.74
Kettle Cove Marsh	6/35	Saltonstall J C	The Trustees of Reservations	Recreation	381 Summer St	E	Permanent	3.35
Leachs Mountain	59/6	Tallett R T & Cynthia	Essex County Greenbelt Association	Water Supply Protection	148 School St	A	Permanent	3.73
Long Hill	36/50	Denormandie Philip	Manchester Essex Conservation Trust	Conservation	Colburn Rd	C	Permanent	2.22
Long Hill	36/53	Denormandie Philip	Manchester Essex Conservation Trust	Conservation	4 Colburn Rd	C	Permanent	3.29
Long Hill	36/3	Denormandie Philip	Manchester Essex Conservation Trust	Conservation	Colburn Rd	C	Permanent	111.86
Manchester Seacoast	9/2	Spang	Essex County Greenbelt	Conservation	291 Summer St	E	Permanent	0.05
Manchester Seacoast	9/7	Spang	Essex County Greenbelt	Conservation	275 Summer St	E	Permanent	4.98
Manchester Seacoast	9/1	Spang	Essex County Greenbelt	Conservation	285 Summer St	E	Permanent	0.09
Marsh Island & Days Creek	16/17	Hall, Ethel Febiger	Manchester Essex Conservation Trust	Conservation	17 Proctor St	E	Permanent	1.06
Marsh Island & Days Creek	16/42	Comb	Manchester Essex Conservation Trust	Conservation	9 Proctor St	E	Permanent	0.30

Private parcels with Conservation Restrictions held by Land Trusts or the Conservation Commission (protected)

Site Name	Map/Lot	Owner	Manager	Current Use	Address	Zoning District	Level of Protection	Acres
Marsh Island & Days Creek	16/16	Singing Beach Llc	Manchester Essex Conservation Trust	Conservation	13 Proctor St	E	Permanent	2.23
Marsh Island & Days Creek	16/11	Herter, Mary C	Manchester Essex Conservation Trust	Conservation	5 Proctor St	E	Permanent	8.88
Norton's Point	21/42	Lauzon Family Ltd Partnership	Manchester Essex Conservation Trust	Conservation	8 Norton's Pt	E	Permanent	0.73
Norton's Point	21/43	William L Meaney Trs	Manchester Essex Conservation Trust	Conservation	11 Norton's Pt	E	Permanent	0.42
Sawmill Brook (Chapman's Greenhouse)	47/16	Alex Magnuson, Rate Realty Trust	Town of Manchester-by-the-Sea Conservation Commission	Flood Control	Vine St and Norwood Ave	G	Permanent	0.14
Sawmill Brook (Chapman's Greenhouse)	47/17	Alex Magnuson, Rate Realty Trust	Town of Manchester-by-the-Sea Conservation Commission	Flood Control	Vine St and Norwood Ave	G	Permanent	0.31
Sawmill Brook (Chapman's Greenhouse)	47/18	Alex Magnuson, Rate Realty Trust	Town of Manchester-by-the-Sea Conservation Commission	Flood Control	Vine St and Norwood Ave	G	Permanent	0.37
Sawmill Brook (Chapman's Greenhouse)	47/19	Alex Magnuson, Rate Realty Trust	Town of Manchester-by-the-Sea Conservation Commission	Flood Control	Vine St and Norwood Ave	G	Permanent	0.85
Sawmill Brook (Chapman's Greenhouse)	47/1	Alex Magnuson, Rate Realty Trust	Town of Manchester-by-the-Sea Conservation Commission	Flood Control	Vine St and Norwood Ave	G	Permanent	0.34
Summer St/Blynman Circle	1/113	Windover Summer Street, LLC	Town of Manchester-by-the-Sea Conservation Commission	Conservation	Blynman Circle	C	Permanent	0.46
Summer St/Blynman Circle	1/8	Windover Summer Street, LLC	Town of Manchester-by-the-Sea Conservation Commission	Conservation	Blynman Circle	C	Permanent	12.67

Private parcels enrolled in Chapter 61

Map/Lot	Owner	Address	Type of Chapter 61 Land	Acres
13/2	Seymour/Kelly	Old Neck Rd.	Forested	1.86
13/9	Kelly	26 Old N13eck Rd.	Forested	11.93
37/22	Mackintosh	30 Mill St.	Recreational	9.69
9/3	Shelving Rock Trust	5 Ocean St.	Forested	39.82

Private parcels (No Protection)

Site Name	Map/Lot	Owner	Current Use	Address	Zoning District	Level of Protection	Acres
Crocker Boat Yard	21/25	Crocker Boat Yard	Boat Slips and Moorings	15 Ashland Ave	G	None	0.60
Essex County Club	38/22	Essex County Club	Private Recreation	153 School St	A	None	166.96
Manchester Marine	21/26	Manchester Marine Corp.	Boat Slips and Moorings	17 Ashland Ave	G	None	2.11

Levels of Protection

For planning purposes, it is important to be aware of the degree of protection for each parcel. Knowing the level of protection (or lack thereof) will point out how easily some properties assumed to be open space can be developed. This knowledge can help in identifying those open space and recreation areas that require additional efforts in order to ensure their long-term preservation and protection. The following designations regarding level of protection are used.

Permanently Protected

The majority of open space in Manchester is permanently protected. This includes major town-owned properties such as Powder House Hill Reservation and Dexter Pond, as well as land trust conservation properties, Agassiz Rock and Kettle Cove Marsh, and town-owned recreation properties like, Tucks Point and Sweeney Park. A site is considered to be permanently protected if it is recorded in a deed or other official document. Such land is to be considered protected in perpetuity if it is deeded to and managed by the local Conservation Commission or Parks & Recreation Department and thereby subject to Article 97. Land is also considered to be permanently protected if it is subject to a conservation restriction or easement in perpetuity, if it is owned by one of the state's conservation agencies and thereby subject to Article 97, if it is owned by a nonprofit land trust, or if the municipality received federal or state assistance for the purchase or improvement of the property. Private land is considered protected if it has a deed restriction in perpetuity or a conservation restriction has been placed on it.

Article 97 of the Massachusetts Constitution protects publicly-owned lands used for conservation or recreation purposes. In order for a property to be sold, transferred, or converted to a different use, Article 97 requires a unanimous vote by the Conservation Commission or parks committee, a 2/3 vote of Town Meeting in support of the disposition, a 2/3 vote of the Massachusetts Legislature in support of the disposition, demonstration of compliance with applicable funding sources, and the municipality must file an Environmental Notification Form (ENF) with the Massachusetts Environmental Policy Act (MEPA). Given the extensive nature of this process and the rarity with which the disposition process occurs, these public recreation and conservation lands are assumed to be permanently protected.

Limited Protection

Sites in this inventory have limited protection if they are legally protected for less than perpetuity (i.e. short term conservation restriction) or temporarily protected through an existing functional use. These lands could be developed for other uses when their protection expires or when their functional use is no longer necessary. In general, this includes all land owned by other municipal departments or commissions, including lands managed by the Town for non-recreational purposes.

In Massachusetts, there are three special taxation programs available to private landowners. Private landowners who enroll in Chapter 61, 61A or 61B (forested lands, agricultural lands and

recreational lands, respectively) benefit by a reduced property tax if they manage their lands for these purposes. This is not truly a protection program because a property owner may withdraw from the program at any time. The town does have the right of first refusal or the ability to assign that right to a nonprofit in the event that the land is put up for sale. Purchase would have to be at fair market value (unless a property owner makes a donation for tax purposes) and the right of first refusal must be exercised within 120 days. Currently, there are two parcels (9/3, 37/22) totaling approximately 50 acres of land in Manchester that are classified as temporarily protected under this tax abatement program.

No Protection

This category includes land that is totally unprotected by any legal or functional means. This land is usually privately owned and could be sold without restriction at any time for another use. Only a small percentage of open space in Manchester has no protection. Sites with this categorization include the Essex County Club, Crocker's Boatyard and Manchester Marine.

Town-Owned Open Space

The Town of Manchester owns a variety of parks and open spaces totaling approximately 431 acres. The Conservation Commission manages several of these properties in the town, all of which are permanently protected. The largest of these is Cedar Swamp Conservation Area, which is rich in wildlife and biodiversity and features a 200m long boardwalk over Heron Pond. Local residents love using this site for bird watching and other passive recreation activities. Additionally, the Town also owns several acres of historic conservation lands, some of which are used for passive recreation. These include sites like the historic 1661 Cemetery and the 1879 Brass Plaque in Cathedral Pines.

The town's active recreational facilities include athletic fields and courts, playgrounds, parks and beaches. Town-owned facilities like Masconomo Park, Coach Field Playground, Sweeney Park and Singing Beach support a variety of athletic and recreation programs and opportunities for residents and visitors such as swimming, baseball, softball, soccer, basketball, tennis, and boating.

- **Masconomo Park** is a 6.7-acre park located near the center of town off Beach Street and features a Little League field, playground, and bandstand.
- **Coach Field Playground** is located at the intersection of Brook Street and Norwood Avenue. This 6.1-acre site abuts the Memorial Elementary School and features a multi-purpose athletic field, playground area and two tennis courts.
- **Sweeney Park** is a 12.6-acre park located at the intersection of Brook Street and Norwood Avenue and features a softball field, Little League field, and two small basketball courts.
- **Singing Beach** is located within walking distance of the town's MBTA Commuter Rail station. This site features 12 acres of beach and dunes, parking, and a snack bar. It is considered one of the most beautiful beaches on the North Shore and draws up to 4,000

visitors a weekend day during the height of the season. Other public beaches in town include: Black Beach, White Beach, Magnolia Beach and West Manchester Beach⁵⁴.

Figure 33: Sweeney Park



Image Source: Ralph Wilmer

The Manchester-by-the-Sea Athletic Fields Master Plan (AFMP) was developed by Weston & Sampson Design Studio in 2020. The AFMP provides a comprehensive inventory of the Town's recreational fields, an analysis of existing conditions and conceptual design plans for select properties. Chapter 5 of the plan also lists a series of recommendations for improving facilities throughout town. This OSRP supports these recommendations and readers should refer to the AFMP document for more information regarding the town's recreational fields.

State-Owned Open Space

The Commonwealth of Massachusetts owns a portion of Jack's Hill in northern Manchester. The 9.3-acre site abuts Route 128 and is preserved as a scenic easement. The state also owns approximately 3 acres of land that serve as roadway buffers along Route 128.

Privately-Owned Open Space

Private organizations own approximately 537 acres of conservation and recreation land in town. This includes the Essex County Club and several privately owned parcels with conservation restrictions that are managed by the Manchester Conservation Commission or nonprofit land trusts.

⁵⁴ Town of Manchester Master Plan (2019)

Section 6: Community Vision

Description of Process

The 2021 OSRP reflects fundamental principles common to Manchester's previous OSRP with some adjustments as necessary to address the changing needs and desires of residents, as well as the changing challenges and opportunities for conservation and recreation.

Open space and recreation planning in Manchester is conducted in a cooperative effort between a number of Town departments and commissions, including the Open Space and Recreation Committee, the Conservation Commission, the Parks and Recreation Department, the Department of Public Works, the Planning Department, the Manchester Coastal Stream Team, the Manchester Essex Regional School District, the Planning Board, and the ADA Advisory Committee. Further, the Town collaborates with outside organizations, including local nonprofits and volunteer groups such as the Manchester Essex Conservation Trust (MECT), Essex County Greenbelt, and The Trustees of Reservations.

The OSRP process included meetings with two key advisory bodies that provided expertise and helped inform and guide the process: the Open Space and Recreation Committee (OSRC) and the Open Space and Recreation Plan Advisory Committee (OSRPAC). These core groups met regularly with MAPC staff to review and contribute to elements of the plan, prioritize recommendations, and assist with community engagement.

Open Space and Recreation Committee (OSRC)

The OSRC, whose members represent the open space and recreation stakeholders in Manchester, was instrumental in the development of this plan. The role of the OSRC was to review the goals of the 2014 OSRP, report on the progress of the 2014 Seven-Year Action Plan, make recommendations to the OSRPAC for action items to incorporate in the 2021 update, and review and provide feedback on meeting content and draft sections of the plan. This group was also charged with helping to guide outreach and assisting MAPC with sharing information about the process and plan with the community.

Open Space and Recreation Plan Advisory Committee (OSRPAC)

The OSRPAC was composed of a diverse group of representatives of various town departments, boards, and commissions, including the Parks and Recreation Department, Public Works, Planning, Conservation Commission, Board of Selectmen, Planning Board, Harbormaster, Council on Aging, ADA Committee, and Bicycle/Pedestrian Committee, among others.

In order to maximize interaction and opportunities for feedback, the Town of Manchester and MAPC developed an OSRP Community Survey and held two virtual community forums and a virtual open house, as described in Section 2. Using the online platform, Qualtrics, MAPC was able to host a virtual open house immediately following the community forum on August 26, 2020.

The virtual open house presented meeting content through visuals and included associated questions to solicit community feedback on the 2014 OSRP goals. Participants were asked to express their opinions about whether these goals should still be considered high priority, if they

needed to be revised or modified, if they were still relevant or if they had already been accomplished. Participants were also invited to suggest new goals for the 2021 plan update. Not surprisingly, a majority of respondents were reluctant to remove most of the goals and objectives stated in the 2014 plan. Additionally, respondents were asked what the town should prioritize as it invests in its parks, open space and recreational facilities. The top five priorities that emerged from the virtual open house reinforce the goals of the previous plan and are listed in **Figure 34**.

Figure 34: Investment Priorities

As Manchester-by-the-Sea invests in its parks system, what should it prioritize?	
(Top 5 Priorities)	
1	Acquire land for conservation purposes (e.g., wildlife habitat and water supply protection)
2	Maintain existing parks and facilities
3	Improve access to parks and facilities through trails, sidewalks, bike lands, safer crossings
4	Improve existing parks and facilities through new playgrounds, athletic fields, paving, trees, buildings
5	Acquire land for recreational purposes (e.g., playgrounds, ballfields, boating)

MAPC and the OSRP Committee hosted a second community forum on May 26, 2021. This forum was set up as a virtual open house, with a brief presentation providing an overview of the OSRP planning process and the major phases of work to orient participants. During the presentation MAPC staff presented findings from the OSRP Community Survey and highlighted key themes of the draft 2021 Seven Year Action Plan. Following the presentation participants were encouraged to ask questions and were provided a link to visit the virtual open house to review, comment, and provide feedback on the draft 2021 Seven Year Action Plan. A Working Draft of the 2021 OSRP was posted on the Town website and circulated for public review comment, and feedback on June 7, 2021. The draft was also reviewed by town staff and boards and commissions for feedback. The full planning process is described in Section 2: Introduction.

Statement of Open Space and Recreation Goals

The residents of Manchester have expressed a deep desire for their community to actively engage in environmental stewardship and to provide a wide array of recreational opportunities that meet the needs and interests of residents of all life stages and abilities. Manchester is envisioned as a beautiful seaside community blessed with a variety of landscapes and ecosystems that are preserved for their intrinsic ecological values and for social and recreational pursuits. Our harbor and beaches, woodlands and wetlands, along with our parks and open spaces are integral to the health and vitality of our community and our strong sense of place.

The Town's overarching goals that were gleaned from the residents and other stakeholders throughout the planning process include:

- Better understanding, protecting and managing the town's natural resources, for the purposes of clean drinking water, wildlife habitat, passive recreation and climate resiliency.
- Providing for active recreational opportunities for residents of all ages and ability levels, including additional playing fields and more access to water-related activities.
- Creating a more accessible, pedestrian and bicycle friendly community.

Section 7: Analysis of Need

The summaries of open space and recreation needs were determined based on information from the 2014 OSRP, public input from the virtual open house, the OSRP Community survey, virtual community forums (as described in Section 2 Introduction), and consideration by the OSRP Committee. The consolidated community input can be sorted in three broad categories of needs which are carried over into the Goals and Objectives section:

- Resource Protection Needs
- Community Needs
- Management Needs

Resource Protection Needs

Manchester has an abundance of open space that helps safeguard the town's natural resources for clean water and wildlife habitat. The town is fortunate that the majority of its open space and recreation lands are permanently protected from future development, whether due to protection through Article 97 status, the presence of a conservation restriction or easement, or through other means. There are, however, areas that should be considered for acquisition or for further protection through conservation restrictions in order to protect the town's drinking water supply.

These areas include unprotected parcels within the Round Pond and Gravelly Pond watersheds; remaining unprotected woodlands north of Route 128; parcels in the "Western Woods" and parcels that would link existing parcels to create greenway corridors. Consistent management and possible legal protections of these areas could benefit Manchester in the long run.

Additionally, the 2021 Seven Year Action Plan calls for the development of Land Management Plans for better stewardship of Manchester's conservation areas. The OSRP Committee suggests that these plans focus on managing vegetation, removing invasive species, restoring ecosystems, and maintaining forest health. The plans should also include estimated budgets and identify potential funding sources.

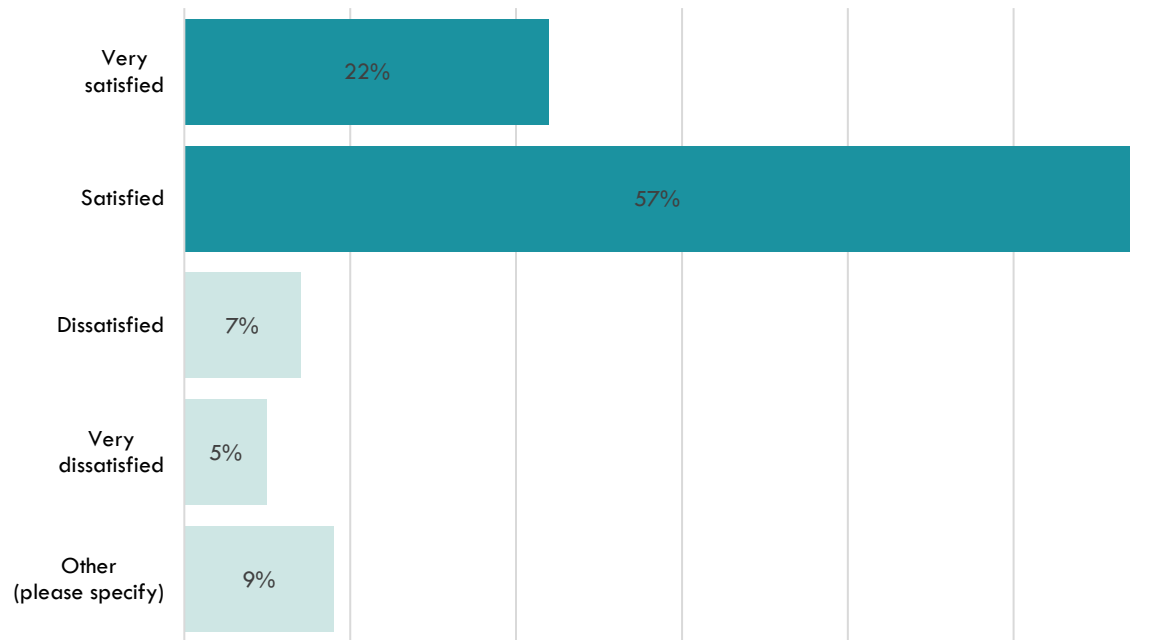
The following summarizes the Resource Protection Needs of the town:

- Increase safeguards for the town's water supply, especially in the Gravelly Pond/Round Pond watershed and the watershed of the Lincoln Street aquifer.
- Identify and protect important wildlife habitat and natural resource areas particularly, those areas identified in the BioMap2 (or Biomap3 when available).
- Proactively manage town-owned open space parcels.
- Improve the town's open space parcels for walking, hiking, and environmental studies.
- Increase public awareness of the town's open space parcels.

Community Needs

Enhancing, maintaining, and preserving the recreation amenities in Manchester is a major goal of this Open Space and Recreation Plan. The community is fortunate to have three town-owned active recreation facilities, as well as passive recreation areas. When asked about the town's park and open space system as a whole in the online community survey, approximately 80% of respondents reported that they were "satisfied" or "very satisfied" with the condition of Manchester's parks and open space properties.

Figure 35: *How satisfied are you with the condition of Manchester's parks and open space properties?*

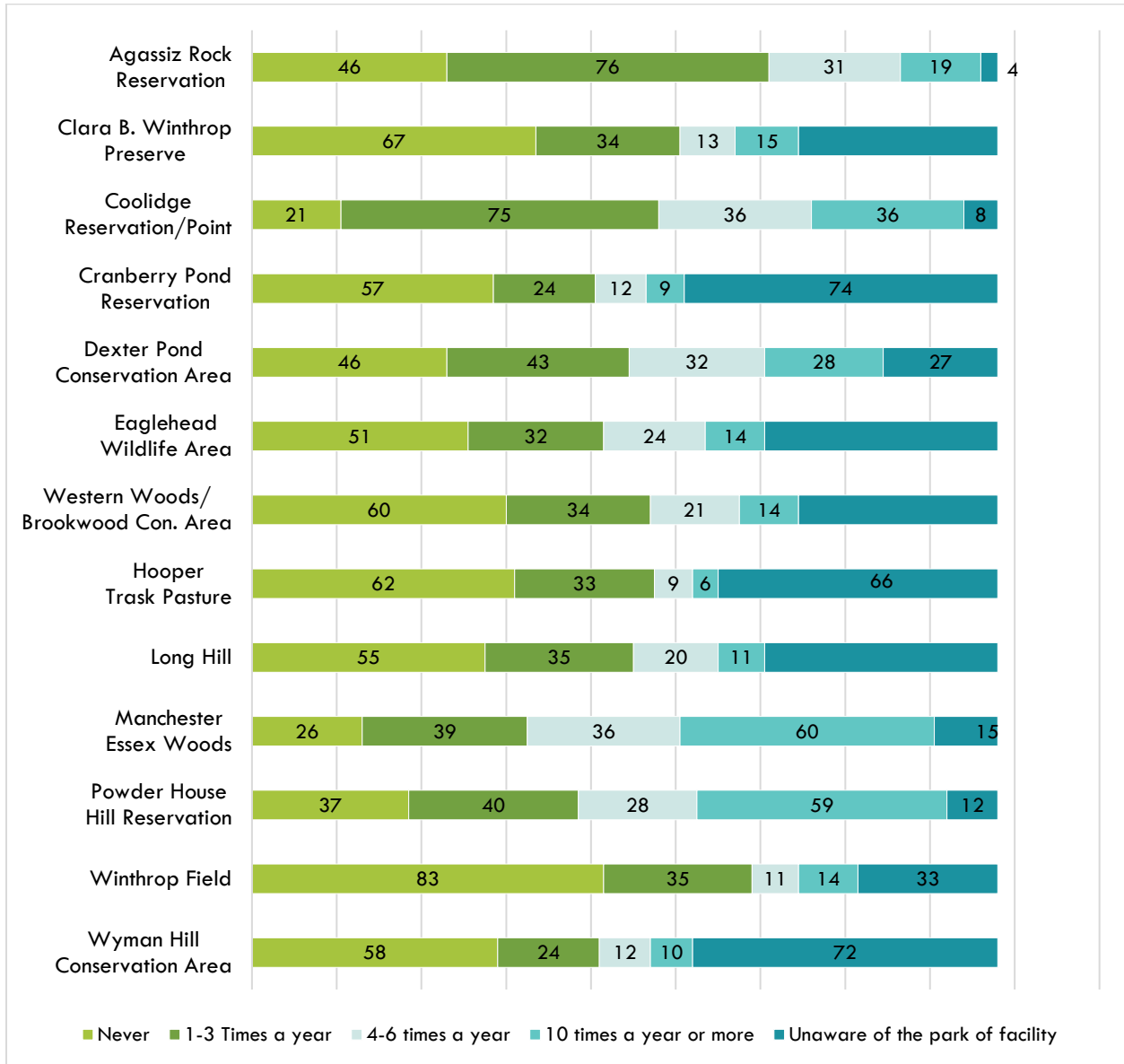


Singing Beach, Tuck's Point, and Masconomo Park were ranked top three among favorite and beloved parks and open spaces in Manchester. Respondents enjoy visiting these parks and open spaces for a wide range of reasons, particularly passive recreation and community events like the annual Fourth of July Celebration and the Music in Masconomo Summer Concert Series. Singing Beach is a major asset for residents and was recorded as the most frequently visited site in town with 89% of survey respondents noting that they visit ten or more times a year. However, respondents also noted a need for improvements to the bathhouse and expanded restroom facilities.

The virtual open house and online community survey asked residents what was most important to them, and responses varied from acquiring land for conservation purposes to increased parking to additional resources for pickleball. There was a general overall interest in increasing trails and access points to conservation areas and striking a balance between active recreation/programming and preserving open space as natural areas.

In terms of passive recreational facilities, the Manchester Essex Woods (Wilderness Conservation Area) and Powder House Hill Reservation are the most utilized sites in Manchester. Residents love hiking, walking their dogs, and seeing the wildlife here. At the same time, other respondents reported concern with off-leash practices at some locations. The site receiving the least visitor traffic is Winthrop Field, off Bridge Street (Route 127). This site was identified as a Scenic and Unique Resource and is discussed in further detail in Section 4.

Figure 36: How often do you visit or use the following open spaces for walking, jogging, biking, bird watching, etc.?

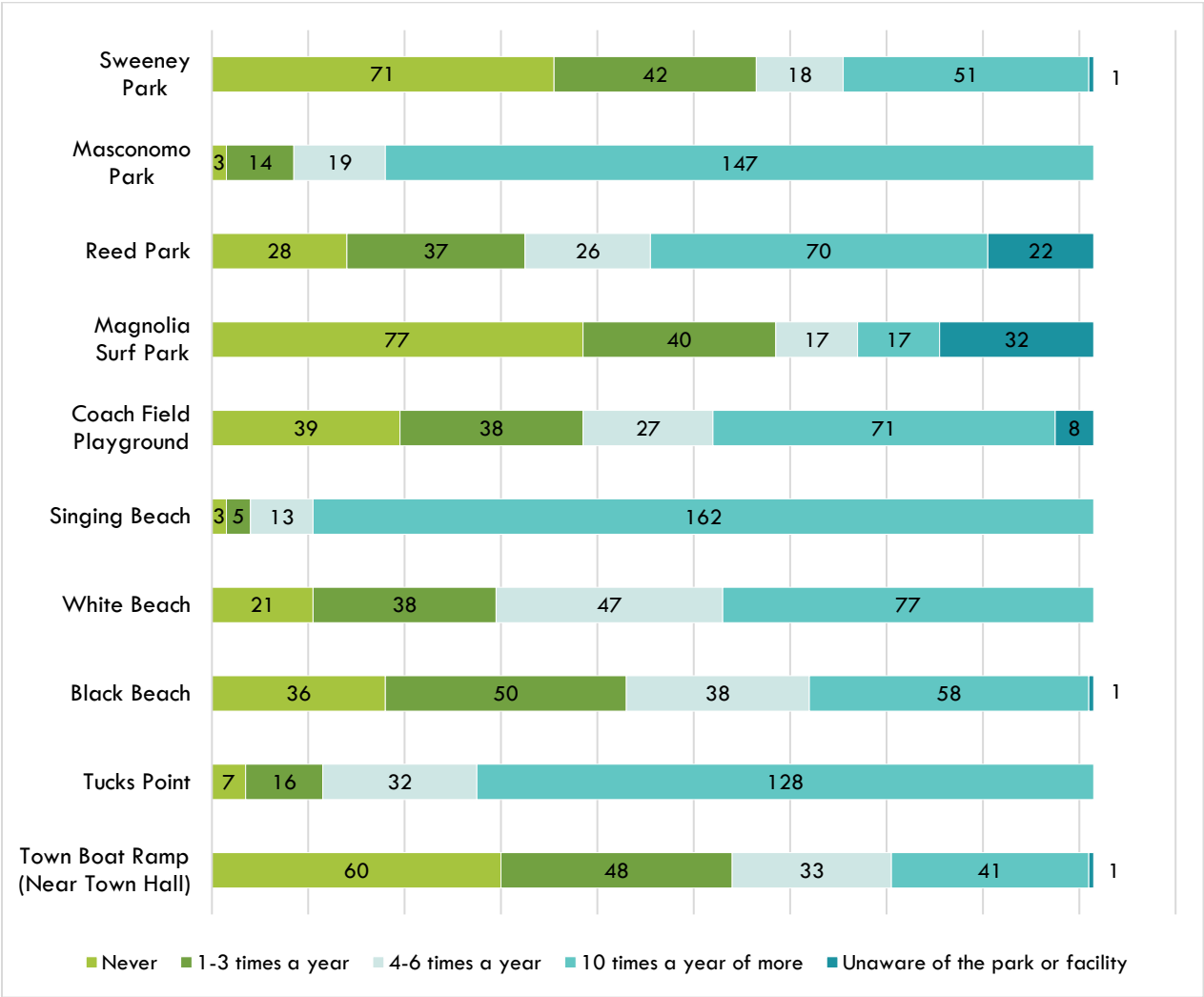


As noted in Section 6, improving and maintaining the town's existing parks and facilities emerged as a major priority for residents. Improvements to existing sites also aligns with a main priority of

the Town; the 2020 Athletic Fields Master Plan (AFMP) prepared by Weston & Sampson identifies repairs, renovations, and upgrades to Coach Field, Masconomo Park, and Sweeney Park.

In regard to the Town’s active recreation facilities, Coach Field is the most frequently used recreational facility, with most survey respondents visiting ten or more times a year. Walking and enjoying nature were the top activities survey respondents noted that they enjoyed doing in most parks. Sports and recreation were less frequently mentioned, but this may be more of a reflection of respondent demographics than town-wide demand for active recreation opportunities.

Figure 37: How often do you (or your family members) visit or use the following parks and recreational facilities?

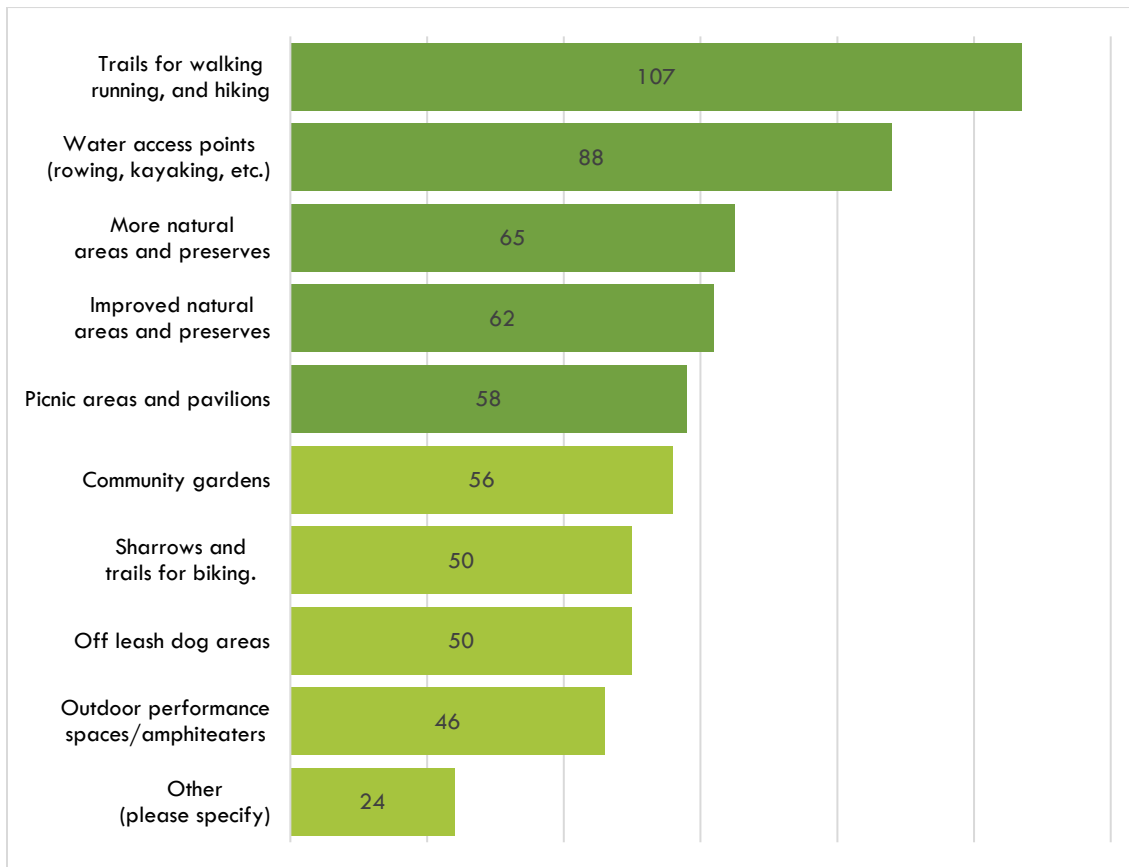


The public survey conducted by Weston & Sampson as part of the Athletic Fields Master Plan found that the most popular recreational activity that respondents used town facilities for was walking and jogging (90%), followed by playground use (71%), passive recreation (65%), and

soccer (62%). Participation in the athletic programs offered in Manchester is strong, though it is the general feeling of residents that there is not enough good quality field space.

Should athletic fields be renovated, or new fields be constructed in Manchester, it is important that they are multi-purpose fields with artificial turf as recommended in the AFMP. Single purpose fields are not as versatile since they cannot easily be changed to accommodate changes in the popularity of certain sports. Due to the shortage of fields in the town, grass fields cannot be given time to rest and recover. Artificial turf fields, while initially more costly, do not need recovery time.

Figure 38: What would you like to see more of in Manchester in the next 10 years?



Improved connectivity for bicycle and pedestrian access between parks was another major theme that emerged as residents expressed their desire for future amenities and facilities. The term connectivity refers to trails, sidewalks, or paths that promote passive recreation and community connections.

The Town's Complete Streets Policy also supports connectivity, and consistent implementation with assistance from the Bike and Pedestrian Committee should be pursued. Complete Streets increase safety and livability, improve public health, reduce traffic congestion, and increase a community's environmental sustainability. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

Based on the feedback from the OSRP community survey residents want to see more trails for walking, running, and hiking, more access points to the waterfront and more natural and conservation areas. In addition, social amenities, such as picnic areas, pavilions, and casual gathering spaces, were also requested features.

Residents 65 and over make up more than twenty percent of Manchester's overall population, and this number is expected to increase in the coming years. This demographic trend is important to consider when addressing the open space and recreation needs of all residents.

Approximately 30% of the survey respondents were over the age of 60, and the senior needs that were identified include group exercise classes, gardening programs, pickleball courts, bocce courts, improved ADA accessibility at parks and open spaces, and safe walking and biking paths.

In addition, youth and teenagers have special needs unique from the general Town population. Approximately 56% of the survey respondents live with someone under the age of 18 years in their household. The needs of Manchester's youth include improving walking and biking access to parks, multi-use athletic fields that accommodate youth sports and school-related athletics, and aquatic based programming.

When asked what prevents residents from visiting or using Manchester's open space and recreation amenities, 25% of respondents said they did not know about the locations. This may point to a lack of signage about parks or information about their offerings. Currently, respondents are most likely to hear about parks and recreation events and programming through social media or the Manchester Parks and Recreation website. The Town should continue to populate its websites and social media pages with information about Manchester's recreational resources and consider opportunities for integrating additional wayfinding and signage around parks and open space. After not knowing about locations, a lack of parking was the next biggest barrier to using open space amenities (identified by 15% of survey respondents).

Figure 39: *What, if anything, prevents you from utilizing Manchester's open space, parks, and recreation facilities?*

Factor/Reason	Percent of Respondents
Don't know where the site is located	25%
Lack of parking	15%
Site is not accessible by walking or biking from my home	11%
Other (please specify)	10%
Not interested in the sports fields and playgrounds provided	7%
Lack of restrooms	6%
Dogs are not allowed	6%
Poor condition or maintenance	5%

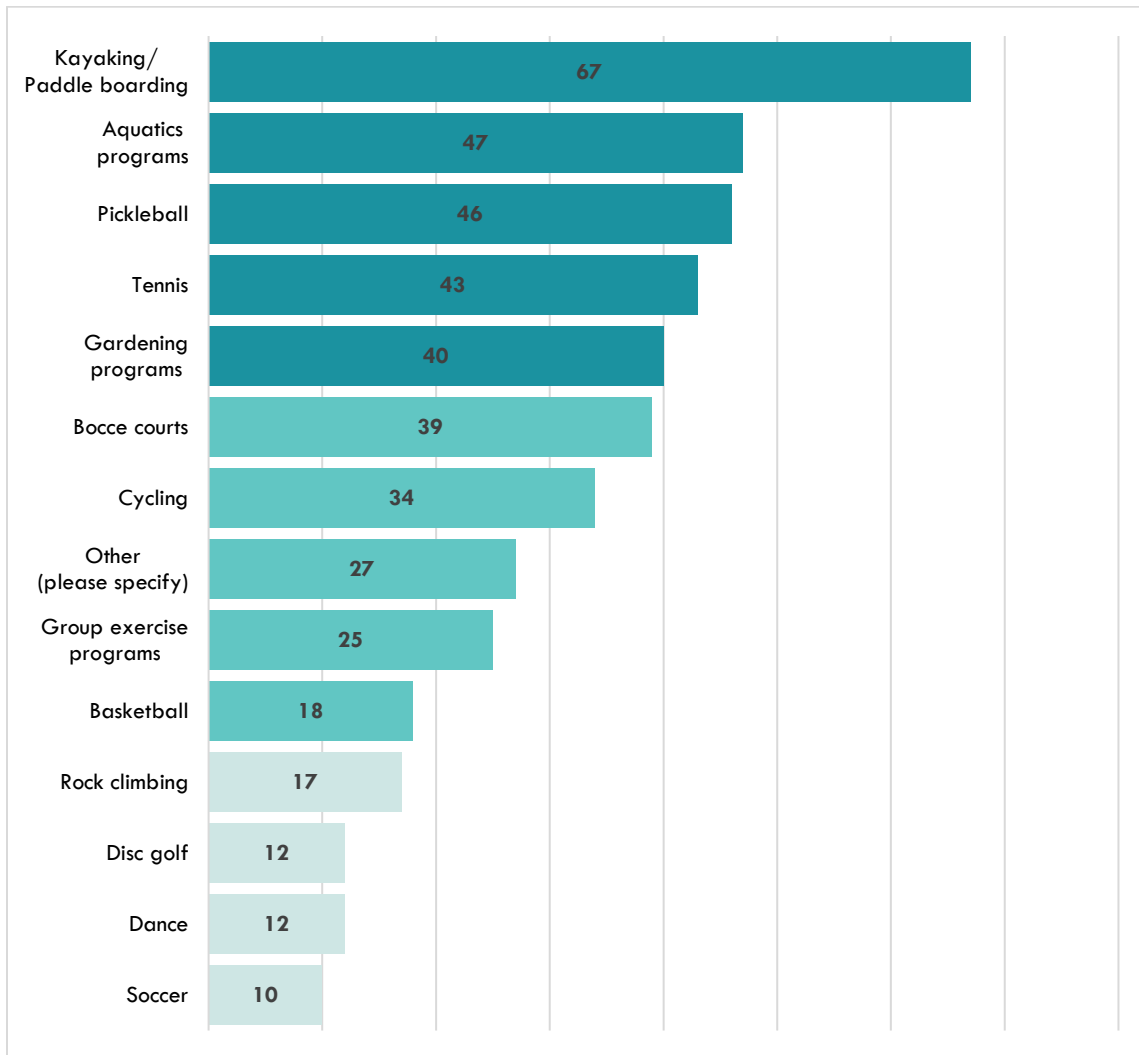
Not interested in the trails provided	4%
My recreational and open space needs are met outside of Manchester	3%
Too crowded	2%
Size or park/amount of space available	2%
Safety concerns	2%
No place to sit	2%
Lack of shade	1%
Unable to access due to disability barriers	0%

The Town of Manchester is fortunate to have a Parks and Recreation Department with two full-time staff members, 50 temporary/seasonal employees, and a five member Parks and Recreation Committee. The Parks & Recreation Committee serves as the sole advisory group to the Board of Selectmen on matters related to Parks & Recreation programs, services, and facilities.

Manchester's Parks & Recreation Department oversees some of the town's greatest natural resources including Singing Beach, Tuck's Point, Masconomo Park, Sweeney Park and Coach Field Park. The department also manages the scheduling of athletic fields as well as events at Crowell Chapel and the Chowder House at Tuck's Point. The Parks and Recreation Department collaborates with the Department of Public Works for the maintenance and upkeep of town-owned parks and playgrounds.

There were a diversity of suggestions and issues mentioned throughout the planning process relating to programming, including things such as creating an all-abilities playground, improving showers and bathroom facilities, creating a seasonal farmer's market, creating additional walking trails, grills for cooking, and more. Survey respondents indicated an interest in future programming for activities like kayaking and standup paddle boarding, pickleball, tennis, aquatics programs (i.e., swim lessons, swim teams, lifeguard training) as well as gardening programs.

Figure 40: Select up to three (3) active/recreation programs you would like to see increase in Manchester the next 10 years.



The Parks and Recreation Department is responsible for the planning, coordination, supervision and evaluation of all recreational programs and services. The department prides itself on offering programs and services to serve all ages and abilities. Programs range from adult programs such as Zumba for Senior Citizens to pre-school programs and after school childcare.

Some of the Department's most popular programs include the long running Summer Playground program that serves over 200 children, the Winter Basketball program with over 250 participants and the Licensed After School Program that registers about 70 children. The department also offers programs that have fewer participants but are equally important such as adult programs including Yoga on the Beach, archery and first aid and smaller youth programs such as voice lessons, sewing and coding.

Along with providing services, the Manchester Council on Aging (COA) organizes many activities for seniors. Yoga, Zumba and Strong Women classes are offered on a regular basis (typically weekly) depending on the availability of the venues. The COA also hosts annual summer luncheons

and events at Tuck's Point and offers musical and theatrical events at Crowell Chapel. For all programs, the COA offers free van transportation to residents of Manchester.

The Parks and Recreation Department's biggest challenge is space. For example, the Department rents space from The Manchester-Essex Regional School District, but building the rental fees into the price of the program can sometimes make the program cost prohibitive.

Management Needs

Staffing

The town owns a significant amount of open space devoted to conservation and passive recreation, including forest, woodlands, swamps, marshes, wetlands, streams, and ponds. Most of these spaces are under the management of the Manchester Conservation Commission; however, active management of these conservation lands has been lacking.

The Conservation Commission is tasked with reviewing and issuing a great number of wetlands permits, leaving an inadequate amount of time for open space management. It is clear that there's a need for additional involvement in managing these lands.

To implement the actions in this updated OSRP and ensure adequate and coordinated planning and management of all open space resources, additional staffing resources may be needed. The town should consider hiring a shared conservation agent or part-time environmental planner that could serve Manchester and neighboring municipalities on a part-time basis. The position would provide support, coordination, and professional management for the Conservation Commission and assist with carrying out their mandates and missions to protect the community's natural resources.

Partnerships

Manchester has many strong public-private partnerships that have contributed to the preservation and stewardship of numerous open space resources. The Town should continue to nurture and strengthen these relationships to implement elements of this plan. Key partners in Manchester include, but are not limited to, the Manchester Essex Conservation Trust (MECT), Essex County Greenbelt, Cape Ann Trail Stewards, The Trustees of Reservations, and Salem Sound Coastwatch.

These relationships are beneficial and important for a myriad of reasons. Many of these non-profit organizations provide great assistance to the Town in terms of volunteer labor, fundraising, environmental monitoring, and communicating with the public.

Statewide Comprehensive Outdoor Recreation Plan (SCORP)

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) is the Commonwealth's equivalent of a municipal open space plan. SCORP plans are developed by individual states in order to be eligible for federal Land and Water Conservation Fund (LWCF) grants. In 2017, the Executive Office of Energy and Environmental Affairs completed the Massachusetts SCORP to help guide the distribution of federal funding to state agencies and municipalities for the acquisition of open space, renovation of parks, and development of new parks. The SCORP is a planning document that discusses the available recreational resources in a state, as well as its

needs, and identifies the gaps between the two. The goals and objectives of the 2017 SCORP are shown in **Figure 41**. This Plan is consistent with these goals and objectives.

Figure 41: 2017 SCORP Goals and Objectives

Goal 1: Improve Access for Underserved Populations
Objectives:
1. Support the acquisition of land and development of new open spaces in areas that lack existing or useable open spaces, such as Environmental Justice neighborhoods
2. Develop parks and open spaces that offer amenities that go above and beyond ADA requirements for people with disabilities
3. Consider the needs of underserved demographic groups — senior citizens and teenagers — in park and open space designs
4. Encourage establishment of programming endowments
Goal 2: Support the Statewide Trails Initiative
Objectives:
1. Support the acquisition of land and development of new open spaces that can provide a trail network
2. Fill in the gaps of existing trail networks
3. Ensure that any existing or new trails are fully accessible to people with disabilities
Goal 3: Increase the Availability of Water-based Recreation
Objectives:
1. Support the acquisition of land that will provide for water-based recreation
2. Support the acquisition of land that will increase drinking water supply protection
3. Develop water-based recreational facilities, including swimming areas, spray parks, boating facilities, fishing areas, etc.
Goal 4: Support the Creation and Renovation of Neighborhood Parks
Objectives:
1. Promote the acquisition and development of neighborhood parks where none currently exist
2. Develop amenities supported by neighborhood parks, such as playgrounds, off leash dog parks, and community gardens
3. Work with community development organizations to improve walking access to local parks

Section 8: Goals and Objectives

The following goals and objectives were developed after reviewing previous plans and studies, meeting with several key advisory bodies including the Open Space and Recreation Committee and Open Space and Recreation Plan Advisory Group, gathering input from the online community survey, and incorporating feedback from the virtual community meetings and open houses. The Goals and Objectives are summarized below and detailed further in Section 9.

- **GOAL 1: Ensure that the objectives and actions identified in the Open Space and Recreation Plan (OSRP) are implemented and that the plan is updated as needed for resubmission in 2028.**
 - Objectives:
 - Update the 2021 plan with a view to a submission of a revised plan in 2028 and establish a budget as needed.
- **GOAL 2: Protect Land Significant to Drinking Water Protection, Wildlife Habitat, Natural Resource Protection and Climate Change (for carbon storage)**
 - Objectives:
 - **2.1:** Revise the Town's list of high- priority parcels which are not currently protected for potential acquisition or protection by other means.
 - **2.2:** Using the list created in (2.1), set priorities and actions for each parcel (e.g., acquisition, conservation restrictions, Conservation Commission management)
 - **2.3:** Initiate steps to acquire or protect those high-priority parcels identified in (2.2).
 - **2.4:** Maintain an ongoing inventory of parcels that need additional protection through acquisitions, dedications, or conservation restrictions.
 - **2.5:** Create an informal group of representatives from abutting municipalities to discuss environmental issues that span municipalities, re topics of watershed, open space, climate change, etc.
 - **2.6:** Ensure the installation of permanent survey monuments demarcating the 400-foot radius around the Lincoln Street well as specified in the Order of Conditions (#39-0800, Conditions #46 and #56) for the new Memorial School.

- **GOAL 3: Manage existing town-owned or town-managed open space parcels for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.**
 - Objectives:
 - **3.1:** Identify all town-owned or town-managed open space parcels that would benefit from: maintenance of existing trails; creation of new trails; clean-up of trash and garbage; new or improved signage; and management of trees and vegetation. Consider each for possible ADA improvements.
 - 3.1.1: Seek to partner with the Manchester Essex Conservation Trust in managing the Wilderness Conservation Area, as it consists of many abutting Town and Trust parcels with boundaries undefined in the field.
 - **3.2:** Prioritize those parcels identified in (3.1) and create management plans for those identified as high priorities.
 - **3.3:** Create a plan for the Western Woods for acquiring or protecting parcels, forest management, trail maintenance, creation of access and parking areas.
 - **3.4:** Create a plan to provide public access to the restored Central Pond area of Sawmill Brook.
- **GOAL 4: Promote awareness, enjoyment and stewardship of Manchester's open space parcels and natural resources through outreach and education.**
 - Objectives:
 - **4.1:** Continue to update the Open Space and Recreation webpage where the public can access information about open space areas that are open to the public (both town-owned and other) including parcel descriptions, trail maps, and use.
 - **4.2:** Create trail maps of existing town-owned open space parcels in both paper and electronic form (GIS) for use by the public.
 - **4.3:** Plan and hold events which would enhance and promote town-owned open space.
 - **4.4:** Promote awareness and recognition of the state [BioMap2](#) or, *BioMap3* when it's available) and what it means to biodiversity and how this relates to Manchester's open space parcels.
 - **4.5:** Initiate outreach programs to local school and youth groups to encourage environmental education and an appreciation of Manchester's natural resources.
- **GOAL 5: Identify the town's recreational needs and create action plans to address those needs.**
 - Objectives:
 - **5.1:** Continue to maintain the inventory of all existing town-owned recreational areas including playing fields, parks, and beaches.

- **5.2:** Use the new **Athletic Field Master Plan** (2020) to prioritize playing fields that will need improvement or repairs over the next seven years (e.g., parking lot and flooding issues at Sweeney Park). Prioritize recreational parcels for the same.
 - **5.3:** Support the creation of playing fields in the Town as referenced in the **Athletic Field Master Plan**.
 - **5.4:** Support the creation of a multi-use athletic court (e.g., pickleball, tennis, bocce) at the old Skate Park site on Summer St.
 - **5.5:** Continue to explore and implement ways to make Manchester more bicycle and pedestrian friendly.
 - **5.6:** Develop an interactive website that shows points of interest, parking, walking and biking routes, bike stores, and perhaps restaurants and stores, with an additional reporting feature.
 - **5.7:** Map in-town walking paths within Manchester (e.g., from train station and parking lots to Singing Beach and other locations).
 - **5.8:** Continue to update town infrastructure improvements needed for safer biking and walking to include sidewalks, crosswalks, signage, speed limits and bike lanes so that they can be addressed by DPW.
- **GOAL 6: Promote the use and improvement of the town-owned waterfront resources for the purposes of water-related activities.**
 - Objectives:
 - **6.1:** Continue to update the inventory of existing town-owned and publicly accessible docks and piers.
 - **6.2:** Work towards improving town docks and piers to ensure that facilities are publicly accessible and ADA compliant.
 - **6.3:** Construct a small boat launch facility at Tuck's Point.
- **GOAL 7: Continue to advocate for accessibility by ensuring that town officials, boards and committees are aware of Universal Design Standards and ADA requirements and that ADA considerations are incorporated into town projects.**
 - Objectives:
 - **7.1** Adopt and integrate universal design principles and programming.
 - **7.2:** Monitor the implementation of the latest ADA Transition Plan.
 - **7.3:** Monitor the enhancement and maintenance of the existing ADA Advisory Committee webpage including information (and links) regarding new and/or updated regulations to keep town employees, boards and committees informed of these changes.
 - **7.5:** Continue to recognize businesses and initiatives that prioritize accessibility and accommodates residents of all abilities by honoring them with the prestigious ADA Access Award.

Section 9: Seven-Year Action Plan

in

Accomplishments since the 2014 OSRP

The Town, the Open Space and Recreation Committees, along with other town committees and volunteers, have made progress on several goals and action items outlined in the 2014 OSRP. Listed below is a summary of some of these key accomplishments.

- Establishment of a permanent Open Space and Recreation Committee in **2015**.
- Held a volunteer clean up event at Dexter Pond in **2016**.
- Constructed a new public boat ramp at Town Hall in **2017**.
- Rebuilt a pedestrian bridge at the Dexter Pond Nature Sanctuary in **2018**.
- Implemented a Safe Routes to School project at Memorial School, which included sidewalks, crosswalks and other safety improvements in **2019**.
- Secured funding from town CPA Funds to develop Open Space management plans for town owned open space parcels **2020**.
- Developed an Athletic Field Master Plan in **2020**.
- Updated Manchester's ADA Self-Evaluation and ADA Transition Plan in **2020**.
- Added 260 linear feet to the existing docks at Reed Park in **2020**.
- Placed approximately 12 acres of land in the Western Woods under the management of the Conservation Commission in **2020**.
- Initiated the purchase of a 12-acre lot on Christian Hill in the Western Woods and placed it under the management of the Conservation Commission in **2020**.
- Created a new walking trail and installed informational kiosks and trail markers at Powder House Hill Reservation in **2020**.
- Provided funding to the Manchester Stream Team to develop a video entitled *Sawmill Brook: A Visual Survey 2020*, to educate and promote protection of the Town's drinking water and natural resources in **2020**.
- Created an Open Space and Recreation subpage on the Town's website with information on Town-owned conservation properties with trails and links to open space related documents.
- Continued the update of Open Space Parcels spreadsheets for the purposes of the Town's Open Space layer on the town's GIS maps and for use in the 2021 OSRP. **2015-2021**.
- Created an OSRC Facebook Group to promote Open Space activities and participation.
- Created an inventory of all public docks and assessed their conditions.

The Seven-Year Action Plan details the actions and activities that should occur over the next seven years to successfully implement the Manchester Open Space and Recreation Plan. These action items provide specific recommendations for meeting the goals and objectives that were formulated in Section 8.

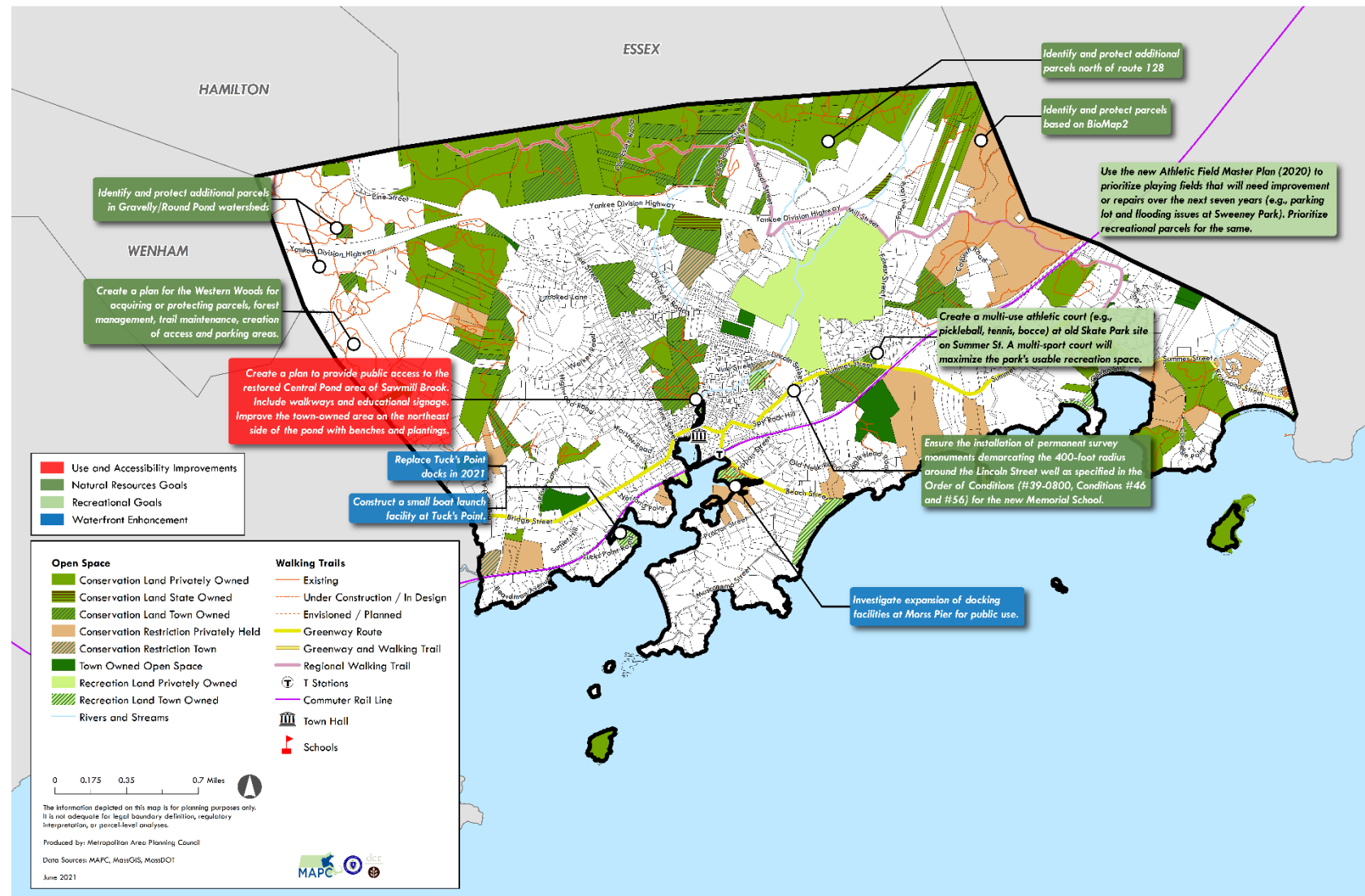
The 2021 Seven-Year Action Plan was developed by first reviewing the action plan from the 2014 OSRP. All completed actions were removed from the list and the remaining action items were reviewed by the OSRC and OSRPAC to determine whether they were still applicable. New action items were added based on Town priorities, input from the online community survey, and feedback from the virtual community meetings and open house.

Figure 43 lists a range of action items, and **Figure 42** indicates the locations of selected major projects. Some of these actions are already in the planning process; others are ongoing but need additional support. The Action Plan is arranged sequentially beginning with the first goal and the associated objectives and actions to facilitate the achievement of this goal. For each action, a timeframe for when the proposed action should be taken is listed. Short-term recommendations fall within Years 1-2, mid-term recommendations fall within years 3-5, and long-term recommendations fall within years 6-7. Recommendations that are ongoing are marked as such. The party or parties responsible are listed with the primary one being in bold type (there are a few where several entities are primary and are listed in bold). Acronyms used in the Seven-Year Action Plan are listed below.

List of Acronyms

- **ADA** – Manchester ADA Advisory Committee
- **BOS** – Manchester Board of Selectmen
- **BPC** – Manchester Bicycle and Pedestrian Committee
- **CATS** – Cape Ann Trail Stewards
- **ConCom** – Manchester Conservation Commission
- **CPA** – Community Preservation Act Funds
- **DCSG** – Grants from Mass Division of Conservation Services
- **DIPC** – Downtown Improvement Project Committee
- **DPW** – Manchester Dept of Public Works
- **HAC** – Harbor Advisory Committee
- **HM** – Manchester Harbormaster's Office
- **LLTs** – Local land trusts including Essex County Greenbelt, Manchester Essex Conservation Trust, Mass Audubon, The Trustees of Reservations, et al.
- **MCST** – Manchester Coastal Stream Team
- **MERSD** – Manchester Essex Regional School District
- **MET** – Mass Environmental Trust General Grants
- **MOSF** – Man Open Space Fund managed by the ConCom
- **MRTP** – Massachusetts Recreational Trails Program
- **NC** – Nature Conservancy
- **OSRC** – Open Space and Recreation Committee
- **OSRPAC** – Open Space and Recreation Plan Advisory Committee
- **PRC** – Manchester Parks and Recreation Committee
- **PRD** – Manchester Parks and Recreation Dept.
- **TP** – Town Planner
- **WWAC** – Western Woods Advisory Committee

Figure 42: Action Plan Map



Source Path: K:\Data\GIS\Projects\Current Projects\OpenSpace Plans\Weymouth 2020-2021\Weymouth Open Space Inventory v2.mxd

Figure 43: Seven-Year Action Plan Matrix:

Goal 1: Ensure that the objectives and actions identified in the Open Space and Recreation Plan (OSRP) are implemented and that the plan is updated as needed for resubmission in 2028.			
Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
Action 1.1: Update the 2021 plan with a view to a submission of a revised plan in 2028 and establish a budget as needed.	OSRC, OSRPAC	HIGH Continuous	Volunteer and/or Staff Time

Goal 2: Protect land significant to drinking water protection, wildlife habitat, natural resource protection and climate change (for carbon storage)			
Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
<p>Action 2.1: Revise the Town's list of high- priority parcels which are not currently protected for potential acquisition or protection by other means.</p> <ul style="list-style-type: none"> Possible candidates include unprotected parcels within the Round Pond and Gravelly Pond watersheds; remaining unprotected woodlands north of Route 128; parcels in the "Western Woods"; parcels that would link existing parcels to create greenway corridors including Wyman Hill, Great Hill, and Owl's Nest Nature Preserve; and the Eaglehead Wildlife Study Area. Consideration should be given to those areas identified in the BioMap2 (or, <i>Biomap3 when available</i>), created by the <i>Massachusetts Natural Heritage and Endangered Species Program</i>. The <i>BioMap2</i> project includes a report for the town of Manchester which should be consulted when identifying high-priority parcels. 	OSRC, ConCom, MCST, TP, ZBA/Planning Board, LLTs, NC	HIGH Year 1 Short-term	Volunteer and/or Staff Time State Grants
Action 2.2: Using the list created in Action 2.1 , set priorities and actions for each parcel (e.g., acquisition, conservation restrictions, Conservation Commission management)	OSRC, ConCom, MCST, WWAC, MCST	HIGH Year 1 Short-term	Volunteer and/or Staff Time

<p>Action 2.3: Initiate steps to acquire or protect those high-priority parcels identified in Action 2.2.</p> <ul style="list-style-type: none"> • Seek allies among other local nonprofits to help encourage conservation outcomes for these parcels. • Work with Town Planner and Planning Board to identify and assess zoning bylaws that protect resource values. (or perhaps this is an action on its own – whereby parties evaluate zoning bylaws to strengthen resource protection – clustering, LID, etc. are all valid resource protection tools). • Seek Town Meeting votes to conserve or protect the resource values of the Town-owned undisturbed parcels in the Gravelly/Round Pond watershed recently identified by the Assessors and those in the Western Woods. 	<p>OSRC, TP, PB, ConCom, LLTs, NC</p>	<p>HIGH Year 2 - 7 Short- to long-term</p>	<p>CPA; DCSG; MET; Town funds</p>
<p>Action 2.4: Maintain an ongoing <u>inventory of parcels</u> that need additional protection through acquisitions, dedications, or conservation restrictions. These include parcels that are important for water supply protection, wildlife habitat and natural resource protection. Reassess and update the inventory annually and apply it to Manchester's online mapping utility.</p>	<p>OSRC, ConCom</p>	<p>HIGH Year 1 – 7 Ongoing</p>	<p>Volunteer and/or Staff Time; Town budget for mapping services</p>
<p>Action 2.5: Create an informal group of representatives from abutting municipalities to discuss environmental issues that span municipalities, re topics of watershed, open space, climate change, etc. Involve organizations that promote regional efforts such as MAPC's North Shore Coalition and North Shore Task Force.</p>	<p>OSRC, ConCom</p>	<p>MEDIUM Year 2 - 7 Short- to long-term</p>	<p>Volunteer and/or Staff Time</p>
<p>Action 2.6: Ensure the installation of permanent survey monuments demarcating the 400-foot radius around the Lincoln Street well as specified in the Order of Conditions (#39-0800, Conditions #46 and #56) for the new Memorial School.</p>	<p>ConCom</p>	<p>–</p>	<p>–</p>

Goal 3: Manage existing town-owned or town-managed open space parcels for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.

Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
<p>Action 3.1: Identify all town-owned or town-managed open space parcels that would benefit from: maintenance of existing trails; creation of new trails; clean-up of trash and garbage; new or improved signage; and management of trees and vegetation. Consider each for possible ADA improvements.</p> <ul style="list-style-type: none"> • Management of trees and vegetation would include identification and removal of invasive species; removal of dead or dying trees that pose a threat to the public; and restoration of degraded areas. • Work with land trusts with adjoining properties to create management agreements. 	ConCom, OSRC, DPW, ADA, LLTs	MEDIUM Year 1-3 Short-term and Ongoing	Volunteer and/or Staff Time
<p>Action 3.2: Prioritize those parcels identified in Action 3.1 and create management plans for those identified as high priorities.</p> <ul style="list-style-type: none"> • In addition to maintenance and improvement activities, the management plans should clearly define the appropriate uses for existing trails and parcels to avoid conflict between user groups and to protect sensitive natural resources. The plans should also include estimate budgets and identification of funding resources. 	ConCom, TP, OSRC, WWAC	MEDIUM Year 1 Short-term	Volunteer and Staff Time, CPA
<p>Action 3.3: Create a plan for the Western Woods for acquiring or protecting parcels, forest management, trail maintenance, creation of access and parking areas.</p> <ul style="list-style-type: none"> • Create a Western Woods webpage where all relevant information and documents can be posted. 	, TP/ ConCom, OSRC,	HIGH Year 1 - 2 Short-term	CPA, Volunteer and/or Staff Time
<p>Action 3.4: Create a plan to provide public access to the restored Central Pond area of Sawmill Brook.</p> <ul style="list-style-type: none"> • Include walkways and educational signage. • Improve the town-owned area on the northeast side of the pond with benches and plantings. 	BOS, ConCom, OSRC	HIGH Year 3-7 Mid-to long-term	CPA, Volunteer and/or Staff Time, Town Funds

Goal 4: Promote awareness, enjoyment and stewardship of Manchester's open space parcels and natural resources through outreach and education.

Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
Action 4.1: Continue to update the Open Space and Recreation webpage where the public can access information about open space areas that are open to the public (both town-owned and other) including parcel descriptions, trail maps, and use.	OSRC, ConCom	LOW Ongoing	CPA, Volunteer and/or Staff Time
Action 4.2: Create trail maps of existing town-owned open space parcels in both paper and electronic form (GIS) for use by the public. Coordinate volunteer efforts to help map the parcels (e.g., Scouts, Cape Ann Trail Stewards).	OSRC, ConCom, LLTs	MEDIUM Start in Year 1 Short-term; then ongoing	Volunteer and/or Staff Time
Action 4.3: Plan and hold events which would enhance and promote town-owned open space. Events could include trail cleanup days; removal of invasive species; coordinated "theme" walks; etc. Partner with local organizations such as Mass Audubon, MECT, Cape Ann Trails Stewards, local school groups and others.	OSRC, LLTs, CATS, SSCW	MEDIUM Year 1 - 7 Ongoing	Volunteer and/or Staff Time
Action 4.4: Promote awareness and recognition of the state BioMap2 or, <i>BioMap3</i> when it's available) and what it means to biodiversity and how this relates to Manchester's open space parcels. <i>BioMap2</i> was created by the Massachusetts Natural Heritage and Endangered Species Program and includes a report for the town of Manchester. (See Appendix F.)	OSRC	MEDIUM Start in Year 2 Short-term; then ongoing	Volunteer and/or Staff Time
Action 4.5: Initiate outreach programs to local school and youth groups to encourage environmental education and an appreciation of Manchester's natural resources.	PRD/PRC, OSRC	MEDIUM Start in Year 1 Short-term; then ongoing	Volunteer and/or Staff Time

Goal 5: Identify the town's recreational needs and create action plans to address those needs.

Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
<p>Action 5.1: Continue to maintain the inventory of all existing town-owned recreational areas including playing fields, parks, and beaches.</p> <ul style="list-style-type: none"> Assess each one for frequency of use, condition, need for improvement or management, ADA compliance, etc. Follow-through on recommendations, especially for high priority fields and recreational parcels. 	PRD/PRC, DPW, ADA	HIGH Year 1 Short-term; then ongoing	Volunteer and/or Staff Time
<p>Action 5.2: Use the new Athletic Field Master Plan (2020) to prioritize playing fields that will need improvement or repairs over the next seven years (e.g., parking lot and flooding issues at Sweeney Park). Prioritize recreational parcels for the same.</p> <ul style="list-style-type: none"> Create and initiate plans for improvements to priority parcels Refer to Chapter 5 of the Athletic Field Master Plan for specific design recommendations 	PRD/PRC, DPW	HIGH Year 1 Short-term; then ongoing	Capital Funds, CPA, Volunteer and/or Staff Time
<p>Action 5.3: Support the creation of playing fields in the Town as referenced in the Athletic Field Master Plan.</p> <ul style="list-style-type: none"> Help find funding sources through grants and private donations that would supplement CPA funding. 	DFASC, PRD/PRC	MEDIUM Start in Year 1 Short-term; then ongoing	Volunteer and/or Staff Time
<p>Action 5.4: Support the creation of a multi-use athletic court (e.g., pickleball, tennis, bocce) at the old Skate Park site on Summer St. A multi-sport court will maximize the Town's usable recreation space.</p>	PRD, PRC	MEDIUM Start in Year 1 Short-term	CPA
<p>Action 5.5: Continue to explore and implement ways to make Manchester more bicycle and pedestrian friendly including working with the Police, the DPW, the BOS, and the MERSD administration through a combination of infrastructure improvements, safety training and community involvement.</p>	BPC	HIGH Start in Year 1 Short-term; then ongoing	Volunteer and/or Staff Time

Action 5.6: Develop an interactive website that shows points of interest, parking, walking and biking routes, bike stores, and perhaps restaurants and stores, with an additional reporting feature.	BPC	LOW Year 5 - 7 Long-term	Volunteer and/or Staff Time
Action 5.7: Map in-town walking paths within Manchester (e.g., from train station and parking lots to Singing Beach and other locations). <ul style="list-style-type: none"> Integrate the locations of the new Longevity Benches⁵⁵ that have been installed in town. Investigate existing maps/walks that may exist (e.g., historic walks) and make them known to the public. 	BPC, DPW, ADA	LOW Year 5 - 7 Long-term	Volunteer and/or Staff Time, CPA
Action 5.8: Continue to update town infrastructure improvements needed for safer biking and walking to include sidewalks, crosswalks, signage, speed limits and bike lanes so that they can be addressed by DPW.	BPC, DPW, ADA	MEDIUM Year 5 - 7 Long-term	Volunteer and/or Staff Time, CPA, Safe Routes to School funding

Goal 6: Promote the use and improvement of the town-owned waterfront resources for the purposes of water-related activities.

Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
Action 6.1: Continue to update the inventory of existing town-owned and publicly accessible docks and piers. <ul style="list-style-type: none"> Assess each site for frequency of use; condition, need for improvement or management, ADA compliance, etc. Replace Tuck's Point docks in 2021. Investigate expansion of docking facilities at Morss Pier for public use. 	HM, HAC, ADA	HIGH Year 1 Short-term and ongoing	Volunteer and/or Staff Time, Grants

⁵⁵ Find more information on the Longevity Bench Project by visiting <https://www.longevitybenchproject.org/>

Action 6.2: Work towards improving town docks and piers to ensure that facilities are publicly accessible and ADA compliant.	HM, HAC, ADA	HIGH Year 1 Short-term and ongoing	Volunteer and/or Staff Time
Action 6.3: Construct a small boat launch facility at Tuck's Point.	HM, HAC	MEDIUM Year 1 Short-term	Staff Time, Seaport Grant

Goal 7: Continue to advocate for accessibility by ensuring that town officials, boards and committees are aware of Universal Design Standards and ADA requirements and that ADA considerations are incorporated into town projects.

Actions:	Responsible Parties	Priority/ Time Frame	Potential Funding Sources
Action 7.1: In order to improve accessibility to Manchester's parks and open spaces and serve the recreation needs of all residents, the Town should adopt and integrate universal design principles and programming. ⁵⁶	ADA, DPW, OSRPAC	HIGH Ongoing	—
Action 7.2: Monitor the implementation of the latest ADA Transition Plan.	ADA	HIGH Year 2 Short-term	Volunteer and/or Staff Time
Action 7.3: Monitor the enhancement and maintenance of the existing ADA Advisory Committee webpage including information (and links) regarding new and/or updated regulations to keep town employees, boards and committees informed of these changes.	ADA	MEDIUM Year 1 Short-term and ongoing	Volunteer and/or Staff Time
Action 7.4: Participate in research, planning and monitoring for Phase II of the Downtown Improvement Project (DIP) to guarantee that all routes meet Mass. accessibility standards.	ADA, DIPC	HIGH Year 3-7 Mid-to long-term	Volunteer and/or Staff Time

⁵⁶ Programs are available for training on Universal Design principles and application.

Action 7.5: Continue to recognize businesses and facilities that prioritize accessibility and accommodate residents of all abilities by honoring them with the prestigious Access Award⁵⁷.

ADA

HIGH
Ongoing

Volunteer and/or
Staff Time

⁵⁷ Find more information about the Access Award and the award criteria by visiting <https://manchester.ma.us/332/ADA-Advisory-Committee>

State and Federal Funding Sources

Local Acquisitions for Natural Diversity (LAND) Program

The LAND Program (formerly the Self-Help Program) was established in 1961 to assist municipal conservation commissions acquiring land for natural resource and passive outdoor recreation purposes. Lands acquired may include wildlife, habitat, trails, unique natural, historic, or cultural resources, water resources, forest, and farmland. Compatible passive outdoor recreational uses such as hiking, fishing, hunting, cross-country skiing, bird observation and the like are encouraged. Access by the general public is required. This state program pays for the acquisition of land, or a partial interest (such as a conservation restriction), and associated acquisition costs such as appraisal reports and closing costs.

Parkland Acquisitions and Renovations for Communities (PARC) Program

The PARC Program (formerly the Urban Self-Help Program) was established in 1977 to assist cities and towns in acquiring and developing land for park and outdoor recreation purposes. Any municipality with a population of 35,000 or more year-round residents, or any city regardless of size, that has an authorized park/recreation commission is eligible to participate in the program. Only projects that are to be developed for suitable outdoor recreation purposes, whether active or passive in nature, shall be considered for funding. Grants are available for the acquisition of land and the construction, or renovation of park and outdoor recreation facilities, such as swimming pools, zoos, athletic play fields, playgrounds and game courts. Access by the general public is required.

Land and Water Conservation Fund (LWCF)

This is a federal program administered by the State Division of Conservation Services for the acquisition and development or renovation of park, recreation, and conservation land. The Federal Land & Water Conservation Fund (P.L. 88-578) provides up to 50% of the total project cost for the acquisition, development, and renovation of park, recreation, or conservation areas. Municipalities, special districts, and state agencies are eligible to apply. Nearly 4000 acres have been acquired and hundreds of parks renovated using the \$95.6 million that Massachusetts has received from the state side portion of the federal program since 1965. DCS administers the state side Land & Water Conservation Fund program in Massachusetts. Access by the general public is required.

Recreational Trails Grant Program (RTGP)

The Recreational Trails Program provides grants ranging from \$2,000 to \$50,000 on a reimbursement basis for a variety of trail protection, construction, and stewardship projects throughout Massachusetts. It is part of the National Recreational Trails Program, which is funded through the Federal Highway Administration (FHWA). Funds are disbursed to each state to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. In Massachusetts, funds are administered by the Department of Conservation and Recreation (DCR), in partnership with the Massachusetts Recreational Trails Advisory Board.

Drinking Water Supply Protection grant program (DWSP)

The DWSP grant program provides financial assistance to public water systems and municipal water departments for the purchase of land or interests in land for:

- Protection of existing DEP-approved public drinking water supplies
- Protection of planned future public drinking water supplies; or
- Groundwater recharge

Community Preservation Act

The establishment of a real estate transfer tax was signed into law on September 14, 2000 as the Community Preservation Act (CPA). CPA is a tool for communities to preserve open space, park and recreational facilities, historic sites, and affordable housing. The Community Preservation Act is statewide enabling legislation that allows cities and towns to exercise control over local planning decisions by providing a funding source which can be used to address three core community concerns:

- Acquisition and preservation of open space
- Improve park and recreation facilities
- Creation and support of affordable housing
- Acquisition and preservation of historic buildings and landscapes

A minimum of 10% of the annual revenues of the fund must be used for each four core community concerns. The remaining 70% can be allocated for any combination of the allowed uses. This gives each community the opportunity to determine its priorities, plan for its future, and have the funds to make those plans happen.

The Town of Manchester-by-the-Sea adopted the Community Preservation Act in 2005, implementing a 1.5% property tax surcharge rate and establishing a Community Preservation Committee (CPC). The CPC recently updated the Town of Manchester's FY2021-2025 Community Preservation Plan, which includes an analysis of local needs, goals for CPA program areas (i.e., Housing, Open Space and Recreation, Historic Preservation), as well as priorities and potential projects to utilize CPA funding over the coming years. The Plan functions as an informational document and as a blueprint for the CPC to guide their recommendations to Town Meeting for project funding.

Section 10: Letters of Support

- Manchester Select Board Letter
- Manchester Planning Board Letter
- MAPC Letter



MANCHESTER-BY-THE-SEA

SELECT BOARD

• TOWN HALL

Manchester-by-the-Sea, Massachusetts 01944-1399

Telephone (978) 526-2000

FAX (978) 526-2001

May 9, 2022

The Executive Office of Energy and Environmental Services
Melissa Cryan, Grant Program Supervisor
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Cryan,

Following a careful review and a discussion of the draft 2022 Open Space and Recreation Plan during several Select Board meetings the Manchester Select Board, after a unanimous vote, is pleased to provide this letter in support of the Plan's goals and recommendations.

The Plan provides a comprehensive history, an up-to-date accounting of existing conditions and a step by step process for addressing identified goals.

The Select Board shares the Plan's stated goals of:

- identifying opportunities to protect land significant to drinking water quality, wildlife habitat, biodiversity, flood control, and resiliency;
- supporting the provision of recreation facilities, including developing new sports fields and managing and expanding open space trails; and
- helping to create a more walkable and bikeable community.

The Board looks forward to final approval of the Town's 2022 Open Space and Recreation Plan and continuing its work to implement the Plans recommendations and meet the Town's open space and recreation goals.

Sincerely,

Gregory T. Federspiel, Town Administrator
On behalf of the Select Board

MANCHESTER-BY-THE-SEA PLANNING BOARD



TOWN HALL

10 Central Street

Manchester-by-the-Sea, Massachusetts 01944

Chair, Ronald Mastrogiacomor

mastrogiacomor@manchester.ma.us

April 11, 2022

The Executive Office of Energy and Environmental Services

Melissa Cryan, Grant Program Supervisor

100 Cambridge Street, Suite 900

Boston, MA 02114

Dear Ms Cryan,

The Manchester Planning Board is responsible for providing guidance on a range of issues, from housing to public facilities, economic development and preservation and recognizes the importance of balancing the town's varied needs. The Board appreciates the opportunity we have had to take part in updating the Town's Open Space and Recreation Plan and is happy to provide a letter in support of the Plan's goals and recommendations.

The Planning Board also looks forward to working with the Open Space and Recreation Plan Committee and other departments, boards and committees to implement the Plan's recommendations including:

- identifying opportunities to protect land significant to drinking water quality, wildlife habitat, biodiversity, flood control, and resiliency;
- supporting the creation of playing fields and other recreational facilities; and
- helping to preserve the character of the town and natural resources.

The Board would like to recognize the efforts of the Plan's Project Manager, Mary Reilly, the Open Space and Recreation Plan Committee and the Project Steering Committee which was inclusive of many interests. These Town representatives, along with the MAPC Consultant team undertook a thoughtful public engagement plan in spite of the challenges of the Covid Pandemic to solicit community input early and often and to seek consensus of the Plan's goals and recommendations.

The Planning Board also wants to thank the project team for consideration of other community plans, including the recently completed Master Plan, the Recreation Fields Master Plan, and multiple sustainability and resilience plans to assure consistency of message and goals.



SMART GROWTH AND REGIONAL COLLABORATION

April 14, 2022

Melissa Cryan
Executive Office of Energy and Environmental Affairs
Division of Conservation Services
100 Cambridge Street
Boston, MA 02114

Re: Manchester-by-the-Sea Open Space and Recreation Plan

Dear Ms. Cryan:

This letter will serve as MAPC's review of the Town of Manchester-by-the-Sea Open Space and Recreation Plan 2021-2028. MAPC enjoyed working with the Town to develop this plan. It was written to comply with the Division of Conservation Services (DCS) guidelines and to integrate a regional perspective on the issues addressed during the planning process. We have also worked to make the plan consistent with the goals and objectives of MetroCommon 2050, the new regional policy plan for the Boston metropolitan area. We believe that the participation of Town staff and the Open Space and Recreation Committee, as well as MAPC's regional perspective, has generated a plan that will help to guide the Town in its continued efforts to improve open space and recreation opportunities and facilities in Manchester-by-the-Sea.

MAPC wishes the best of luck to the Town as it moves forward with implementation of the plan.

Sincerely,

Ralph Willmer, FAICP
Principal Planner and Technical Assistance Program Manager

The results of the Project Team's efforts are a comprehensive, balanced and actionable Open Space and Recreation Plan that will help the Town meet its open space and recreation goals well into the future.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ronald Mastrogiacomo", with a long, sweeping horizontal stroke extending to the right.

Ronald Mastrogiacomo

Planning Board Chair



The Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Charles D. Baker
GOVERNOR

Karyn E. Polito
LIEUTENANT GOVERNOR

Bethany A. Card
SECRETARY

Tel: (617) 626-1000
Fax: (617) 626-1181

June 10, 2022

Courtney Lewis
Metropolitan Area Planning Council
60 Temple Place
Boston, MA 02111

Re: Open Space and Recreation Plan

Dear Mr. Lewis:

Thank you for submitting the Open Space and Recreation Plan for Manchester-by-the-Sea to this office for review and compliance with the current Open Space and Recreation Plan Requirements. I'm pleased to write that the plan has received final approval and the town is eligible to apply for DCS grants through November 2028. Please contact me melissa.cryan@mass.gov if you have any questions or concerns.

Sincerely,

Melissa Cryan

Melissa Cryan
Grant Programs Supervisor

Appendix

Appendix A: ADA Self-Evaluation and Transition Plan (Prepared by IHCD)

Appendix B: Maps

Appendix C: Meeting Agendas, Virtual Forum Presentations, and Public Feedback

Appendix D: OSRP Community Survey

Appendix E: Comments on Draft Plan

Appendix F: Activity and Use Limitation (AUL) Inventory

Appendix G: BioMap2 Report

Appendix H: USGS Soils Map and Report

Appendix A: ADA Self-Evaluation and Transition Plan

Administrative Requirements

A. Designated ADA Coordinator

Greg Federspiel, Town Manager and ADA Coordinator
Manchester-by-the-Sea Town Hall
10 Central Street
Manchester-by-the-Sea, MA 01944
(978) 526-2000

B. Municipal Grievance Procedure

This Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act. It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in employment practices and policies or the provision of services, activities, programs, or benefits by the Town of Manchester-by-the-Sea.

The complaint should be in writing and contain information about the alleged discrimination such as name, address, phone number of complainant and location, date, and description of the problem. Alternative means of filing complaints, such as personal interviews or a tape recording of the complaint, will be made available for persons with disabilities upon request.

The complaint should be submitted by the grievant and/or a designee as soon as possible but no later than 60 calendar days after the alleged violation to:

Greg Federspiel, Town Manager and ADA Coordinator
Manchester-by-the-Sea Town Hall
10 Central Street
Manchester-by-the-Sea, MA 01944
(978) 526-2000

Within 15 calendar days after the receipt of the complaint, ADA Coordinator Federspiel will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, he will respond in writing, and where appropriate, in a format accessible to the complainant, such as large print or audio tape. The response will explain the position of the town of Manchester-by-the-Sea and offer options for substantive resolution of the complaint.

If the response by Town Manager and ADA Coordinator Federspiel does not satisfactorily resolve the issue, the complainant and/or a designee may appeal the decision of the ADA Coordinator within 15 calendar days after the receipt of the response to the Board of Selectmen or their designee. Within 15 calendar days after the receipt of the appeal, the Selectmen or their designee will meet with the complainant to discuss the complaint and possible resolution. Within 15 calendar days after the meeting the Selectmen or their designee will respond in writing and where appropriate, in a format accessible to the complainant, with a final resolution of the complaint.

All written complaints received by ADA Coordinator Greg Federspiel, appeals to the Selectman or their designee, and responses from the ADA Coordinator and Selectmen or their designee will be kept by the Town of Manchester-by-the-sea for at least three years.

C. Public Notification Requirements and Employment Practices



MANCHESTER-BY-THE-SEA PUBLIC NOTICE

Manchester-by-the-Sea, Massachusetts 01944-1399
Telephone (978) 526-4397 FAX (978) 526-2001

The Town of Manchester-by-the-Sea does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services or activities. The Town of Manchester-by-the-Sea does not discriminate on the basis of disability in its hiring or employment practices. This includes practices involving recruitment, personnel actions, leave administration, training, tests, medical exams/questionnaires, social and recreational programs, fringe benefits, collective bargaining agreements and wage and salary administration.

This notice is provided as required by Title II of the Americans with Disabilities Act of 1990.

Questions, concerns, complaints or requests for additional information regarding the ADA may be forwarded to Manchester-by-the-Sea's designated ADA Compliance Coordinator.

Name: Greg Federspiel
Title: Town Manager
Office Address: Town Hall, Manchester-by-the-Sea
Phone Number: 978-526-2000
Days/Hours Available: Mon – Wed, 8:30 am – 5:00 pm
Thurs, 8:30 am – 8:00 pm

Individuals who need auxiliary aids for effective communication in programs and services of the Town of Manchester-by-the-Sea are invited to make their needs and preferences known to the ADA Compliance Coordinator. This notice is available in large print or on audio tape from the ADA Compliance Coordinator.

A handwritten signature in blue ink, appearing to read "Greg Federspiel", is written over the bottom of the text block.

D. Participation of Individuals with Disabilities or Organizations Representing the Disabled Community

Manchester has an active five-member ADA Advisory Committee. Committee members are: Elizabeth Heisey, Lisa Bonneville, Gretchen Wood, Laurie Werle, Joan Snow, and ex-officio member, Greg Federspiel who is the Town Administrator and also the designated ADA Coordinator. The ADA Committee meets on a regular basis to represent the disabled community with the stated mission of achieving “equal access for all citizens in the Town of Manchester-by-the-Sea.”

Program Accessibility

In 2020 the Town of Manchester-by-the-Sea updated its ADA Self-Evaluation and ADA Transition Plan. The plan was prepared by the Institute for Human Centered Design (IHCD). IHCD teams surveyed the Town’s portfolio of facilities and properties including seven (7) public buildings and nine (9) parks/outdoor areas. The accessibility survey of those outdoor facilities and spaces encompassed elements such as accessible routes, walking surfaces, slopes, picnic tables, play areas and recreational areas. In addition, the parking lots associated with those facilities were also surveyed. The accessibility survey of those areas includes elements such as accessible routes and accessible parking spaces.

IHCD submitted separate reports for each facility that was surveyed. To assist in prioritizing accessibility improvements to ensure compliance with the ADA Title II, each of the building and outdoor area reports include an overview that identifies the most substantial accessibility issues and order of magnitude cost estimates for corrective action. Additionally, a detailed catalog that supplements the ADA Self-Evaluation narrative overview is also included. The catalog provides element-by-element photos of compliance issues, location and measurements - when applicable - at each assessed facility accompanied by recommendations and cost estimation for each accessibility issue.

The completed reports are included in the following section.

A. Facility Inventories

The program accessibility obligation does not typically require that every outdoor area be made accessible. As noted before, “when viewed in its entirety” applies to programs for which there are multiple locations for comparable programs. Usually, a public entity determines which method it will use for meeting its program accessibility obligations. When structural changes are made to existing facilities, the changes must comply with the 2010 ADA Standards for Accessible Design. When choosing to purchase equipment or to make structural changes, the public entity should factor in the financial resources required to maintain program accessibility.

Over time, the Town will need to reassess its compliance with program accessibility, and it may become necessary to acquire new accessible equipment or make structural modifications

To determine which outdoor areas must be made accessible, the Town should consider:

- How to provide the program in the most integrated setting appropriate;
- Locations where the activities are offered;
- Which outdoor areas are accessible and to what extent;
- Level of dispersion of the accessible outdoor areas (playgrounds, baseball fields, soccer fields, beaches, etc.,) and convenience to reach them (accessible by car or pedestrian routes).

It is important to note that those elements in existing facilities that are subject to supplemental requirements of the 2010 ADA Standards (e.g. elements for which there are neither technical nor scoping specifications in the 1991 Standards) such as (C) Recreational boating facilities; (D) Exercise machines and equipment; (E) Fishing piers and platforms; (H) Play areas; (J) Swimming pools, wading pools, and spas; and (L) Miscellaneous - (1) Team or player seating and Accessible route in court sports facilities, need to be brought into compliance.

Facility Inventories (Conducted by IHCD & OSRPC)

Evaluations in this document are for properties owned by the Town of Manchester-by-the-Sea, managed by the Board of Selectman or the Conservation Commission. All sites were outdoors (with the exception of bathrooms), and had no entrances, doors, swimming pools, or public phones. Properties that lack any facilities are identified on the ADA Inventory, but are absent from this document, as there are no facilities to evaluate.

Location	Parking	Pathway	Stairs	Toilet Facility	Shower	Ramp	Picnic Area	Water Fountain
1661 Cemetery*	X	✓	✓	X	X	X	X	X
Agassiz Rock	X	X	X	X	X	X	X	X
Ancient Burial Place	X	X	X	X	X	X	X	X
Black Beach	X	✓	X	X	X	X	X	X
Black Cove (West Manchester Beach)	X	X	X	X	X	X	X	X
Brickyard Pond	X	X	X	X	X	X	X	X
Brook St Plgd (Coach Field Plgd)	✓	✓	X	X	X	X	X	✓
Central Pond ¹	X	X	X	X	X	X	X	X
Dexter Pond Conservation Area*	✓	✓	X	X	X	X	X	X
Forest Street Triangle	X	X	X	X	X	X	X	X
Gloucester Border	X	X	X	X	X	X	X	X
Gray's Beach Landing*	✓	X	X	X	X	X	✓	X
Jack's Hill Conservation Area	X	X	X	X	X	X	X	X
Kettle Cove Marsh	X	X	X	X	X	X	X	X

Location	Parking	Pathway	Stairs	Toilet Facility	Shower	Ramp	Picnic Area	Water Fountain
Little Crow Island	X	X	X	X	X	X	X	X
Lobster Cove Beach	X	X	X	X	X	X	X	X
Long Hill*	✓	✓	X	X	X	X	X	X
Magnolia Ave and Overledge Rd	X	X	X	X	X	X	X	X
Magnolia Park (Surf Park)*	✓	✓	X	X	X	X	X	X
Masconomo Park	✓	✓	X	X	X	✓	✓	
Moses Hill Conservation Area	X	X	X	X	X	X	X	X
Pleasant Grove Cemetery	✓	✓	X	X	X	X	X	
Powder House Hill Reservation*	✓	✓	X	X	X	X	X	X
Reed Park	✓	✓	X	X	X	X	X	X
Rosedale Cemetery/ Crowell Chapel	✓	✓	X	✓	X	X	X	X
Round/Gravelly Pond Watershed	X	X	X	X	X	X	X	X
Route 128 Buffer	X	X	X	X	X	X	X	X
Singing Beach	✓	✓	✓	✓	✓	✓	✓	X
Sweeney Park	✓	✓	✓	X	X	X	✓	✓
Tucks Point	✓	✓	X	✓	X	X	✓	✓
Union Cemetery	X	X	X	X	X	X	X	X
Weems Conservation Area	X	X	X	X	X	X	X	X

Western Woods* Brookwood Conservation Area Cathedral Pines Christian Hill Great Hill Conservation Area Hatch Property Wyman Hill Conservation Area	✓	✓	X	X	X	X	X	X
White Beach	✓	X	X	X	X	X	X	X
Wilderness Conservation Area* Cedar Swamp Conservation Area Cheever Commons Conservation Area Millstone Hill Conservation Area	✓	✓	X	X	X	X	X	X
Winthrop Field	X	X	X	X	X	X	X	X

*These sites were assessed by several members of the Open Space and Recreation Plan Committee for ADA accessibility using the "Facility Inventory" Surveys.

¹ This site was under construction at the time of the site visit

1661 CEMETERY

Facility	Evaluation
Parking	<ul style="list-style-type: none">No designated ADA parking; on street parking on Washington Street.
Pathway	<ul style="list-style-type: none">No accessible pathway into the site; stairs from streetAsphalt path located on the western portion of the site
Other	<ul style="list-style-type: none">Located on the corner of Summer and Washington Street, 1661 Cemetery is Manchester's oldest Cemetery.
Recommendations: For the most part, no improvements are needed. The Town may want to consider adding an accessible entrance at the corner of Summer and Washington Street.	

GRAY'S BEACH LANDING

Facility	Evaluation
Parking	<ul style="list-style-type: none">Unmarked parking spaces in small resident only lot; no designated accessible spaces with signs
Pathway	<ul style="list-style-type: none">No accessible path of travel from the parking area
Other	<ul style="list-style-type: none">Sandy beach with boat landing area, small grassy area with bench, and picnic table.
Recommendations: Provide an accessible path of travel from the parking lot to picnic area.	

ROSEDALE CEMETERY/ CROWELL CHAPEL

Facility	Evaluation
Parking	<ul style="list-style-type: none">On street parking available on the north side of Rosedale Avenue; no designated ADA accessible parking spaces
Pathway	<ul style="list-style-type: none">No accessible route to the cemetery or sanctuary.
Other	<ul style="list-style-type: none">The chapel is available for rent for events such as weddings all year long for Manchester by-the-Sea residents; it is also available for nonprofit groups during business hours. The Chapel can accommodate up to 150 people.
Recommendations: Provide an accessible path of travel through the site.	

WESTERN WOODS (Includes: Brookwood Conservation Area, Christian Hill, Great Hill Conservation Area, Hatch Property, and Wyman Hill Conservation Area)

Facility	Evaluation
Parking	<ul style="list-style-type: none">No ADA designated parking
Pathway	<ul style="list-style-type: none">No accessible pathway from limited parking areaVarious hard-packed trails and a gravel road ranging from 4 to 8 feet create a trail network of over six miles that provide for hiking, biking, bird and wildlife viewing in the area
Other	<ul style="list-style-type: none">No marked parking spaces, only a small parking area on Crooked Lane
Recommendations: No improvements are needed at this time.	

WILDERNESS CONSERVATION AREA (Includes: Cathedral Pines, Cedar Swamp Conservation Area, Cheever Commons Conservation Area, and Millstone Hill Conservation Area)

Facility	Evaluation
Parking	<ul style="list-style-type: none">Gravel parking lot located on Southern Avenue.
Pathway	<ul style="list-style-type: none">Hard-packed accessible path of travel from passenger disembarking area and parking area; mostly even surface (gravel)
Other	<ul style="list-style-type: none">Hard-packed trails ranging from 2 to 3 feet run throughout the site
Recommendations: The Town should mark ADA accessible parking spaces at this site.	



Manchester-by-the-Sea, Massachusetts

January 2021



Outdoor Areas

Prepared by the



Institute for Human Centered Design

Black Beach



Town of Manchester-by-the-Sea ADA Transition Plan

February 2020



Institute for Human Centered Design

200 Portland Street, Boston, MA 02114
www.IHCDesign.org • info@IHCDesign.org
617-695-1225 voice/tty

Background

Black Beach is located along Ocean Street at Kettle Cove, with one end of the beach starting approximately 250 feet northeast of White Beach. For environmental reasons related to preserving the dunes, there is just one beach access point. It is located at the northwest end of Black Beach.

There is no parking at Black Beach as indicated by a sign along Ocean Street reading, “No Parking No Lifeguard On Duty Swim at your Own Risk.” Parking is available at White Beach, which is located at 19 Ocean Street. A walkway runs along Ocean Street spanning a portion of Black Beach, but it does not cover the full distance from the west end of the beach to the east end of the beach where the beach access point is located.

Key Accessibility Issues

- Lack of an accessible route that extends to the high tide level.

Order of Magnitude Cost Estimates

- Provide an accessible route that extends to the high tide level of the beach (beach mat): \$4,401

Total: \$4,401



Best Practice and Inclusive Design

Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing benches along Ocean Street.
- Recommend providing a sign with the beach name at both ends of Black Beach, and a sign with a directional arrow and text such as, “Beach Access Point” at the west end of Black Beach.

- Recommend providing a sign with a directional arrow indicating that parking is available at White Beach.
- Recommend extending the walkway along Ocean Street so it spans the full length of Black Beach from the beach access point at the east end to the west end of Black Beach where it is closest to White Beach.

Town of Manchester by the Sea
Black Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Beach Access Routes												
1	Beach Access Point at West End of Beach	Ext.		Beach Access Routes	Removable		Beach route not provided	33'	Provide an accessible route that is firm and stable. (Cost based on 78" wide x 33' long beach mat extending from the start of the beach access route to the top of the dune.)	1	1909	\$1909
2	Route to Ocean by Beach Access Point at West End of Beach	Ext.		Beach Access Routes	Removable		Beach route not provided	50'	Provide an accessible route that is firm and stable. Ensure the accessible route extends from a beach mat at the top of the dune to the high tide level. (Cost based on 78" wide x 50' long beach mat.)	1	2492	\$2492

Coach Field Playground



Town of Manchester-by-the-Sea ADA Transition Plan

March 2020



Institute for Human Centered Design

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617-695-1225 voice/tty

Background

Coach Field Playground is located at the corner of Brook Street and Norwood Avenue at 38 Norwood Avenue. Amenities include Brook Street Field, two tennis courts, a water fountain and benches. Brook Street Field is used for multiple activities including football, field hockey, soccer and lacrosse. Manchester Memorial Elementary School is located near the northeast side of Brook Field, and an unpaved parking lot is located near the southwest side of Brook Field.

Note: Construction equipment blocked access to the tennis courts on the day of the survey. As a result, the tennis courts and the route to the tennis courts were not surveyed. IHCD also did not survey access to the Field from Manchester Memorial High School. IHCD team was told that portable toilets are provided at Coach Field Playground in the non-winter months. No portable toilets were observed on the day of the IHCD survey, but if portable toilets are provided, at least one (1) accessible portable toilet located on an accessible route must also be provided.

Key Accessibility Issues

Exterior Routes

Accessibility issues include lack of a stable, firm and slip resistant accessible route from the parking area to the gate entrance on the southwest side of Brook Field.

Parking

Accessibility issues include lack of a compliant van accessible parking space with access aisle and sign that includes the designation “Van Accessible”.

Drinking Fountain

Accessibility issues include lack of a hi-lo drinking fountain with 30" by 48" clear floor space positioned for a forward approach and 27" min. knee clearance under both fountains.

Additional Accessibility Issues

- Lack of stable, firm and slip resistant clear floor space for at least one (1) bench in the area with benches and water fountains.

Order of Magnitude Cost Estimates

- Provide an accessible route to the entrance at Brook Field: \$2,880
- Provide a compliant van accessible parking space: \$1,100
- Provide a compliant Hi-Lo drinking fountain: \$4,216
- Miscellaneous corrective actions (Clear floor space at bench, etc.): \$90





Total: \$8,286

Best Practice and Inclusive Design



Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing 48" min. wide path from the water fountain and benches to the parking area to prevent visitors from parking in such a way as to block the accessible route to the parking area.

Town of Manchester by the Sea
Coach Field Playground

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Path to Field Entrance Near East End Parking Lot and Norwood Avenue	Ext.		Exterior Access Route	Exterior		Accessible route not provided	-	Ensure an accessible route is provided to the field entrance (gate opening in fence at east end of field). Note: The route from this corner of the parking lot had the least steep running slopes. (Cost based on a 48" wide min. x 90' long stone dust path from parking lot to gate in fence.)	1	2880	\$2880
Off-Street Parking Lot or Garage												
2		Ext.		Off-Street Parking Lot or Garage	N/A		Total # of parking Total # of designated accessible parking spaces Total # of designated van accessible spaces Vehicle space < 132" wide at van space Access aisle < 60" wide at car/van space Sign does not have the designation "Van Accessible"	25 1 - 89" 55"	Provide a van accessible space that is at least 96" wide. Provide a marked access aisle that is at least 96" wide. Add the designation "Van Accessible" to the sign located at the van accessible space. Position sign 60" min. and 96" max. above the ground. (Cost based on re-stripping space and aisle and a sign with "Van Accessible".)	1	1100	\$1100
Access to Goods and Services												
Operable Parts												
3	By East End Parking Lot	Ext.		Operable Parts	N/A		Element not on an accessible route	6"	Ensure dog waste bag dispenser is located on an accessible route. (Relocate dispenser or relocate cement blocking route.)	1	Labor	\$0
Benches												
4	Near East End Parking Lot	Ext.		Benches	N/A		Seating spaces < 36" x 48" (single space)		Provide a 36" by 48" clear floor space that is stable, firm and slip resistant at end of 5% (at least one) bench. Position clear floor space to allow for shoulder alignment with someone seated at the end of the bench for wheeled mobility device users. (Cost based on s 36"x48" asphalt space.)	1	90	\$90
Additional Access												

Town of Manchester by the Sea
Coach Field Playground

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Drinking Fountains												
5	Near East End Parking Lot	Ext.		Drinking Fountains	Hi-Lo		Clear floor space not provided	-	Provide a 30" by 48" clear floor space positioned for a forward approach. Ensure there is 27" min. knee clearance under both fountains. (Cost based on a new Hi-Lo drinking fountain.)	1	4216	\$4216
Best Practice												
Striping												
6	Path From Water Fountain and Benches to East End Parking Lot	Ext.		Striping	N/A				Recommend providing 48" min. wide striping at end of path from water fountain and benches to parking area to prevent visitors from parking in such a way as to block the accessible route.	1	-	\$0

Masconomo Park



Town of Manchester-by-the-Sea ADA Transition Plan

March 2020



Institute for Human Centered Design

200 Portland Street, Boston, MA 02114
www.IHCDesign.org • info@IHCDesign.org
617-695-1225 voice/tty

Background

Masconomo Park is located at 60 Beach Street next to Reed Park and Docks. Amenities include a community bandstand where a summer concert series takes place, a Little League baseball field, benches, picnic tables, a playground, a bike rack and a World War 1 Memorial commemorating U.S. troops meeting General Lafayette in France. Parking is available at a parking lot shared with Reed Park and Docks and on-street along Beach Street. IHCD team did not observe any portable toilets. However, on-line sources indicate that a portable toilet is placed in the park from April through October.

Key Accessibility Issues

Exterior Accessible Routes

Accessibility issues include the lack of an accessible route that connects all the amenities in the park (benches, bike racks, picnic tables, player seating, etc.).

Playground

Accessibility issues include lack of a compliant accessible route around the playground and to and around all play components in the playground.

Note: The Massachusetts Architectural Access Board (MAAB) does not consider engineered wood fiber (EWF) to comply with its regulation requiring an accessible route to each play component and around the playground.

Additional Accessibility Issues

- Lack of an accessible picnic table.
- Lack of a sign with the words “Van Accessible” at one (1) van accessible parking space, and lack of an access aisle at one car accessible parking space.

Order of Magnitude Cost Estimates

- Provide an accessible route to all the amenities in the park (including around the exterior of the playground): \$6,100
- Provide a compliant impact-attenuating surface under and around the play components in the playground (poured-in-place rubber): \$5,760
- Miscellaneous corrective actions (renovate parking, accessible picnic table, etc.): \$2,200





Total: \$14,060

Best Practice and Inclusive Design





Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing a 36" x 48" stable, firm and slip resistant surface at the end of at least one (1) bench positioned to allow shoulder alignment with a person on the bench for someone using a wheeled mobility device.
- Recommend providing a 48" wide stable, firm and slip resistant surface around the exterior of an accessible picnic table that is located on an accessible route.
- IHCD strongly recommends exploring the possibility of an alternative surface to engineered wood fiber (EWF). Overtime, EWF requires continuous maintenance to ensure that the surface is maintained in operable working condition (stable, firm and slip resistant). In addition, when used in combination with other surfaces required for accessible routes to play components in Massachusetts, it will present a challenge to prevent level changes at the transition points between EWF and other surfaces, and to keep the accessible routes clear of EWF.




Town of Manchester-by-the-Sea
Masconomo Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Community Bandstand	Ext.		Exterior Access Route	Walkway		Level changes > 1/4"	2"	Alter change in level to be 1/4" high max. (Maintain stone dust path at base of ramp to bandstand.) (Cost based on 20 square feet of stone dust.)	1	160	\$160
2	Book Share Near WWI Memorial	Ext.		Exterior Access Route			. Accessible route not provided	-	Ensure an accessible route is provided. (Cost base on 6'x48" of stone dust connecting book exchange to stable, firm and slip resistant surface at monument.)	1	192	\$192
Off-Street Parking Lot or Garage												
3	Parking for Masconomo Park and Reed Park and Docks	Ext.		Off-Street Parking Lot or Garage	N/A		Total # of parking Total # of designated accessible parking spaces Total # of designated van accessible spaces Sign does not have the designation "Van Accessible"	55 1 1 -	Add the designation "Van Accessible" to the sign located at the van accessible space.	1	500	\$500
4	Parking for Masconomo Park and Reed Park and Docks	Ext.		Off-Street Parking Lot or Garage	N/A		Access aisle not provided	-	Provide a marked access aisle that is at least 60" wide.	1	300	\$300
Access to Goods and Services												

Town of Manchester-by-the-Sea
Masconomo Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Picnic Tables												
5	Near Playground	Ext.		Picnic Tables	N/A		Toe or knee clearance at table not provided Picnic table not on an accessible route	- -	Provide at least one picnic table in this area with toe and knee clearance. Locate picnic table on an accessible route. (Cost based on an accessible picnic table and a 48" min. wide x 10' long stone dust path to picnic table.)	1	1784	\$1784
Benches												
6	Near Playground	Ext.		Benches	N/A		No accessible route to one bench in this area	-	Provide an accessible route to at least one bench in this area. (Cost based on 18'x48" stone dust path to bench.)	1	576	\$576
Bike Racks												
7	Bike Rack	Ext.		Bike Racks	N/A		Not connected to an accessible route	-	Ensure bike rack is connected to an accessible route. (Cost based on a 12'x48" stone dust path to bike rack.)	1	384	\$384
Play and Sport Areas												
Play Areas												
8	Playground	Ext.		Play Areas	N/A		Accessible route not provided at play components Surface not stable, firm, and slip-resistant	- -	Provide a compliant impact-attenuating surface under and around the play components and a stable, firm and slip resistant route around the playground. (Cost estimate for 150 sq. ft. of poured in place rubber surface and 180' x 48" min. of stone dust completing a path around the playground.)	1	7860	\$7860

Town of Manchester-by-the-Sea
Masconomo Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Field												
9	Baseball Field First Base Side	Ext.		Field	Baseball		Not connected to an accessible-route	-	Ensure player seating is connected to an accessible route. (Cost based on a 48" wide min. x 12' stone dust path to team seating on first base side of baseball field.)		384	\$0
10	Baseball Field Third Base Side	Ext.		Field	Baseball		Not connected to an accessible-route	-	Ensure player seating is connected to an accessible route. (Cost based on a 48" wide min. x 60' stone dust path to team seating on third base side of baseball field.)	1	1920	\$1920
Best Practice												
Bench												
11	Near Entry	Ext.		Bench	N/A				Recommend providing a 36"x48" stable, firm and slip resistant surface at end of bench positioned to allow shoulder alignment with a person on the bench for someone using a wheeled mobility device.	1	-	\$0

Pleasant Grove Cemetery



Town of Manchester-by-the-Sea ADA Transition Plan

February 2020



Institute for Human Centered Design

200 Portland Street, Boston, MA 02114
www.IHCDesign.org • info@IHCDesign.org
617-695-1225 voice/tty

Background

Pleasant Grove Cemetery is located at the corner of Pleasant and Pine Streets at 128 Pine Street. It is one of five (5) cemeteries in Manchester-by-the-Sea and contains approximately 1,162 memorials. New plots are only available for purchase by residents of the town. Vehicles can enter the cemetery grounds, and on-street parking is available bordering the cemetery.

Accessibility Issues

Minor accessibility issues include a lack of water spigots that are on an accessible route and that have water control hardware that does not require tight grasping, pinching, or twisting of the wrist.

Order of Magnitude Cost Estimates

- Miscellaneous corrective actions (accessible route to water spigots, spigot hardware, etc.): \$884



Total: \$884

Best Practice and Inclusive Design

Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing benches at several locations in the cemetery grounds, placing benches on an accessible route, and including some benches with and some benches without armrests.

Town of Manchester by the Sea
Pleasant Grove Cemetery

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Access to Goods and Services												
Operable Parts												
1	Cemetery Grounds	Ext.		Operable Parts	N/A		Element not on an accessible route Not operable with a closed fist	- -	Ensure 5% of the water spigots are located on an accessible route. Provide hardware that can be operable with one hand and does not require tight grasping, pinching, or twisting of the wrist. (Cost based on a 48" wide min. x 6' long stone dust path to a water spigot and accessible spigot hardware that can be used with a closed fist.)	2	442	\$884
Best Practice												
Benches												
2	Cemetery Grounds	Ext.		Benches	N/A				Recommend providing benches at several locations in the cemetery grounds, placing benches on an accessible route, and including some benches both with and without armrests.	1	-	\$0

Reed Park and Docks



Town of Manchester-by-the-Sea ADA Transition Plan

February 2020



Institute for Human Centered Design

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617-695-1225 voice/tty

Background

Reed Park is a small park located at Beach Street next to Masconomo Park. Amenities include a pier and benches. Parking is available at the parking lot located near Masconomo Park and on-street parking on Beach Street.

Note: The dock area was closed the day of the visit and was not surveyed.

Key Accessibility Issues

Accessible Routes

The major accessibility issue is the lack of an accessible route that connects all the amenities in the park (benches and bike racks).

Order of Magnitude Cost Estimates

Provide an accessible route to all the amenities in the park:
\$2,880

Total: \$2,880*





***Note:** The dock was closed the day of the visit and was not surveyed.

Best Practice and Inclusive Design


Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing an accessible parking space near the entrance to the park (Beach Street).
- Recommend providing a sign with the park name.

Town of Manchester-by-the-Sea
Reed Park and Docks

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Beach Street - South Side	Ext.		Exterior Access Route	Exterior				This area was closed the day of the visit and was not surveyed.	1	-	\$0
Access to Goods and Services												
2	Beach Street - South Side	Ext.					Not connected to an accessible route		Locate information on an accessible route.	1	Labor	\$0
Benches												
3	Beach Street - East Side	Ext.		Benches	N/A		No accessible route to one bench in this area	-	Provide an accessible route to at least one bench in this area. (Cost based on 60 ft. long by 48 inches wide stone path.)	1	1920	\$1920
Bike Racks												
4	Beach Street - West Side	Ext.		Bike Racks	N/A		Not connected to an accessible route		Ensure bike racks are connected to an accessible route. (Cost based on 30 ft. long by 48 inches wide stone path.)	1	960	\$960
Best Practice												

Town of Manchester-by-the-Sea
Reed Park and Docks

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Parking												
5	Church Street	Ext.		Parking	N/A				Recommend providing one on-street accessible parking space near the entrance to the park.	1	-	\$0

Crowell Chapel



Town of Manchester-by-the-Sea ADA Transition Plan

February 2020



Institute for Human Centered Design

200 Portland Street, Boston, MA 02114
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617-695-1225 voice/tty

Background

Year Built: 1904

Crowell Chapel is located at 4 Rosedale Avenue. The chapel is available for rent for events such as weddings all year long for Manchester by-the-Sea residents; it is also available for non-profit groups during business hours. The Chapel can accommodate up to 150 people. Parking around Crowell Chapel is available on the north side of Rosedale Avenue.

Key Accessibility Issues

Assembly Area

Accessibility issues include lack of the required number of accessible wheelchair spaces in the chapel area and lack of an assistive listening system.

Note: Where a sound system, microphone and/or speaker are integral to the use of the space an assistive listening system must be provided. If an assistive listening system is present, a sign indicating its availability is required.

Single-User Toilet Room

The major accessibility issue is the lack of an accessible toilet room.

Additional Accessibility Issues





- Lack of an accessible route to the sanctuary.
- Lack of a beveled threshold at the main entrance.
- Excessive opening force is required to open the door (main entrance).
- Lack of the International Symbol of Accessibility (ISA) at the illuminated sign (main entrance).
- Lack of securely attached walk-off mats.

Order of Magnitude Cost Estimates


- Provide a single-user toilet room: \$24,604
- Miscellaneous corrective actions (portable ramp (sanctuary area), threshold, ADA compliant mat, etc.): \$850

Total: \$25,454

Town of Manchester by-the-Sea
Crowell Chapel

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Entrance												
1	Main Entrance	1		Entrance	Main Entrance		Threshold not beveled Door requires > 15 lbs. of force to open	- 17 lbs	Bevel threshold. Adjust closers so doors do not require more than 15 pounds of force.	1	150	\$150
Access to Goods and Services												
Means of Egress												
2	Main Entrance	1		Means of Egress	N/A		Illuminated ISA symbol not provided (MAAB)	-	Provide an illuminated sign with the International Symbol of Accessibility (ISA).	1	200	\$200
Assembly Area												
3	Chapel	1		Assembly Area	N/A		Minimum # wheelchair spaces not provided	-	Provide comparable accessible seating as needed.	1	Labor	\$0
4	Alter	1		Assembly Area	N/A		Accessible route to stage not provided	-	Provide a portable ramp as needed to ensure an accessible route to the stage.	1	500	\$500
Toilet & Bathing Rooms												

Town of Manchester by-the-Sea
Crowell Chapel

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Overall Access												
5	Single-User Toilet Room	1		Overall Access	Toilet Room		Turning space not provided Accessible plumbing fixtures or stalls not provided	- -	Provide an accessible single-user toilet room.	1	24604	\$24604

Singing Beach



Town of Manchester-by-the-Sea ADA Transition Plan

March 2020



Institute for Human Centered Design

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Background

Singing Beach is located at 119 Beach Street. Amenities include men’s and women’s multi-user toilet/bathing rooms, an accessible single-user toilet room, a ramp to a viewing platform with benches, a dog waste bag dispenser, picnic tables and a concession stand. Additional amenities include a parking lot with approximately 100 spaces including an accessible van and an accessible car parking space and a loading zone located on the north side of the beach. Two additional car accessible parking spaces are located near the viewing platform.

Key Accessibility Issues

Exterior

Accessibility issues include lack of an accessible route that extends to the high tide level at the beach and lack of an accessible route to the bike racks. Other accessibility issues include lack of a compliant loading zone (near the concession stand), and lack of an accessible route from the walkway to the parking lot.

Toilet and Bathing Rooms

Accessibility issues include lack of accessible wheelchair compartments, lack of accessible changing areas and lack of compliant transfer showers. Other accessibility issues include lack of insulated pipes at the lavatories, mirrors and hand dryers mounted higher than the maximum height allowed and lack of beveled thresholds. Additional accessibility issues include lack of compliant designation signs, lack of directional signs at the emergency exits in the toilet rooms, and a rear grab bar that is shorter than the minimum required in the single-user toilet room.

Additional Accessibility Issues

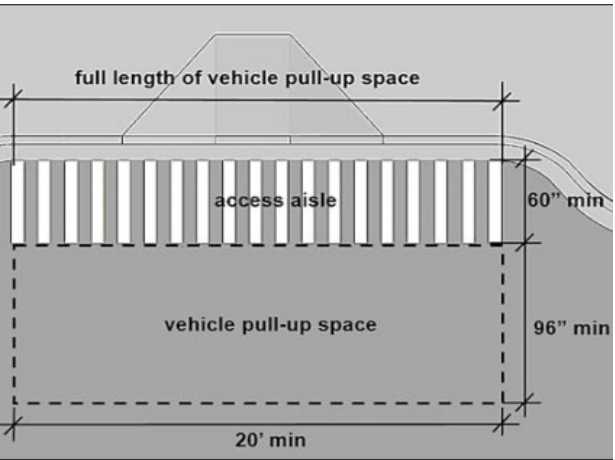
- Lack of a compliant service counter at the concession stand.
- Lack of an accessible picnic table (with knee clearance).
- Faded striping at car accessible parking spaces near viewing platform.

Order of Magnitude Cost Estimates

- Provide an accessible route that extends to the high tide level (beach mat): \$7,464
- Provide a compliant loading zone (access aisle and curb ramp): \$3,400* - see diagram
- Provide two (2) compliant accessible wheelchair compartments, two (2) compliant transfer showers, two (2) compliant changing areas. Ensure all amenities are compliant (lavatories, hand dryers and mirrors): \$47,094
- Provide compliant signage (designation, egress and directional): \$1,774
- Miscellaneous corrective actions (picnic table, service counter, etc.): \$3.426

Total: *\$63,158

***Note:** Cost to remove stones at exterior route to beach not provided.



Accessible Passenger Loading Zone





Best Practice and Inclusive Design

Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.





Singing Beach

- Recommend providing 36"x 48" clear floor space at one end of the bench on the viewing platform.
- Recommend closing risers and providing handrails on both sides of stairs descending from the viewing platform.






Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Towards Parking Lot	Ext.		Exterior Access Route	Walkway		Running slope > 1:20 (5.00%)	6%	Reduce the running slope to be no steeper than 1:20 (5.00%).	1	240	\$240
Beach Access Routes												
2	Beach Access Route	Ext.		Beach Access Routes	Removable		Beach route not provided	-	Provide an accessible route that is firm and stable. Ensure the accessible route extends to the high tide level. (Cost based on 78" wide 100' and 33' beach mats combined to reach high tide level.)	1	6484	\$6484
3	Walkway From Parking to Beach	Ext.		Beach Access Routes	Removable		Beach route not provided Surface is not firm and stable	- -	Ensure surface at the accessible route is firm and stable. (Remove uneven stones, provide beach mat joining beach mat to high tide level.) (Cost for 78" wide 6.5' long beach mat. Cost to remove stones not provided.)	1	980	\$980
Off-Street Parking Lot or Garage												
4	Accessible Parking Spaces Near Viewing Platform	Ext.		Off-Street Parking Lot or Garage	Visitor		Access aisle not compliant	-	Restripe both car accessible parking spaces.	2	300	\$600






Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Passenger Loading Zones												
5	Passenger Loading Zone	Ext.		Passenger Loading Zones	N/A		Not connected to an accessible route Access aisle not provided		Provide a curb ramp to ensure the passenger loading zone is connected to an accessible route. Provide a marked access aisle that is at least 60" wide and that extends the full length of the vehicle. (Cost based on a marked access aisle and a new curb ramp.)	1	3400	\$3400
6	Passenger Loading Zone	Ext.		Passenger Loading Zones	N/A		ISA not provided	-	Add the International Symbol of Accessibility (ISA) to the sign.	1	500	\$500
Entrance												
7	Toilet Rooms	Ext.		Entrance	Secondary Entrance		Entrance not on an accessible route Directional sign to accessible entrance not provided	- -	Provide a directional sign indicating the location of the nearest accessible entrance.	1	346	\$346
Access to Goods and Services												
Interior Access Route												
8	Toilet and Bathing Room Area	1		Interior Access Route	Interior		Obstructed by protruding objects	-	Relocate object./Provide a cane-detectable barrier.	1	306	\$306





**Town of Manchester-by-the-Sea
Singing Beach**

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Doors, Doorways, & Gates												
9	Women's Toilet Room	1		Doors, Doorways, & Gates	Toilet Room		Maneuvering clearance(s) not provided	-	Relocate boats to maintained the required maneuvering clearance at the doorway.	1	Labor	\$0
10	Women's Toilet Room	1		Doors, Doorways, & Gates	Toilet Room		Threshold not beveled	-	Bevel threshold.	1	150	\$150
Signage												
11	Women's Changing Area	1		Signage	Egress		Not provided Directional sign to accessible emergency exit not provided Raised characters not provided	- -	Provide a directional sign indicating the location of the nearest accessible emergency exit. Provide text with raised characters duplicated in braille located on the latch side of the door.	1	232	\$232
12	Men's Toilet Room	1		Signage	Egress		Not provided Raised characters not provided	- -	Provide a directional sign indicating the location of the nearest accessible emergency exit. Provide text with raised characters duplicated in braille located on the latch side of the door.	1	232	\$232
13	Men's Toilet Room	1		Signage	Designation		Raised characters not provided	-	Provide text with raised characters duplicated in braille.	1	232	\$232






Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
14	Women's Toilet Room	1		Signage	Designation		Raised characters not provided Braille not provided	- -	Provide text with raised characters duplicated in braille.	1	232	\$232
Service Counter												
15	Concession Stand	Ext.		Service Counter	N/A		Counter > 36" high	40.5"	Provide a counter that is 36" max. above the ground.	1	880	\$880
Operable Parts												
16	Near Beach	Ext.		Operable Parts	N/A		Element not on an accessible route	-	Ensure dog waste bag dispenser is located on an accessible route. (Relocate dispenser so it is at a surface that is stable, firm and slip resistant.)	1	Labor	\$0
17	Women's Toilet Room	1		Operable Parts	N/A		Reach < 15" or > 48"(forward/side approach)	68"	Mount at least one coat hook 48" above the finished floor.	1	256	
Picnic Tables												
18	Accessible Parking Spaces Near Viewing Platform	Ext.		Picnic Tables	N/A		Toe or knee clearance at table not provided Picnic table not on an accessible route	- -	Provide at least one picnic table with toe and knee clearance. Locate picnic table on an accessible route.	1	1400	\$1400




Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Bike Racks												
19	By Toilet Rooms - South Side	Ext.		Bike Racks	N/A		Not connected to an accessible route	-	Ensure bike racks are located on an accessible route.	1	Labor	\$0
Toilet & Bathing Rooms												
Overall Access												
20	Women's and Men's Toilet Rooms	1		Overall Access	Toilet Room		Turning space not provided Accessible plumbing fixtures or stalls not provided	- -	Provide one accessible wheelchair compartment in both the women's and men's toilet room.	2	6182	\$12364
Lavatory												
21	Single-User Toilet Room	1		Lavatory	N/A		Exposed plumbing underneath	-	Insulate or otherwise configure pipes to prevent contact, for at least one lavatory.	1	92	\$92
22	Women's Toilet Room	1		Lavatory	N/A		Exposed plumbing underneath Mirror above lavatory w/reflective surface > 40"	- 41"	Insulate or otherwise configure pipes to prevent contact, for at least one lavatory. Lower mirror so that the bottom surface is at 40" max. above finished floor.	1	348	\$348

Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
23	Women's and Men's Toilet Rooms	1		Lavatory	N/A		Exposed plumbing underneath Dispensers not within reach range	- 54"	Insulate or otherwise configure pipes to prevent contact, for at least one lavatory. Relocate dispenser to 42" max. above the floor.	2	798	\$1596
Single-User Toilet												
24	Single-User Toilet Room	1		Single-User Toilet			Rear grab bar < 42" long (MAAB)	36"	Provide a rear wall grab bar that is 42" long min. and extends from the toilet 12" min. on one side and 24" min. on the other side (open side).	1	898	\$898
Changing Area												
25	Men's Changing Area	1		Changing Area	N/A		5% Accessible not provided		Provide at least one accessible changing area with a turning space. Provide a bench that is between 17" - 19" above the finished floor, 48" long and between 20" - 24" wide. Ensure a 30" by 48" is provided adjacent to the bench. Ensure the bench has back support or is affixed to a wall.	1	5866	\$5866
26	Women's Changing Area	1		Changing Area	N/A		5% Accessible not provided		Provide at least one accessible changing area with a turning space. Provide a bench that is between 17" - 19" above the finished floor, 48" long and between 20" - 24" wide. Ensure a 30" by 48" is provided adjacent to the bench. Ensure the bench has back support or is affixed to a wall.	1	5866	
Shower Compartment												
27	Men's Shower	1		Shower Compartment	Transfer Type		Size of shower compartment non compliant	43"x43"	Provide a transfer shower that is 36" by 36"	1	9832	\$9832

Town of Manchester-by-the-Sea
Singing Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
28	Women's Changing Area	1		Shower Compartment	Transfer Type		Size of shower compartment non compliant	43"x43"	Provide a transfer shower that is 36" by 36".	1	9832	\$9832
Best Practice												
Bench												
29	Viewing Platform	Ext.		Bench	N/A				Recommend providing 36"x48" clear floor space at one end of bench on viewing platform.	1	-	\$0
Stairs												
30	Stairs From Viewing Platform	Ext.		Stairs					Recommend closing risers and providing handrails on both sides.	1	-	\$0

Sweeney Park



Town of Manchester-by-the-Sea ADA Transition Plan

March 2020



Institute for Human Centered Design

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Background

Sweeney Park is located at 113 Summer Street. Amenities include two (2) basketball courts, a Little League baseball field with a press box and scoreboard, a softball field, bullpens, a soccer field, a drinking fountain, player and fan seating and the Bill Burgess Canteen concession stand. The main entrance to the park is located Summer Street. On-street parking is available around the park.

Key Accessibility Issues

Exterior

Accessibility issues include lack of an accessible route to the second basketball court, lack of an accessible route to the drinking fountain and to other park amenities.

Play Areas

Accessibility issues include lack of accessible seating at the bleachers located by the basketball court and by the ballfields, lack of clear floor space at the team seating in the baseball field dugouts, and lack of an accessible route to the softball field team seating due to an excessive change in level at the entry to both bullpens.

Additional Accessibility Issues

- Lack of a drinking fountain for standing users.
- Lack of an accessible picnic table (with knee clearance).
- Lack of closed risers at the stair leading to the press box.
- Lack of compliant hardware at the door to the press box and the concession stand.

Order of Magnitude Cost Estimates

- Provide an accessible route to all amenities in the park (basketball court, team and fan seating, etc.): \$15,760
- Provide a drinking fountain for standing users: \$4,028
- Miscellaneous corrective actions (accessible door hardware, closed risers at press box, accessible picnic table, accessible seating at bleachers, etc.): \$3,152





Total: \$22,940

Best Practice and Inclusive Design





Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing a 48" min. stable, firm and slip resistant surface around the accessible picnic table.






Town of Manchester by-the-Sea
Sweeney Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Towards Second Basketball Court	Ext.		Exterior Access Route	Walkway		Accessible route not provided	-	Ensure an accessible route is provided to the second basketball court. (Cost based on 137 ft. long 48" min. wide stone dust path)	1	4384	\$4384
Access to Goods and Services												
Doors, Doorways, & Gates												
2	Press Box	Ext.		Doors, Doorways, & Gates	N/A		Hardware not operable with a closed fist	-	Provide hardware that can be operable with one hand and not require tight grasping, pinching, or twisting of the wrist.	1	484	\$484
3	Bill Burgess Canteen	Ext.		Doors, Doorways, & Gates	N/A		Hardware not operable with a closed fist	-	Provide hardware that can be operable with one hand and not require tight grasping, pinching, or twisting of the wrist.	1	484	\$484
Stairways												
4	Press Box	Ext.		Stairways	Exterior		Stair has open risers	-	Ensure stairs have closed risers. (Cost based on closing four (4) wood risers.)	1	64	\$64



Town of Manchester by-the-Sea
Sweeney Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Picnic Tables												
5	Near Second Basketball Court	Ext.		Picnic Tables	N/A		Toe or knee clearance at table not provided	-	Provide at least one picnic table with toe and knee clearance.	1	1400	\$1400
Additional Access												
Drinking Fountains												
6	Near Press Box	Ext.		Drinking Fountains	N/A		Fountain not on accessible route No drinking fountain provided for standing users	- -	Provide an accessible route to the drinking fountain. Provide an additional drinking fountain for standing users. (Cost based on a 24 ft. long x 48" wide min. stone dust path and a drinking fountain for standing users).	1	4796	\$4796
Play and Sport Areas												
Field												
7	Baseball	Ext.		Field	Baseball		Accessible spaces are not provided at team seating	-	Provide a 36" x 48" clear floor space at team seating bench in each dugout.	2	Labor	\$0
8	Fan Seating Softball	Ext.		Field	Softball		Accessible spaces are not provided at team seating Not connected to an accessible-route	- -	Provide a 36" x 48" clear floor space at bleacher seating. Ensure bleacher is connected to an accessible route. (Cost based on a 60'x48" min. stone dust path to bleachers and a 36'x48' asphalt patch at bleachers.)	1	2160	\$2160

**Town of Manchester by-the-Sea
Sweeney Park**

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
9	Softball Fan Seating	Ext.		Field	Softball		Accessible spaces not provided at sidelines seating	-	Provide a 36" x 48" clear floor space at sidelines seating. (Cost based on a 36'x48' asphalt patch.)	1	240	\$240
10	Baseball Fan Seating	Ext.		Field	Baseball		Accessible spaces not provided at sidelines seating	-	Provide a 36" x 48" clear floor space at sidelines seating. (Cost based on a 36'x48' asphalt patch.)	1	240	\$240
11	Team Seating Softball	Ext.		Field	Softball		Not connected to an accessible-route	-	Ensure softball team seating is connected to an accessible route. (Provide a concrete walkway 48" wide min. with a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max. (Cost based on two (2) 6'x4' of concrete walkways, one at each softball field dugout.)	2	384	\$768
12	Softball Bullpen	Ext.		Field	Softball		Practice areas are not on an accessible route	-	Provide an accessible route to practice areas (softball bullpen). (Cost based on a 180'x48" min. stone dust path to edge of bullpen.)	1	5760	\$5760
13	Soccer Field	Ext.		Field	Soccer		No accessible route to all areas of sports activity	-	Provide an accessible route to the soccer field. (Cost based on a 60'x48" min. stone dust path to the edge of sport activity at the soccer field.)	1	1920	\$1920

Town of Manchester by-the-Sea
Sweeney Park

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Court												
14	Near Second Basketball Court	Ext.		Court	Basketball		Accessible spaces are not provided at sidelines seating	-	Provide a 36" x 48" clear floor space at sidelines seating. (Cost based on an asphalt 36"x48" patch alongside the bleachers.)	1	240	\$240
Best Practice												
Picnic Table												
15	Near Second Basketball Court	Ext.		Picnic Table	N/A				Recommend providing a 48" min. stable, firm and slip resistant surface around the accessible picnic table.	1	-	\$0

Tuck’s Point



Town of Manchester-by-the-Sea ADA Transition Plan

March 2020



Institute for Human Centered Design

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Background

Background

Tuck’s Point is located at 12 Tuck’s Point Road. Amenities include a gazebo, picnic areas, benches, horseshoe pits, a Chowder House with a small adjacent kitchen, a beach, row boats and a boat launch and life vest loaner station, a playground and men’s and women’s multi-user toilet rooms. A parking lot is located on the west side of the park.

Key Accessibility Issues

Exterior

Lack of accessible routes to all the amenities in the park (benches, picnic tables, etc.) and excessive running and cross slopes at the route leading to the multi-user toilet rooms.

Playground

Major accessibility issues include the lack of a compliant accessible route around the playground and lack of an accessible route to each play component.

Note: The Massachusetts Architectural Access Board (MAAB) does not consider engineered wood fiber (EWF) to comply with its regulation requiring an accessible route to each play component and around the playground.

Toilet Rooms

Accessibility issues include flush control not located on the open/transfer side of the toilet (men’s toilet room), lack of insulated pipes at lavatory (women’s toilet room).

Additional Accessibility Issues

- Lack of accessible picnic tables.
- Lack of a marked access aisle and sign with the words “Van Accessible” at the van accessible parking space.
- Lack of a sink with knee and toe clearance in the kitchen (Chowder House).

Order of Magnitude Cost Estimates

- Provide compliant accessible routes including an accessible route to and around the playground: \$13,960
- Provide a compliant impact-attenuating accessible route to play components in the playground (poured-in-place rubber): \$8,750
- Miscellaneous corrective actions (renovation to toilet rooms, accessible picnic table, parking, sink, etc.): \$8,786

Total: \$31,496*






***Note:** Costs to reduce some excessive running and cross slopes are not provided.

Best Practice and Inclusive Design






Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- IHCD strongly recommends exploring the possibility of an alternative surface to engineered wood fiber (EWF). Overtime, EWF requires continuous maintenance to ensure the surface is maintained in operable working condition (stable, firm and slip-resistant). In addition, when used in combination with other surfaces required for accessible routes to play components in Massachusetts, it will present a challenge to prevent level changes at the transition points between EWF and other surfaces, and to keep the accessible routes clear of EWF.
- Recommend providing benches that are between 20”– 24” deep in the multi-user toilet rooms.
- Recommend providing a 48" stable, firm and slip resistant surface around the exterior of all accessible picnic tables.
- Recommend providing a 36" x 48" stable, firm and slip resistant surface at the end of at least one bench in each area positioned so that an individual with a wheeled mobility device can have shoulder alignment with a companion seated on the bench.





Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Exterior Access Route												
1	Walkway to Chowder House and Kitchen	Ext.		Exterior Access Route	Walkway		Cross slope > 1:48 (2.08%)	6.1%	Reduce cross slope to be no steeper than 1:48 (2.08%). (Cost based on 6'x4' of asphalt to reduce slope at \$10 a square foot.)	1	240	\$240
2	Towards Toilet Rooms	Ext.		Exterior Access Route	Walkway		Cross slope > 1:50 (2.00%) (MAAB) Running slope > 1:20 (5.00%)	4.6% 5.5%	Reduce cross slope to be no steeper than 1:50 (2.00%). Reduce the running slope to be no steeper than 1:20 (5.00%). (Cost to reduce excessive running slope not provided.)	1	-	\$0
3	Gazebo Towards Toilets	Ext.		Exterior Access Route	Exterior		Level changes > 1/4"	2"	Alter change in level to be 1/4" high max. (Cost based on 4'x3' of asphalt to reduce change in level and provide a stable, firm and slip resistant surface between asphalt and mat walkway.)	1	120	\$120
4	Towards Toilet Rooms	Ext.		Exterior Access Route	Walkway		Not maintained in an operable working condition	-	Ensure the accessible route is maintained in operable working condition. Cost based on a 60 ft. long by 4 ft wide asphalt route.	1	2400	\$2400
5	Walkway From Parking Towards Gazebo	Ext.		Exterior Access Route	Walkway		Running slope > 1:20 (5.00%)	8.2%	Reduce the running slope to be no steeper than 1:20 (5.00%). (Cost to reduce excessive running slope not provided.)	1	-	\$0






**Town of Manchester by-the-Sea
Tuck's Point**

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
6	Walkway to Gazebo	Ext.		Exterior Access Route	Exterior		Running slope > 1:20 (5.00%)	8.6%	Reduce the running slope to be no steeper than 1:20 (5.00%). (Cost to reduce excessive running slope not provided.)	1	-	\$0
7	Towards Chowder House	Ext.		Exterior Access Route	Walkway		Accessible route not provided	-	Relocate tables to ensure the min. 36' width is maintained at the accessible route.	1	Labor	\$0
8	Horseshoe Pits	Ext.		Exterior Access Route	Exterior		Accessible route not provided	-	Ensure an accessible route is provided to at least one of the horseshoe pits. (Cost based on a 30'x48" wide min. 30' asphalt path to at least one of the horseshoe pits in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200
9	Path to Boats	Ext.		Exterior Access Route	Exterior		Accessible route not provided	-	Ensure an accessible route is provided to the area where the boats are stored. (Cost based on a 36'x48" wide min. 60' asphalt path to the accessible picnic table in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	2400	\$2400
10	Life Vest Loaner Station	Ext.		Exterior Access Route	Exterior		Accessible route not provided	-	Ensure an accessible route is provided to the life vest loaner station. (Cost based on a 30'x48" wide min. 30' asphalt path to at least one of the horseshoe pits in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200





Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Off-Street Parking Lot or Garage												
11		Ext.		Off-Street Parking Lot or Garage	N/A		Total # of parking Total # of designated accessible parking spaces Access aisle < 96" wide at van space Sign does not have the designation "Van Accessible" Sign < 60" above finished grade	55 2 - - 38"	Provide a marked access aisle that is at least 96" wide. Add the designation "Van Accessible" to the sign located at the van accessible space. Locate sign with the bottom of the sign 60" above the ground.	1	800	\$800
Access to Goods and Services												
Doors, Doorways, & Gates												
12	Women's Toilet Room	1		Doors, Doorways, & Gates	Toilet Room		Door requires > 5 lbs of force to open	14 lbs	Adjust closers so doors do not require more than 5 pounds of force to open.	1	Labor	\$0
13	Men's Toilet Room	Ext.		Doors, Doorways, & Gates	Toilet Room		Door requires > 5 lbs of force to open	9 lbs	Adjust closers so doors do not require more than 5 pounds of force to open.	1	Labor	\$0
Picnic Tables												
14	Near Parking	Ext.		Picnic Tables	N/A		Toe or knee clearance at table not provided	-	Provide at least one picnic table with toe and knee clearance.	1	1400	\$1400





Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
15	Near Playground	Ext.		Picnic Tables	N/A		Toe or knee clearance at table not provided Picnic table not on an accessible route	- -	Provide at least one picnic table with toe and knee clearance. Provide an accessible route to at least one picnic table in this area. (Cost based on a 15 ft. long by 4 ft. wide asphalt path.)	1	600	\$600
16	Chowder House Exterior by Ocean	Ext.		Picnic Tables	N/A		Picnic table not on an accessible route	-	Locate picnic table on an accessible route. (Cost based on a 30'x48" wide min. 30' asphalt path to the accessible picnic table in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200
17	Near Gazebo	Ext.		Picnic Tables	N/A		Picnic table not on an accessible route	-	Locate accessible picnic table in this area on an accessible route. (Cost based on a 30'x48" wide min. 30' asphalt path to at least one of the horseshoe pits in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200
Benches												
18	Near Playground	Ext.		Benches	N/A		No accessible route to one bench in this area	-	Provide an accessible route to at least one bench in this area. Cost based on an 10 ft. long by 4 ft. wide asphalt route.	1	400	\$400
19	Chowder House Exterior by Ocean	Ext.		Benches	N/A		No accessible route to one bench in this area		Provide an accessible route to at least one bench in this area. (Cost based on a 30'x48" wide min. 30' asphalt path to at least one of the benches in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200





Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
20		Ext.		Benches	N/A		No accessible route to one bench in this area	-	Provide an accessible route to at least one bench in this area. (Cost based on a 30'x48" wide min. 30' asphalt path to at least one of the horseshoe pits in this area. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	1200	\$1200
Bike Racks												
21		Ext.		Bike Racks	N/A		Not connected to an accessible route	-	Ensure bike racks are connected to an accessible route. (Cost based on a 18'x48" wide min. 15' asphalt path to bike rack. Ensure walkway has a running slope of 1:20 (5.00%) max. and a cross slope of 1:50 (2.00%) max.)	1	600	\$600
Toilet & Bathing Rooms												
Lavatory												
22	Women's Toilet Room	Ext.		Lavatory	N/A		Exposed plumbing underneath	-	Insulate or otherwise configure pipes to prevent contact, for at least one lavatory.	1	92	\$92
Toilet Compartment												
23	Men's Toilet Room	1		Toilet Compartment	Accessible Compartment		Door with malfunctioning self-closing hinge Coat hook > 48"	- 57"	Repair hinge. Lower coat hook so that it is no higher than 48" above the finished floor.	1	150	\$150

Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
24	Men's Toilet Room	1		Toilet Compartment	Accessible Compartment		Flush control not on open side	-	Provide the flush control on the open side of the toilet (transfer side).	1	374	\$374
Urinal												
25	Men's Toilet Room	Ext.		Urinal	N/A		Clear floor space not provided at urinal	-	Remove partition to provide a 30" min. by 48" min. clear floor space positioned for a forward approach.	1	256	\$256
Additional Access												
Drinking Fountains												
26	By Toilet Rooms	Ext.		Drinking Fountains	Seated		No drinking fountain provided for standing users	-	Provide an additional drinking fountain for standing users or install a Hi-Lo drinking fountain.	1	4028	\$4028
Sink												
27	Kitchen			Sink	Other		Toe and knee clearances not provided	-	Ensure there is a 27" knee clearance positioned for a forward approach to sink. (Cost based on a sink with the required minimum toe and knee clearance.)	1	1686	\$1686
Play and Sport Areas												

Town of Manchester by-the-Sea
Tuck's Point

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Play Areas												
28	Playground	Ext.		Play Areas	N/A		Accessible route not provided to playground Accessible route not provided at play components Surface not stable, firm, and slip-resistant	<ul style="list-style-type: none">---	Provide an accessible route to and around the playground. (30'x48" wide min. asphalt.) Provide an accessible route that is 60" min. wide to each play component in the playground. (Poured-in-place rubber.) Provide a compliant impact-attenuating surface under and around the play components. (25 sq.' poured-in-place rubber.) (Cost includes poured-in-place rubber.)	1	11150	\$11150
Best Practice												
Bench												
29	Women's Toilet Room & Men's Toilet Room	Ext.		Bench	N/A				Recommend having a bench that is between 20" and 24" deep.	2	-	\$0
30	Chowder House Exterior by Ocean	Ext.		ench	N/A				Recommend proving a 36"x48" stable, firm and slip resistant surface at the end of at least one bench in each area positioned so that an individual with a wheeled mobility device can have shoulder alignment with a companion seated on the bench.	1	-	\$0
Picnic Table												
31	Near Parking	Ext.		Picnic Table	N/A				Recommend providing a 48" stable, firm and slip resistant surface around the exterior of all accessible picnic tables.	1	-	\$0

White Beach



Town of Manchester-by-the-Sea ADA Transition Plan

February 2020



Institute for Human Centered Design

200 Portland Street, Boston, MA 02114
www.IHCDesign.org • info@IHCDesign.org
617-695-1225 voice/tty

Background

White Beach is located at 19 Ocean Street. Parking is available along Ocean Street.

Key Accessibility Issues

- Lack of an accessible route that extends to the high tide level.
- Lack of a van accessible parking space.

Order of Magnitude Cost Estimates

- Provide an accessible route that extends to the high tide level (beach mat): \$3,899
- Provide a van accessible parking space: \$800





Total: \$4,699

Best Practice and Inclusive Design

Best practice and inclusive design recommendations include elements that are not required in the standards but may create enhanced experiences for all users.

- Recommend providing benches along Ocean Street.
- Recommend providing a sign with the beach name.

Manchester by-the-Sea
White Beach

ID	Location	Floor	Room	Element	Type	Photo	Issues	Current Measure	Recommendations	Quantity	Price	Cost Estimation
Approach and Entrance												
Beach Access Routes												
1	Accessible Route	Ext.		Beach Access Routes	Removable		Beach route not provided	-	Provide an accessible beach access route that is firm and stable. Ensure the accessible route extends to the high tide level. (Provide a beach mat that is at least 72" wide and extends to the high tide level.) (Cost based on a 72" wide min. by 80' long beach mat.)	1	3899	\$3899
Off-Street Parking Lot or Garage												
2	Parking Lot	Ext.		Off-Street Parking Lot or Garage	Visitor		Total # of designated van accessible spaces	-	Provide a van accessible space that is at least 96" wide with a marked access aisle that is at least 96" wide. Provide a sign with the bottom of the sign 60" min. above the ground and the top 96" max. above the ground. Add the designation "Van Accessible" to the sign.	1	800	\$800
Best Practice												
Benches												
3	19 Ocean Street	Ext.		Benches	N/A				Recommend providing benches along the route.	1	-	\$0
Wayfinding												
4	19 Ocean Street	Ext.		Wayfinding	N/A				Recommend providing a sign with the beach name.	1	-	\$0

IHCD recommends the following improvements at the Town Park / Outdoor Areas:

Singing Beach

- Provide an accessible route that extends to the high tide level (beach mat).
- Provide a compliant loading zone (access aisle and curb ramp).
- Provide two (2) compliant accessible wheelchair compartments, two (2) compliant transfer showers, two (2) compliant changing areas. Ensure all amenities are compliant (lavatories, hand dryers and mirrors).
- Provide compliant signage (designation, egress and directional).
- Provide an accessible picnic table (with knee and toe clearance).
- Provide an accessible service counter.

IHCD recommends the following Best Practice and Inclusive Design improvements at Singing Beach:

- Recommend providing 36" x 48" clear floor space at one end of the bench on the viewing platform.
- Recommend providing closed risers and providing handrails on both sides of stairs descending from the viewing platform.

White Beach

- Provide an accessible route that extends to the high tide level (beach mat).
- Provide a van accessible parking space.

IHCD recommends the following Best Practice and Inclusive Design improvements at White Beach:

- Recommend providing benches along Ocean Street.
- Recommend providing a sign with the beach name.

Black Beach

- Provide an accessible route that extends to the high tide level of the beach (beach mat).

IHCD recommends the following Best Practice and Inclusive Design improvements at Black Beach:

- Recommend providing benches along Ocean Street.
- Recommend providing a sign with the beach name at both ends of Black Beach, and a sign with a directional arrow and text such as, “Beach Access Point” at the west end of Black Beach.
- Recommend providing a sign with a directional arrow indicating that parking is available at White Beach.
- Recommend extending the walkway along Ocean Street so it spans the full length of Black Beach from the beach access point at the east end to the west end of Black Beach where it is closest to White Beach.

In addition, IHCD received comments from the ADA Advisory Committee regarding accessibility issues in Town buildings and outdoor areas. Please note that some of the comments were documented during the ADA accessibility surveys and recommendations for corrective action were provided.

Tucks Point

- Provide compliant accessible routes including an accessible route to and around the playground.
- Provide a compliant impact-attenuating accessible route to play components in the playground (poured-in-place rubber).
- Renovate toilet rooms.
- Provide an accessible picnic table (with knee clearance).
- Provide compliant accessible parking spaces.
- Provide a compliant sink (with knee and toe clearance).

IHCD recommends the following Best Practice and Inclusive Design improvements at Singing Beach:

- IHCD strongly recommends exploring the possibility of an alternative surface to engineered wood fiber (EWF). Overtime, EWF requires continuous maintenance to ensure the surface is maintained in operable working condition (stable, firm and slip-resistant). In addition, when used in combination with other surfaces required for accessible routes to play components in Massachusetts, it will present a challenge to prevent level changes at the transition points between EWF and other surfaces, and to keep the accessible routes clear of EWF.
- Recommend providing benches that are between 20" – 24" deep in the multi-user toilet rooms.
- Recommend providing a 48" stable, firm and slip resistant surface around the exterior of all accessible picnic tables.
- Recommend providing a 36" x 48" stable, firm and slip resistant surface at the end of at least one bench in each area positioned so that an individual with a wheeled mobility device can have shoulder alignment with a companion seated on the bench.

Sweeney Park

- Provide an accessible route to all amenities in the park (basketball court, team and fan seating, etc.)
- Provide accessible seating at bleachers.
- Provide a drinking fountain for standing users.
- Provide accessible door hardware.
- Ensure the stairs leading to the press box have closed risers.
- Provide an accessible picnic table (with Knee clearance).

IHCD recommends the following Best Practice and Inclusive Design improvements at Sweeney Park:

- Recommend providing a 48" min. stable, firm and slip resistant surface around the accessible picnic table

Masconomo Park

- Provide an accessible route to all the amenities in the park (including around the exterior of the playground).
- Provide a compliant impact-attenuating surface under and around the play components in the playground (poured-in-place rubber).
- Renovate parking lot.
- Provide an accessible picnic table.

IHCD recommends the following Best Practice and Inclusive Design improvements at Masconomo Park:

- Recommend providing a 36" x 48" stable, firm and slip resistant surface at the end of at least one (1) bench positioned to allow shoulder alignment with a person on the bench for someone using a wheeled mobility device.
- Recommend providing a 48" wide stable, firm and slip resistant surface around the exterior of an accessible picnic table that is located on an accessible route.
- IHCD strongly recommends exploring the possibility of an alternative surface to engineered wood fiber (EWF). Overtime, EWF requires continuous maintenance to ensure that the surface is maintained in operable working condition (stable, firm and slip resistant). In addition, when used in combination with other surfaces required for accessible routes to play components in Massachusetts, it will present a challenge to prevent level changes at the transition points between EWF and other surfaces, and to keep the accessible routes clear of EWF.

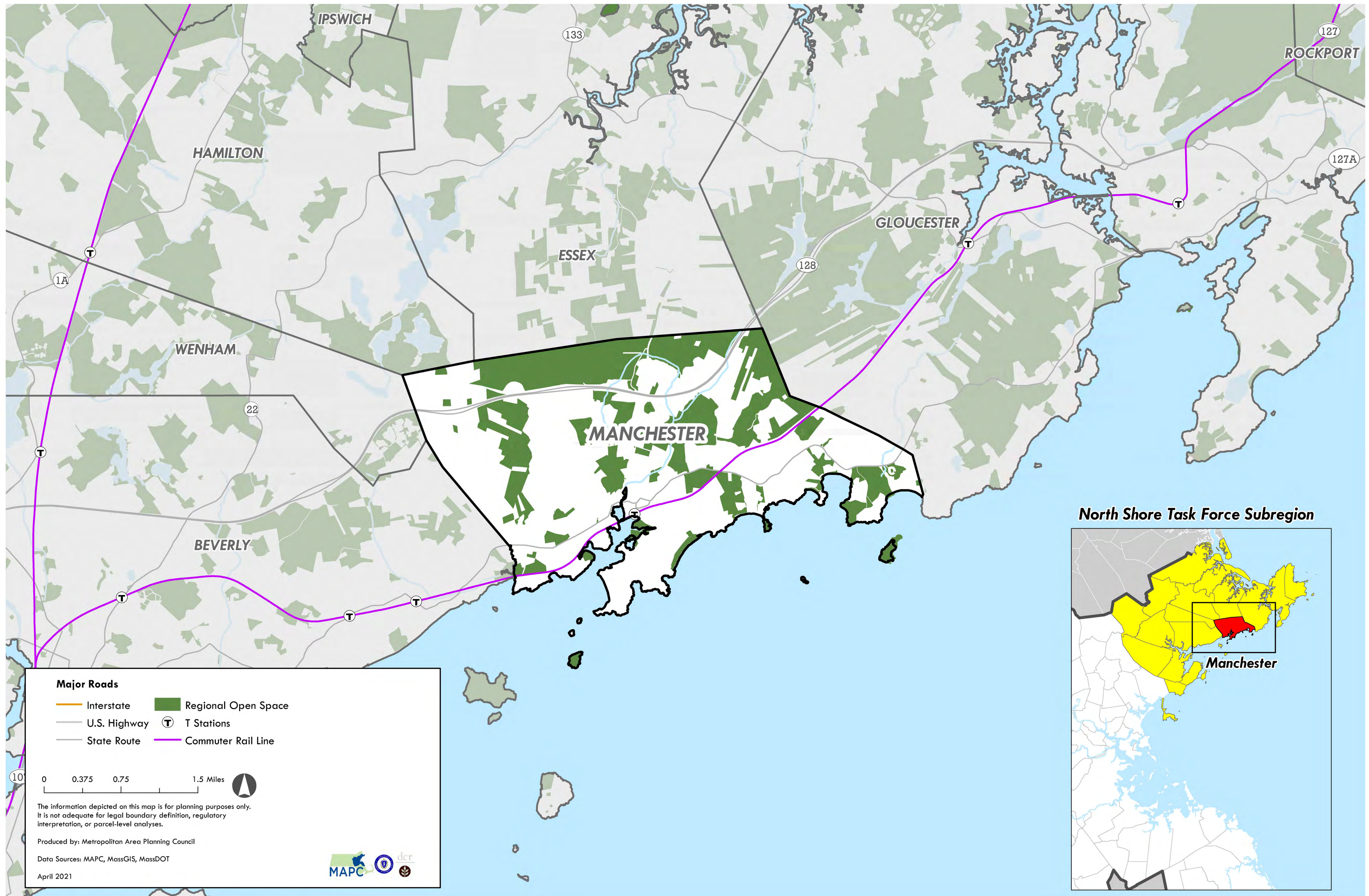
Reed Park/Docks*

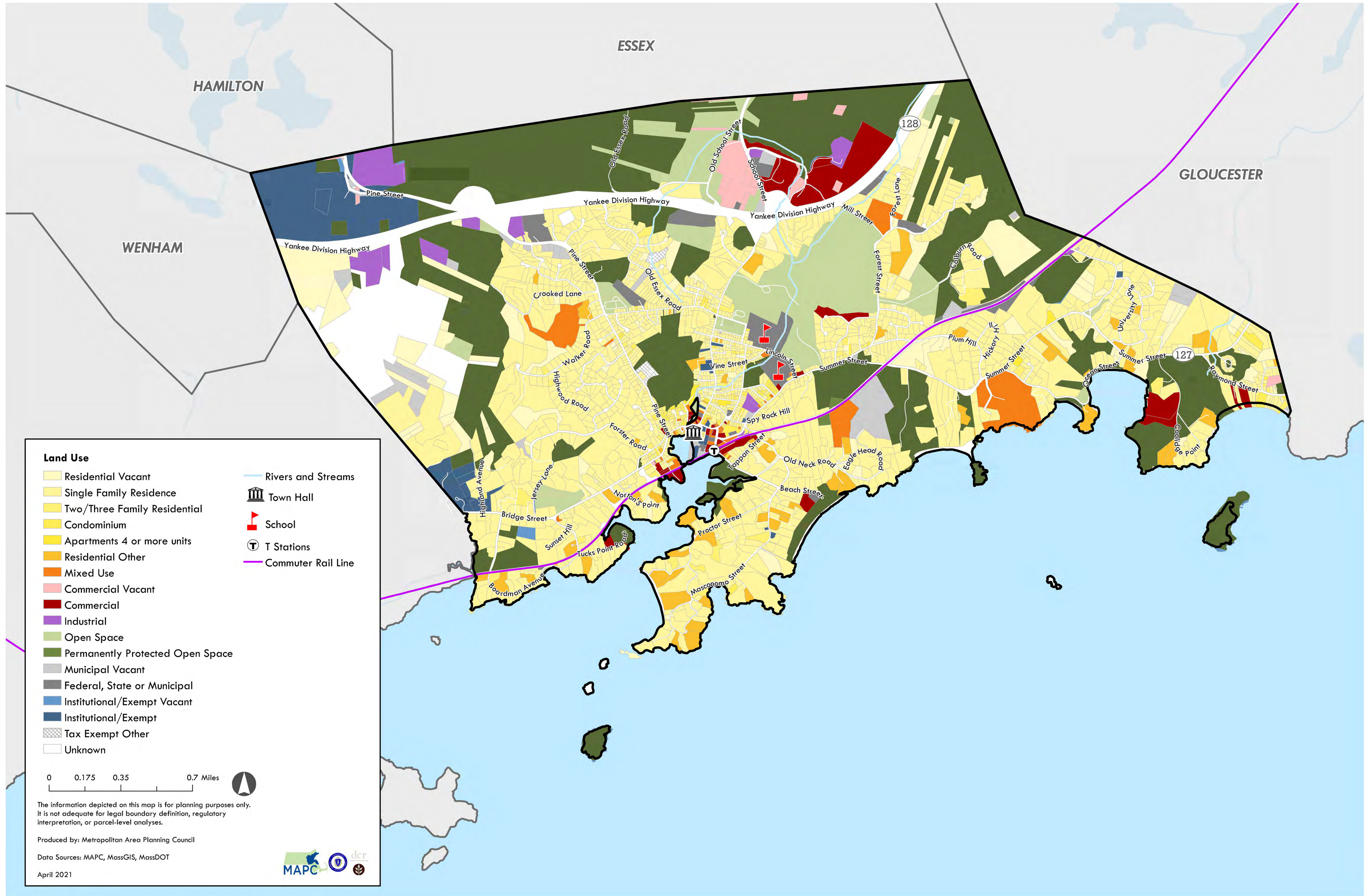
- Provide an accessible route to all the amenities in the park.
- *The dock was closed the day of IHCD's visit and was not surveyed.

IHCD recommends the following Best Practice and Inclusive Design improvements at the Reed Park/Docks:

- Recommend providing an accessible parking space near the entrance to the park (Beach Street).
- Recommend providing a sign with the park name.

Appendix B: Maps

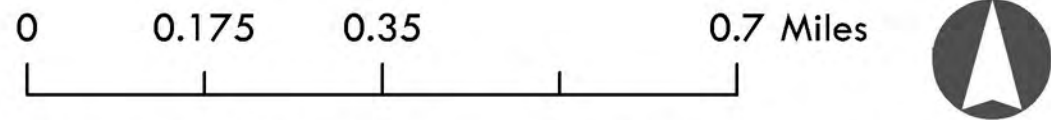




Land Use

- Residential Vacant
- Single Family Residence
- Two/Three Family Residential
- Condominium
- Apartments 4 or more units
- Residential Other
- Mixed Use
- Commercial Vacant
- Commercial
- Industrial
- Open Space
- Permanently Protected Open Space
- Municipal Vacant
- Federal, State or Municipal
- Institutional/Exempt Vacant
- Institutional/Exempt
- Tax Exempt Other
- Unknown

- Rivers and Streams
- Town Hall
- School
- T Stations
- Commuter Rail Line



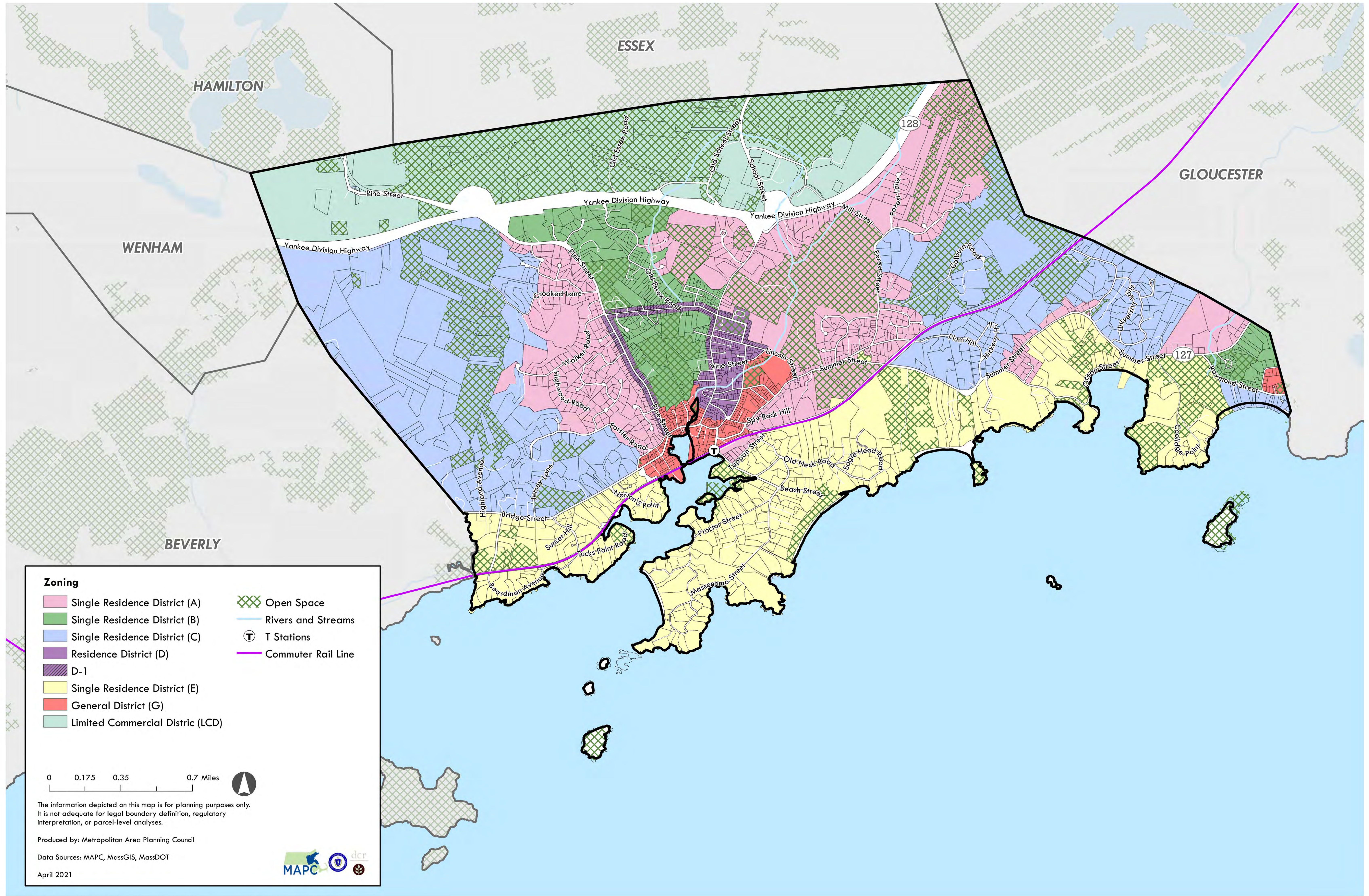
The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Produced by: Metropolitan Area Planning Council

Data Sources: MAPC, MassGIS, MassDOT

April 2021





Zoning

- Single Residence District (A)
- Single Residence District (B)
- Single Residence District (C)
- Residence District (D)
- D-1
- Single Residence District (E)
- General District (G)
- Limited Commercial District (LCD)

- Open Space
- Rivers and Streams
- T Stations
- Commuter Rail Line

0 0.175 0.35 0.7 Miles



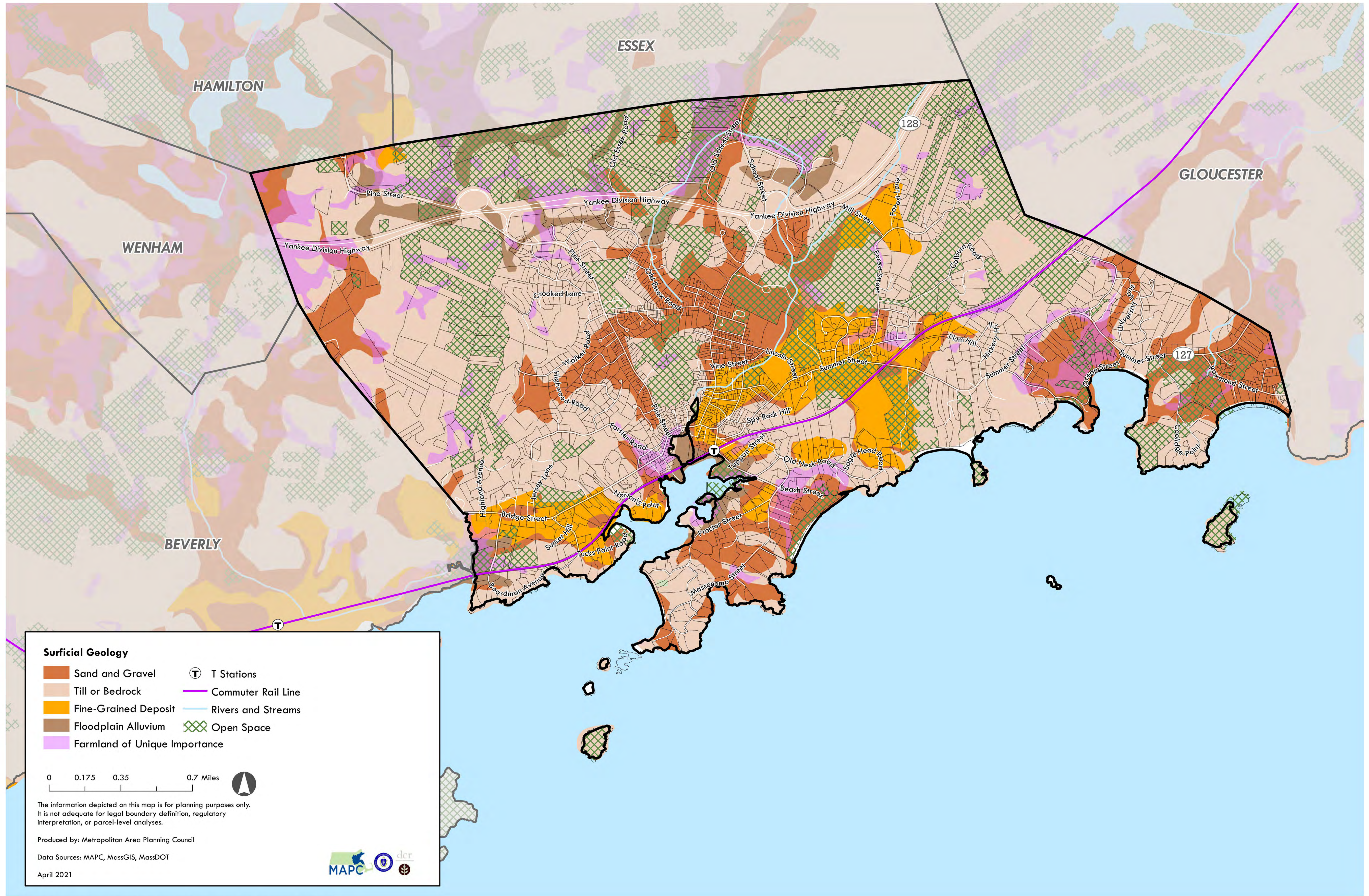
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Data Sources: MAPC, MassGIS, MassDOT

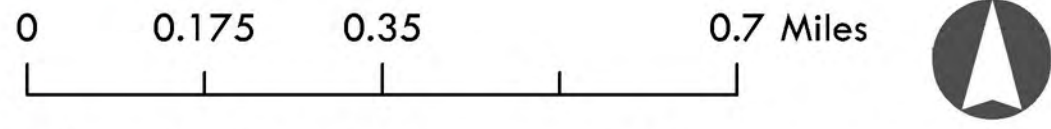
April 2021





Surficial Geology

- | | |
|-------------------------------|--------------------|
| Sand and Gravel | T Stations |
| Till or Bedrock | Commuter Rail Line |
| Fine-Grained Deposit | Rivers and Streams |
| Floodplain Alluvium | Open Space |
| Farmland of Unique Importance | |



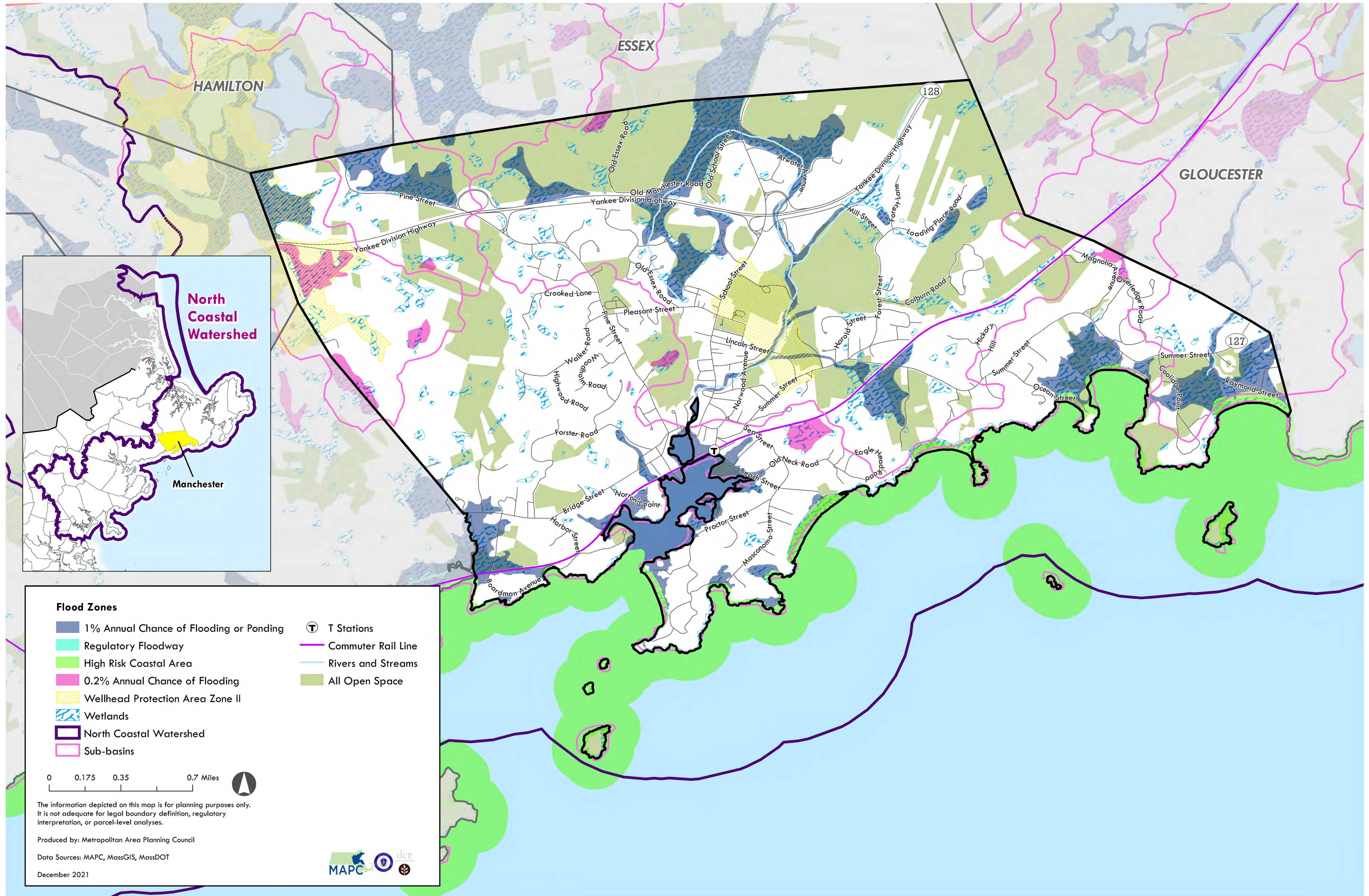
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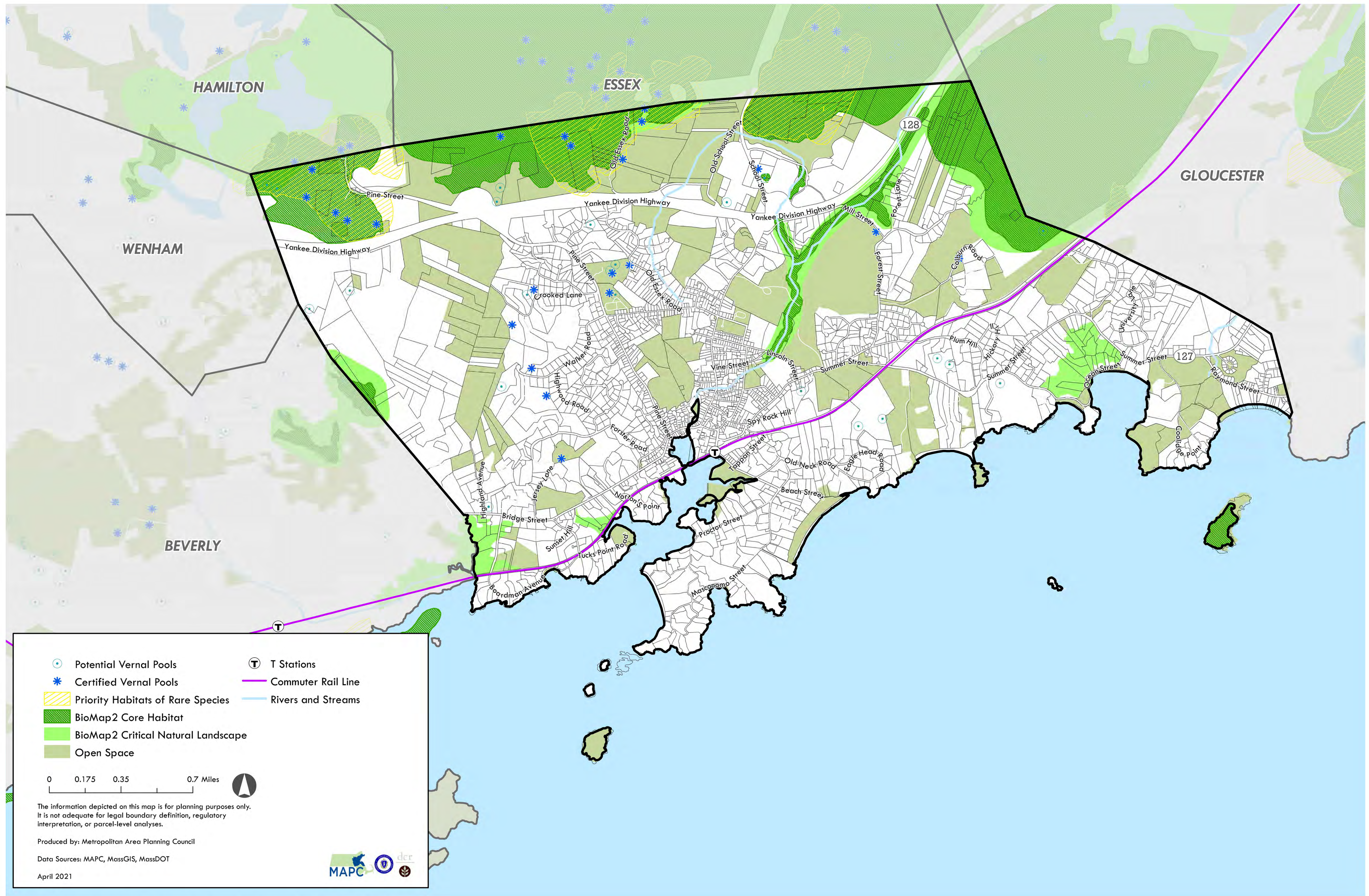
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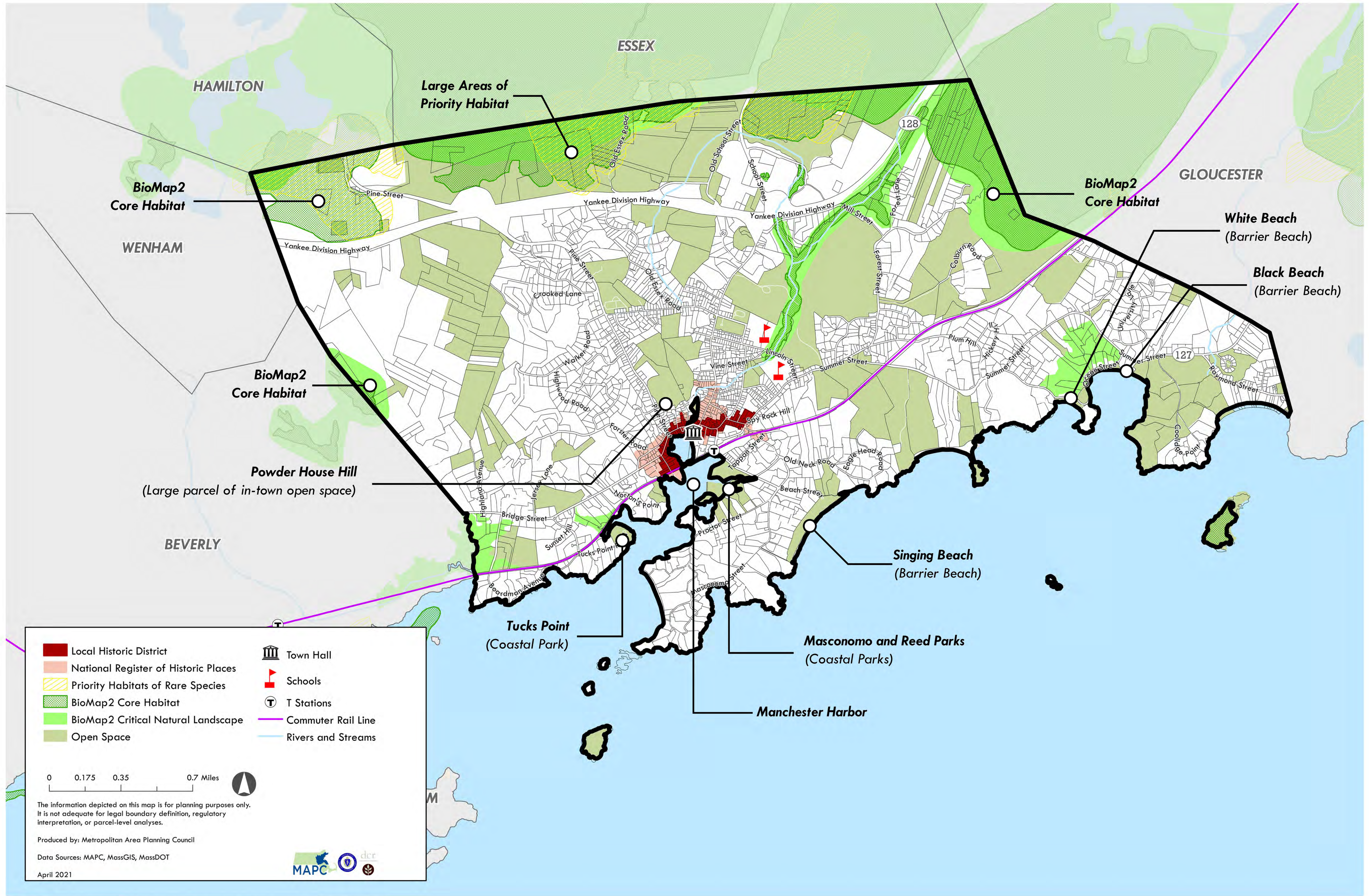
Data Sources: MAPC, MassGIS, MassDOT

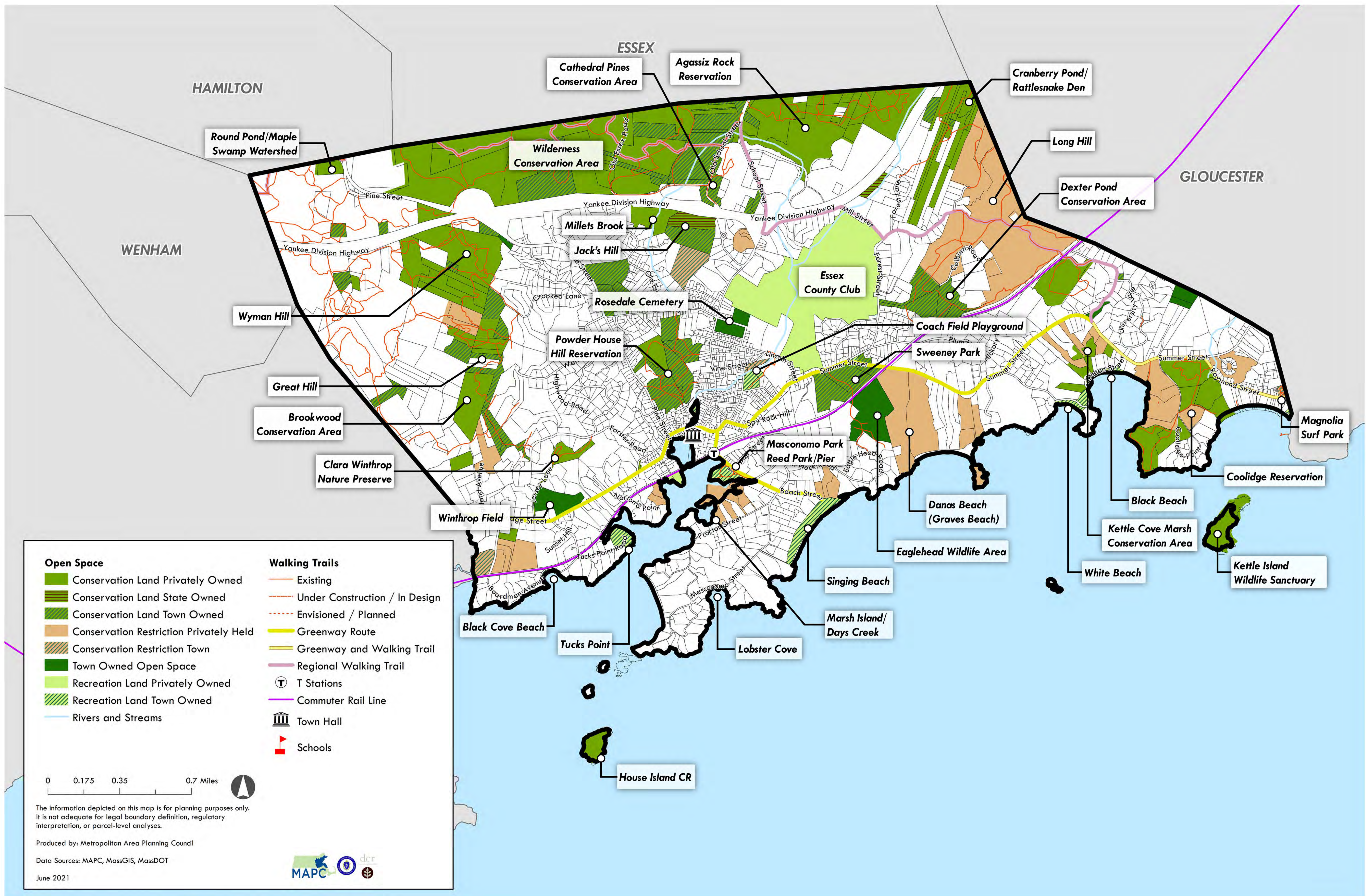
April 2021

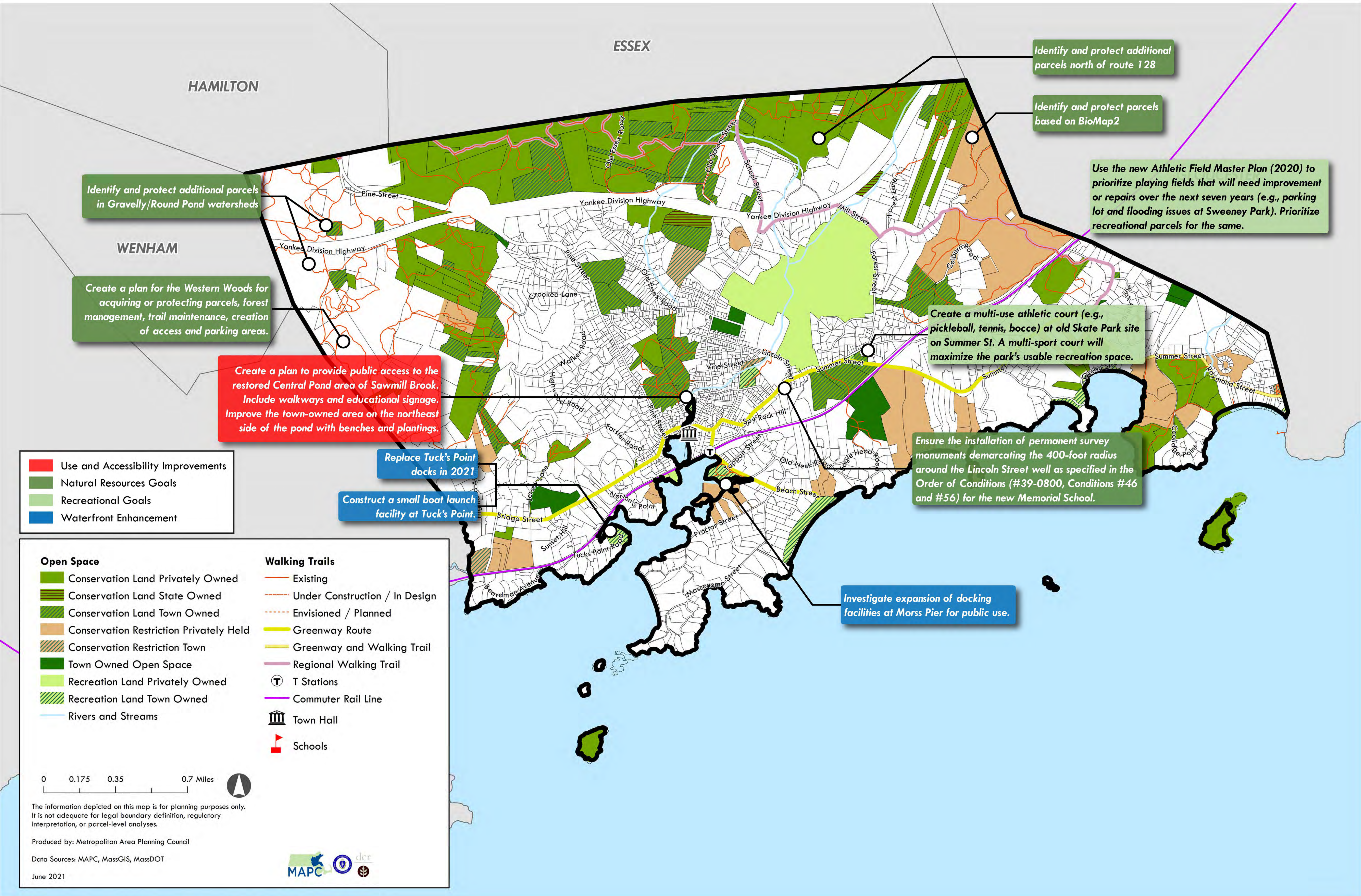












Appendix C: Virtual Forum Presentation and Feedback



Manchester-by-the-Sea 2021 Open Space and Recreation Plan Update

OSRP Update Advisory Group Meeting #1 Agenda

July 16, 2020, 2:00 PM

[Click here](#) to register and join by **video or phone**:
Meeting number: 951 8678 3754

1. **Welcome and Introductions** (5 minutes)
 - a. Name and affiliation
2. **Purpose of Open Space and Recreation Plan (OSRP)** (5 minutes)
 - a. OSRP Outline (*In accordance with the [Open Space and Recreation Planner's Workbook](#)*)
 - b. Plan process and project timeline
3. **Project Logistics** (15 minutes)
 - a. Role of Open Space and Recreation Committee (OSRC)
 - o Report on progress of 2014 OSRP seven-year action plan
 - o Make recommendations to OSRP Update Advisory Group for 2021 seven-year action plan
 - b. Role of OSRP Update Advisory Group
 - o Offer ideas and expertise
 - o Do community outreach
 - o Assist with new 2021 seven-year action plan
 - o Assist in developing the inventory of lands
 - o Review project maps and draft sections of the plan
 - c. OSRP ShareFile
 - d. Public Forum #1
 - o Discuss possible dates and times

4. **Community Engagement** (20 minutes)

- a. Targets (i.e. general public, youth, seniors, persons with disabilities, etc.)
- b. How (i.e. town website, mailer, social media, listservs, etc.)

5. **Key Issues** (10 minutes)

- a. Were you involved in the 2014 OSRP?
- b. Key accomplishments and priorities

6. **Next Steps** (5 minutes)

- a. Parks Tour
 - Compile a list of key facilities and open spaces to visit so I can learn more about the resources to protect and the specific future needs to be addressed.
- c. Drafting Sections 3, 4 and 5 of the OSRP
- b. Preparing for the virtual Public Forum

MANCHESTER-BY-THE-SEA

OPEN SPACE AND RECREATION PLAN UPDATE

The Town of Manchester-By-The-Sea with the assistance of the Metropolitan Area Planning Council (MAPC) is preparing an Open Space and Recreation Plan (OSRP). This OSRP is an update to Manchester's 2014 Open Space and Recreation Plan and will serve to guide the Town's decisions on open space and recreation activities for the next seven years. The Town and the Open Space and Recreation Plan Update Advisory Group invite you to join us for a virtual meeting and open house to give your input into the development of this plan. This will be the first of several opportunities during the update process to learn more about the OSRP and to provide input. Please register for the Live Presentation using the [Zoom link](#) below. If you can't join us for the Live Presentation, we will be publishing a link to the recording and the Virtual Open House on the Town's [Open-Space-Recreation-Committee](#) web page where you can view content and provide input any time from Aug. 26 through Sept. 11.

Live Presentation:

Wednesday, August 26, 2020

6:30pm -7:15 pm

Register Here:

mapc.ma/ManchesterOSRP

(Following the Live Presentation)

Virtual Open House:

Aug. 26- Sept. 11, 2020

A link to the site will be posted on the Open-Space-Recreation-Committee web page

MEETING HIGHLIGHTS

- **Demographic Information**
A snapshot of Manchester's demographic trends.
- **Recreational Resources**
A summary of key open space and recreational resources in Manchester.
- **Virtual Open House**
Review project information and potential goals at your convenience and provide feedback on the priorities of the plan.

MANCHESTER OSRP KICK-OFF MEETING





Manchester-by-the-Sea

2020 OPEN SPACE AND RECREATION PLAN

Community Forum

August 26, 2020



NOTIFICATION OF RECORDING

This meeting will be recorded and the Metropolitan Area Planning Council (MAPC) may choose to retain and distribute the video, still images, audio, and/or the chat transcript. By continuing with this virtual meeting, you are consenting to participate in a recorded event. The recordings and chat transcript will be considered a public record. If you do not feel comfortable being recorded, please turn off your camera and/or mute your microphone, or leave the meeting.



Chat Box Question

*In the chat function using **ONLY 2-3** words*

**Describe what you love
most about Manchester...**



Tonight's Agenda

■ **Live Presentation** *(via Zoom)*

- Introduction to the Manchester BTS Open Space and Recreation Plan and planning process
- Overview of demographic and land use trends
- Prominent Parks and open spaces in Hull
- Next Steps

■ **Virtual Open House** *(via Qualtrics)*

- Tell us what you enjoy about Manchester's parks and open spaces.
- Prioritize and provide feedback on the OSRP Goals
- Tell us about any current park or recreational deficiencies, opportunities, or challenges
- <http://mapc.ma/manchesterosrpopenhouse>



Manchester-by-the-Sea

2020 OPEN SPACE AND RECREATION PLAN

Community Forum

August 26, 2020





Introduction

- What is “Open Space?”
- Why complete an OSRP?



What is “open space?”

- Often refers to conservation land, forested land, recreation land, agricultural land, corridor parks and amenities such as small parks or green buffers along roadways



- The term can also refer to vacant or undeveloped lands with conservation or recreation potential

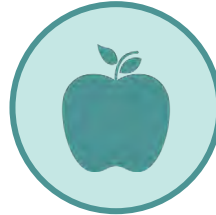
Open space varies by ownership, level of protection, and use

Why Parks are Important

Parks and Open Spaces Help:



**Promote Healthy
Lifestyles**



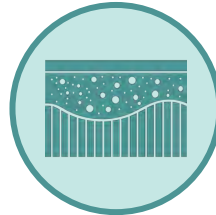
**Increase Access to
Healthy Foods**



**Capture & Clean
Stormwater**



**Stabilize
Neighborhoods**



Clean Soil



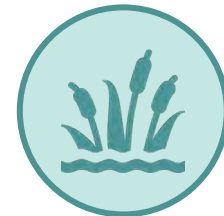
**Create Habitat
for Wildlife**



**Promote
Social Interaction**



**Improve
Air Quality**



**Provide Flood
Protection**

Types of Recreation

Parks and open spaces can be utilized for either passive or active recreation

- **Passive recreation** requires minimal facilities/development and is often less of an environmental impact
- **Examples: walking, hiking, fishing**



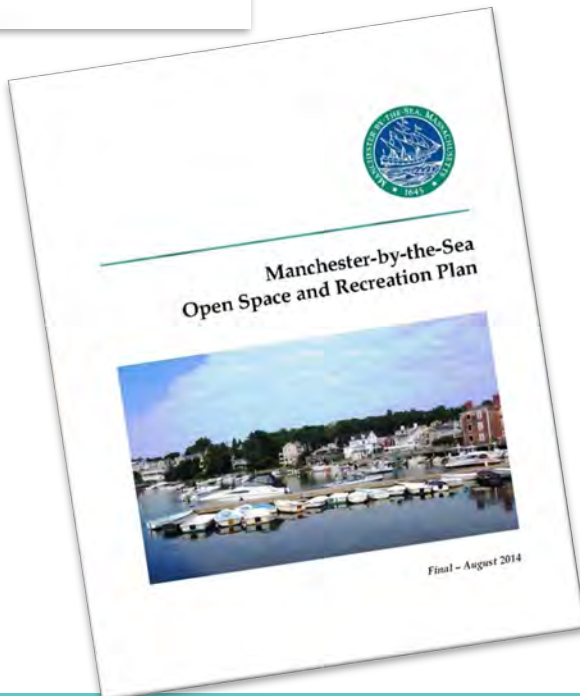
- **Active recreation** involves structured activities which require specialized parkland development and management
- **Examples: playgrounds, sports/ball fields, swimming pools**



Why complete an OSRP?

OPEN SPACE AND RECREATION PLANNER'S WORKBOOK

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
DIVISION OF CONSERVATION SERVICES
BOWDOIN CAMPUS
100 CANTON ST. - 11th FL. 01901
BOSTON, MA 02114
www.mass.gov/eoeea



- An Open Space and Recreation Plan (OSRP) provides information about the community, its environmental and recreational resources, and what residents want to achieve in the **next 7 years**
- OSRPs help encourage community protection and stewardship of these vital resources
- Completion of an OSRP makes municipalities **eligible to apply for State grants** through the EOEEA to acquire and improve land for conservation and recreation

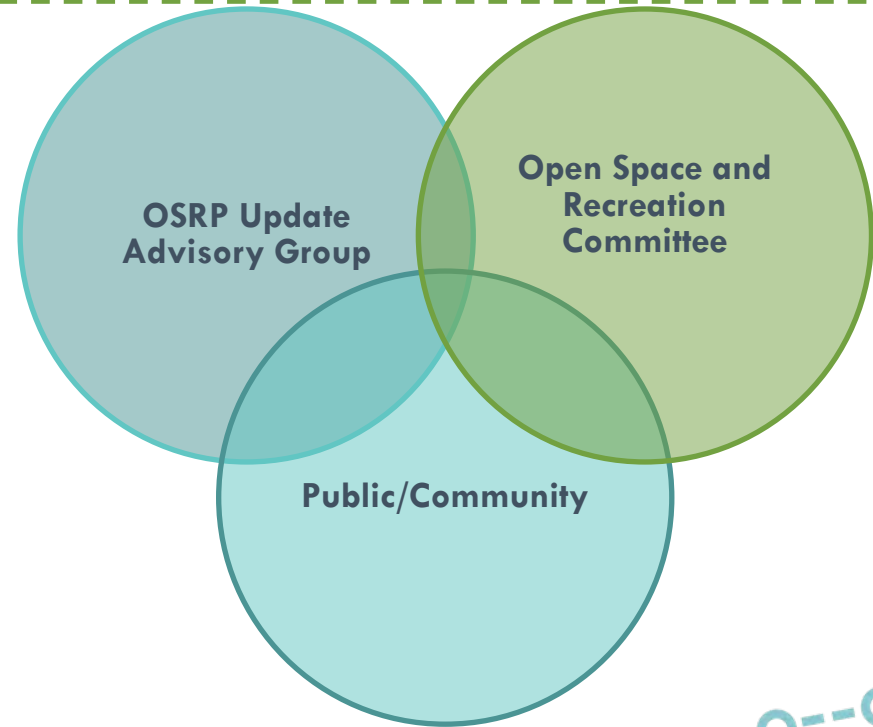
The Planning Team

OSRP Update Advisory Group

- Olga Hayes
- Mary Foley
- Christine DeLisio
- Gary Russell
- Eva Palmer
- Michelle Vaillancourt
- Beth Heisey
- Lisa Bonneville
- Max Warnock
- Nicky McHugh
- Chris Bertoni
- Sari Oseasohn
- Sue Brown
- Nate Derosiers
- Bion Pike
- Jeff Bodmer-Turner
- Jessica Lamothe
- Mory Creighton

Open Space and Recreation Committee

- Olga Hayes
- Steve Gang
- Deb Friaize
- Parker Harrison
- Curtis Rising
- Helen Bethell
- Nicolola McHugh



**We also need
your input!**



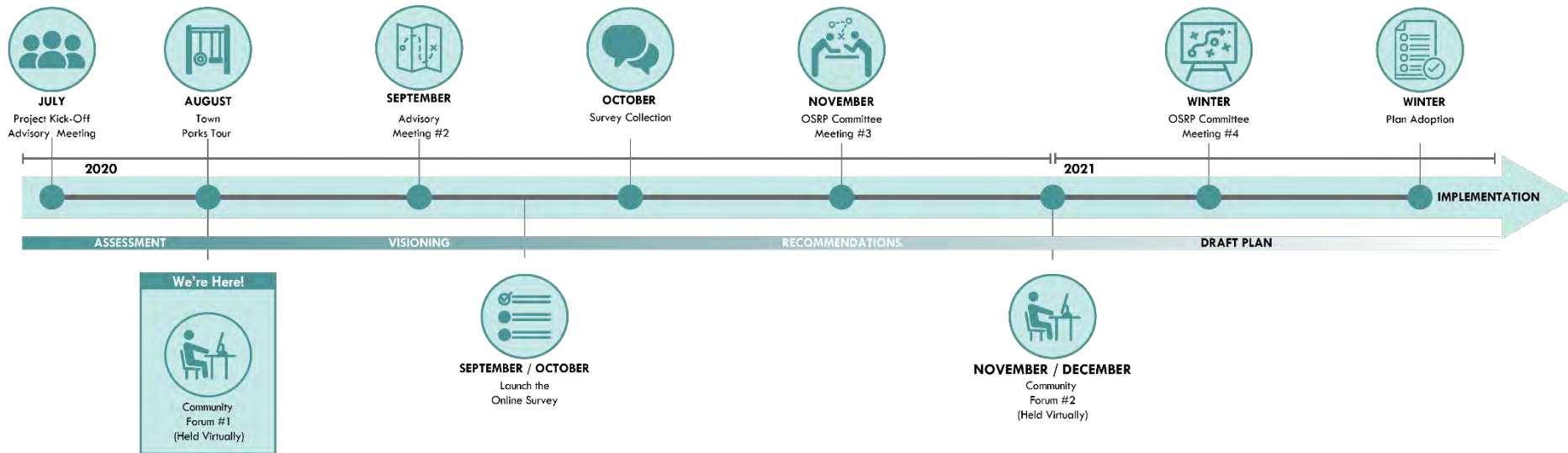
Relationship to Other Plans

- The 2021 OSRP will build off the work of the previous OSRP as well as several recently completed Town-wide studies/plans.



The Process

PROJECT TIMELINE



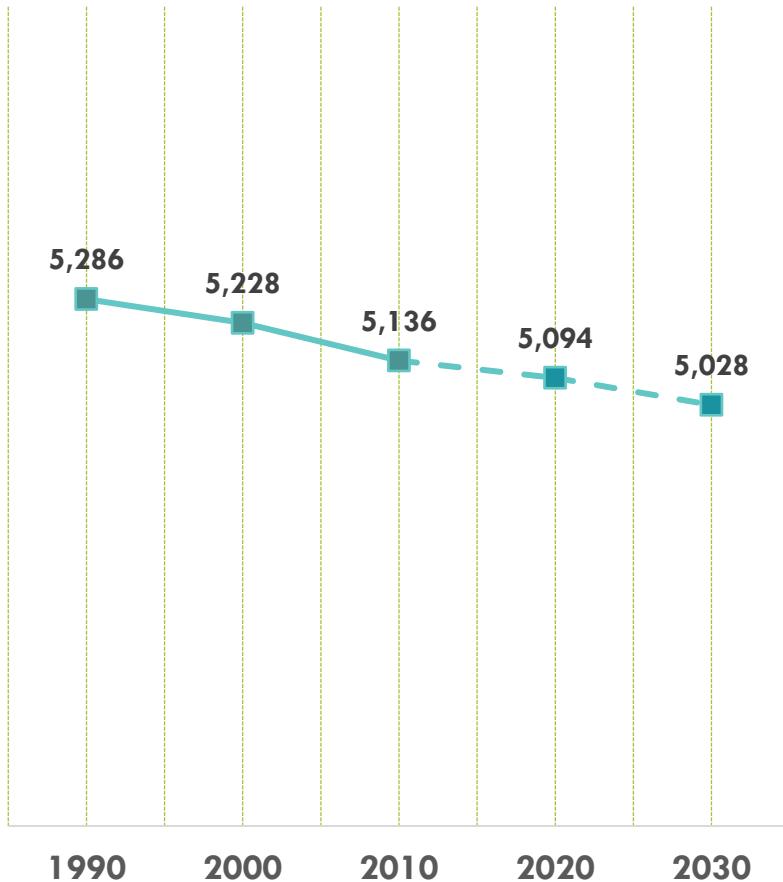


Data Trends

- Population
- Land Use

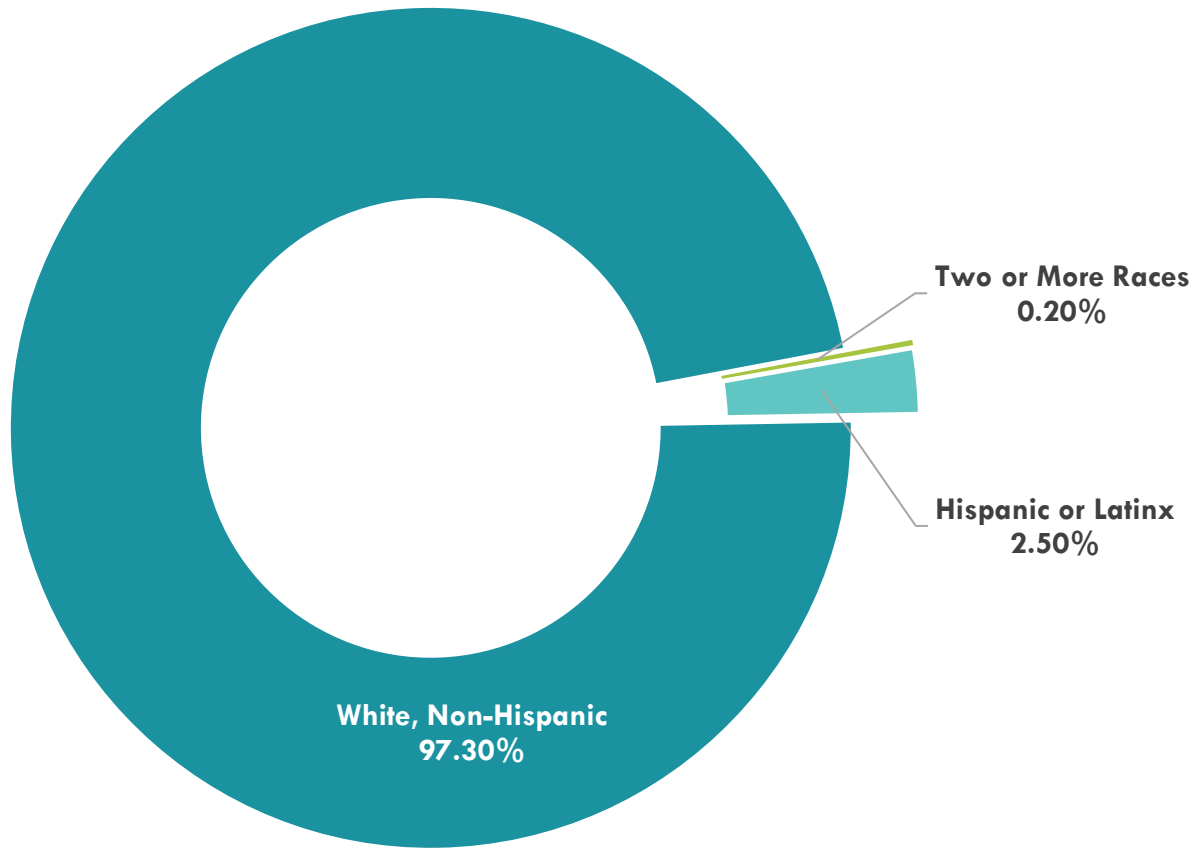


Population



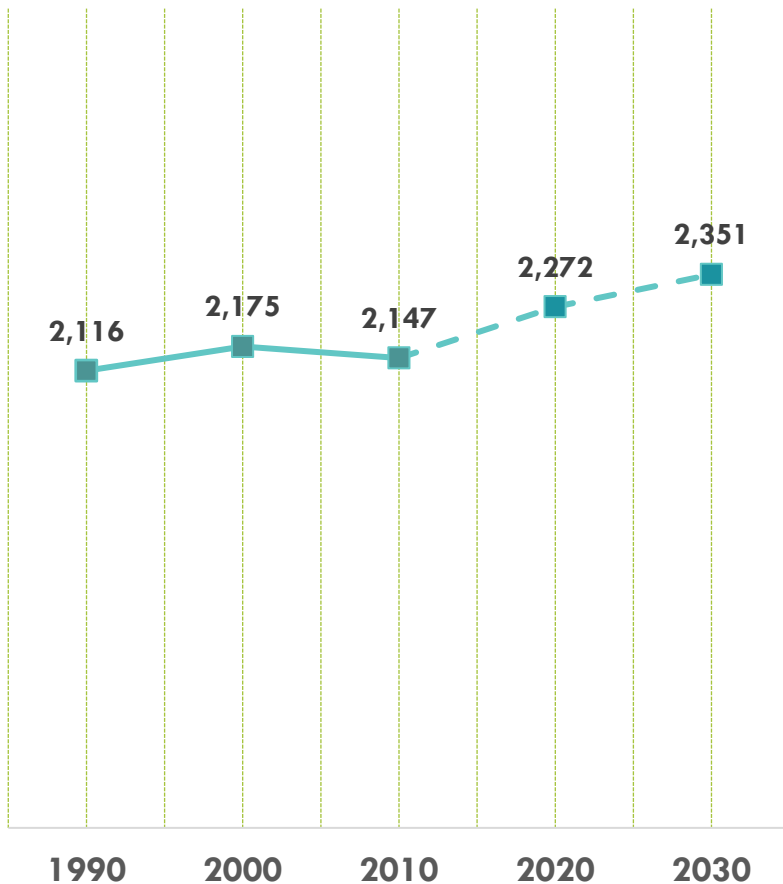
- *Total population decreased slightly between 1990-2010 though, more recent Census data estimates that the population is now closer to 5,434*
- *MAPC estimates that the population will decrease to 5,028 by 2030*

Race & Ethnicity



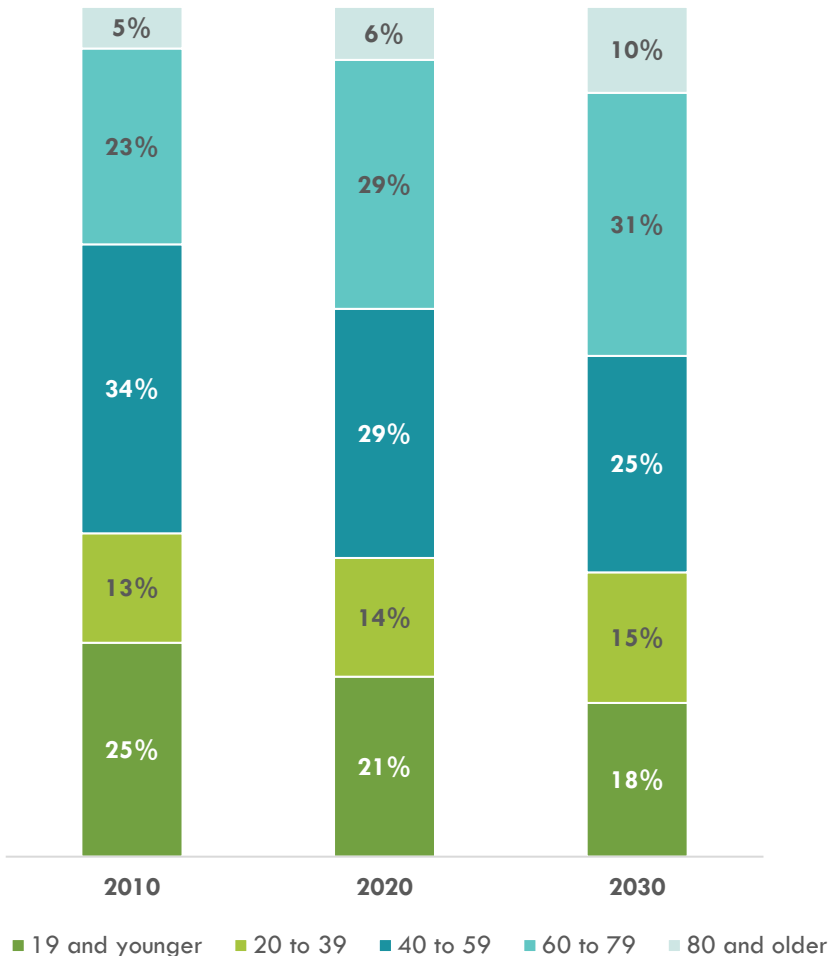
- Manchester has very little racial diversity with about 97.3% of the population identifying as White, Non-Hispanic
- People of Color make up the remaining 3% of the population with 2.5% of individuals identifying as Hispanic or Latinx.

Households



- “A household consists of all the people who occupy a housing unit.”
- Household numbers fluctuated slightly between 1990 and 2010
- MAPC projects a 9.5% increase in Manchester households by 2030

Age Cohorts



- A significant portion of the population is between the ages of 40 and 59
- Those in the 65+ age group are expected to experience most growth and make up over 40% of the town's population by 2030
- Different user bases use recreations spaces with variable frequency and for a range of activities.

Age Cohorts

- **Example:** Facilities required by a large youth sports organization differ from those enabling individual passive recreation activities pursued by older residents.

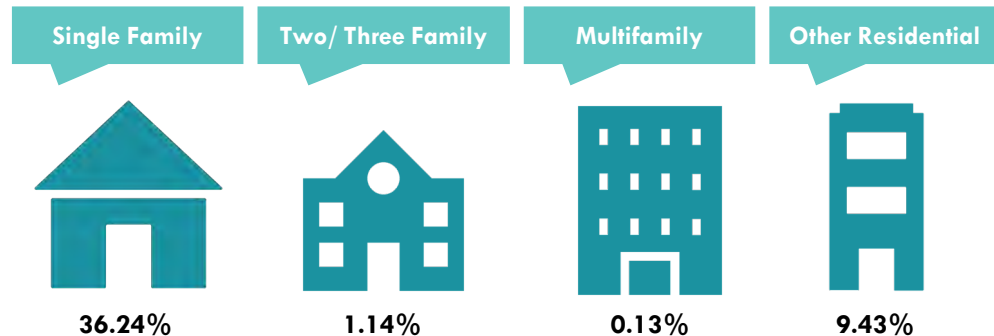


Land Use

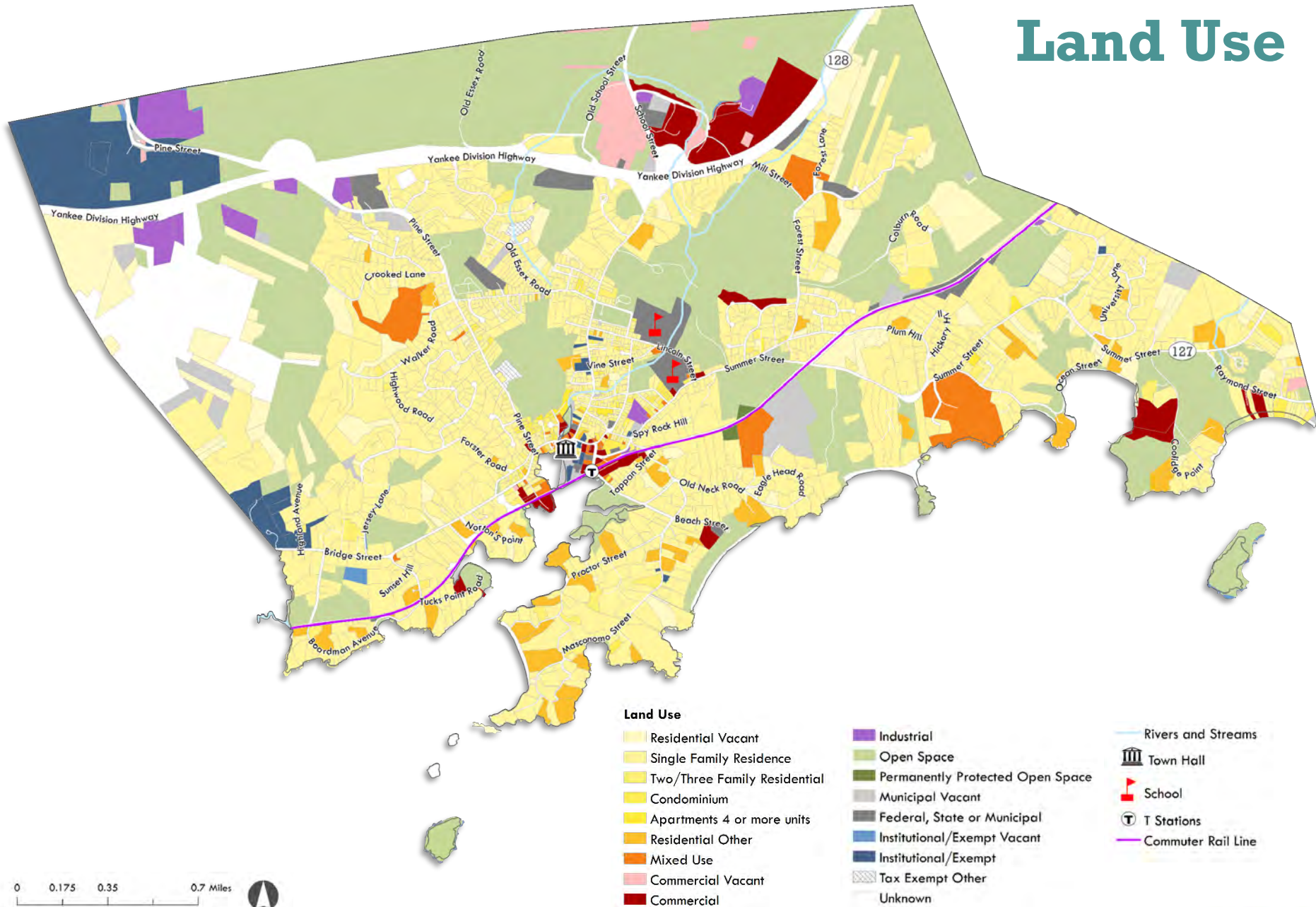
Property Type	Square Feet	Acres	% Total
Residential	109,573,772.37	2,515.47	50.29%
Single Family	78,970,830.04	1,812.92	36.24%
Two/Three Family	2,493,370.31	57.24	1.14%
Multifamily	289,140.79	6.64	0.13%
Other Residential	7,267,110.44	166.83	3.33%
Vacant	20,553,320.79	471.84	9.43%
Mixed Use	3,907,658.37	89.71	1.79%
Commercial/Industrial	17,321,684.66	397.65	7.95%
Commercial/Retail	12,081,185.82	277.35	5.54%
Office	217,893.46	5.00	0.09%
Industrial	3,053,705.07	70.10	1.40%
Vacant	1,968,900.31	45.20	0.90%
Public	62,249,454.95	1,429.05	28.57%
Exempt	837,013.40	19.22	0.38%
Institutional	39,655,964.37	910.38	18.20%
Chapter 61 Land	139,675.37	3.21	0.06%
Right-of-Ways	16,063,697.09	368.77	7.37%
Other	8,619,956.01	197.89	3.95%
Total	217,875,898.81	5,001.74	100%

Source: MassGIS Level 3 Assessors Database, FY19

- *Approximately half of Manchester's land is comprised of residential development, the majority of which are single family homes*
- *More than a quarter is tax-exempt public land, which includes open space, schools, municipal buildings, etc.*



Land Use



The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



Open Space

- Inventory
- Prominent parks and open spaces



Inventory

Ownership	Acres	% Total
Municipal	362.86	23.06%
Land Trust/Conservation Org.	733.22	46.60%
Private	477.02	30.32%
Total	1,573.10	100%

Level of Protection	Acres	% Total
Protected	1,237.40	78.65%
Limited Protection	26.87	1.70%
No Protection	174.98	11.12%
Unknown	133.85	8.50%
Total	1573.10	100%

Source: MassGIS Protected and Recreational Open Space Database

- The majority of open space in Manchester is owned by Land Trusts and Conservation Organizations
- Land specifically acquired for conservation and recreation purposes are considered protected by “Article 97” of the State Constitution
- Lands purchased for general municipal purposes are not protected by Article 97, but are considered to have limited protection due to their public ownership

Inventory

JUST SOME OF MANCHESTER'S RESOURCES

6

PARKS

3

PLAYGROUNDS

1,237 ac.

PERMANENTLY
PROTECTED
OPEN SPACE

6

ATHLETIC
FIELDS

1

GOLF
COURSES
(Private)

4,000+

PUBLIC
SHADE TREES

7

TENNIS
COURTS

2

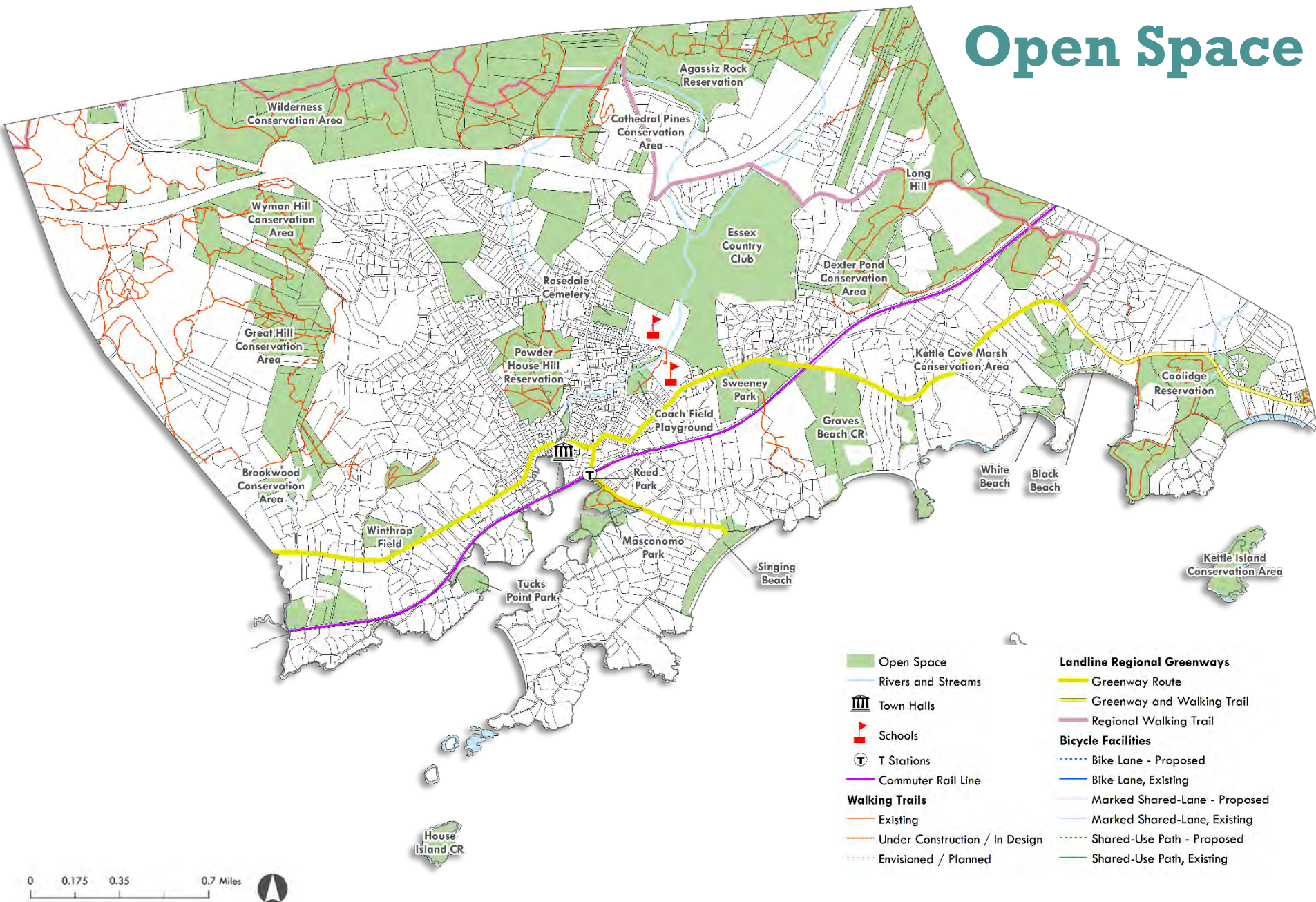
BASKETBALL
COURTS

5

CEMETERIES



Open Space

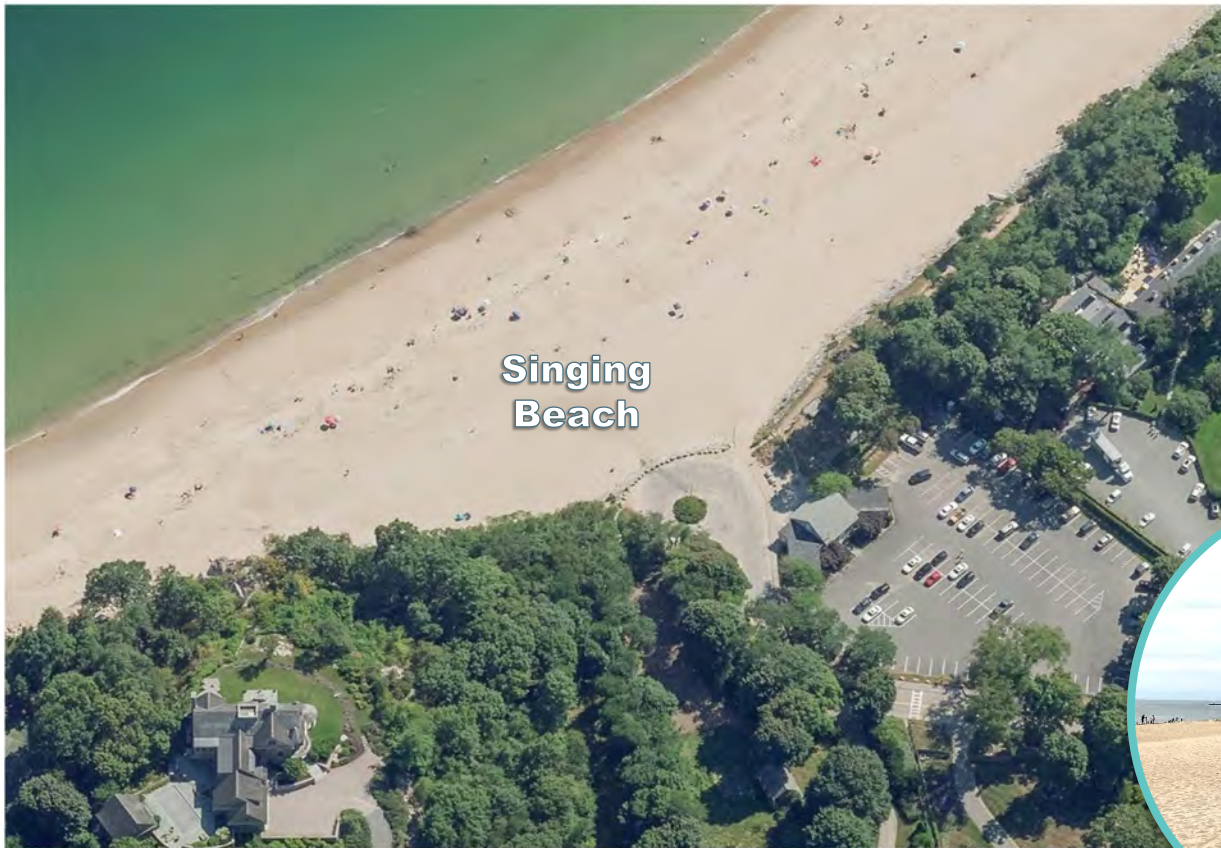


The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Singing Beach

Town Owned

Use: Recreation



- Singing Beach measures roughly 12 acres beach and dunes
- Site facilities include restrooms, parking and a snack bar.



Tucks Point

Town Owned

Use: Recreational



- Approximately 5.4 acres and offers great views of the harbor
- The park includes a beach, restrooms, swings, picnic area, and rotunda



Sweeney Park

Town Owned

Use: Recreational



- Approximately 12.6 acres and is the Town's largest recreational site
- Includes basketball courts, baseball and softball fields



Masconomo Park and Reed Park

Town Owned

Use: Recreational



- Approximately 7 acres
- The park includes a playground, baseball field, bandstand, fishing pier, boat docks and parking



White Beach

Town Owned

Use: Recreation



- White Beach measures roughly 1.7 acres
- Facilities include parking and portable restrooms.
- Diverse Ecosystems
- Close proximity to Kettle Cove marsh



Diverse Ownership and Uses



Questions?





Virtual Open House

<http://mapc.ma/manchesterosrpopenhouse>



Virtual Open House

Instructions:

1. Click on the Open House link that is posted in the Chat Box
2. You will have an option to read some background information
(this is a summarized version of information covered in the PowerPoint presentation)
3. Follow the instructions and answer each question
Participants will be able to share ideas and provide feedback until September 11th
4. Make sure we have your email for updates on the plans and the forthcoming Parks and Recreation Survey

If you have questions about the background information or about the input exercises, feel free to email me at CLewis@mapc.org



What Happens Next?

The feedback and ideas received at today's meeting and follow-up **Open House** activities will be used to prepare the OSRP Community Survey and the feedback we receive will serve as a basis for the goals, strategies and actions of the Open Space and Recreation Plan.

Be sure to check the Open Space and Recreation Committee website, www.manchester.ma.us/356/Open-Space-Recreation-Committee and Facebook for updates!



Manchester-by-the-Sea 2021 Open Space and Recreation Plan Update

OSRP Update Advisory Group Meeting #2 Agenda

September 22, 2020, 3:00 PM

[Click here](#) to register and join by **video or phone**:
Meeting ID: 963 0706 1151
Passcode: 748667

- 1. Welcome and Introductions** (10 minutes)
 - a. Name and affiliation
- 2. Review Open House Findings** (15 minutes)
 - a. Debrief on the kick-off meeting and Virtual Open House
- 3. Project Status Update** (10 minutes)
 - a. Status Update on Draft Plan and Mapping
 - b. Role of OSRP Update Advisory Group
- 4. Review Draft Survey Questions** (25 minutes)
 - a. Review draft questions for the Online Community Survey
 - b. Suggest additional questions to add
 - c. Discuss promotion and outreach



Manchester-by-the-Sea

2020 OPEN SPACE AND RECREATION PLAN

Advisory Group Meeting #2

September 22, 2020



Presentation & Open House



47 People

REGISTERED FOR THE
LIVE KICK-OFF PRESENTATION



30 Participants

ATTENDED THE LIVE
KICK-OFF PRESENTATION



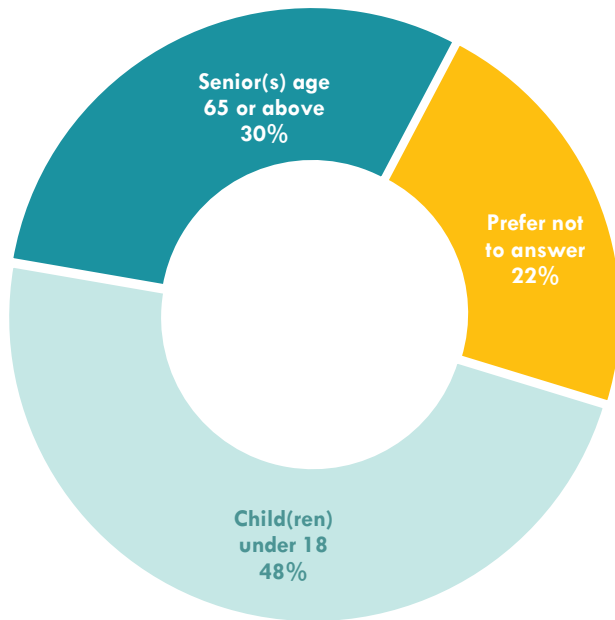
60 Respondents

VISITED/PROVIDED FEEDBACK
ONLINE OPEN HOUSE

Who Participated?

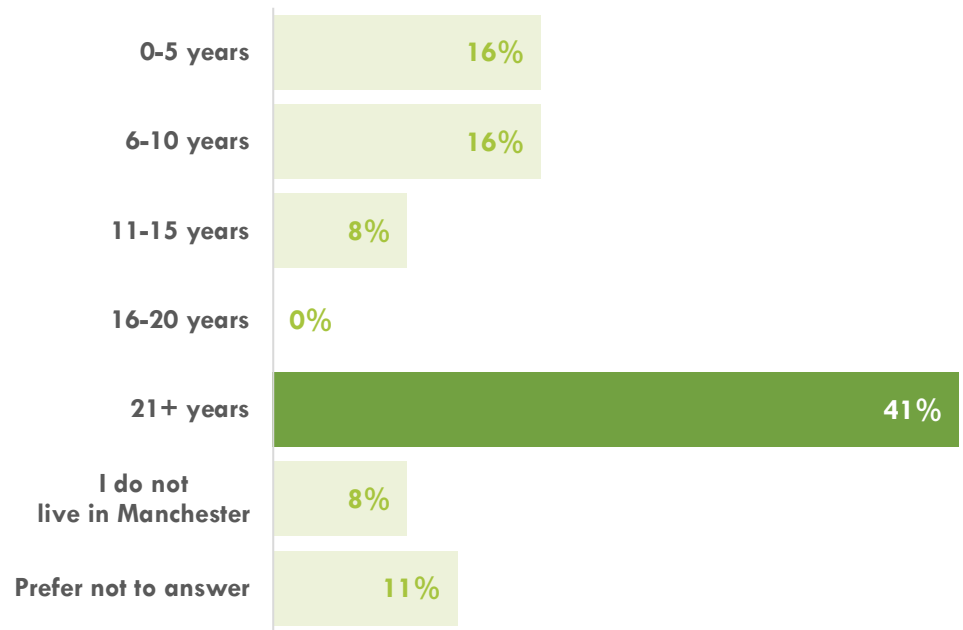
HOUSEHOLD

Do you or any members of your household match the following descriptions?



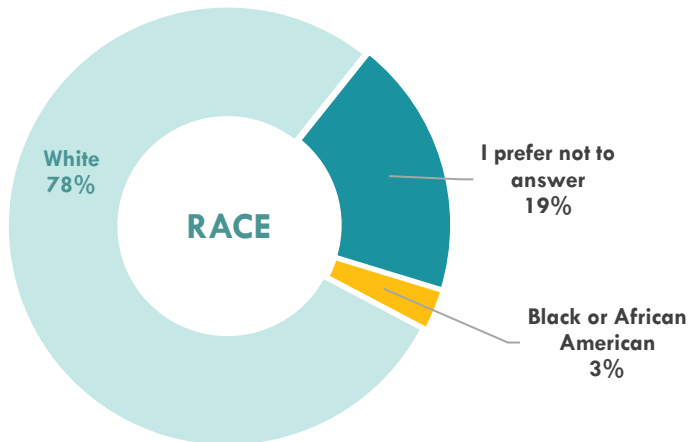
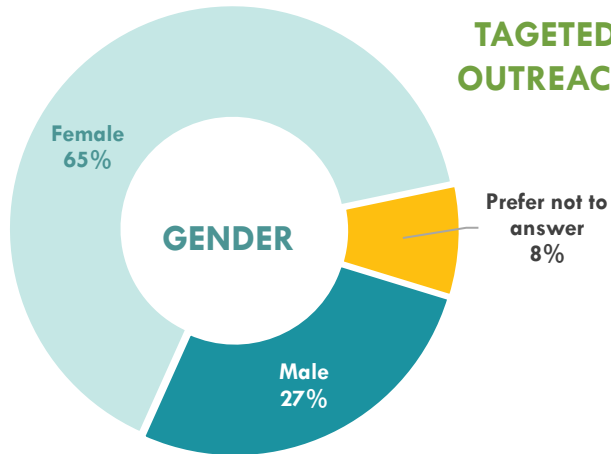
TENURE

How long have you lived in Manchester?

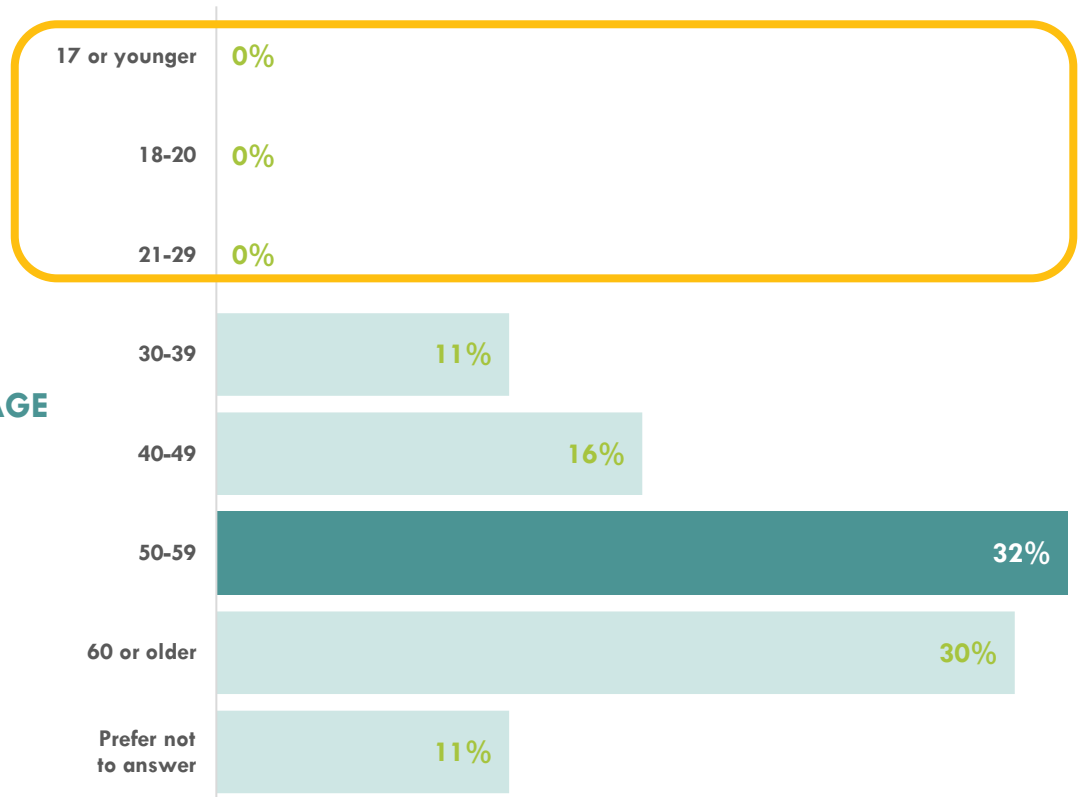


Who Participated?

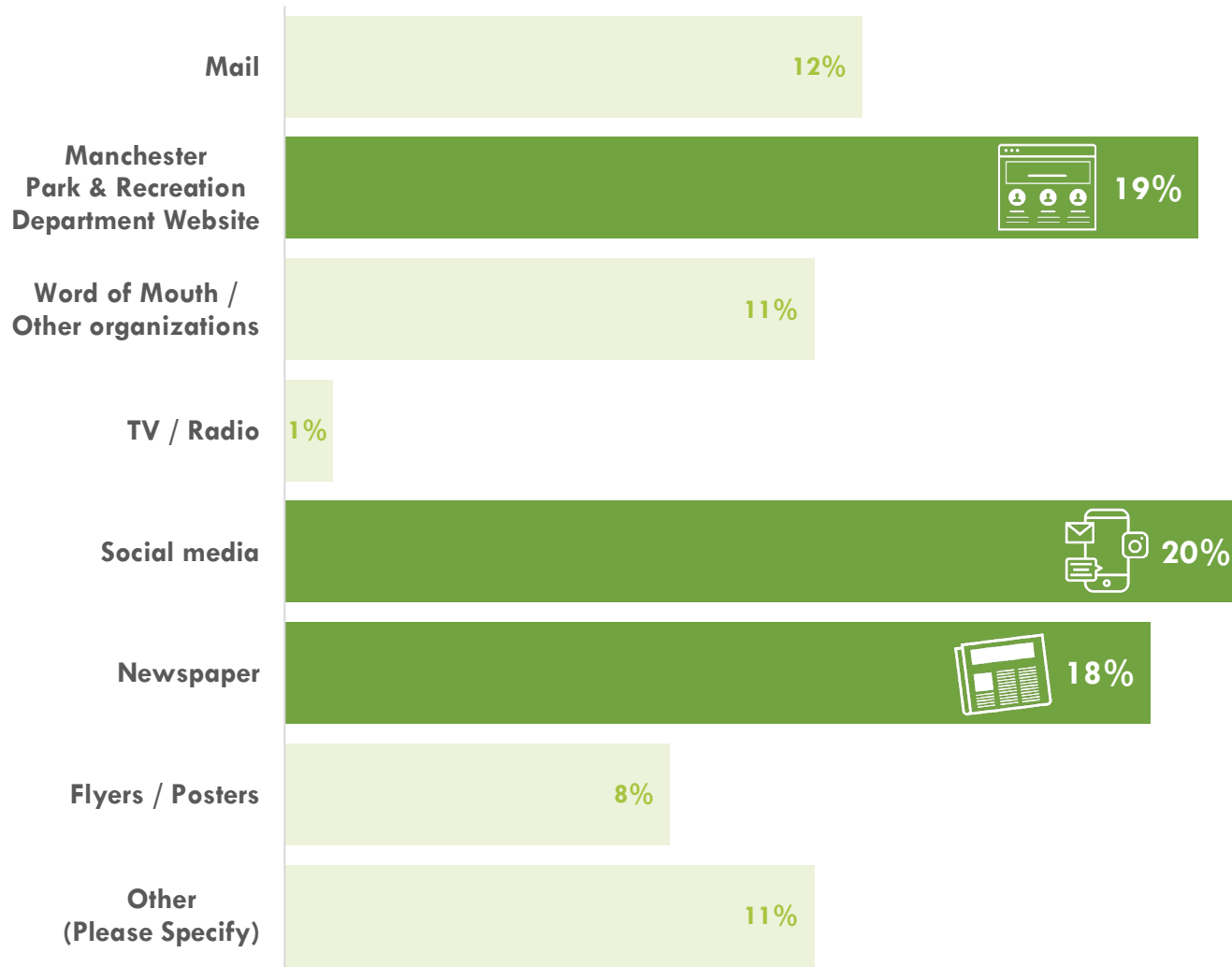
TARGETED OUTREACH



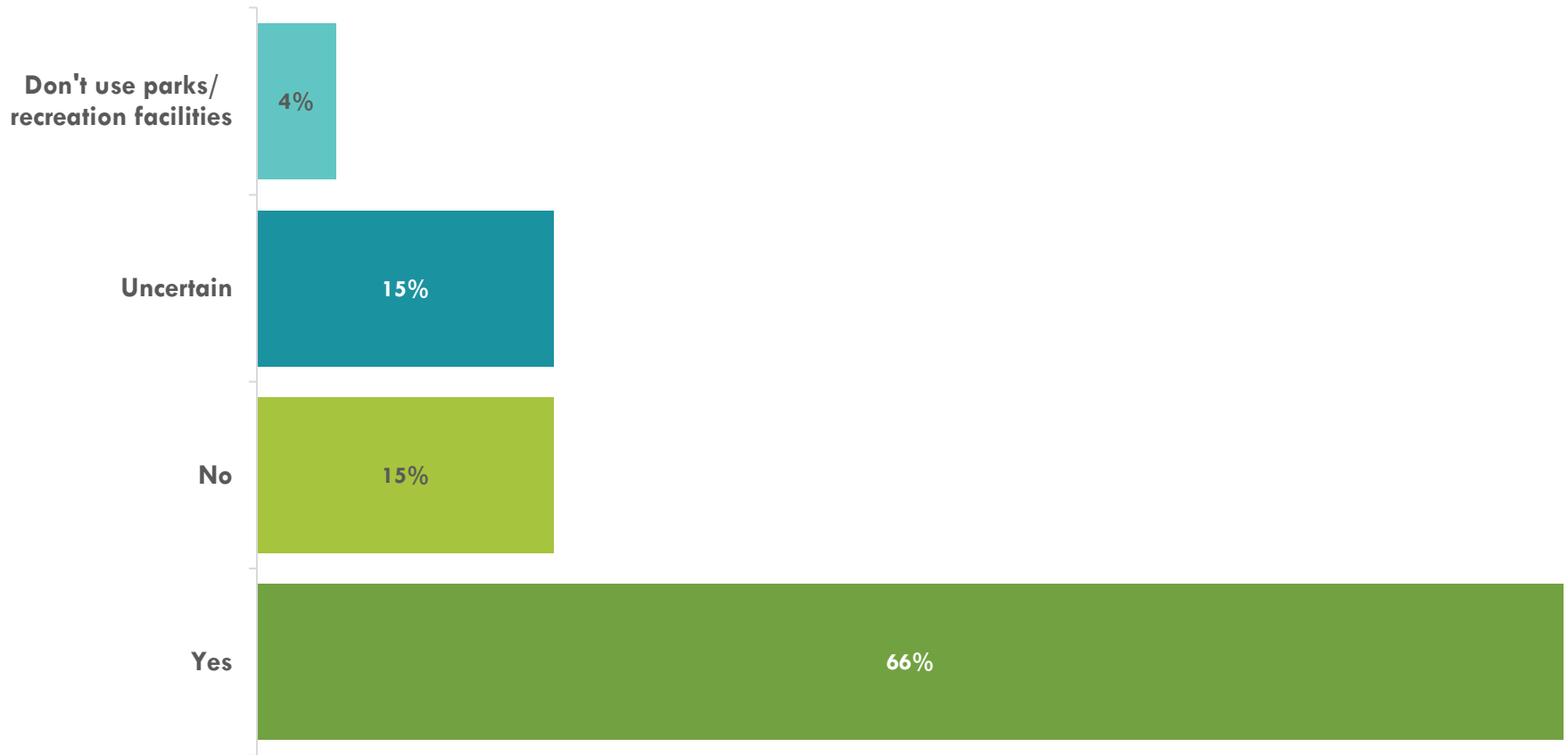
AGE



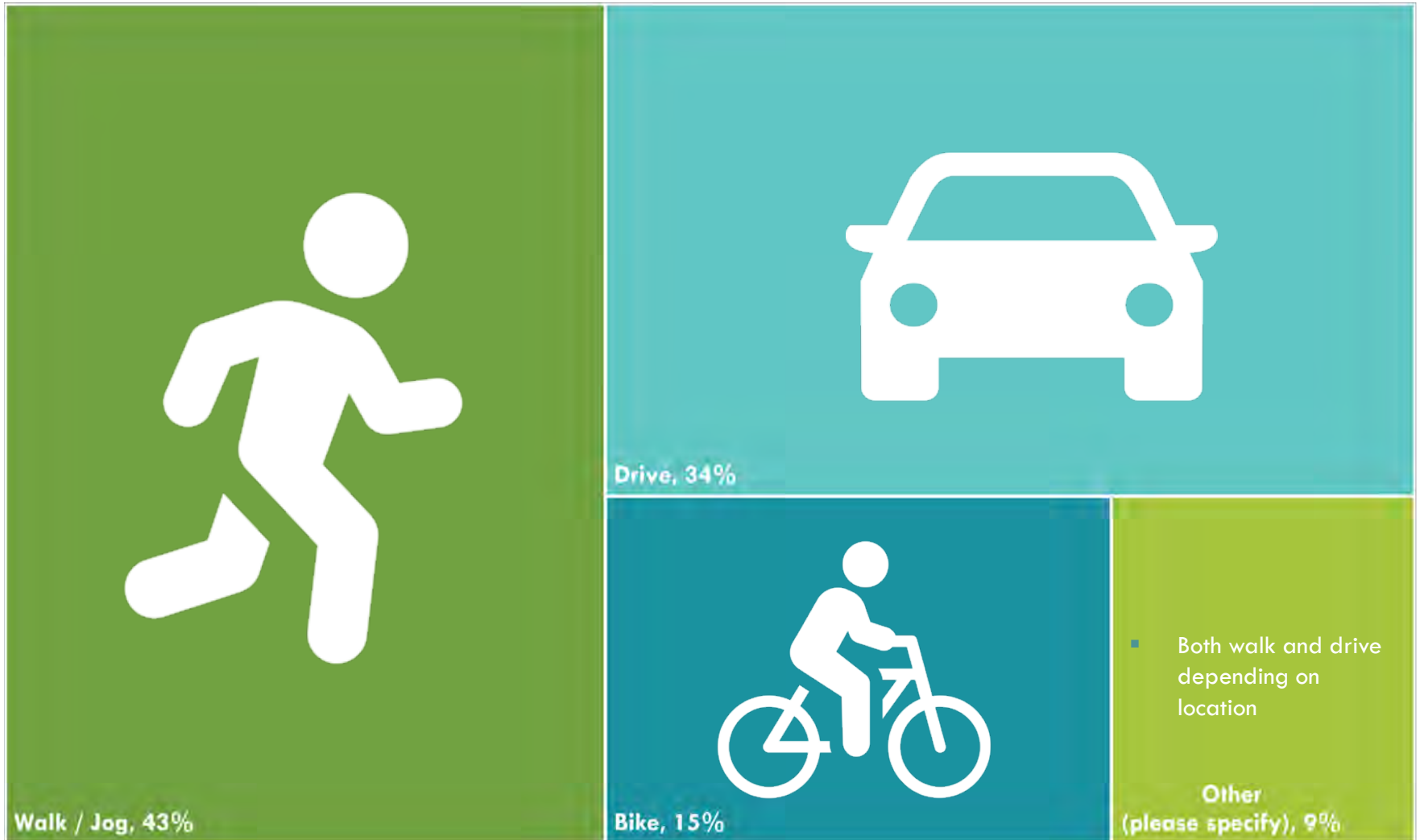
What is the most effective way for you to find out about Manchester events, recreation opportunities, and park programs? *(Select all the apply)*



Do you feel there are adequate parks and usable green space within walking /biking distance from your home?



How do you usually get to parks and open spaces in Manchester?



What is your favorite park or open space in Manchester?

#1

SINGING BEACH

#2

TUCKS POINT

#3

COOLIDGE RESERVATION

conservation
wilderness
western
masconomo
reservation
cedar
wood
tuck
point
coolidge
cathedral
swamp
hill
park
mect
house
trail
dexter
wike
chapel
family
athletic
powerhouse

What Respondents Value

In general, what makes a park valuable to you?

“ECOLOGICAL DIVERSITY”

“BEING ABLE TO TAKE MY DOG TO RUN.”

“BIRDING”

#1

BEAUTY (e.g. natural features, landscape, views)

#2

CLEANLINESS
PLACES TO CONNECT WITH NATURE

#3

PLACES TO EXERCISE OR BE ACTIVE

#4

{ Quiet places and places to relax
Opportunities to socialize, be with family or friends

#5

Easy to get to

#6

Safety

#7

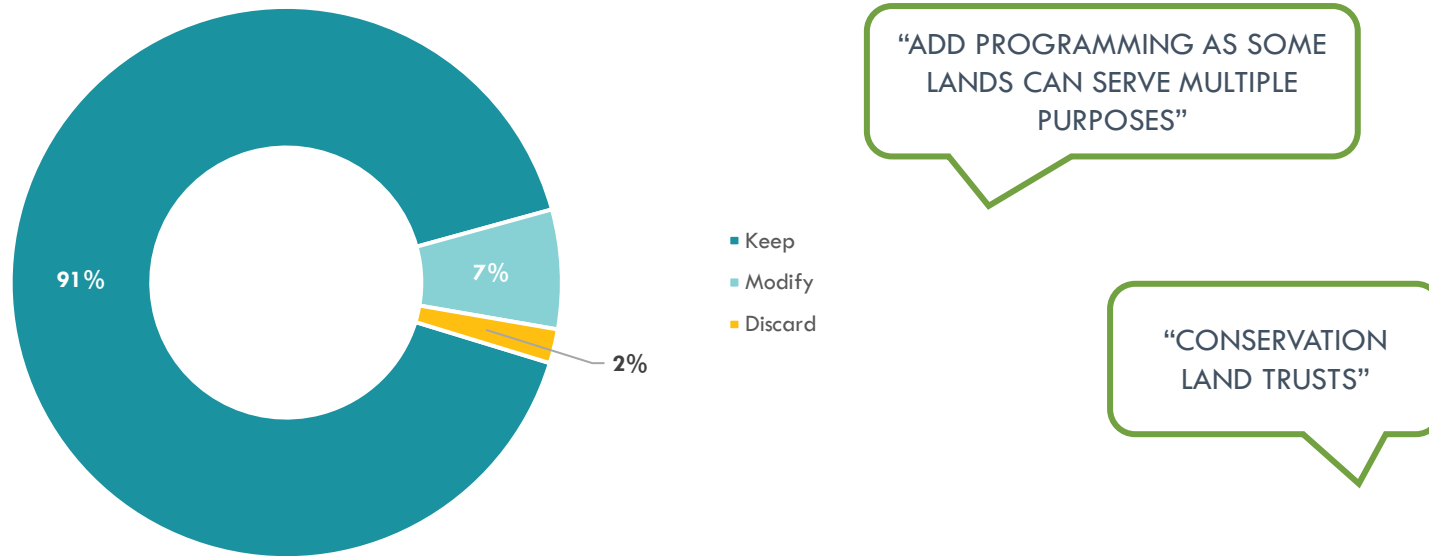
Lots of diverse activities in the park

Priorities

1	Acquire land for conservation purposes (e.g. wildlife habitat and water supply protection)
2	Maintain existing parks and facilities
3	Improve access to parks and facilities through trails, sidewalks, bike lands, safer crossings
4	Improve existing parks and facilities through new playgrounds, athletic fields, paving, trees, buildings
5	Acquire land for recreational purposes (e.g. playgrounds, ballfields, boating)
6	Acquire land for parks and facilities in areas that lack parkland
7	Add or enhance programs at parks and facilities (e.g. group exercise, arts and culture, outdoor education, concerts, markets)

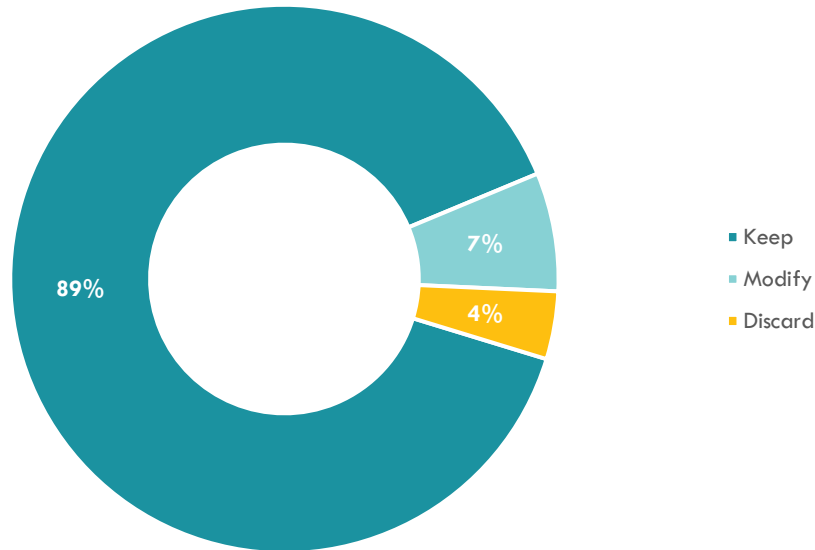
Plan Goals

- **Goal 3:** Manage existing town-owned or town-managed open spaces for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.



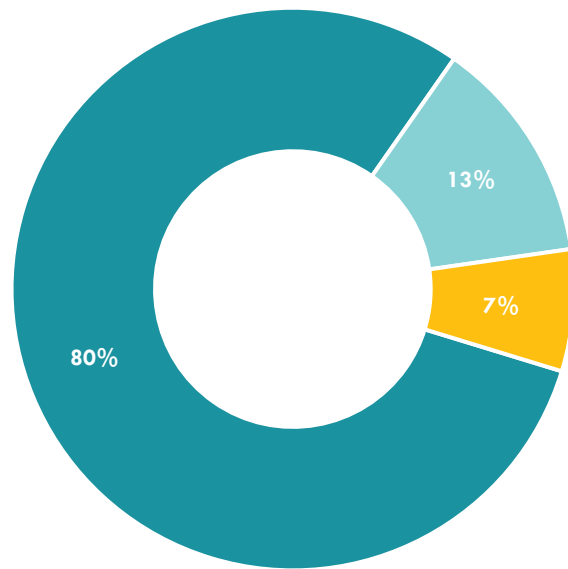
Plan Goals

- **Goal 2:** Protect land significant to drinking water protection, wildlife habitat, and natural resource protection.



Plan Goals

- **Goal 5:** Identify the Town's recreational needs and create action plans to address those needs



■ Keep
■ Modify
■ Discard

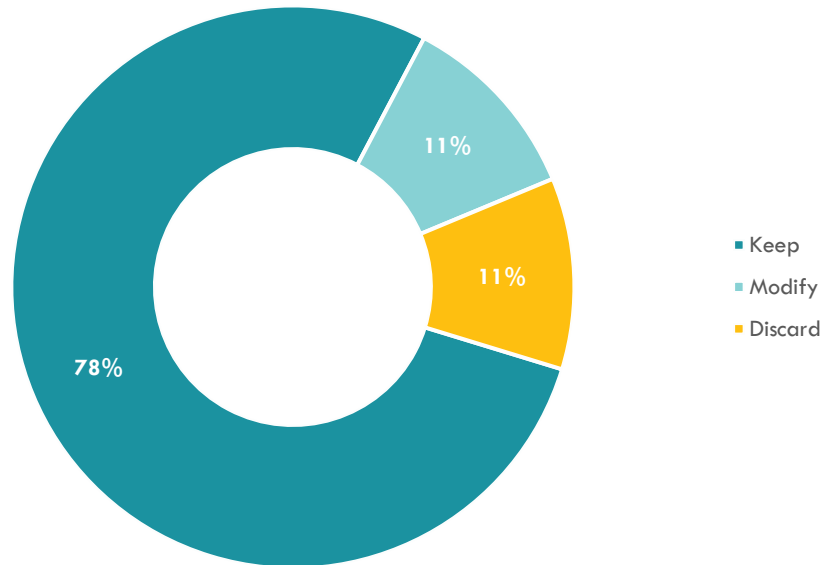
“SAFE ACCESS FOR
TOWN RESIDENTS
TO OUR SPACES”

“ENSURE THERE IS A
MIX OF ACTIVE AND
PASSIVE USES”

“GREATER
COOPERATIVE
EFFORTS W/ESSEX”

Plan Goals

- **Goal 7:** Continue to advocate for accessibility by ensuring that Town officials, boards, and committees are aware of ADA requirements and that ADA considerations are incorporated into Town projects



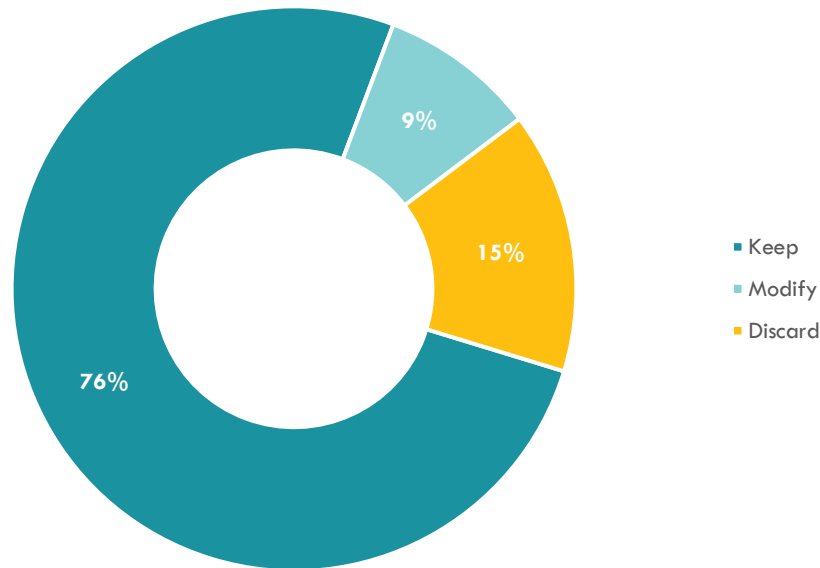
“PROACTIVELY WORK TO ADDRESS ADA COMPLIANCE WITH EXISTING BUILDINGS, SIDEWALKS, ETC.”

“COOPERATIVE EFFORTS W/CONSERVATION LAND TRUSTS”

“THERE ARE MANY AREAS WHERE MOBILITY ACCESS COULD BE IMPROVED AND ACCOMMODATIONS FOR BLIND AND DEAF USERS IS ABSENT.”

Plan Goals

- **Goal 4:** Promote awareness, enjoyment, and stewardship of Manchester-By-The-Sea's open spaces and natural resources through outreach and education

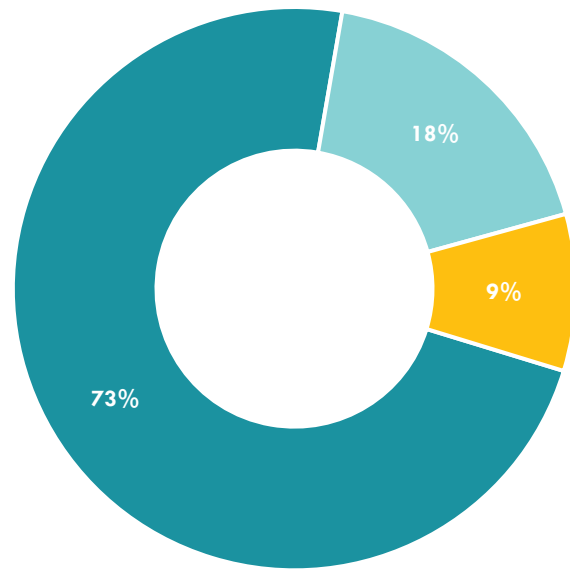


"AMPLIFYING THE EDUCATION ABOUT WHY CONSERVING THE LAND IS NEEDED TO INCREASE PUBLIC UNDERSTANDING AND SUPPORT."

"JOINT OUTREACH AND EDUCATION EFFORTS WITH CONSERVATION LAND TRUSTS"

Plan Goals

- **Goal 6:** Promote the use and improvement of Town-owned waterfront resources for the purposes of water-related activities



■ Keep
■ Modify
■ Discard

“PROACTIVELY PLAN FOR CLIMATE CHANGE AND PROTECT WATER RESOURCES”

“MORE EQUITABLE USE OF WATERFRONT RESOURCES”

“THE RESOURCES ARE ALREADY GOOD. THE FOCUS CAN BE ON PROMOTING USE SO THEY ARE WELL APPRECIATED”

Suggested New Goal

- **Climate Change Goal:** Consider the potential impacts of climate change and incorporate climate mitigation and resilience in all open space and recreation planning efforts.

What did we miss? Please provide any general comments you have on specific town facilities and public spaces. (e.g. better lighting, restrooms, new benches, more trees, better maintenance, etc.)

"Bathrooms at Sweeney park"

We would like to see some bike lanes on Pine Street and a path to Magnolia and Black/White beaches.

"Better maintenance at Tuck's Point"

"Accessible public restrooms at recreational athletic facilities"

"Budget for Open Space pursuits"

"Sweeney Park should be updated to provide a safer parking area. Playing fields need continual maintenance"

"We would like to see pickleball courts at former skate park, we would like to see a pump track/walking paths/dog park at Incinerator site on Pine. "

"We would like to see smaller pocket parks in neighborhoods-like the corner of Norwood/Washington/Union"

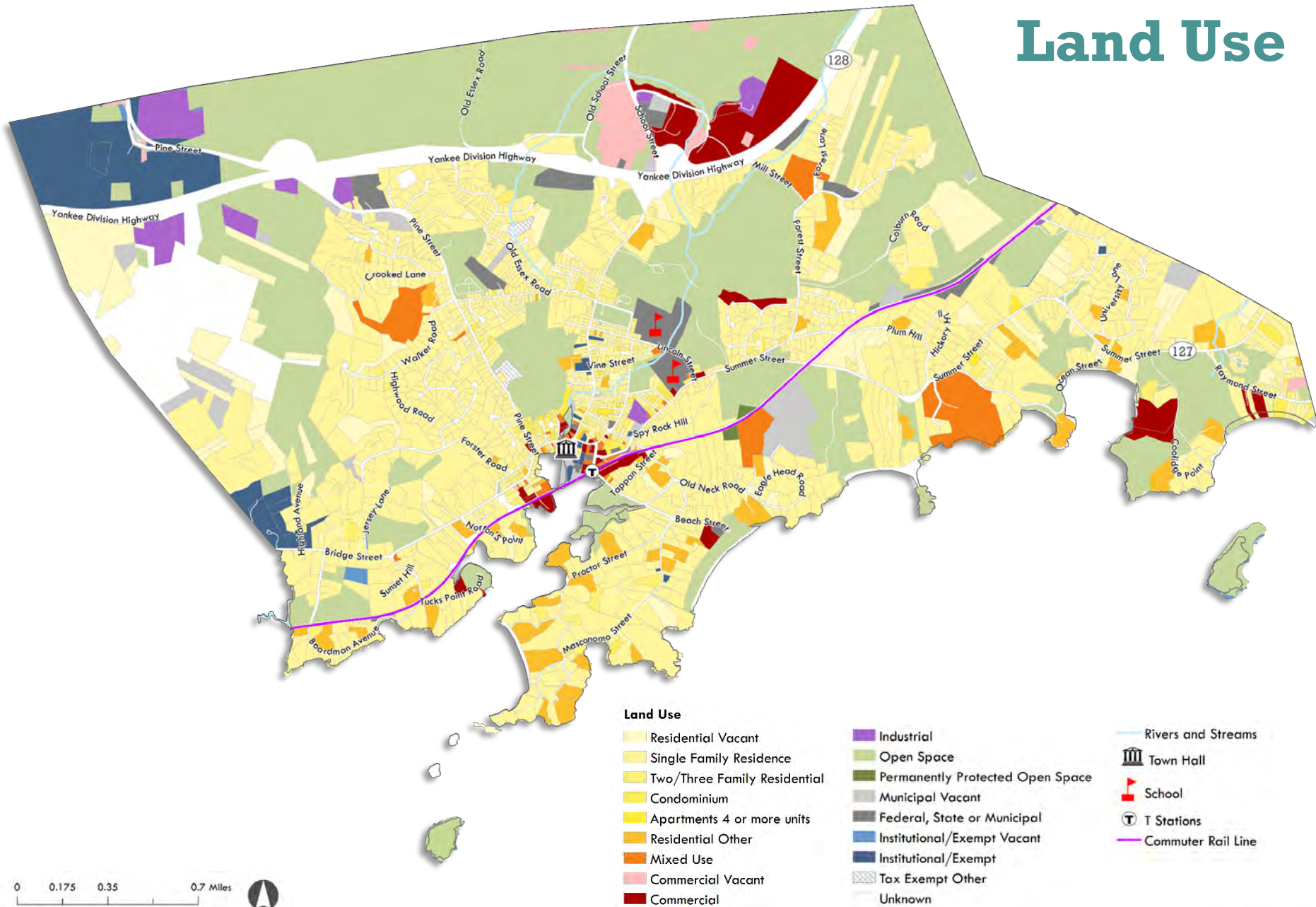
Plan Maps

■ Draft Maps

- ~~1. Regional Context Map~~
- ~~2. Zoning Map~~
- ~~3. Soils and Geologic Features Map~~
4. Unique Features Map
- ~~5. Water Resources Map~~
6. Open Space Inventory Map (Working Draft)
7. Action Plan Map
- ~~8. Current Land Use~~
- ~~9. Plant and Wildlife Habitat~~

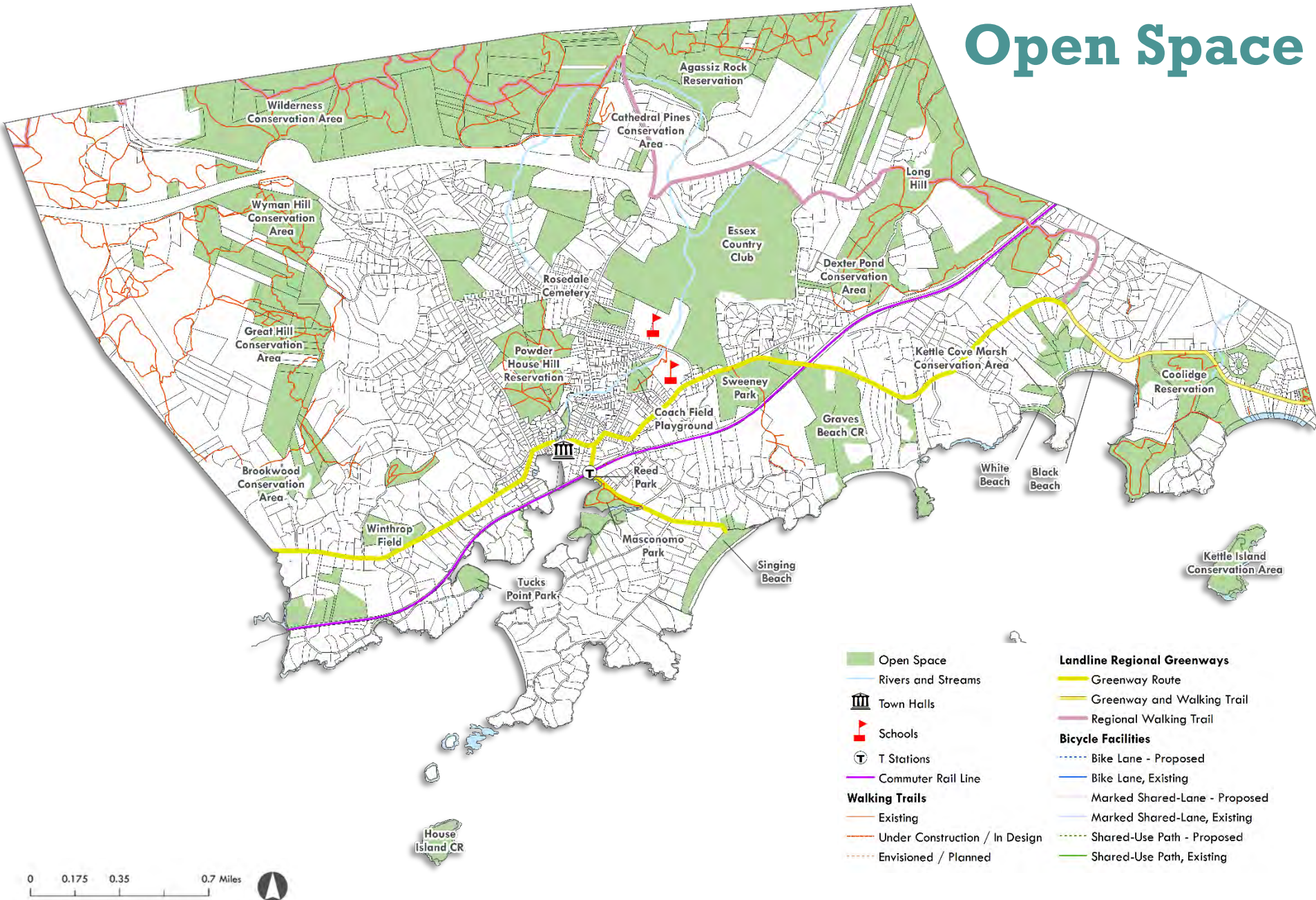
■ 6 out of 8 Required Maps

Land Use



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Open Space



The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Plan Sections

■ Draft Plan

Section 1 Plan Summary

Section 2 Introduction

Section 3 Community Setting **(PARTIALLY DRAFTED)**

Section 4 Environmental Inventory and Analysis **(PARTIALLY DRAFTED)**

Section 5 Inventory of Lands of **(PARTIALLY DRAFTED)**
Conservation and Recreation Interest

Section 6 Community Vision

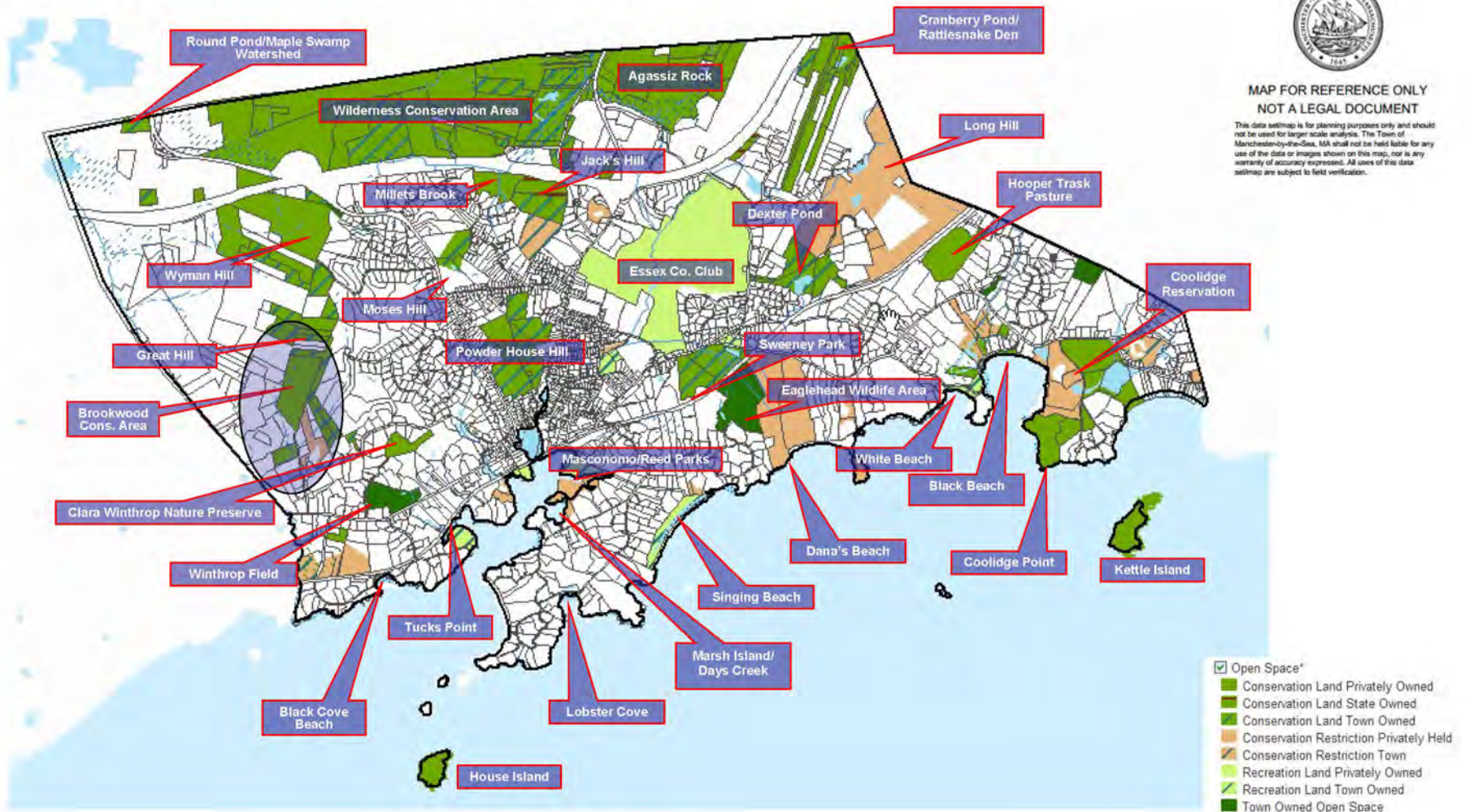
Section 7 Analysis of Needs

Section 8 Goals and Objectives

Section 9 Seven-Year Action Plan

Appendix ADA Self-Evaluation

Map 10. Manchester Open Space and Recreation Parcels



Survey Questions

- **Values, Goals and Priorities** (*Open House Questions*)
- **Park Use and Park Type**
 - Most Frequently Visited
 - Active vs Passive Recreation
- **Desired Amenities and Facilities** (*Now and in the future*)
- **Desired Programing**

- https://mapc365-my.sharepoint.com/:w:/g/personal/clewis_mapc_org/EWKNPHxMMCZlvuUsw7YeZYkBVUfG3PXq5-x5R3QU54_Npg?e=SJ40Fu



Manchester-by-the-Sea 2021 Open Space and Recreation Plan Update

OSRP Update Advisory Group Meeting #3 Agenda

April 8, 2021, 3:00 PM

[Click here](#) to register and join by **video or phone**:
Meeting ID: 998 6702 6617

- 1. Welcome and Introductions**
 - a. Name and affiliation
- 2. Project Timeline**
 - a. Briefly discuss updated project timeline
 - b. Discuss Draft Review Period
- 3. Virtual Community Forum #2**
 - a. Set a date and time for Forum #2 (May)
- 4. 7-Year Action Plan**
 - a. Review draft action items for the 7-Year Action Plan (**Section 9**)
- 5. Management Needs**
 - a. Discuss and update Management Needs (**Section 7**)

OSRP Survey Results



211 Responses

RECORDED RESPONSES



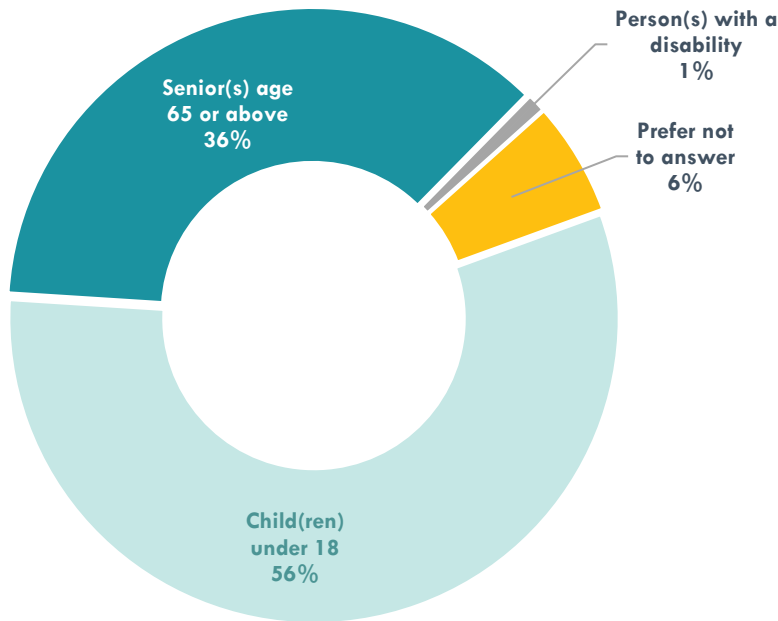
179 Participants

ANSWERED ALL QUESTIONS

Who Participated?

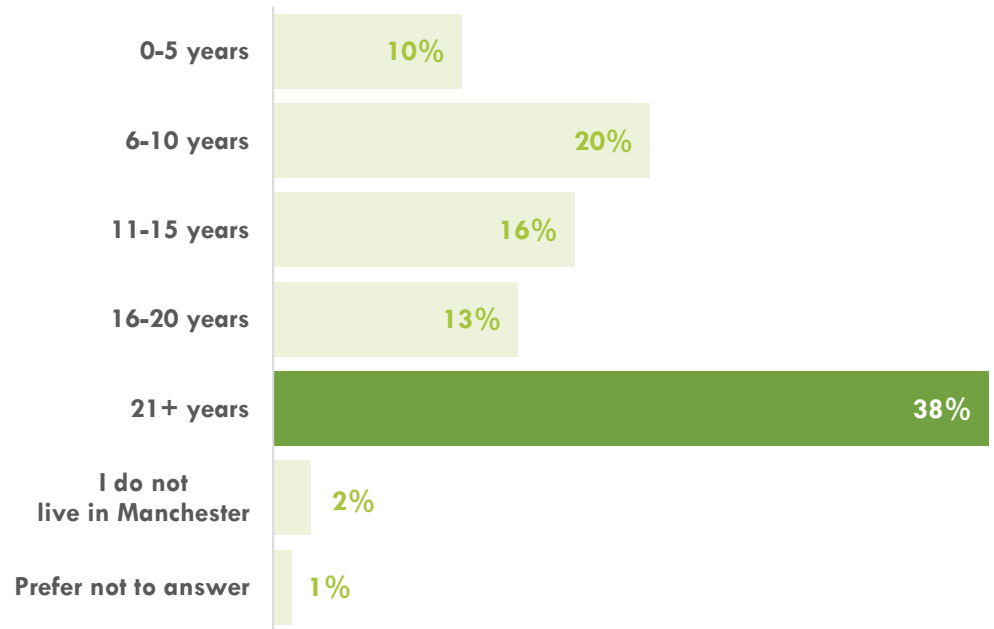
HOUSEHOLD

Do you or any members of your household match the following descriptions?

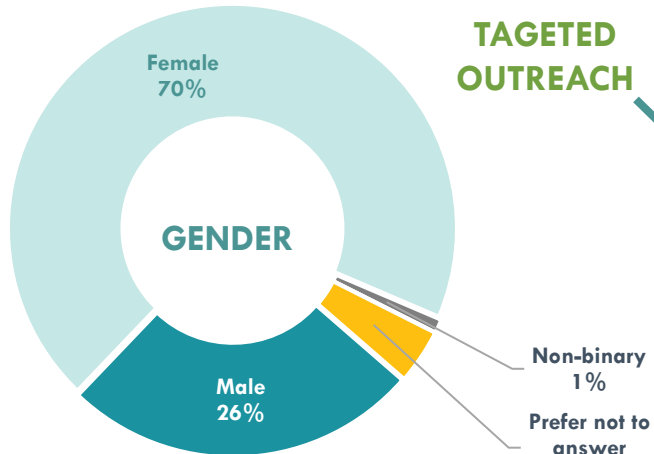


TENURE

How long have you lived in Manchester?



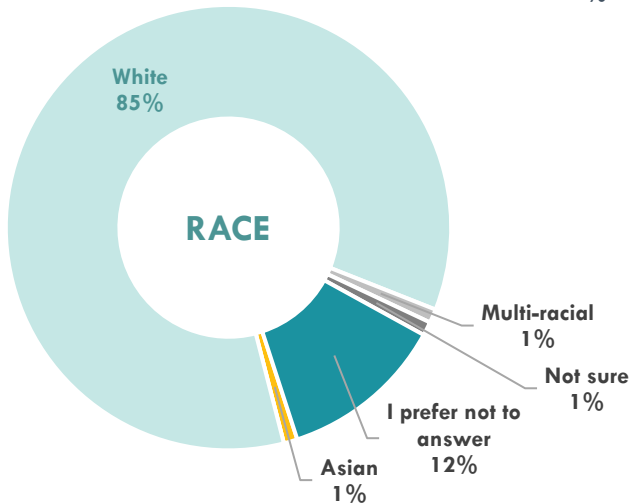
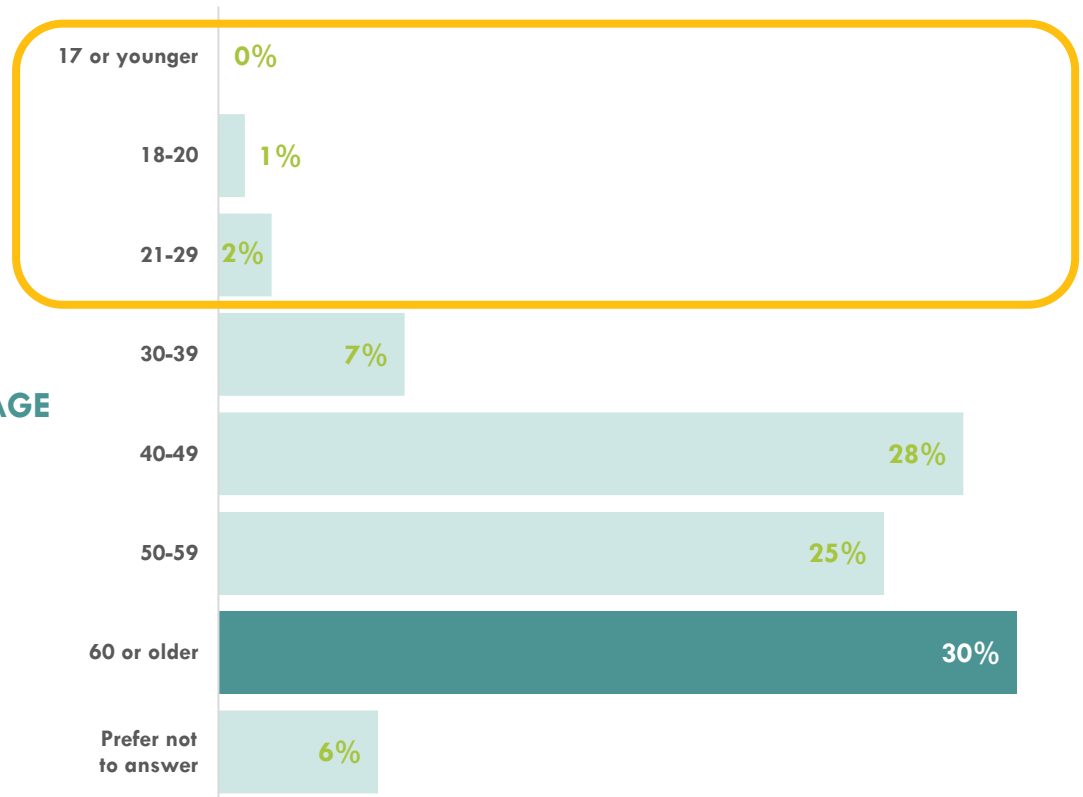
Who Participated?



**TARGETED
OUTREACH**



AGE



Active Recreation Sites

Most Visited

#1

SINGING BEACH

#2

MASCONOMO PARK

#3

TUCKS POINT

Least Visited

#1

MAGNOLIA SURF PARK

#2

SWEENEY PARK

#3

TOWN BOAT RAMP

Passive Recreation Sites

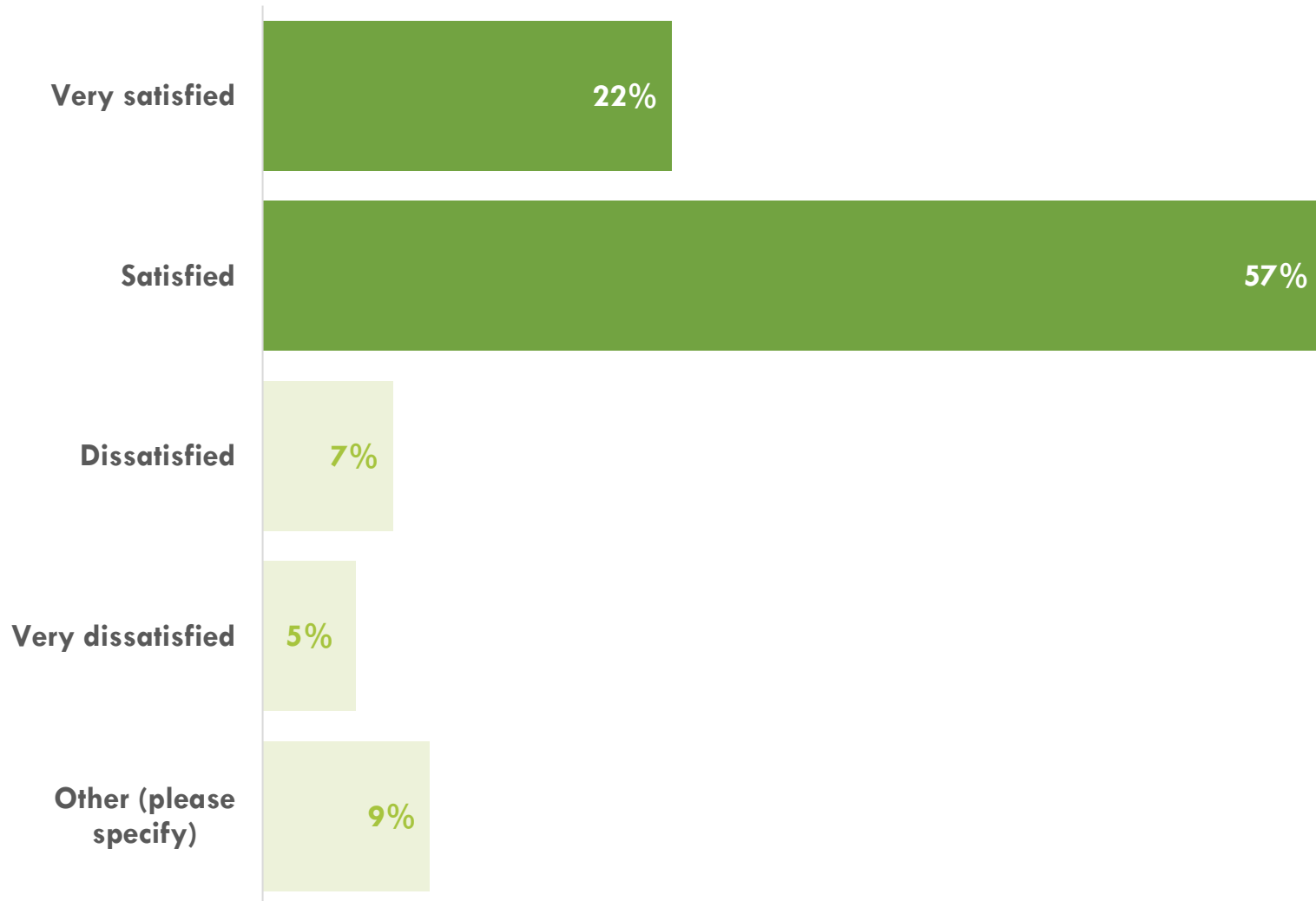
Most Visited

-   **MANCHESTER ESSEX WOODS**
(WILDERNESS CONSERVATION AREA)
-  **POWDER HOUSE HILL**
RESERVATION
-  **COOLIDGE**
RESERVATION/POINT
-  **DEXTER POND**
CONSERVATION AREA

Least Visited

-  **AGASSIZ ROCK**
RESERVATION
-  **WINTHROP FIELD**
-  **CLARA B. WINTHROP**
PRESERVE

How satisfied are you with the condition of Manchester's parks and open space properties?



What prevents you from utilizing Manchester's open space, parks, and recreation facilities?

1	Don't know where the site is located	9	My recreational and open space needs are met outside of Manchester
2	Lack of parking	10	No place to sit
3	Site is not accessible by walking or biking from my home	11	Safety concerns
4	Not interested in the sports fields and playgrounds provided	12	Too crowded
5	Lack of restrooms	13	Size of park/amount of space available
6	Dogs are not allowed	14	Lack of shade
7	Poor condition or maintenance	15	Unable to access due to disability barriers
8	Not interested in the trails provided	Other	

Select up to five (5) programs that would increase your use of a park or open space property

1	Nature programs
2	Guided walks in open space properties
3	Musical or theatrical performances
4	Public art and art programs
5	Activity groups like walking clubs, cycling groups, gardening groups

Select up to five (5) options below that you would like to see more of in Manchester in the next 10 years.

1 Trails for walking running, and hiking

2 Water access points - Rowing/Kayaking/Stand-up Paddle Boarding

3 Improved natural areas and preserves

4 Picnic areas and pavilions

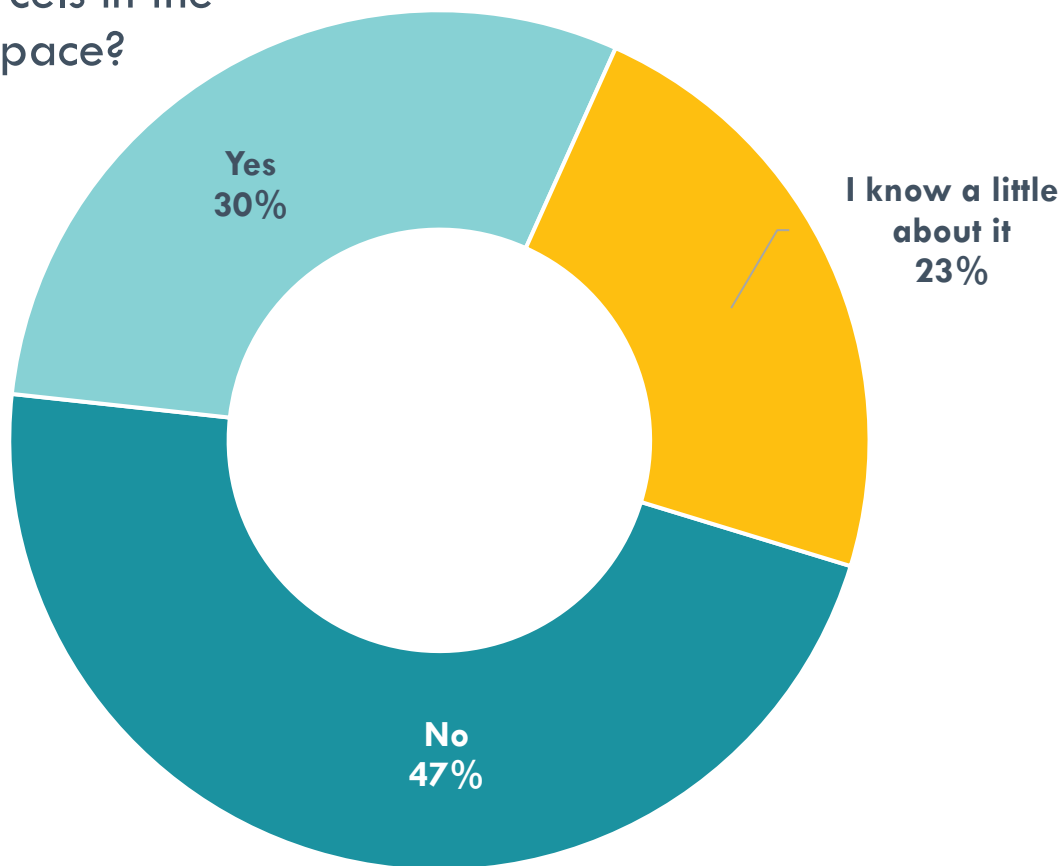
5 Community gardens

Select up to three (3) active/recreation programs you would like to see increase in Manchester the next 10 years.

1	Kayaking/Stand-up paddle boarding
2	Aquatics programs (swim lessons, swim teams, lifeguard training)
3	Pickleball

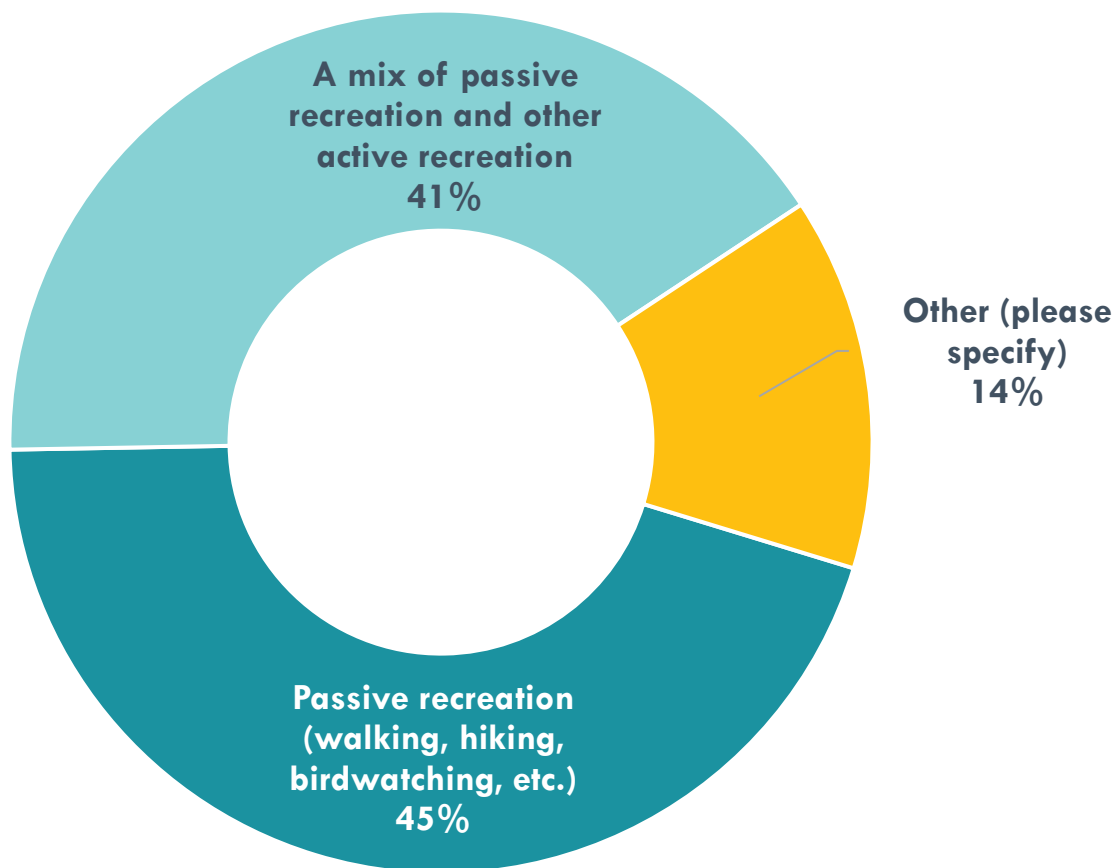
Western Woods Initiative

- Are you aware of Manchester's Western Woods Initiative to acquire parcels in the wester part of Town for open space?



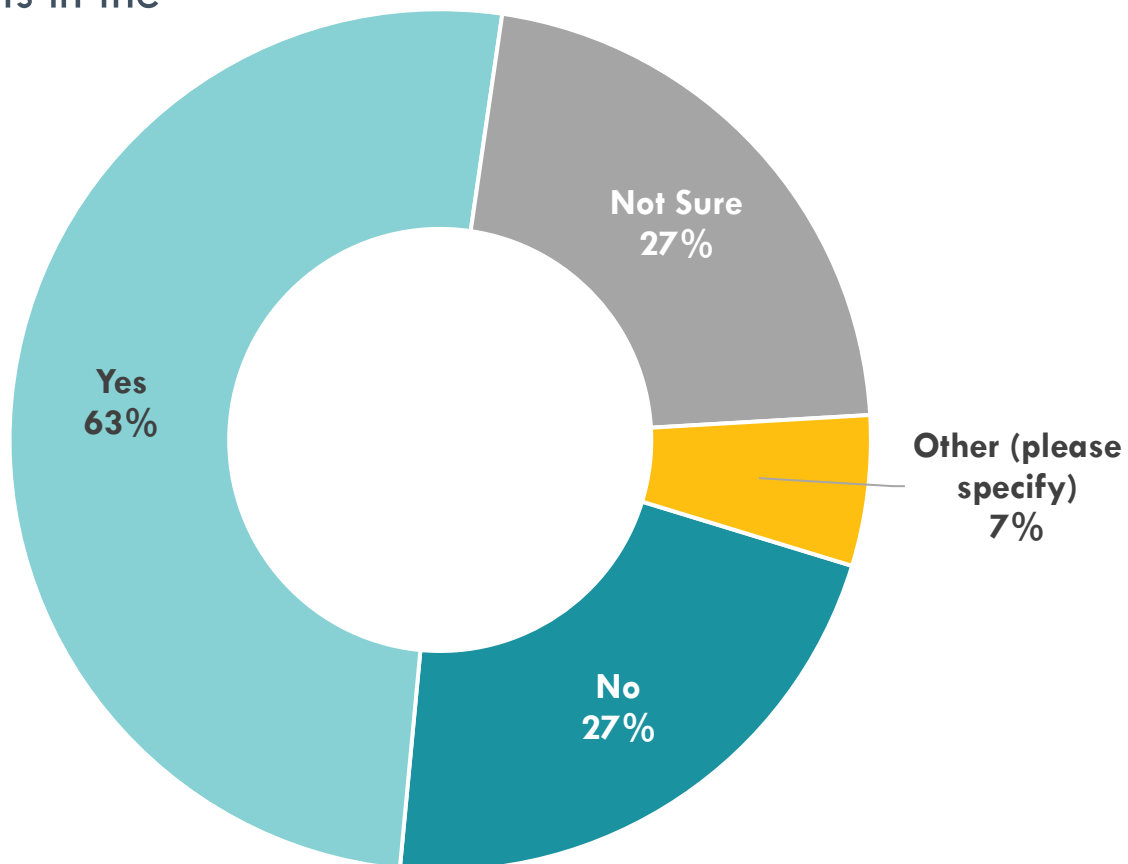
Western Woods Initiative

- How would you like to see these properties used?



Western Woods Initiative

- Do you support using Town funds towards the acquisition of some of the lots in the Western Woods?



MANCHESTER-BY-THE-SEA

OPEN SPACE AND RECREATION PLAN UPDATE

The Town of Manchester-By-The-Sea with the assistance of the Metropolitan Area Planning Council (MAPC) is preparing an Open Space and Recreation Plan (OSRP). This OSRP is an update to Manchester's 2014 Open Space and Recreation Plan and will serve to guide the Town's decisions on open space and recreation activities for the next seven years. The Town and the Open Space and Recreation Plan Update Advisory Group invite you to join us for a virtual meeting and open house to give your input into the development of this plan. This second Community Forum will provide residents an opportunity to review and provide feedback on draft action items for the OSRP's Seven Year Action Plan. Please register for the Live Presentation using the [Zoom link](#) below. If you can't join us for the Live Presentation, we will be publishing a link to the recording and the Virtual Open House on the Town's [Open-Space-Recreation-Committee](#) web page where you can view content and provide input.

Live Presentation:

Wednesday, May 26, 2021

6:30pm -8:00 pm

Register Here:

mapc.ma/ManchesterOSRP2

Following the Live Presentation

Virtual Open House:

May. 26- Jun. 11, 2021

A link to the site will be posted on the Open-Space-Recreation-Committee web page

MEETING HIGHLIGHTS

- **Project Update**
A brief update on the OSRP planning process.
- **OSRP Survey Findings**
A summary of the OSRP Community Survey results.
- **Seven Year Action Plan**
An overview of draft action items for the 2021 OSRP Seven Year Action Plan
- **Virtual Open House**
Review project information and the draft Seven Year Action Plan at your convenience and provide feedback

MANCHESTER OSRP COMMUNITY FORUM



An aerial photograph of a coastal town, Manchester-by-the-Sea, featuring a large harbor filled with numerous sailboats. The harbor is surrounded by lush green trees and residential areas. A small pier with a red-roofed building is visible in the lower left. The water is a deep blue, and the sky is clear.

Manchester-by-the-Sea 2021 Open Space and Recreation Plan Update

NOTIFICATION OF RECORDING

This meeting will be recorded and the Metropolitan Area Planning Council (MAPC) may choose to retain and distribute the video, still images, audio, and/or the chat transcript. By continuing with this virtual meeting, you are consenting to participate in a recorded event. The recordings and chat transcript will be considered a public record. If you do not feel comfortable being recorded, please turn off your camera and/or mute your microphone, or leave the meeting.





Manchester-by-the-Sea

2021 OPEN SPACE AND RECREATION PLAN

Community Forum

May 26, 2021





Tonight's Agenda

- **Introductions**
- **Background & Project Timeline**
- **Major Phases of Work**
- **Draft Seven Year Action Plan**

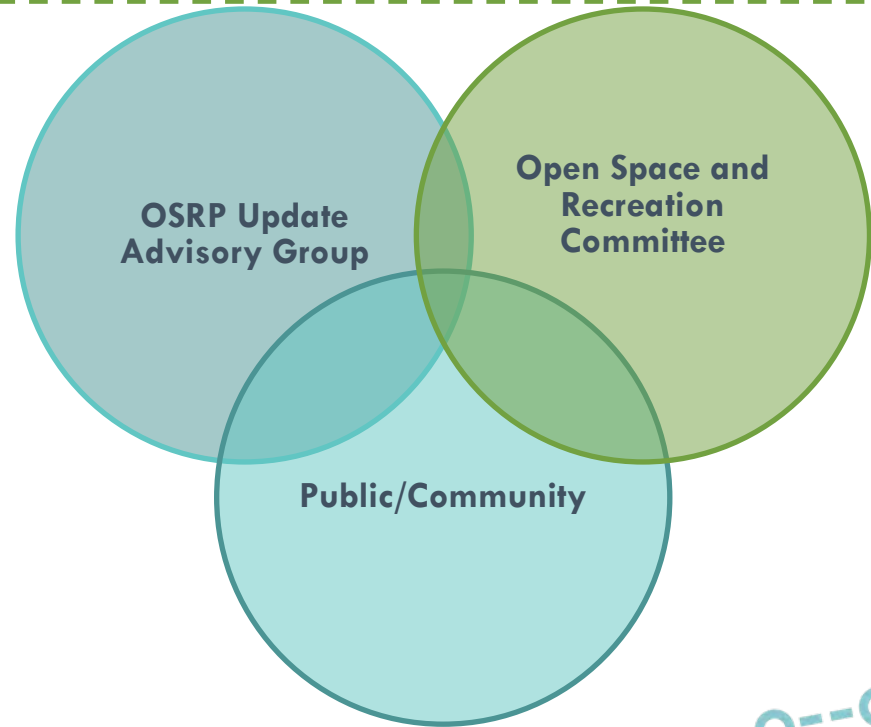
The Planning Team

OSRP Update Advisory Committee

- Olga Hayes
- Mary Foley
- Christine DeLisio
- Gary Russell
- Eva Palmer
- Beth Heisey
- Lisa Bonneville
- Max Warnock
- Chris Bertoni
- Sari Oseasohn
- Sue Brown
- Nate Derosiers
- Bion Pike
- Jeff Bodmer-Turner
- Jessica Lamothe
- Mory Creighton

Open Space and Recreation Committee

- Olga Hayes
- Steve Gang
- Deb Friaize
- Parker Harrison
- Curtis Rising
- Helen Bethell
- Sheila Linehan



**We also need
your input!**





Project Background & Timeline



Why complete an OSRP?



- An Open Space and Recreation Plan (OSRP) provides information about the community, its environmental and recreational resources, and what residents want to achieve in the **next 7 years**
- OSRPs help encourage community protection and stewardship of these vital resources
- Completion of an OSRP makes municipalities **eligible to apply for State grants** through the EOEEA to acquire and improve land for conservation and recreation

Plan Outline

OPEN SPACE AND RECREATION PLANNER'S WORKBOOK

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
100 BOWDOIN STREET
BOSTON, MA 02114
www.mass.gov/eea



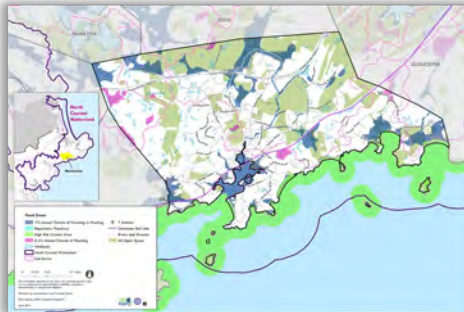
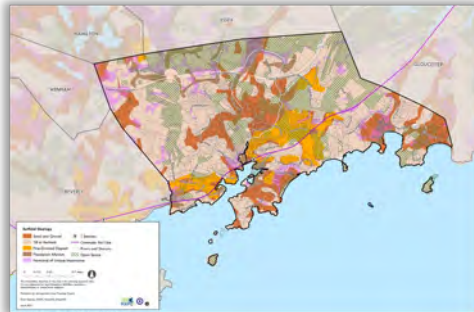
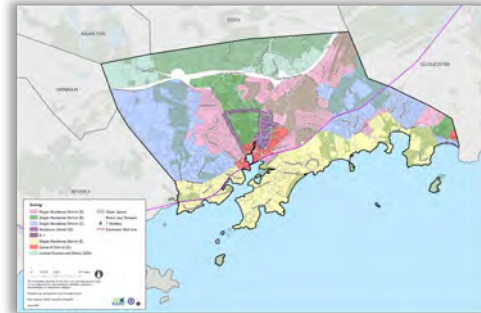
Manchester-by-the-Sea Open Space and Recreation Plan



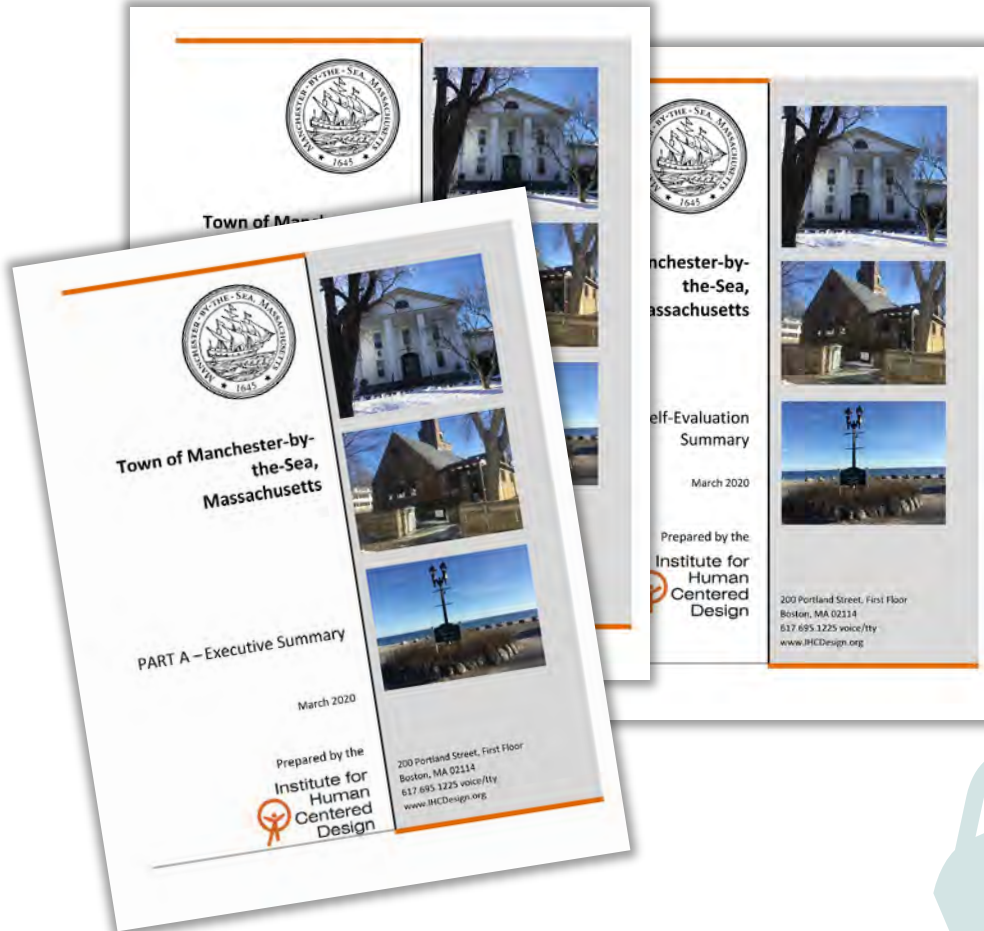
Final - August 2014

- Section 1** Plan Summary
- Section 2** Introduction
- Section 3** Community Setting
- Section 4** Environmental Inventory and Analysis
- Section 5** Inventory of Lands of Conservation and Recreation Interest
- Section 6** Community Vision
- Section 7** Analysis of Needs
- Section 8** Goals and Objectives
- Section 9** Seven-Year Action Plan
- Appendix** ADA Self-Evaluation

Plan Maps

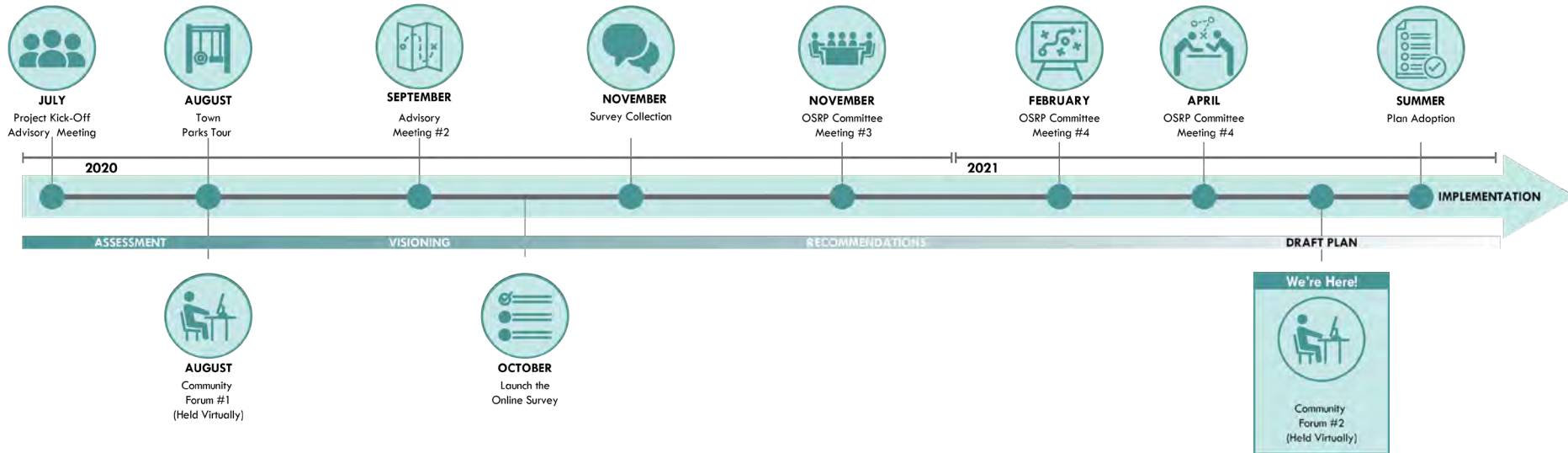


ADA Access Self-Evaluation



The Process

PROJECT TIMELINE

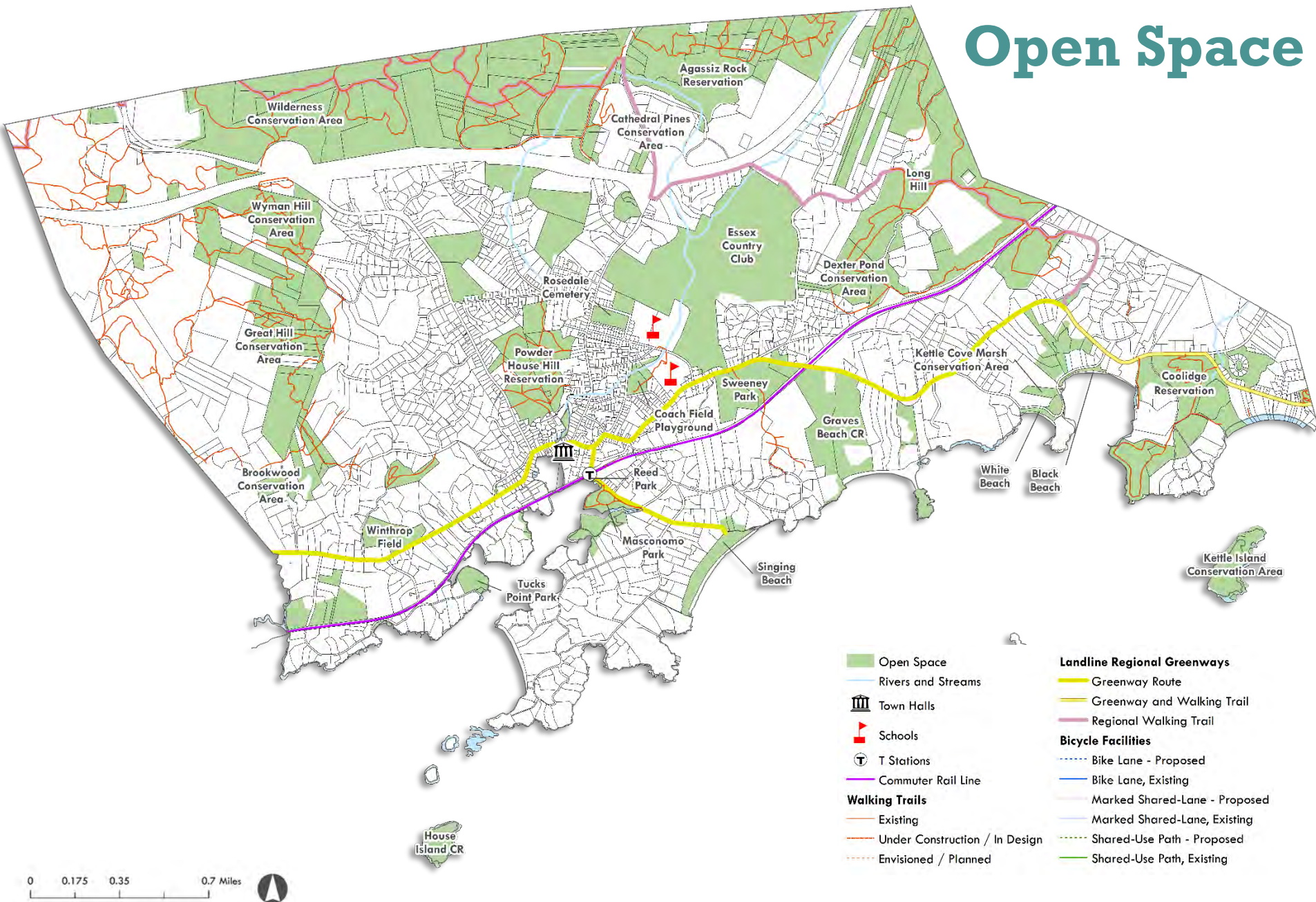




Major Phases of Work



Open Space



The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Parks Tour

August

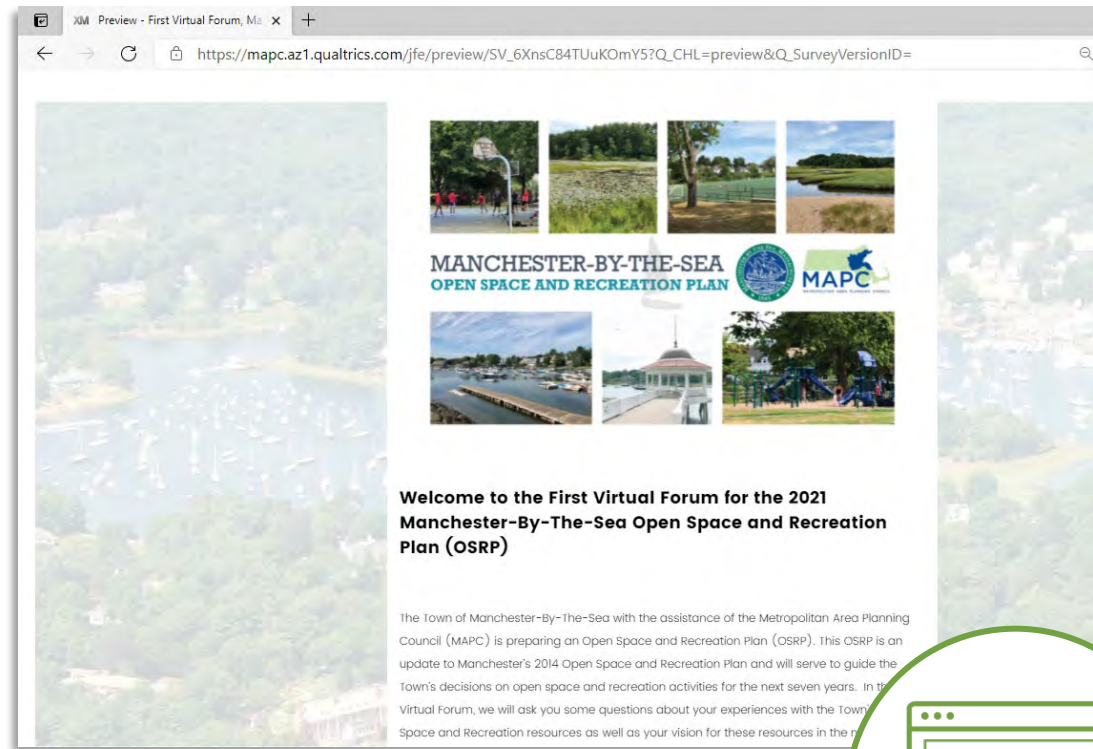


Presentation & Open House

August



**Kick-off
Presentation**
AUGUST 26TH (via Zoom)



Virtual Open House
AUGUST 26TH-SEPT. 11TH (via Qualtrics)



Priorities

1	Acquire land for conservation purposes (e.g. wildlife habitat and water supply protection)
2	Maintain existing parks and facilities
3	Improve access to parks and facilities through trails, sidewalks, bike lands, safer crossings
4	Improve existing parks and facilities through new playgrounds, athletic fields, paving, trees, buildings
5	Acquire land for recreational purposes (e.g. playgrounds, ballfields, boating)

OSRP Community Survey

Oct.-Nov.



211 Responses
RECORDED RESPONSES

Manchester-By-The-Sea x +

https://mapc.az1.qualtrics.com/jfe/preview/SV_9NqnhVEdqQXmHEp?Q_CHL=preview&Q_SurveyVersionID=current

General Open Space Questions

How often do you (or your family members) visit or use the following parks and recreational facilities? (Click the map below to enlarge for reference).




Image #1

	Never	1-3 times a year	4-6 times a year	10 times a year or more	Unaware of the park or facility
Sweeney Park	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Masconoma Park	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Road Park	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Magnolia Surf Park	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



179 Participants
ANSWERED ALL QUESTIONS

Active & Passive Recreation Sites

Most Visited (Active)

- #1** SINGING BEACH
- #2** MASCONOMO PARK
- #3** TUCKS POINT

Most Visited (Passive)

- #1** { MANCHESTER ESSEX WOODS
(WILDERNESS CONSERVATION AREA)
POWDER HOUSE HILL
RESERVATION
- #2** COOLIDGE
RESERVATION/POINT
- #3** DEXTER POND
CONSERVATION AREA

Select up to five (5) options below that you would like to see more of in Manchester in the next 10 years.

1 Trails for walking running, and hiking

2 Water access points - Rowing/Kayaking/Stand-up Paddle Boarding

3 Improved natural areas and preserves

4 Picnic areas and pavilions

5 Community gardens



DRAFT: Seven Year Action Plan





Accomplishments

- Establishment of a permanent Open Space and Recreation Committee in **2015**.
- Held a volunteer clean up event at Dexter Pond in **2016**.
- Constructed a new public boat ramp at Town Hall in **2017**.
- Rebuilt a pedestrian bridge at the Dexter Pond Nature Sanctuary in **2018**.
- Implemented a Safe Routes to School project at Memorial School, which included sidewalks, crosswalks and other safety improvements in **2019**.
- Secured funding to from Town Meeting to develop Open Space management plans for town owned open space parcels **2020**.
- Developed an Athletic Field Master Plan in **2020**.
- Updated Manchester's ADA Self-Evaluation and ADA Transition Plan in **2020**.
- Added 260 linear feet to the existing docks at Reed Park in **2020**.
- Placed approximately 12 acres of land in the Western Woods under the management of the Conservation Commission in **2020**.
- Initiated the purchase of a 12-acre lot on Christian Hill for conservation in **2020**.
- Created a new walking trail and installed informational kiosks and trail markers at Powder House Hill Reservation in **2020**.
- Provided funding to the Manchester Stream Team to develop a video entitled Sawmill Brook: A Visual Survey 2020, to educate and promote protection of the Town's drinking water and natural resources in **2020**.

OSRP Goals



- **Goal 1:** Ensure that the objectives and actions identified in the Open Space and Recreation Plan (OSRP) are implemented and that the plan is updated as needed for resubmission in 2028.



- **Goal 2:** Protect land significant to drinking water protection, wildlife habitat, natural resource protection and climate change (for carbon storage)



- **Goal 3:** Manage existing town-owned or town-managed open space parcels for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.



- **Goal 4:** Promote awareness, enjoyment and stewardship of Manchester's open space parcels and natural resources through outreach and education.



- **Goal 5:** Identify the town's recreational needs and create action plans to address those needs.

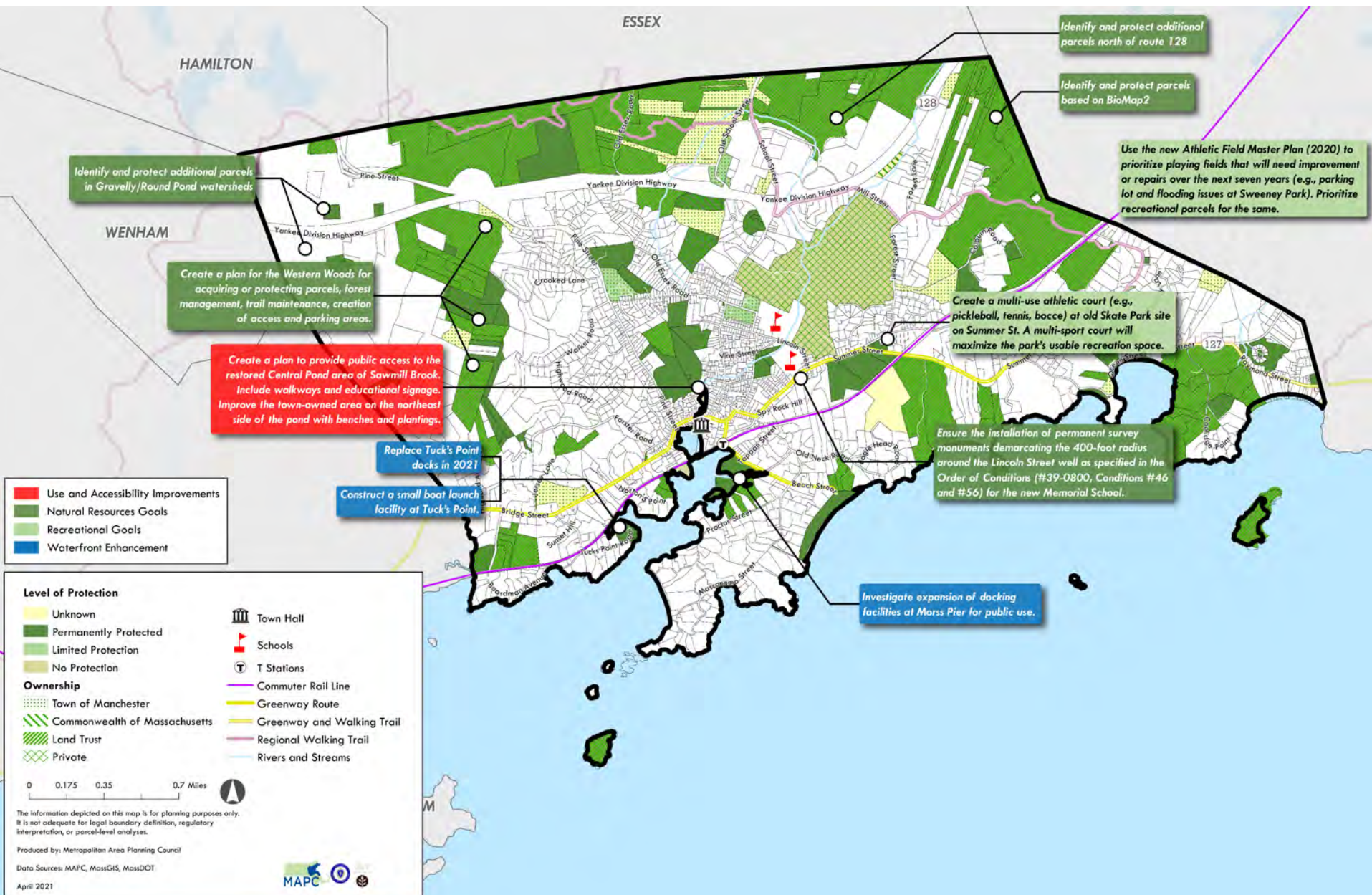


- **Goal 6:** Promote the use and improvement of the town-owned waterfront resources for the purposes of water-related activities.



- **Goal 7:** Continue to advocate for accessibility by ensuring that town officials, boards and committees are aware of Universal Design Standards and ADA requirements and that ADA considerations are incorporated into town projects.

DRAFT Action Plan Map



Goal 1: Ensure that the objectives and actions identified in the Open Space and Recreation Plan (OSRP) are implemented and that the plan is updated as needed for resubmission in 2028.	
Actions:	Priority/ Time Frame
Action 1.1: Update the 2021 plan with a view to a submission of a revised plan in 2028 and establish a budget as needed.	HIGH Continuous

Goal 2: Protect land significant to drinking water protection, wildlife habitat, natural resource protection and climate change (for carbon storage)

Actions:	Priority/ Time Frame
<p>Action 2.1: Revise the Town’s list of high- priority parcels which are not currently protected for potential acquisition or protection by other means.</p> <ul style="list-style-type: none"> Possible candidates include unprotected parcels within the Round Pond and Gravelly Pond watersheds; remaining unprotected woodlands north of Route 128; parcels in the “Western Woods”; parcels that would link existing parcels to create greenway corridors including Wyman Hill, Great Hill and Owl’s Nest Nature Preserve; and the Eaglehead Wildlife Study Area. Consideration should be given to those areas identified in the BioMap2 (or, Biomap3 when available), created by the Massachusetts Natural Heritage and Endangered Species Program. The BioMap2 project includes a report for the town of Manchester which should be consulted when identifying high-priority parcels. 	<p>HIGH Year 1 Short-term</p>
<p>Action 2.2: Using the list created in Action 2.1, set priorities and actions for each parcel (e.g., acquisition, conservation restrictions, Conservation Commission management)</p>	<p>HIGH Year 1 Short-term</p>

Goal 2: Protect land significant to drinking water protection, wildlife habitat, natural resource protection and climate change (for carbon storage)

Actions:	Priority/ Time Frame
<p>Action 2.3: Initiate steps to acquire or protect those high-priority parcels identified in Action 2.2.</p> <ul style="list-style-type: none"> ■ Seek allies among other local nonprofits to help encourage conservation outcomes for these parcels. ■ Work with Town Planner and Planning Board to identify and assess zoning bylaws that protect resource values. (or perhaps this is an action on its own – whereby parties evaluate zoning bylaws to strengthen resource protection – clustering, LID, etc. are all valid resource protection tools). ■ Seek Town Meeting votes to conserve or protect the resource values of the Town-owned undisturbed parcels in the Gravelly/Round Pond watershed recently identified by the Assessors and those in the Western Woods. 	<p>HIGH Year 2 - 7 Short- to long-term</p>
<p>Action 2.4: Maintain an ongoing <u>inventory of parcels</u> that need additional protection through acquisitions, dedications, or conservation restrictions. These include parcels that are important for water supply protection, wildlife habitat and natural resource protection. Reassess and update the inventory annually and apply it to Manchester's online mapping utility.</p>	<p>HIGH Year 1 – 7 Ongoing</p>

Goal 3: Manage existing town-owned or town-managed open space parcels for the purposes of safe and enjoyable public access and the protection of natural resources and wildlife habitat.

Actions:	Priority/ Time Frame
<p>Action 3.3: Create a plan for the Western Woods for acquiring or protecting parcels, forest management, trail maintenance, creation of access and parking areas.</p> <ul style="list-style-type: none"> ■ Create a Western Woods webpage where all relevant information and documents can be posted. 	<p>HIGH Year 1 - 2 Short-term</p>
<p>Action 3.4: Create a plan to provide public access to the restored Central Pond area of Sawmill Brook.</p> <ul style="list-style-type: none"> ■ Include walkways and educational signage. ■ Improve the town-owned area on the northeast side of the pond with benches and plantings 	<p>HIGH Year 3-7 Mid- to long-term</p>

Goal 4: Promote awareness, enjoyment and stewardship of Manchester's open space parcels and natural resources through outreach and education.

Actions:	Priority/ Time Frame
Action 4.2: Create trail maps of existing town-owned open space parcels in both paper and electronic form (GIS) for use by the public. Coordinate volunteer efforts to help map the parcels (e.g., Scouts, Cape Ann Trail Stewards).	MEDIUM Start in Year 1 Short-term; then ongoing
Action 4.3: Plan and hold events which would enhance and promote town-owned open space. Events could include trail cleanup days; removal of invasive species; coordinated "theme" walks; etc. Partner with local organizations such as Mass Audubon, MECT, Cape Ann Trails Stewards, local school groups and others.	MEDIUM Year 1 – 7 Ongoing

Goal 5: Identify the town's recreational needs and create action plans to address those needs.

Actions:	Priority/ Time Frame
<p>Action 5.1: Continue to maintain the inventory of all existing town-owned recreational areas including playing fields, parks, and beaches.</p> <ul style="list-style-type: none"> Assess each one for frequency of use, condition, need for improvement or management, ADA compliance, etc. Follow-through on recommendations, especially for high priority fields and recreational parcels. 	<p>HIGH Year 1 Short-term; then ongoing</p>
<p>Action 5.2: Use the new Athletic Field Master Plan (2020) to prioritize playing fields that will need improvement or repairs over the next seven years (e.g., parking lot and flooding issues at Sweeney Park). Prioritize recreational parcels for the same.</p> <ul style="list-style-type: none"> Create and initiate plans for improvements to priority parcels Refer to Chapter 5 of the Athletic Field Master Plan for specific design recommendations 	<p>HIGH Year 1 Short-term; then ongoing</p>
<p>Action 5.5: Continue to explore and implement ways to make Manchester more bicycle and pedestrian friendly including working with the Police, the DPW, the BOS, and the MERSD administration through a combination of infrastructure improvements, safety training and community involvement.</p>	<p>HIGH Start in Year 1 Short-term; then ongoing</p>

Goal 6: Promote the use and improvement of the town-owned waterfront resources for the purposes of water-related activities.

Actions:	Priority/ Time Frame
<p>Action 6.1: Continue to update the inventory of existing town-owned and publicly accessible docks and piers.</p> <ul style="list-style-type: none"> ■ Assess each site for frequency of use; condition, need for improvement or management, ADA compliance, etc. ■ Replace Tuck's Point docks in 2021 ■ Investigate expansion of docking facilities at Morss Pier for public use. 	<p>HIGH Year 1 Short-term and ongoing</p>
<p>Action 6.2: Work towards improving town docks and piers to ensure that facilities are publicly accessible and ADA compliant.</p>	<p>HIGH Year 1 Short-term and ongoing</p>

Goal 7: Continue to advocate for accessibility by ensuring that town officials, boards and committees are aware of Universal Design Standards and ADA requirements and that ADA considerations are incorporated into town projects.

Actions:	Priority/ Time Frame
Action 7.1: In order to improve accessibility to Manchester’s parks and open spaces and serve the recreation needs of all residents, the Town should adopt and integrate universal design principles and programming.	HIGH Ongoing
Action 7.2: Monitor the implementation of the latest ADA Transition Plan.	HIGH Year 2 Short-term
Action 7.4: Participate in research, planning and monitoring for Phase II of the Downtown Improvement Project (DIP) to guarantee that all routes meet Mass. accessibility standards.	HIGH Year 3-7 Mid-to long-term
Action 7.5: Continue to recognize businesses and facilities that prioritize accessibility and accommodate residents of all abilities by honoring them with the prestigious Access Award.	HIGH Ongoing

Questions?





Virtual Open House

<http://mapc.ma/ManchesterOSRPForum2>



Virtual Open House

Instructions:

1. Click on the Open House link that is posted in the Chat Box
2. You will have an option to read some background information
(this is a summarized version of information covered in the PowerPoint presentation)
3. Follow the instructions and answer each question
Participants will be able to share ideas and provide feedback until June 4th
4. Make sure we have your email for updates on when the Draft of the full OSRP is posted for public comment

If you have questions about the background information or about the input exercises, feel free to email me at CLewis@mapc.org

Appendix D: Community Survey

OSRP Community Survey Comments

Agassiz Rock Reservation

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Enjoy nature • Walk/run/hike/bike on trails or paths • Picnic, relax 	<ul style="list-style-type: none"> • Additional trails • Fitness equipment • Signage and trail markers • Mountain biking trails • Loop trail • Clean up/maintenance/removal of dead and dangerous trees; litter removal
Additional Comments:	
<ul style="list-style-type: none"> • N/A 	

Black Beach

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Enjoy nature 	<ul style="list-style-type: none"> • Preserve the natural beauty and eliminate the boats overcrowding and partying in the summer • Better access
Additional Comments:	
<ul style="list-style-type: none"> • N/A 	

Chebacco Woods

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature • Be in, on, or near the water • Picnic, relax • Walk dog off leash 	<ul style="list-style-type: none"> • Additional trails • Signage and trail markers • Fitness equipment • Trail maintenance • Loop trail
Additional Comments:	
<ul style="list-style-type: none"> • Keep it quiet and pristine. 	

Coach Field Playground

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Recreational sports • Take part in events (Festivals, races, sporting events, farmers market) • Kids used to play on school playground 	<ul style="list-style-type: none"> • Canteen • Fitness equipment • Barbecuing area • Restrooms • Picnic tables • Better maintenance. The equipment is not maintained and there is always trash and left clothing all over the field. It is a disgrace given how much we invested in it.
Additional Comments:	
<ul style="list-style-type: none"> • N/A 	

Coolidge Reservation/Point

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature • Picnic, relax • Be in, on, or near the water 	<ul style="list-style-type: none"> • Trail maps • Nature-based play elements (i.e. grassed berms, playground boulders) • Community garden • Picnic tables • Barbecuing area • Loop trail • Ability to walk from black beach to a trail on Coolidge Point and avoid walking on Rt 127 • Ability to drive my 95-year-old mother up to the park and be able to park my car. She can walk at Coolidge Point, but walking in is too much. • Nothing else • More parking.
Additional Comments:	
<ul style="list-style-type: none"> • N/A 	

Cranberry Pond Reservation	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> Walk/run/hike/bike on trails or paths 	<ul style="list-style-type: none"> Safe biking walking access from surrounding neighborhoods
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> N/A 	

Dexter Pond Conservation Area	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> Walk/run/hike/bike on trails or paths Enjoy nature 	<ul style="list-style-type: none"> Additional trails Signage and trail markers Trail maps Community garden
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> N/A 	

Eaglehead Wildlife Area	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> Photographing birds 	<ul style="list-style-type: none"> Signage and trail markers Trail maps Loop trail
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> N/A 	

Long Hill	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> Photographing birds 	<ul style="list-style-type: none"> Signage and trail markers Trail maps
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> N/A 	

Magnolia Surf Park	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature • Be in, on, or near the water • Walk dog off leash 	<ul style="list-style-type: none"> • Better maintenance of trees, shrubs there.
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • N/A 	

Manchester Essex Woods (Wilderness Conservation Area)	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature • Picnic, relax • Walk dog off leash • Hikes with MECT 	<ul style="list-style-type: none"> • Signage and trail markers • Walk dog off leash • Additional trails • Loop trail • Picnic tables • Community garden • Signage and trail markers • Trail maps • Bike racks • Retain and safeguard all MECT properties • Waste barrels and dog poop bags/barrel • Removing the loose rocks from the trail(s) • Accessible trail for my 94-year old mother
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • Trail markers could be better at certain points within the woods. Have gotten lost and had to back track a few times • Keep it quiet and pristine. Keep development away from it! 	

Masconomo Park	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Enjoy nature • Enjoy playground / play structures • Be in, on, or near the water • Read while taking in the view • Music in the Park • Picnic, relax 	<ul style="list-style-type: none"> • Additional trails • Shade trees along the paths beyond the parking area • Trail maps • Loop trail • Nicer playground

<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Walk dog off leash • Take part in events (Festivals, races, sporting events, farmers market) • Summer Concerts • Recreational sports • Events, music programs • Admire the trees, use the Little Free Library 	<ul style="list-style-type: none"> • Climbing apparatus for kids • Community garden • Picnic tables • Better bathrooms. No outhouses • Fitness Equipment • Barbecuing areas • Water based play feature • Nature-based play elements (i.e. grassed berms, playground boulders) • Weekly Farmer's Market would be AWESOME, and I think MBTS can support it! • Masconomo could be a combined field space and outdoor fitness park for grownups . We need to elevate the connection to outdoors for all our age groups • Rowing shell/ kayak racks behind band stand. Raise bandstand with maintenance department underneath. Put back drinking fountains • Fenced dog park • Another portable toilet • Better maintained trees
Additional Comments:	
<ul style="list-style-type: none"> • Just maintain what is there • Some of the bench's at Masco are in bad shape. Need updates plus a couple more picnic tables 	

Powder House Hill Reservation	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature • Walk dog off leash 	<ul style="list-style-type: none"> • Signage and trail markers • Trail maps • Additional trails • Loop trail
Additional Comments:	
<ul style="list-style-type: none"> • The people who go here enjoy it as it is. • Nothing, it's great as is! But a little pruning of the thorny vines at the access points would be nice. • Nothing more. Perfect in town nature escape as is 	

Reed Park

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Enjoy nature • Picnic, relax • Be in, on, or near the water 	<ul style="list-style-type: none"> • Harbormaster office + bathrooms would be great at Reed Park
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • N/A 	

Singing Beach

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Picnic, relax • Enjoy nature • Be in, on, or near the water • Recreational sports • Walk dog off leash • Enjoy the sunshine & walk in the sand when dogs are not permitted on the beach • Swim and exercise • Watch fireworks at the 4th; get-togethers with friends; camp fires • Stand-up-paddleboard access at certain times of day or year; and more ways to recycle 	<ul style="list-style-type: none"> • Resident only parking year round • Visitor parking • Dogs kept on leash • Enforce dog bylaws that already exist • Picnic tables • Barbecuing areas • Fitness Equipment • Water based play feature • Better trash maintenance. • Volleyball court/space • Nice safe fire pit • Longer dog season on weekdays or certain hours • I would love to see a few rafts at singing beach and a program for young kids to learn water safety combined with a lifeguard training program • Renovation of bath house and expanded facility to better support town and generate additional revenue through leasing of expanded food services year round. • Improve the Bath House and keep portable toilets out ALL year, clean more regularly especially in peak season • Improved showers and bathrooms • Trash cans. Less signage. • More restrictions on out of town visitors or higher fees, better management of walk on visitors, more trash receptacles, Better management of visitors with dogs.

	<ul style="list-style-type: none"> • Easier to access for bikes, shuttle to bring residents • Restrooms when beach house closed • Shade opportunities • Permitted cooking fires should be allowed • Better maintenance of the bluff. • Fewer dogs or limited hours for dog walkers • Enforcement of designated recreation area. • Signage for Out of Towners to alert them of aggressive seagulls • Keep keeping non-residents out!
Additional Comments:	
<ul style="list-style-type: none"> • Improve the access on to the Beach. The rocks are steep and slippery when they are sandy. • Off season is dangerous/unpleasant with dogs off leashes • Limit dogs to certain hours per day or days per week • Keep dogs off beach! 	

Sweeney Park	
<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Recreational sports • Picnic, relax 	<ul style="list-style-type: none"> • All-abilities playground • Water based play feature • Picnic tables • Barbecuing areas • More basketball/better parking • Redesign so more field space and training access for kids is accessible • Needs restrooms • Improved parking
Additional Comments:	
<ul style="list-style-type: none"> • N/A 	

Town Boat Ramp (Near Town Hall)

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Be in, on, or near the water • Walk dog off leash • Take part in events (Festivals, races, sporting events, farmers market) 	<ul style="list-style-type: none"> • Picnic tables
Additional Comments:	
<ul style="list-style-type: none"> • Parking is an issue when overnight boating 	

Tucks Point

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Picnic, relax • Be in, on, or near the water • Beach • Enjoy nature • Walk dig off leash • Recreational sports • Reading • Take part in events (Festivals, races, sporting events, farmers market) • Go crabbing • Use boat docks • Stand-up paddleboard! It's the best place to put in from. 	<ul style="list-style-type: none"> • Picnic tables • Barbecuing areas • More benches • dog control and enforcement • Signage and trail markers • Trail maps • Loop trail • Nature-based play elements (i.e. grassed berms, playground boulders) • Community garden • Fitness equipment • Better playground equipment • Water based play feature • Open lawn • All-abilities playground • Raft at beach • More visitor parking • Town should expand usage of Tucks Point and improve open space for small athletic/practice space for town sports. • Tucks Point should be better used for small field space and a new facility for town access to water. • Clear overgrown areas on perimeter of whole area and enforce dog bylaw
Additional Comments:	
<ul style="list-style-type: none"> • Keep dogs out of Tucks Point! And, keep out non residents! 	

- I feel that there should be parking for non-residents at Tucks Point, particularly during the week.

Western Woods and Brookwood Conservation Area

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature 	<ul style="list-style-type: none"> • Maybe easier access points/parking • Additional trails • Signage and trail markers • Trail maps
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • N/A 	

White Beach

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Be in, on, or near the water • Play with grandchildren • Enjoy nature • Picnic, relax 	<ul style="list-style-type: none"> • Picnic tables • Barbecuing areas • Enforce dog bylaws that already exist
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • N/A 	

Wyman Hill Conservation Area

<i>Favorite things to when I visit:</i>	<i>Things I would like to see here in the future:</i>
<ul style="list-style-type: none"> • Walk/run/hike/bike on trails or paths • Enjoy nature 	<ul style="list-style-type: none"> • Additional trails • Signage and trail markers • Trail maps
<i>Additional Comments:</i>	
<ul style="list-style-type: none"> • N/A 	

General Comments

- *There are existing bylaws prohibiting dogs from all parks and cemeteries YEAR ROUND. Not enforced*
- *Tucks Point, views obscured by overgrown brush & shrubs adjacent left side of path leading to Rotunda*
- *Put the swimming rafts back Tucks, Singing and add to White Beach*
- *Manchester has wonderful woods and trails that I hope we continue to preserve.*
- *I grew up in Manchester and the parks are deplorable the hedges all uneven separated, quite messy*
- *Tough to park at Coolidge Reservation on a beautiful day.*
- *HS/middle school field because it's a turf field with lights. Brook St. field but the turf is tired and we need lights*
- *More parking and better signage at the conservation areas. Movies, exercise classes, softball*
- *We need more sports playing fields & lights. Tennis courts need more maintenance. We need a track.*
- *Powderhouse park is my other fave! Love the new trail signs. More/improved points of public access*
- *Enforce the dog rules. Keep dogs under control and pick up poop.*
- *Thanks for offering such beautiful parks & for keeping them up so well. Singing Beach is a true gem.*
- *Would really like to see a bike/walking path from loading place, Forest lane connecting Forest St*
- *When can we work on getting a pump track built for biking?*
- *So grateful to have many options to get outside as a family without experiencing crowds of people.*
- *Minor complaint about Wyman hill area are hunting tree stand and few camouflage tents*
- *Tuck's Point is pretty perfect already*
- *We have limited park space however we are currently underutilizing our existing spaces.*
- *Thanks for doing a great job. I love our parks.*
- *The staff at Singing Beach does an amazing job*
- *Parks should remain as natural as possible & reserved for residents*
- *Designated times for certain activities would be nice. Pollution and over development is a worry.*
- *What is the Towns maintenance budget for Parks? Increase that, let's fix and maintain what we have.*
- *So grateful to have many options to get outside as a family without experiencing crowds of people.*
- *Manchester Parks and Rec does a great job managing these precious resources.*
- *There also should be a small facility for town sponsored water sports (paddle boarding, kayaking, and sailing). There are also revenue opportunities if a facility were designed with ability to support community boating and water sports in mind (M/E sailing team, area schools looking for athletic sport access to water)*
- *Thank you for doing this! I hope that I can also help you with tree planting and park restoration.*
- *It would be nice to stay longer but need bathrooms and additional parking to do so.*
- *Amazing assets for our small town*

- We should invest in maintenance of our Parks. DPW cannot keep up. Consider privatizing to landscape.
- It was really really nice having Singing beach open only to residents.
- Keep WIDE open spaces in MBTS. This is a treasured community and an escape from Suburbia.
- We chose MBTS because of its schools and parks. Very important feature of our town!
- The bluff on Singing Beach is not properly maintained. It is overgrown and there is trash from kids drinking. It needs to be patrolled. I haven't spent a lot of time in other parks and open spaces...wondering if they are the same.
- I think you all are doing a great job! Keep up the good work!
- Keep dogs out!! Parking for tax paying residents of Manchester at beach and Tucks Point ONLY!!!
- We need more spaces for sports and outdoor recreation. The existing parks can be redesigned so they are better utilized for our growing and aging community.
- It was wonderful this summer when the beach was residents only. Please keep it that way! The beach was not overcrowded. Whatever revenue the non residents pay is not worth the crowding. If you do decide to let non residents come, please charge them more. \$20 a person.
- We need more playing fields in town.
- Maintenance is key
- Poor quality of grass. Poorly maintained. Dog bylaws not enforced. People should have priority
- We are so fortunate to live in the middle of the forest close to the ocean, let's keep it this way
- I would like all park areas to be maintained and safeguarded from development. Community gardens.
- Need ALOT more trash cans, emptied more often. Need consistent enforcement of resident access
- Sweeney Park is one of the most important places to us- we have made so many friends and family there
- I think the town of Manchester should purchase as much open space as possible. Vote no on 40B
- I think a place to get food and tables at Masconomo would be great, overlooking harbor.
- Please improve the maintenance at Masconomo Park. Remove invasive, care for new plantings
- I am not familiar with a lot of the parks listed - educate the community
- Love our parks and access to space. More public art shows increases sense of community
- More advertising of underutilized parks with additional parking
- These trails should be considered as a "Network" too, not just individual areas!
- A map of all community resources online and in hard copy
- Concerned about impact of 40B development on Cedar Swamp and watershed.

Blank

Manchester-by-the-Sea OSRP Community Survey

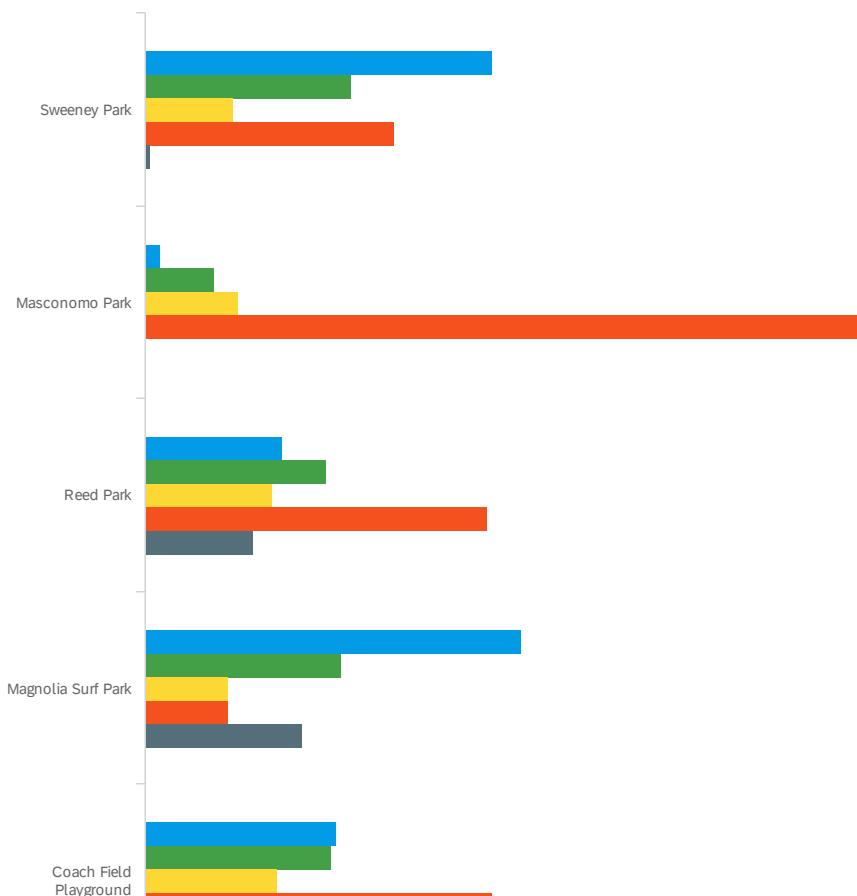
June 6, 2021 6:30 PM EDT

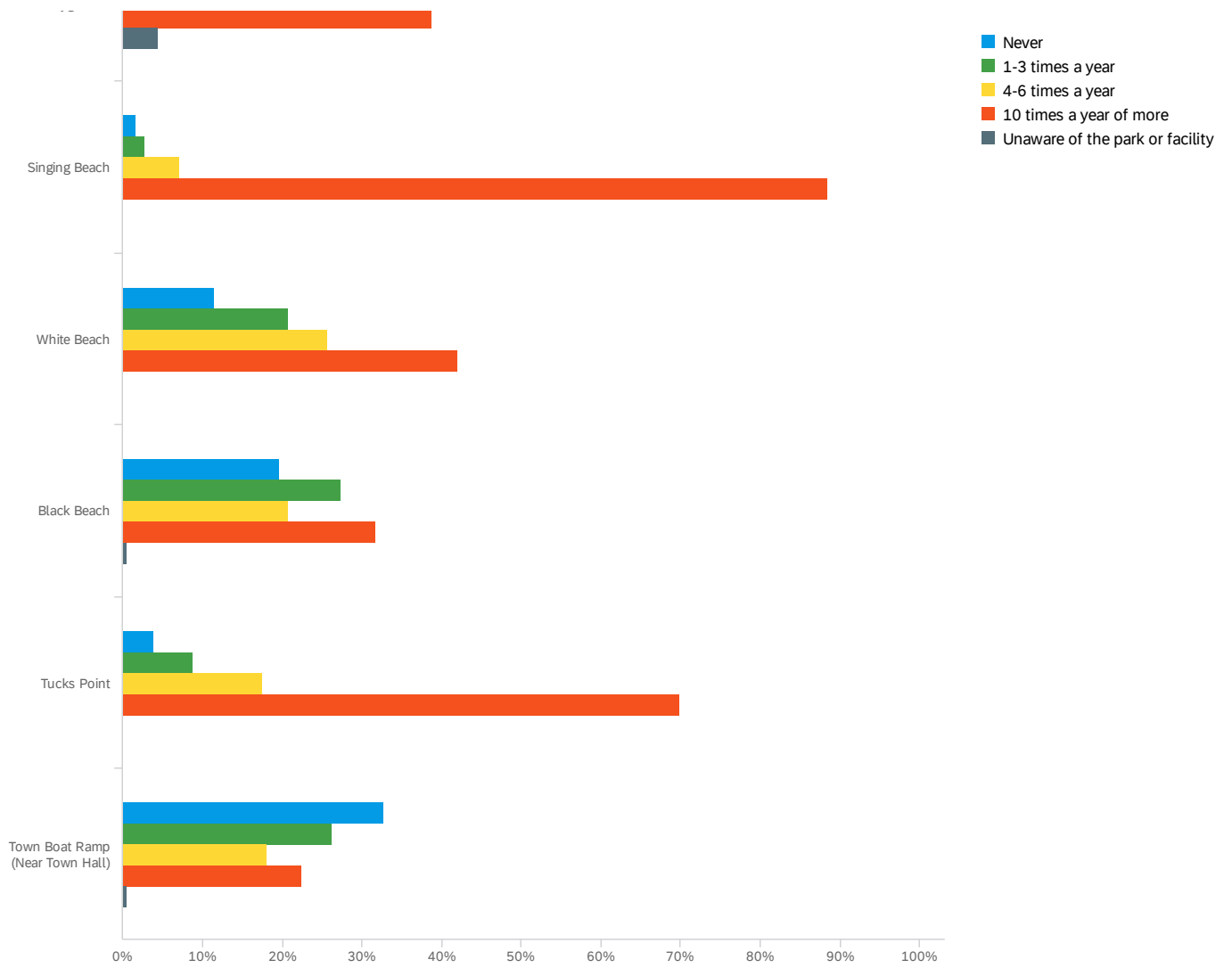
How often do you (or your family members) visit or use the following parks and

recreational facilities? (Click the map below to enlarge for reference). Image #1

#	Field	Never	1-3 times a year	4-6 times a year	10 times a year or more	Unaware of the park or facility	Total
1	Sweeney Park	39%	23%	10%	28%	1%	183
2	Masconomo Park	2%	8%	10%	80%	0%	183
3	Reed Park	15%	20%	14%	38%	12%	183
4	Magnolia Surf Park	42%	22%	9%	9%	17%	183
5	Coach Field Playground	21%	21%	15%	39%	4%	183
6	Singing Beach	2%	3%	7%	89%	0%	183
7	White Beach	11%	21%	26%	42%	0%	183
8	Black Beach	20%	27%	21%	32%	1%	183
9	Tucks Point	4%	9%	17%	70%	0%	183
10	Town Boat Ramp (Near Town Hall)	33%	26%	18%	22%	1%	183

Showing rows 1 - 10 of 10

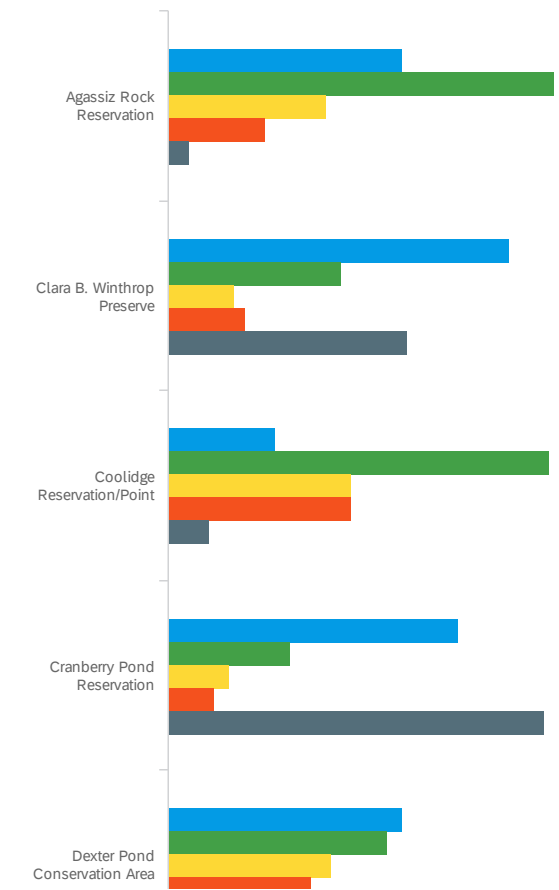


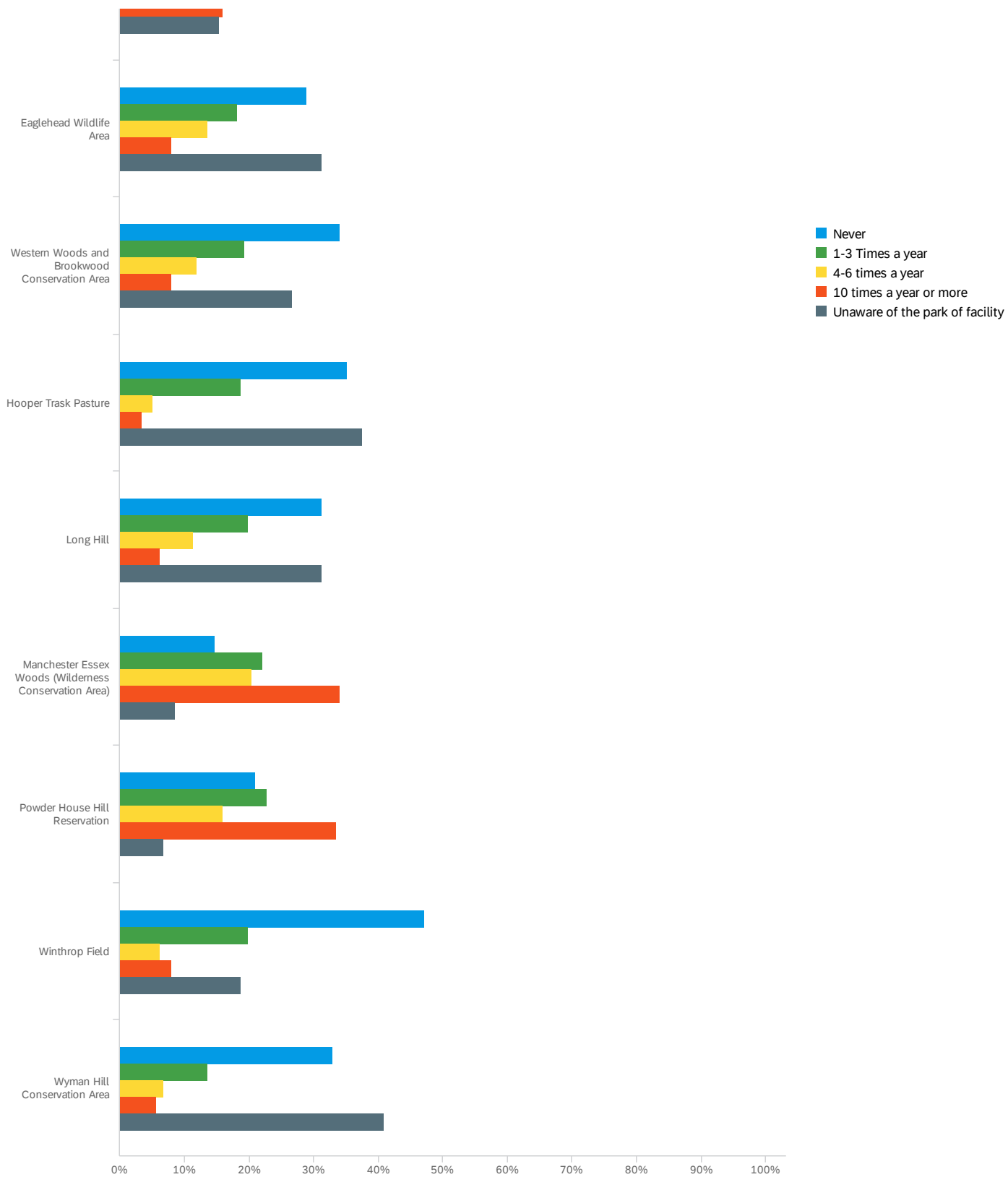


How often do you visit or use the following open spaces for walking, jogging, biking, bird watching, etc. (Click on the map below to enlarge for reference). Image #1

#	Field	Never	1-3 Times a year	4-6 times a year	10 times a year or more	Unaware of the park of facility	Total
1	Agassiz Rock Reservation	26%	43%	18%	11%	2%	176
2	Clara B. Winthrop Preserve	38%	19%	7%	9%	27%	176
3	Coolidge Reservation/Point	12%	43%	20%	20%	5%	176
4	Cranberry Pond Reservation	32%	14%	7%	5%	42%	176
5	Dexter Pond Conservation Area	26%	24%	18%	16%	15%	176
6	Eaglehead Wildlife Area	29%	18%	14%	8%	31%	176
7	Western Woods and Brookwood Conservation Area	34%	19%	12%	8%	27%	176
8	Hooper Trask Pasture	35%	19%	5%	3%	38%	176
9	Long Hill	31%	20%	11%	6%	31%	176
10	Manchester Essex Woods (Wilderness Conservation Area)	15%	22%	20%	34%	9%	176
11	Powder House Hill Reservation	21%	23%	16%	34%	7%	176
12	Winthrop Field	47%	20%	6%	8%	19%	176
13	Wyman Hill Conservation Area	33%	14%	7%	6%	41%	176

Showing rows 1 - 13 of 13





What, if anything, prevents you from utilizing Manchester's open space, parks, and recreation facilities listed in the previous questions? (Check all that apply).

#	Field	Percentage
1	Site is not accessible by walking or biking from my home	23%
2	Lack of parking	31%
3	Poor condition or maintenance	11%
4	Not interested in the trails provided	9%
5	Not interested in the sports fields and playgrounds provided	14%
6	Lack of restrooms	12%
7	Lack of shade	1%
8	No place to sit	5%
9	Safety concerns	4%
10	Too crowded	5%
11	Size or park/amount of space available	5%
12	Unable to access due to disability barriers	1%
13	Dogs are not allowed	14%
14	Don't know where the site is located	53%
15	My recreational and open space needs are met outside of Manchester	6%
16	Other (please specify)	22%
		176

Showing rows 1 - 17 of 17

Q21_16_TEXT - Other (please specify)

Other (please specify)

Not enough time to visit them all.

covid protocols

I would use Winthrop Field, as would many local kids, but it seems discouraged by the neighborhood and feels like private property.

need to find out how to access sites and if parking is available

Our children have grown up - we used to use more of Sweeney, Masconomo, etc

Dogs are allowed

No particular reasons

Kids are older (still support)

Other (please specify)

Unaware that a site is a public park/unsure if permitted to use land as member of the public

We spend a lot of time outside town or on the water

It would be great if the Town provided a booklet with all the open spaces and the amenities available. I didn't know most of these existed!

I was unaware that many of these were public spaces.

Not great for toddlers

time

just not enough time in the day

Didn't know about some of them, I mostly use the ones closest to my house

Park space for young kids to bike that is family friendly and not near high traffic/car park areas.

Playing fields are often too crowded or unavailable for my children to use as there aren't enough playing fields in Manchester

No good reason

Unaware the site exists, which is a shame.

Nothing prevents me, I visit them all

Kids were babies. Now old enough to start using the hiking spaces more often and looking forward to it!

No Barriers

Won't go by myself.

Mainly, I usually walk alone so like to be in a more populated area. Also, I am not very aware of what these areas offer.

We need a track in this town- unacceptable nit too have a oval

As life moves forward, needs change. While I have not only utilized, but also helped to enable the use of these areas, I tend to enjoy a good episode of "Matlock" rather than stress my physical condition. Let me say, my family enjoys all listed.

Love masconomo for access to village water views and athletic area to workout outside

Haven't made the time. But love knowing it's there.

Already satisfied

Generally run down condition; poor tree maintenance

my own physical limitations

Other (please specify)

Awareness of where and what kind of recreation is allowed on certain protected lands. Would be good to get the word out more!

Nothing prevents me

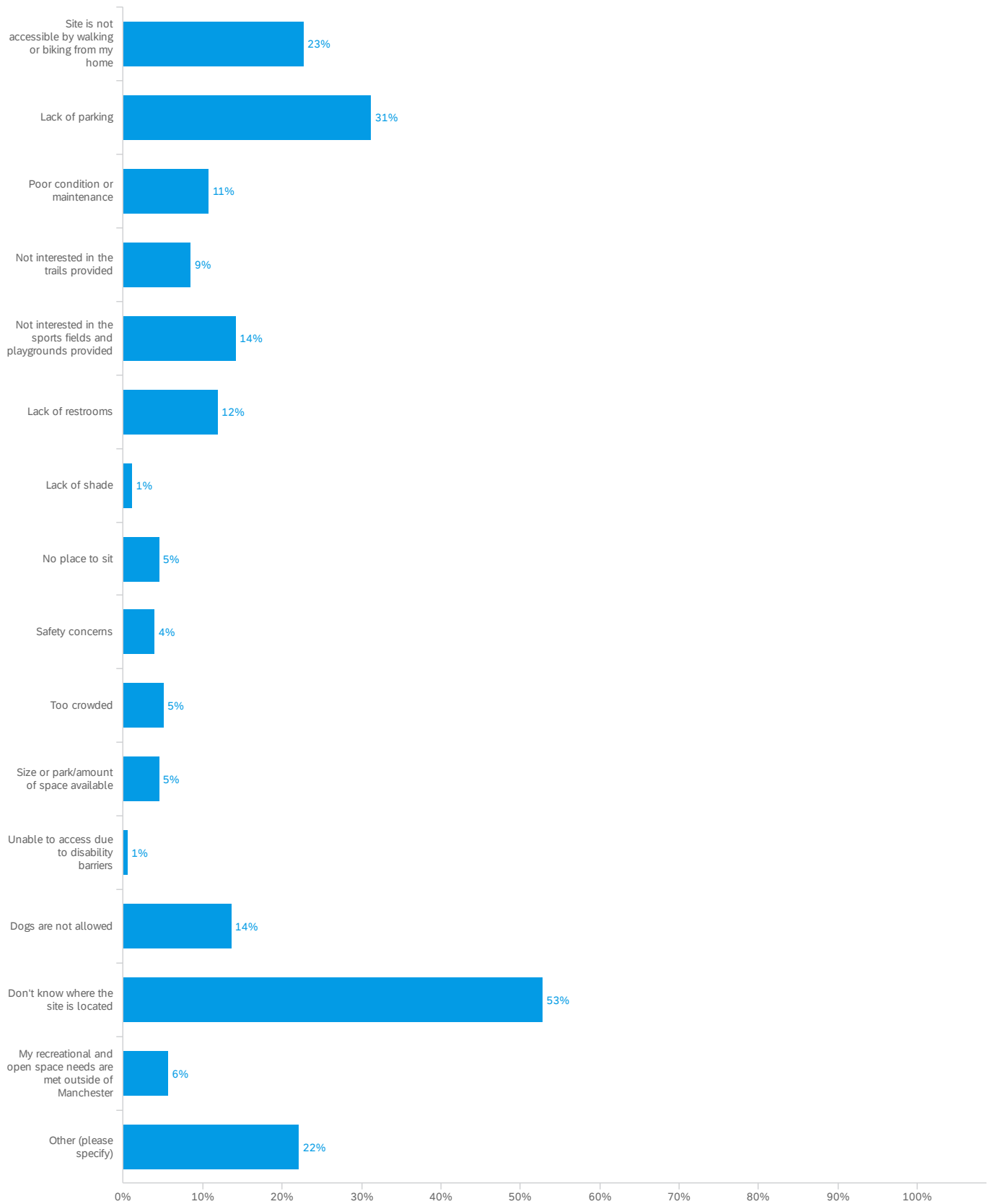
Live out of Town so parking is a problem

ok

Nothing prevents us

We tend to spend our recreational time on the water. Not hikers or bike riders. Truly love Singing Beach and Masconomo Park.

just testing...



Select up to five (5) programs that would increase your use of a park or open space property

#	Field	Percentage
4	Nature programs	35%
5	Guided walks in open space properties	34%
6	Musical or theatrical performances	29%
7	Public art and art programs	26%
8	Activity groups like walking clubs, cycling groups, gardening groups	26%
9	Movies in the park	23%
10	Culture and heritage events	18%
11	Neighborhood gatherings and parties	20%
12	Fitness classes like yoga, Zumba, boot camps, circuit training	17%
13	Stewardship and volunteer opportunities	16%
14	Children's programming	20%
15	Organized sports leagues	24%
16	Concessions such as boat/bike rentals	20%
17	Improved ADA accessibility	3%
18	Programming is not a priority for me	24%
19	Other (please specify)	14%
		176
Showing rows 1 - 17 of 17		

Q23_19_TEXT - Other (please specify)

Other (please specify)

A dog park

These are too specific or broad! For Masconomo - yes of course more programming. For something like Western woods, no thank you!

Places to keep kayaks ans paddle boards

Porto-potties or proper facilities

It would be nice if the town had a full regulation 8-lane track facility

More rock scavenger hunts!

bathrooms

Publications of trails, parking, etc

Other (please specify)

Skating rink

I would welcome a birding group.

Fitness equipment in park that people could use as a loop let's say around mascons morning park. Different obstacles/ work out items around the activity course

My schedule changes frequently so I could not take part in ;many of these activities.

Park/trail guides

Track please

Signage- some of the places listed I did not realize were open to public

Clean up the messes. Not interested in local foolishness/virtue signalling. Thoreau did just fine without "children's programming."

Certain areas need to be kept quiet for enjoyment, like the woods, and areas near the water. Other spaces like parks - perhaps Sweeney, Coach field, boat ramp, etc. having fitness classes and more organized programs, would be great.

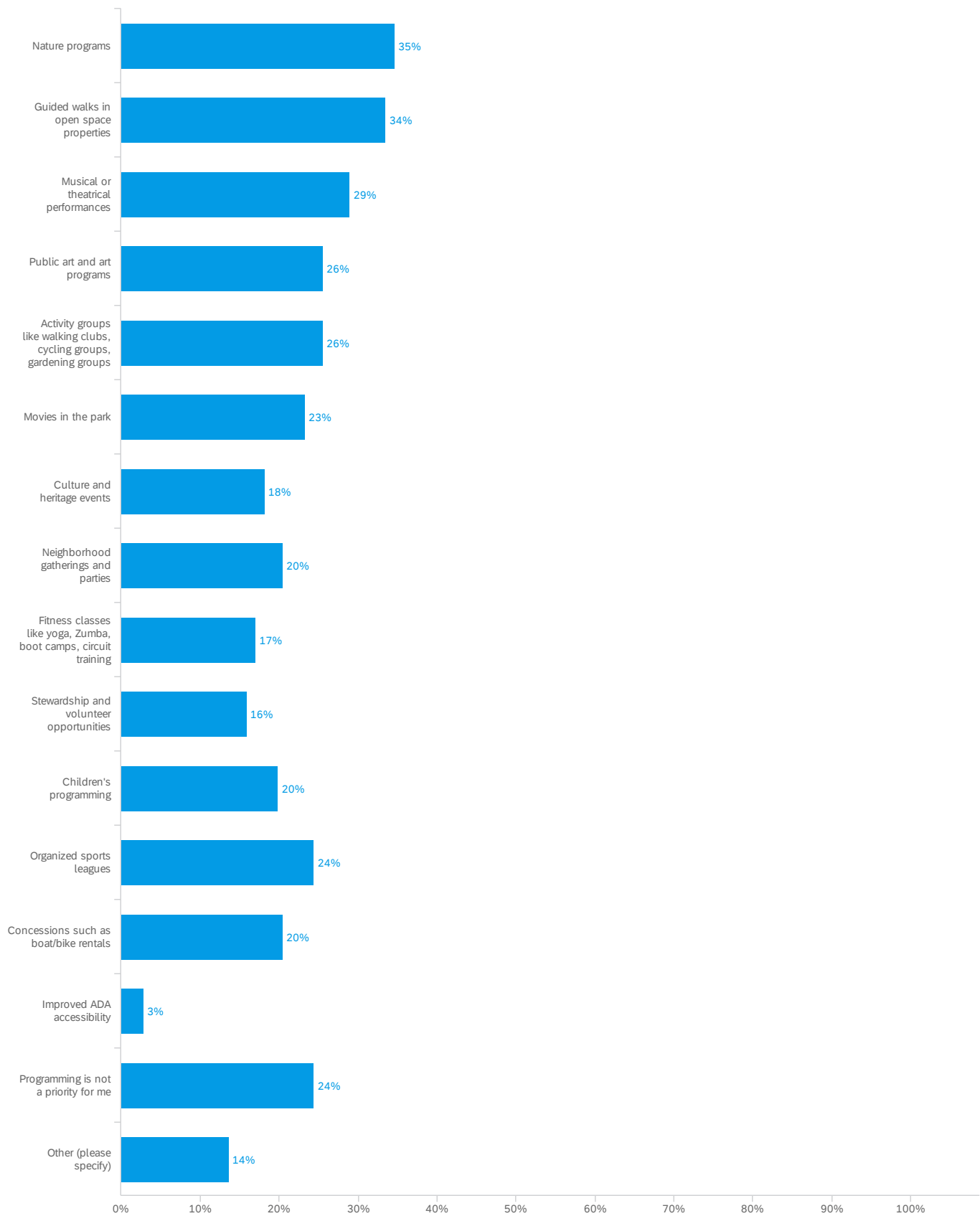
events like Kids Pan Mass Challenge

ok

Guided walks in cemeteries

Just hanging

ljlj



Select up to five (5) options below that you would like to see more of in Manchester in the next 10 years.

#	Field	Percentage
4	More natural areas and preserves	37%
5	Improved natural areas and preserves	35%
6	Trails for walking running, and hiking	61%
7	Sharrows and trails for biking. (Click the image to see a definition of sharrow)	28%
8	Off leash dog areas	28%
9	Community gardens	32%
10	Outdoor performance spaces/amphiteaters	26%
11	Water access points - Rowing/Kayaking/Stand-up Paddle Boarding	50%
12	Picnic areas and pavilions	33%
13	Other (please specify)	14%
		176

Showing rows 1 - 11 of 11

Q24_13_TEXT - Other (please specify)

Other (please specify)

Athletic fields

Better trail signage

more connected trails for biking and walking not so close to the road

Sports fields - complete shortage for youth sports.

Playgrounds, we are new to town but only know of one so far

Areas to sit and read in the shade with views

Improved and additional field and courts for tennis/ pickleball

Our open spaces are adequate.

It would be really nice to have a bike path connecting Manchester and Essex. If the new 40b development is going to go through, I think the developer should be required to pay for it.

Sports fields with lights, more sports fields in general that are regulation playing size, and a track.

More playing fields for athletics

Other (please specify)

Park area for young children to ride their bikes that is safe from traffic. Currently there is no park that offers a path around a park for children to cycle safely away from the road.

More mountain biking trails

Off-road, paved bike trails

None

Organized sport/athletic fields and courts

More sport fields and an area that includes a track

Use the old skateboard park for something like a pickle ball court.

I enjoy the music in the park but otherwise do not participate in many group events. Also, I imagine am one of the few people who are very upset that dogs are allowed on Singing Beach in the winter which makes the beach unavailable to me because of my fear of dogs.

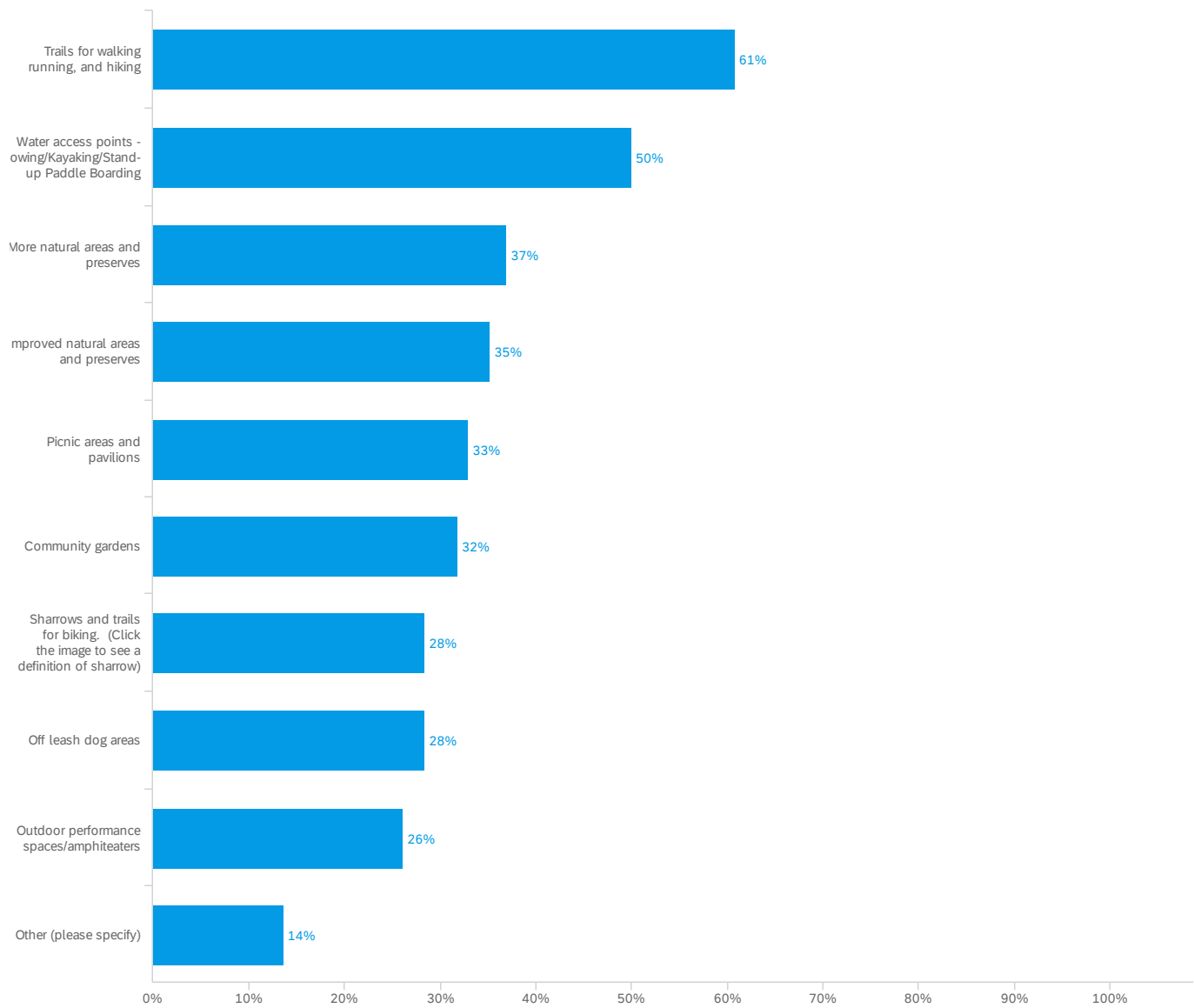
better maintenance of Masconomo Park landscaping

PLAYGROUNDS!!

It would appear that upkeep of the current lineup exceeds capabilities/vision. I wouldn't add to the mess.

Trails for biking off road

More town run programs through Parks and Rec focused on water sports such as swimming lessons, sailing lessons, paddle board lessons, and boater safety



Select up to three (3) active/recreation programs you would like to see increase in Manchester the next 10 years.

#	Field	Percentage
1	Aquatics programs (swim lessons, swim teams, lifeguard training)	27%
2	Kayaking/Stand-up paddle boarding	38%
3	Disc golf	7%
4	Rock climbing	10%
5	Bocce courts	22%
6	Pickleball	26%
7	Basketball	10%
8	Cycling	19%
9	Dance	7%
10	Other (please specify)	15%
11	Gardening programs	23%
12	Group exercise programs	14%
14	Soccer	6%
15	Tennis	25%
		175
Showing rows 1 - 15 of 15		

Q26_10_TEXT - Other (please specify)

Other (please specify)

pump track, running track, miles of trails for walking/biking

Paddle tennis

Skate park

volleyball (beach or otherwise)

Track

None

Skate park

ice skating

Bike paths

Other (please specify)

Better sidewalks for walking

Skating rinks

Motorized bikes, skate board park

birding group.

I don't need this

Rowing Shell club

another playground with equipment

Senior programs

I'm retired, just walking my dog these days.

not interested in programs

Tai Chi, Qigong

Softball

Lowest impact on nature

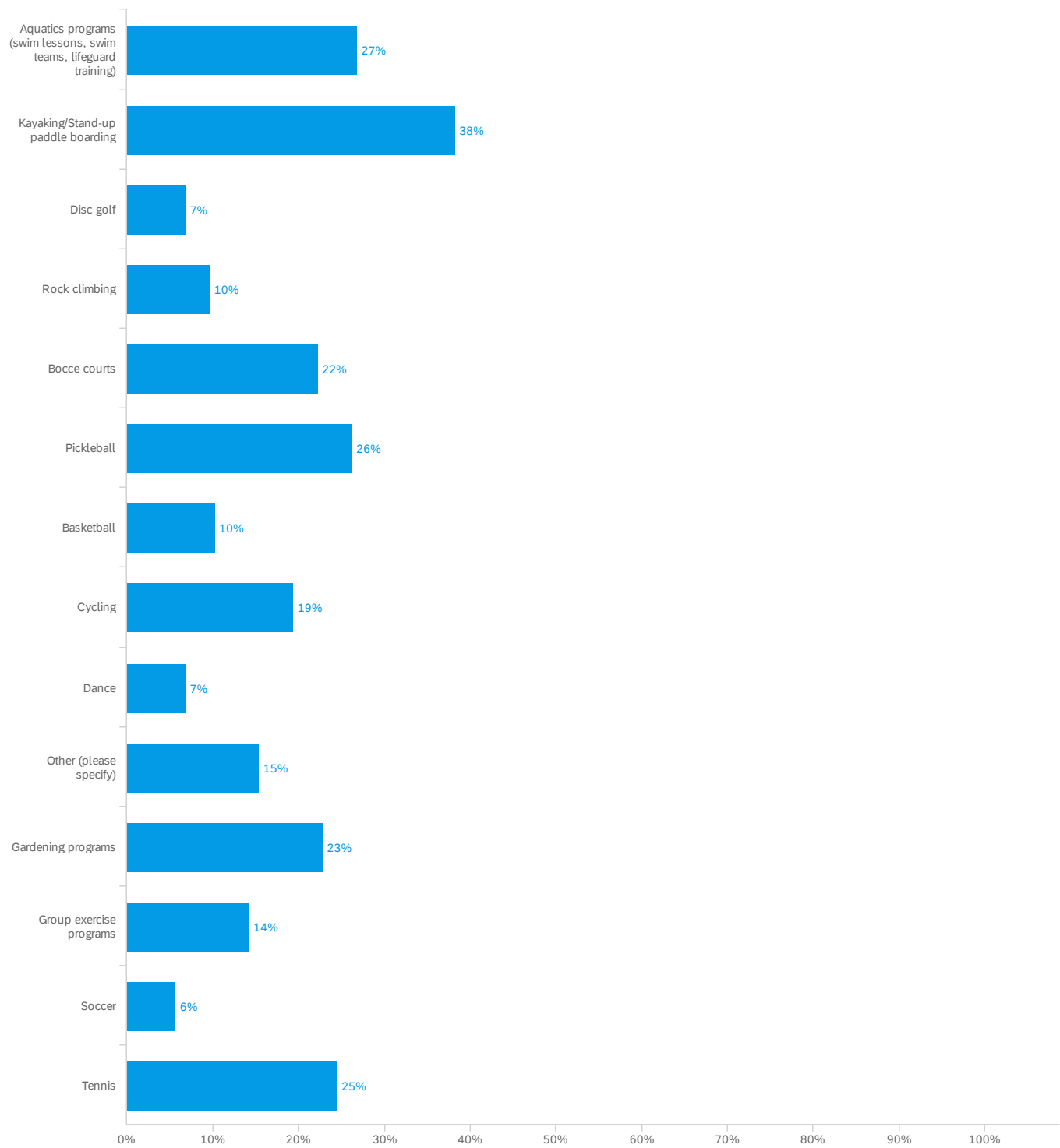
none. not interested in programs.

None.

Bird and nature watching

bike track

Sailing (both recreational and competitive for different levels)



How satisfied are you with the condition of Manchester's parks and open space properties?

#	Field	Percentage
1	Very satisfied	22%
2	Satisfied	57%
3	Dissatisfied	7%
4	Very dissatisfied	5%
5	Other (please specify)	9%
		175
Showing rows 1 - 6 of 6		

Q28_5_TEXT - Other (please specify)

Other (please specify)

Love Singing Beach but it gets too crowded on weekends.

We need more connected trails, what we have now is getting crowded

The planting that the garden club did on the corner of school street and Central street look really nice— it would be great to incorporate some of those plantings into our parks as well. The plantings throughout town could be coordinated and it would look really nice. Maybe add some planter boxes at Reed park or Masconomo park?

The bluff on Singing Beach is not properly maintained. It is overgrown and there is trash from kids drinking. It needs to be patrolled. I haven't spent alot of time in other parks and open spaces...wondering if they are the same.

A huge improvement would be a bike/walking path on Forest St connecting Forest lane and loading place

There is no public park that offers a pathway around the park or area for young children to cycle safely away from the road.

Overall not bad, but some kept in much better shape than others.

We need more spaces for sports and outdoor recreation . The existing parks can be redesigned so they are better utilized for our growing and aging community

trash sometimes a problem

Sweeney Park Needs attention

need more playing fields !

Satisfied but wish trails were better marked and maintained

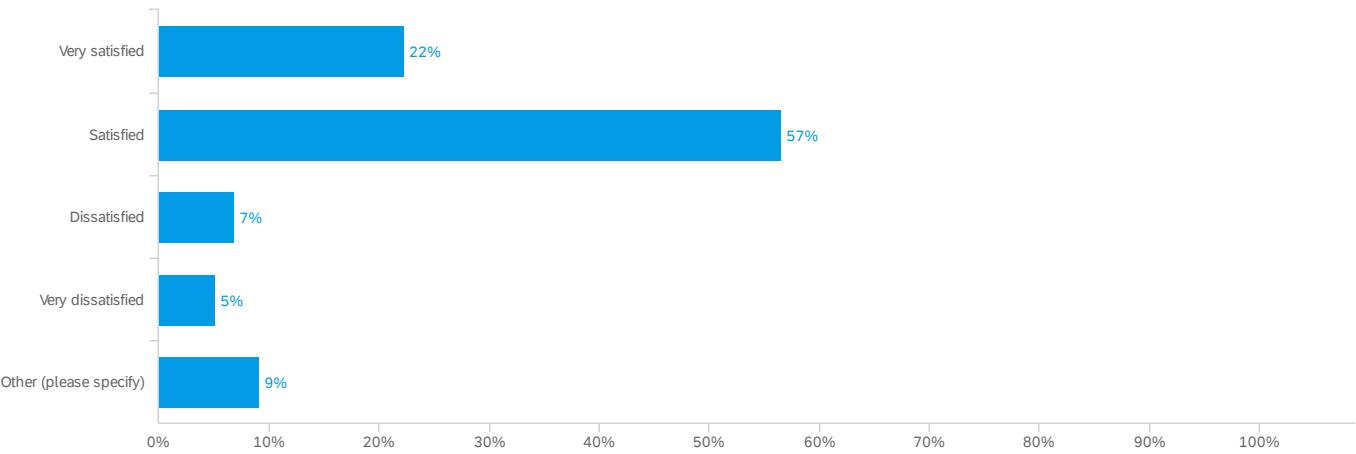
Not enough playing fields

Other (please specify)

We've gotta fix our fences! So ugly.

land preservation

Somewhat satisfied. Better marked trails would help.



What are your top three (3) favorite parks or open space properties in Manchester?

(Please scroll to view all the options)

#	Field	Percentage
9	Agassiz Rock Reservation	8%
11	Other:	3%
12	Black Beach	7%
13	Chebacco Woods	10%
14	Clara B. Winthrop Preserve	2%
15	Clark Pond and Trials	0%
16	Coach Field Playground	5%
18	Coolidge Reservation/Point	16%
19	Cranberry Pond Reservation	2%
20	Dexter Pond Conservation Area	3%
21	Eaglehead Wildlife Area	3%
22	Hooper Trask Pasture	1%
23	Long Hill	2%
24	Magnolia Surf Park	2%
25	Manchester Essex Woods (Wilderness Conservation Area)	22%
26	Masconomo Park	44%
27	Powder House Hill Reservation	17%
28	Reed Park	3%
29	Singing Beach	75%
30	Sweeny Park	9%
31	Town Boat Ramp (Near Town Hall)	2%
32	Tucks Point	49%
33	Western Woods and Brookwood Conservation Area	3%
34	White Beach	7%
35	Winthrop Field	1%
36	Wyman Hill Conservation Area	2%
		174

Showing rows 1 - 27 of 27

Q34_11_TEXT - Other:

Other:

There is a beautiful field near the Clara b Winthrop preserve which I believe is town land. However, I never feel comfortable using it because it is not marked and I am unsure of whether it actually is town land. It would be great if this could be clarified!

HS/middle school field b/c it's a turf field with lights. Brook st field but the turf is tired and we need lights.

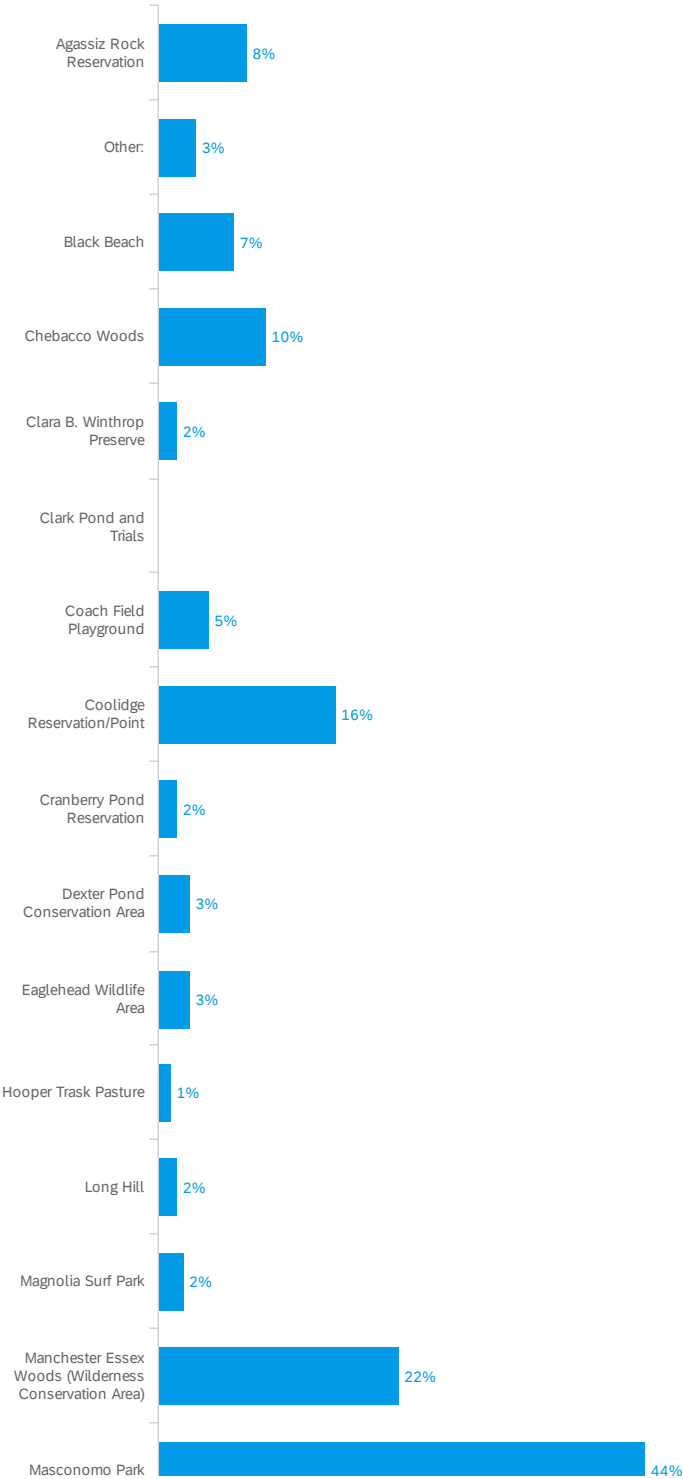
Other:

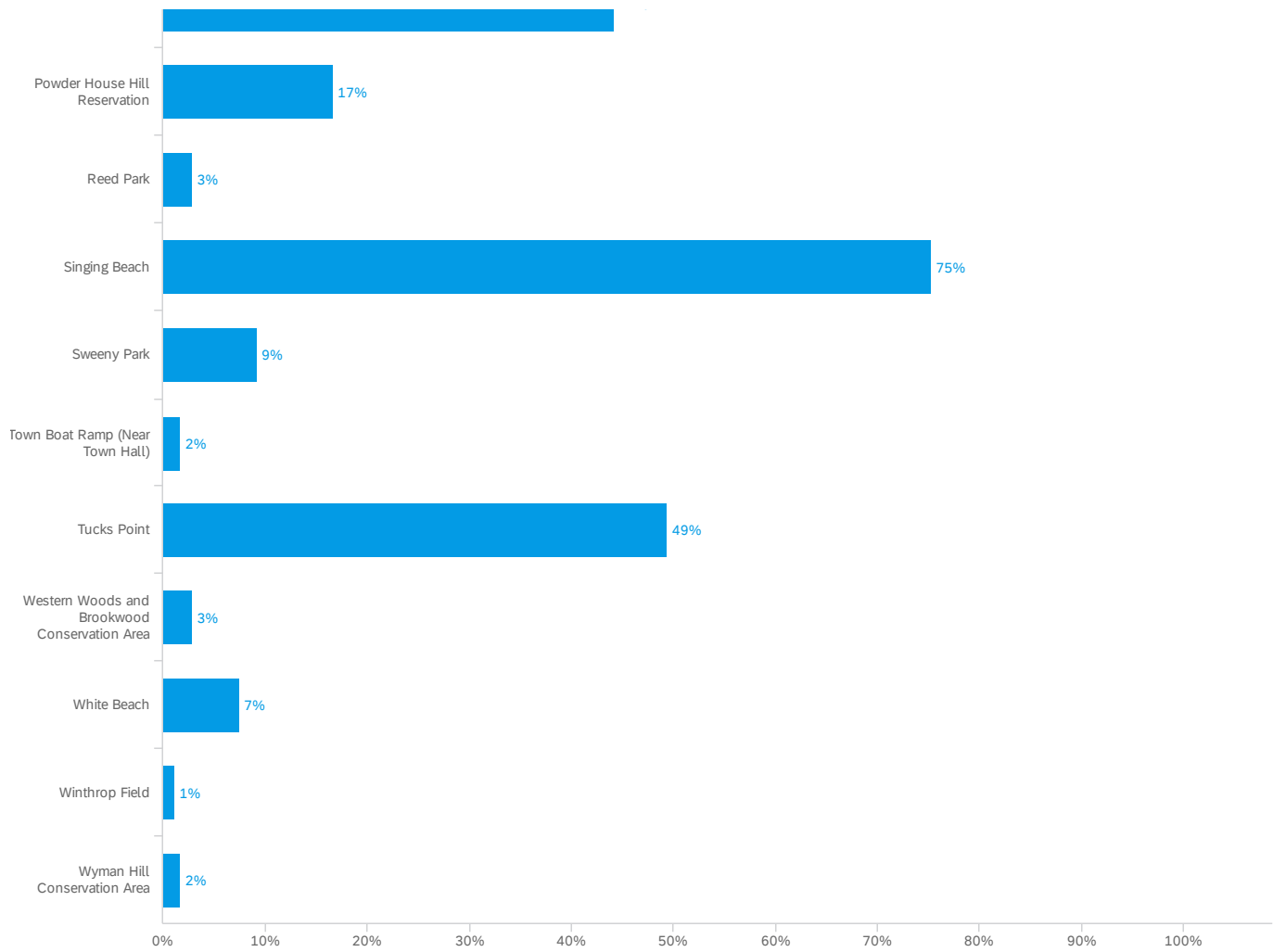
Tuck's point

I love driving by Winthrop field. Is there parking there?

you have two coach field playground perhaps one was meant to be fields and the other playground

The Park





What are your favorite things to do when you visit [Field-K1]? (Select all that apply).

#	Field	Percentage
1	Walk/run/hike/bike on trails or paths	63%
2	Enjoy nature	60%
3	Enjoy playground / play structures	16%
4	Picnic, relax	27%
5	Be in, on, or near the water	47%
6	Recreational sports	16%
7	Walk dog off leash	23%
8	Take part in events (Festivals, races, sporting events, farmers market)	23%
9	Other (please specify)	5%
		171

Showing rows 1 - 10 of 10

Q35_9_TEXT - Other (please specify)

Other (please specify)

Off season is dangerous/unpleasant with dogs off leashes

Read while taking in the view

Music in the Park!

Photographing birds.

Put the swimming rafts back Tucks, Singing and add to white beach

Concerts

kids used to play on school playground

events, music programs

Summer concerts

What would you like to see at [Field-K1] in the future? (Select all that apply).

#	Field	Percentage
1	Additional trails	18%
2	Signage and trail markers	28%
3	Trail maps	23%
4	Nature-based play elements (i.e. grassed berms, playground boulders)	15%
5	Community garden	11%
6	All-abilities playground	3%
7	Water based play feature	9%
8	Picnic tables	30%
9	Loop trail	18%
10	Fitness Equipment	10%
11	Barbecuing areas	14%
12	Open lawns	7%
13	Other (please comment)	29%
		152

Showing rows 1 - 14 of 14

Q36_13_TEXT - Other (please comment)

Other (please comment)
Canteen
Restrooms
The Wilderness Conservation Area is not appropriate for most of the items listed here! It should remain as "wilderness"!!
resident only parking byear round.dogs kept on leash
preserve the natural beauty and eliminate the boats overcrowding and partying in the summer
Fenced dog park
Nothing else - open lawns? That is what it is!
Shade trees along the paths beyond the parking area
No changes
Another Porto
Better bathrooms

Other (please comment)

Track and turf fields with lights.

accessible trail for my 94-year old mother!

Removing the loose rocks from the trail(s)

parking

Nicer playground

ability to drive my 95 year old mother up to the park and be able to park my car. She can walk at Coolidge Point, but walking in is too much.

Safe biking walking access from surrounding neighborhoods

bathrooms

Mountain biking trails

Trail maintance

None

Rowing shell/ kayak racks behind band stand. Raise bandstand with maintenance department underneath. Put back drinkingfountains s

Leave it the way it is

climbing apparatus for kids

Waste barrels and dog poop bags/barrel

Masconomo could be a combined field space and outdoor fitness park for grownups . We need to elevate the connection to outdoors for all our age groups

Doesn't need any additions.

I have not been there in quite a while so I cannot comment. I enjoyed it as it was when I went there.

More parking

Not ramp for sunfish

fine as is

Better Access

I love it the way it is

Closer parking

Other (please comment)

leave alone; it is beautiful as is.

None

Clean up/maintenance/removal of dead and dangerous trees; litter removal

Keep it quiet and pristine.

Trash cans. Less signage.

Perfect as is, certainly NO Visitor Information Booth or Harbormaster Building.

Weekly Farmer's Market would be AWESOME, and I think MBTS can support it!

Better bathrooms. No outhouses

Renovation of bath house and expanded facility to better support town and generate additional revenue through leasing of expanded food services year round.

What are your favorite things to do when you visit [Field-K2]?

#	Field	Percentage
1	Walk/run/hike/bike on trails or paths	61%
2	Enjoy nature	64%
3	Enjoy playground / play strucutres	6%
4	Picnic, relax	38%
5	Be in, on, or near the water	67%
6	Recreational sports	15%
7	Walk dog off leash	25%
8	Take part in events (Festivals, races, sporting events, farmers market)	11%
9	Other (please specify)	9%
		171

Showing rows 1 - 10 of 10

Q68_9_TEXT - Other (please specify)

Other (please specify)

Admire the trees, use the Little Free Library

beach

Enjoy the sunshine & walk in the sand when dogs are not permitted on the beach

watch fireworks at the 4th; get-togethers with friends; camp fires

love the fireworks July 4!

Keep dogs off beach!

Baseball

Photograph birds in nature.

Swim and exercise

use boat docks

Yoga in field and be by water

Hikes with MECT

Needs restrooms

look at trees

Other (please specify)

ha. does this change based on what I select?

What would you like to see at [Field-K2] in the future? (Select all that apply).

#	Field	Percentage
1	Additional trails	13%
2	Signage and trail markers	18%
3	Trail maps	11%
4	Nature-based play elements (i.e. grassed berms, playground boulders)	7%
5	Community garden	5%
6	All-abilities playground	4%
7	Water based play feature	9%
8	Picnic tables	20%
9	Loop trail	8%
10	Fitness Equipment	6%
11	Barbecuing areas	17%
12	Open lawns	2%
13	Other (please comment)	45%
		125

Showing rows 1 - 14 of 14

Q69_13_TEXT - Other (please comment)

Other (please comment)

Better maintained trees

bike racks

dog control and enforcement

Additional parking

improved parking

ability to walk from black beach to a trail on Coolidge Point and avoid walking on Rt 127

Tuck's Point is pretty perfect already

rest rooms when beach house closed

No change

Volleyball Court/Space

Better maintenance. The equipment is not maintained and there is always trash and left clothing all over the field. It is a disgrace given how much we invested in it.

Other (please comment)

Permitted cooking fires should be allowed

Improve the Bath House & Keep Portos out ALL year, clean more regularly especially in Peak season

Parking is an issue when overnight boating

Nothing, it's perfect.

Stand-up-paddleboard access at certain times of day or year; and more ways to recycle

Better maintenance of the bluff.

bathrooms

Bathrooms

Singing beach is perfect

Limit dogs to certain hours or days per week

Nothing! Leave it as is!

Just maintain what is there

Nothing, it's great as is! But a little pruning of the thorny vines at the access points would be nice.

Nothing more. Perfect in town nature escape as is

None

Leave it beautiful as it is now

Farmers market

Nothing else. The people who go here enjoy it as it is.

I would love to see a few rafts at singing beach and a program for young kids to learn water safety combined with a lifeguard training program

Better trash maintenance.

Enforcement of designated recreation area.

It was wonderful this summer when the beach was residents only. Please keep it that way! The beach was not overcrowded. Whatever revenue the non residents pay is not worth the crowding. If you do decide to let non residents come, please charge them more. \$20 a person.

Not ramp for sunfish arms kayaks

Leave it be

Other (please comment)

Signage for Out of Towners to alert them of aggressive seagulls

better maintenance of trees, shrubs there.

fine as is!

clear overgrown areas.on perimeter of whole area and enforce dog bylaw

Harbormaster office + bathrooms would be great at Reed Park

Keep it natural

Improved showers and bathrooms

Retain and safeguard all MECT properties

Keep keeping non-residents out!

Nothing, leave along and keep clean; it is beautiful as is.

Fewer dogs or limited hours for dog walkers

None

Ibid.

Keep it quiet and pristine. Keep development away from it!

Improve the access on to the Beach. The rocks are steep and slippery when they are sandy.

visitor parking

Bathrooms

Nice safe fire pit

Longer dog season on weekdays or certain hours

Town should expand usage of Tucks Point and improve open space for small athletic/practice space for town sports. There also should be a small facility for town sponsored water sports (paddle boarding, kayaking, and sailing). There are also revenue opportunities if a facility were designed with ability to support community boating and water sports in mind (M/E sailing team, area schools looking for athletic sport access to water)

upgraded turf field

What are your favorite things to do when you visit [Field-K3]?

#	Field	Percentage
1	Walk/run/hike/bike on trails or paths	42%
2	Enjoy nature	72%
3	Enjoy playground / play strucutres	12%
4	Picnic, relax	55%
5	Be in, on, or near the water	68%
6	Recreational sports	19%
7	Walk dog off leash	14%
8	Take part in events (Festivals, races, sporting events, farmers market)	16%
9	Other (please specify)	6%
		171

Showing rows 1 - 10 of 10

Q70_9_TEXT - Other (please specify)

Other (please specify)

Stand up paddle boarding

Go crabbing

Reading

Stand-up paddleboard! It's the best place to put in from.

Better bathroom facilities especially after 5pm.

Keep dogs out of Tucks Point! And, keep out non residents!

Ability to use the Chowder House for Reunions

play with grandchildren

access to kayaking.

birdwatch

h;j

What would you like to see at [Field-K3] in the future? (Select all that apply).

#	Field	Percentage
1	Additional trails	12%
2	Signage and trail markers	15%
3	Trail maps	9%
4	Nature-based play elements (i.e. grassed berms, playground boulders)	10%
5	Community garden	6%
6	All-abilities playground	7%
7	Water based play feature	12%
8	Picnic tables	23%
9	Loop trail	4%
10	Fitness Equipment	6%
11	Barbecuing areas	24%
12	Open lawns	6%
13	Other (please comment)	38%
		108

Showing rows 1 - 14 of 14

Q71_13_TEXT - Other (please comment)

Other (please comment)
Leave it as it is.
easier to access for bikes, shuttle to bring residents
longer season when dogs are allowed
stand up paddle board overnight storage for residents
No dogs off lease
trail markers could be better at certain points within the woods. Have gotten lost and had to back track a few times
Maybe easier access points/parking
More benches
No change
Beach cleaning to maintain like Singing Beach
More restrictions on out of town visitors or higher fees, better management of walk on visitors, more trash receptacles, Better management of visitors with dogs.

Other (please comment)

Community events, movies, tastings etc

enforce existing dog rules

more basketball/better parking

Kayak racks.

Better bleachers, expanded basketball courts, open concessions

Keep tucks point as is!

Restrooms

None

Raft at beach

Redesign so more field space and training access for kids is accessible

Walk dog off leash

perfect as is

Better playground equipment

public bathroom

Ok as is

another fine as is!...

Residents only

enforce dog bylaws that already exist

Fewer people

More supervision in summer months. There seems to be one person in particular who is frequently at the park, stores alcohol in the bathroom closet, and enforces her rules.

Seagulls have become out of control and near dangerous if eating

More kayak racks for townspeople

shade opportunities

Nothing. It is perfect as is

Other (please comment)

leave as is; it is beautiful as is.

None

Try to limit the crowds - have been going there less because of noise.

more visitor parking

Safe structures

uuhkj

Is there anything else we should know about these parks?

Is there anything else we should know about these parks?

Thank you for doing this! I hope that I can also help you with tree planting and park restoration.

Is there a way to make it so that Singing Beach does not get so crowded on the weekends?

There are existing bylaws prohibiting dogs from all parks and cemeteries YEAR ROUND. Not enforced

It would be nice to stay longer but need bathrooms and additional parking to do so.

Need improved trash pick-up at Masconomo Park. Dog waste disposal by Powder House, Pleasant St path.

We need to create field space for youth sports more than anything else.

What is defined as a park here is so vague and they are so different - Tucks vs Western Woods?!

Amazing assets for our small town

We are new to town but only seem to know about one actual playground with a play structure

Tucks Point, views obscured by overgrown brush & shrubs adjacent left side of path leading to Rotund

All good as is

We enjoy the open space and would love to consider the conversation of additional space

We should invest in maintenance of our Parks. DPW cannot keep up. Consider privatizing to landscape.

It was really really nice having Singing beach open only to residents.

Keep WIDE open spaces in MBTS. This is a treasured community and an escape from Suburbia.

We need more sports playing fields & lights. Tennis courts need more maintenance. We need a track.

Powderhouse park is my other fave! Love the new trail signs. More/improved points of public access

Enforce the dog rules. Keep dogs under control and pick up poop. ENFORCE

Need ALOT more trash cans, emptied more often. Need consistent enforcement of resident access

Thanks for offering such beautiful parks & for keeping them up so well. Singing Beach is a true gem.

Would really like to see a bike/walking path from loading place, Forest lane connecting Forest st

Some of the bench's at masco are in bad shape. Need updates plus a couple more picnic tables

Is there anything else we should know about these parks?

I think you all are doing a great job! Keep up the good work!

When can we work on getting a pump track built for biking?

Sweeney Park is one of the most important places to us- we have made so many friends and family ther

I think the town of Manchester should purchase as much open space as possible. Vote no on 40B

Limit dogs to certain hours per day or days per week

Keep dogs out!! Parking for tax paying residents of Manchester at beach and Tucks Point ONLY!!!

Manchester has wonderful woods and trails that I hope we continue to preserve.

We chose MBTS because of its schools and parks. Very important feature of our town!

So grateful to have many options to get outside as a family without experiencing crowds of people.

I grew up in Manchester and the parks are deplorable the hedges all uneven separated, quite messy

Minor complaint about Wyman hill area are hunting tree stand and few camouflage tents

We have limited park space however we are currently underutilizing our existing spaces .

I think a place to get food and tables at masconomo would be great, overlooking harbor.

Thanks for doing a great job. I love our parks.

Tough to park at Coolidge Reservation on a beautiful day.

We need more playing fields in town.

Please improve the maintenance at Masconomo Park. Remove invasives, care for new plantings

Safe places to walk or jog

We could use a track

i am not familiar with a lot of the parks listed - educate the community

maintenance is key

The 3 I chose are fine! Others like WCA-trailmarkers, maps, and somewhere a community garden in town

Keep them as natural as possible. No play structures, etc.

Poor quality of grass. Poorly maintained.Dog bylaws not enforced. People should have priority

Is there anything else we should know about these parks?

We are so fortunate to live in the middle of the forest close to the ocean, let's keep it this way

The staff at singing beach does an amazing job

Love them. Love our parks and access to space. More public art shows increases sense of community

There's always trash at Masco from Captain Dusty's and I feel they should clean help clean up.

I would like all park areas to be maintained and safeguarded from development. Community gardens.

More advertising of underutilized parks with additional parking

More parking and better signage at the conservation areas. Movies, exercise classes, softball

For the most part, they are all beautiful. They need to be taken care of and kept clean.

They should remain as natural as possible & reserved for residents

Designated times for certain activities would be nice. Pollution and over development is a worry.

Maintenance with regular trash removal very important. No residential construction close to.

These trails should be considered as a "Network" too, not just individual areas!

A map of all community resources online and in hard copy

I feel that there should be parking for non-residents at Tucks Point, particularly during the week.

Ok

What is the Towns maintenance budget for Parks? Increase thatLet's fix and maintain what we have.

Concerned about impact of 40B development on Cedar Swamp and watershed.

Manchester Parks and Rec does a great job managing these precious resources.

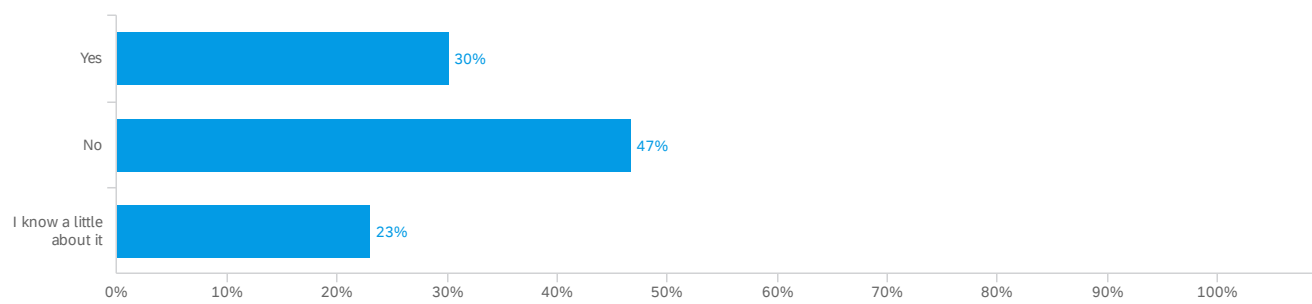
Tucks Point should be better used for small field space and a new facility for town access to water.

Can't think of anything.

Are you aware of Manchester's Western Woods Initiative to acquire parcels in the western part of Town for open space?

#	Field	Percentage
1	Yes	30%
2	No	47%
3	I know a little about it	23%
		169

Showing rows 1 - 4 of 4



Do you support using Town funds towards the acquisition of some of the lots in the Western Woods?

#	Field	Percentage
1	Yes	63%
2	Other (please specify)	7%
4	No	4%
5	Not sure	27%
		169
Showing rows 1 - 5 of 5		

Q32_2_TEXT - Other (please specify)

Other (please specify)

Yes and I believe the money was already approved.

Depends upon cost/benefit

depends on how space to be used

Possibly, if there are ecological reasons to protect them yes. Recreational, no.

What about Comm PreservFunds?

If this prevents it from being developed with condos etc. I support the town purchasing to keep it open space.

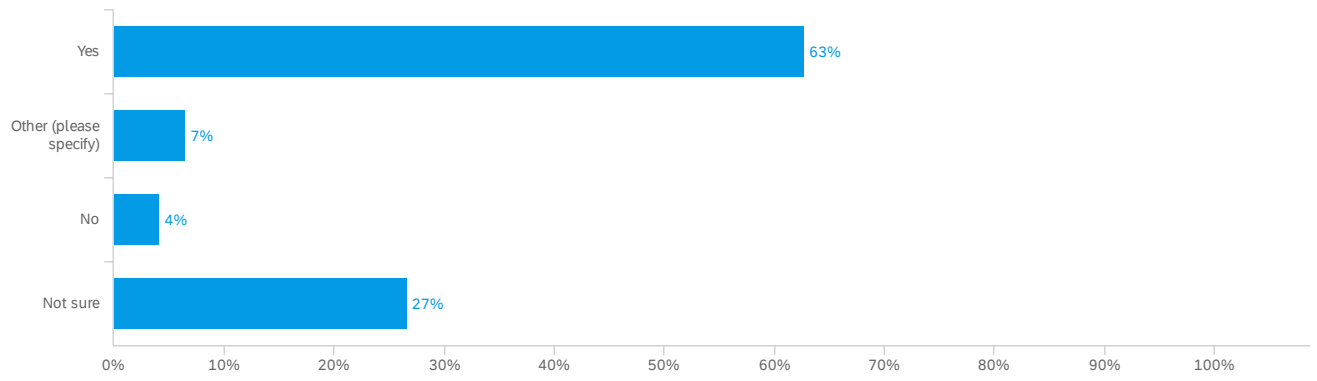
i would need more information

What's the development plan? I prefer a less developed town. Traffic is becoming DANGEROUS!

If they are not land locked parcels

Not a priority for town funds unless needed for watershed protection.

Yes but the overall strategy and plan for how acquisition is done needs to be better explained and socialized.



How would you like to see these properties used?

#	Field	Percentage
1	Passive recreation (walking, hiking, birdwatching, etc.)	45%
3	Other (please specify)	14%
4	A mix of passive recreation and other active recreation	41%
		169
Showing rows 1 - 4 of 4		

Q31_3_TEXT - Other (please specify)

Other (please specify)
Not sure of the exact location
Active recreation.
Do nothing
We would definitely like to see an area where young children can safely ride their bikes in a park setting that is safe from the roads.
Gardening, food, nature walk
Sporting fields. This town needs more.
A mix of passive and active recreation would require parking.
possibly a dog park
We need more playing fields for youth sports. Soccer, lacrosse, etc.
Don't know the area
i would need more information
I don't know enough about Western Woods
conservation
I don't know the area but I would lean toward passive recreation... it would be nice to have a community garden somewhere or if near water, boat rentals...
Sport fields and trails
Not sure
Don't know to answer

Other (please specify)

dont know

No development

Presumably the goal here is to get Essex residents/dupes to pay for part of this and then ban them from use.

Town garden share

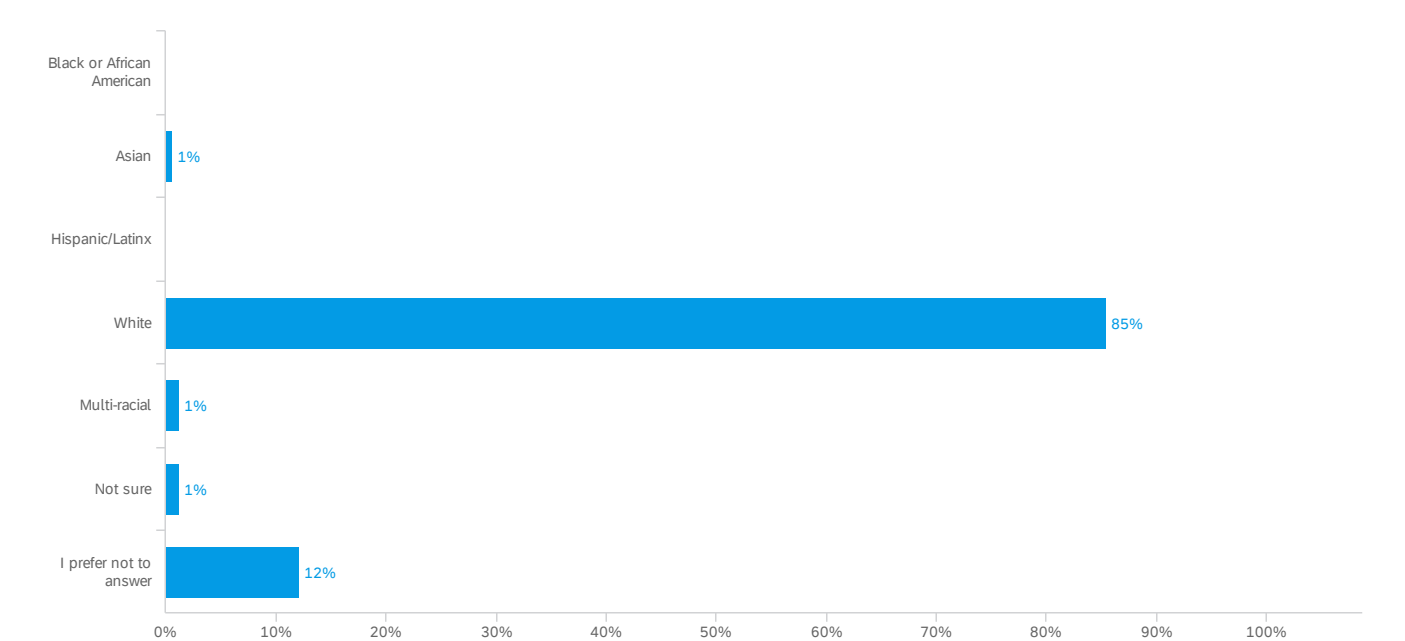
dedicated trails with maintenance- for mountain biking and improved ped/handicap access

Undisturbed

How do you identify your race and ethnicity? Select any that apply:

#	Field	Percentage
1	Black or African American	0%
2	Asian	1%
3	Hispanic/Latinx	0%
4	White	85%
5	Multi-racial	1%
6	Not sure	1%
7	I prefer not to answer	12%
		165

Showing rows 1 - 8 of 8



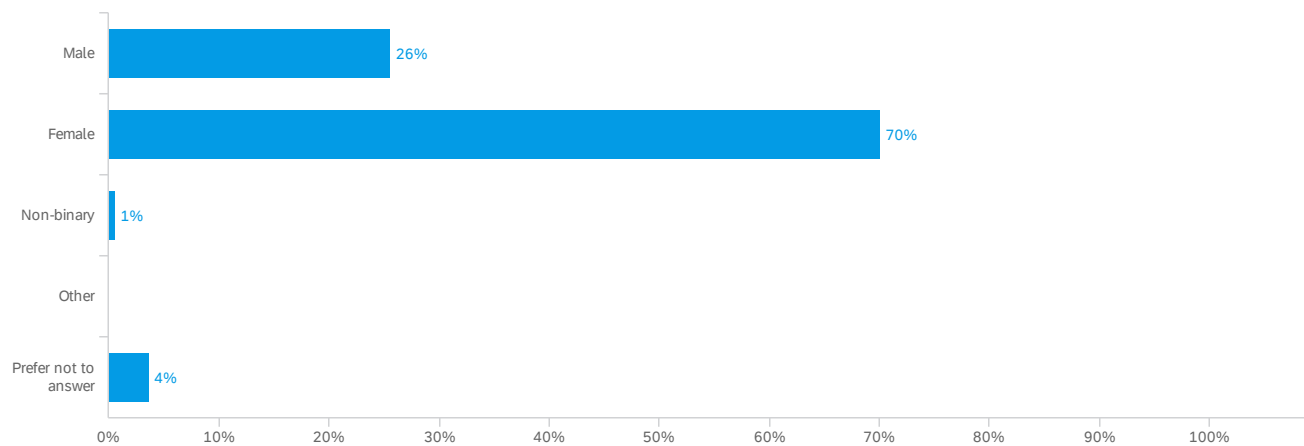
What is your gender?

#	Field	Percentage
1	Male	26%
2	Female	70%
3	Non-binary	1%
4	Other	0%
5	Prefer not to answer	4%
		164

Showing rows 1 - 6 of 6

Q41_4_TEXT - Other

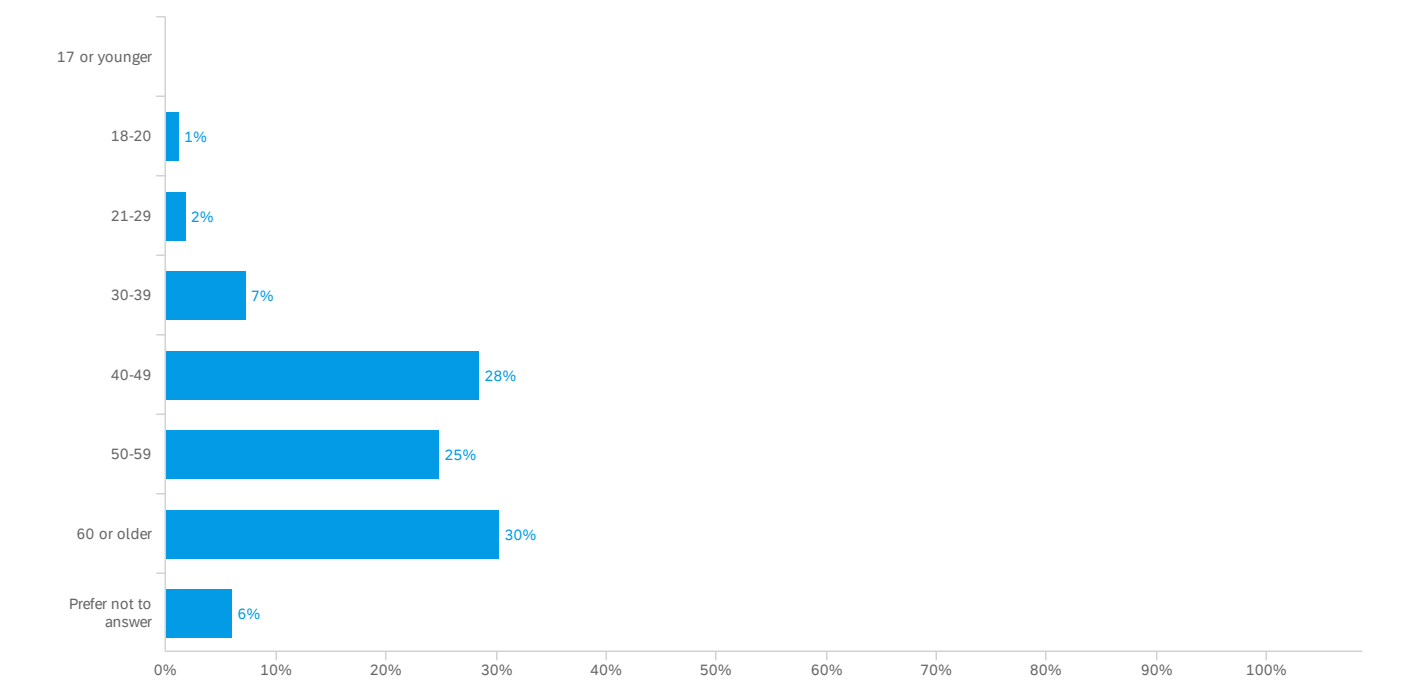
Other



What is your age?

#	Field	Percentage
1	17 or younger	0%
2	18-20	1%
3	21-29	2%
4	30-39	7%
5	40-49	28%
6	50-59	25%
7	60 or older	30%
8	Prefer not to answer	6%
		165

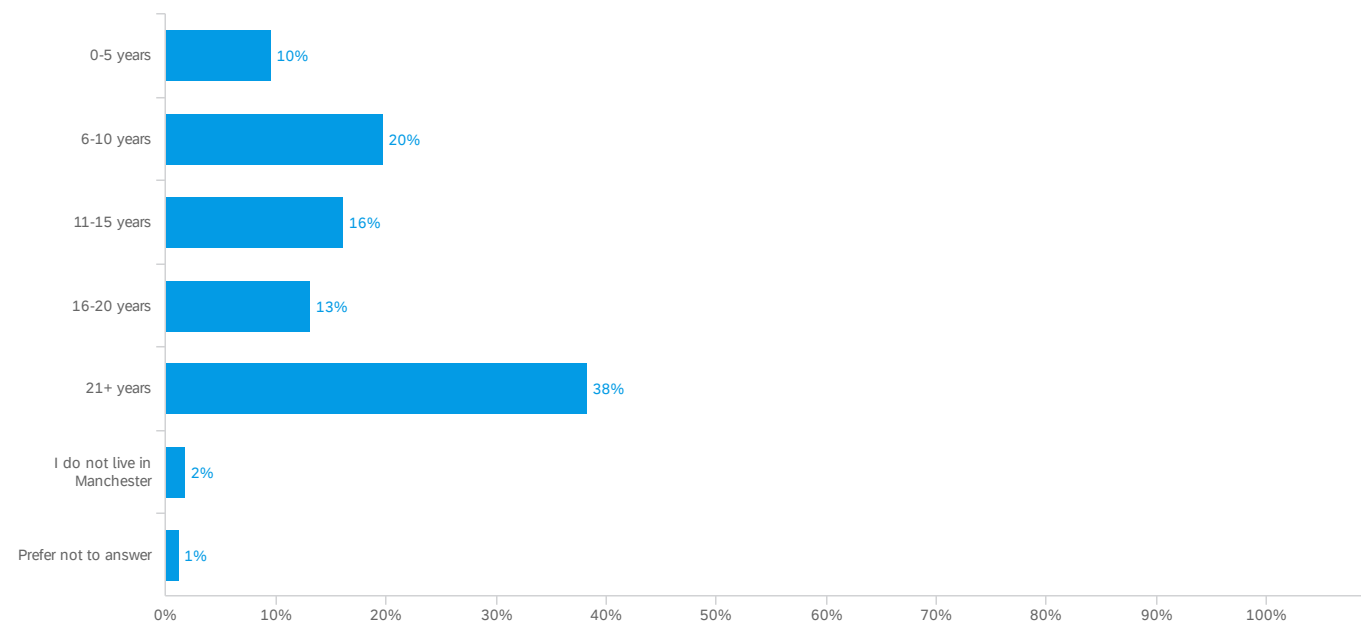
Showing rows 1 - 9 of 9



How long have you lived in Manchester-By-The-Sea?

#	Field	Percentage
1	0-5 years	10%
2	6-10 years	20%
3	11-15 years	16%
4	16-20 years	13%
5	21+ years	38%
6	I do not live in Manchester	2%
7	Prefer not to answer	1%
		167

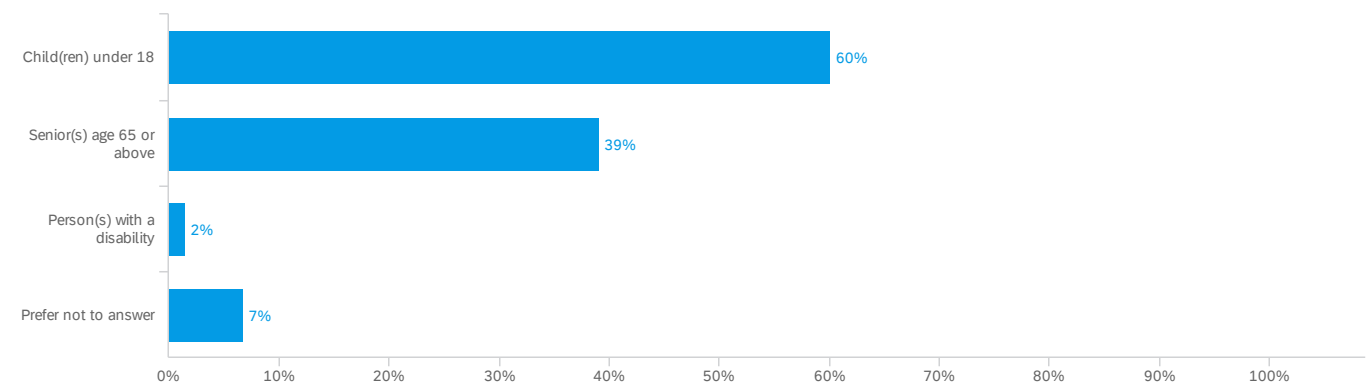
Showing rows 1 - 8 of 8



Do you or any members of your household match the following descriptions? Check all that apply.

#	Field	Percentage
1	Child(ren) under 18	60%
2	Senior(s) age 65 or above	39%
3	Person(s) with a disability	2%
4	Prefer not to answer	7%
		133

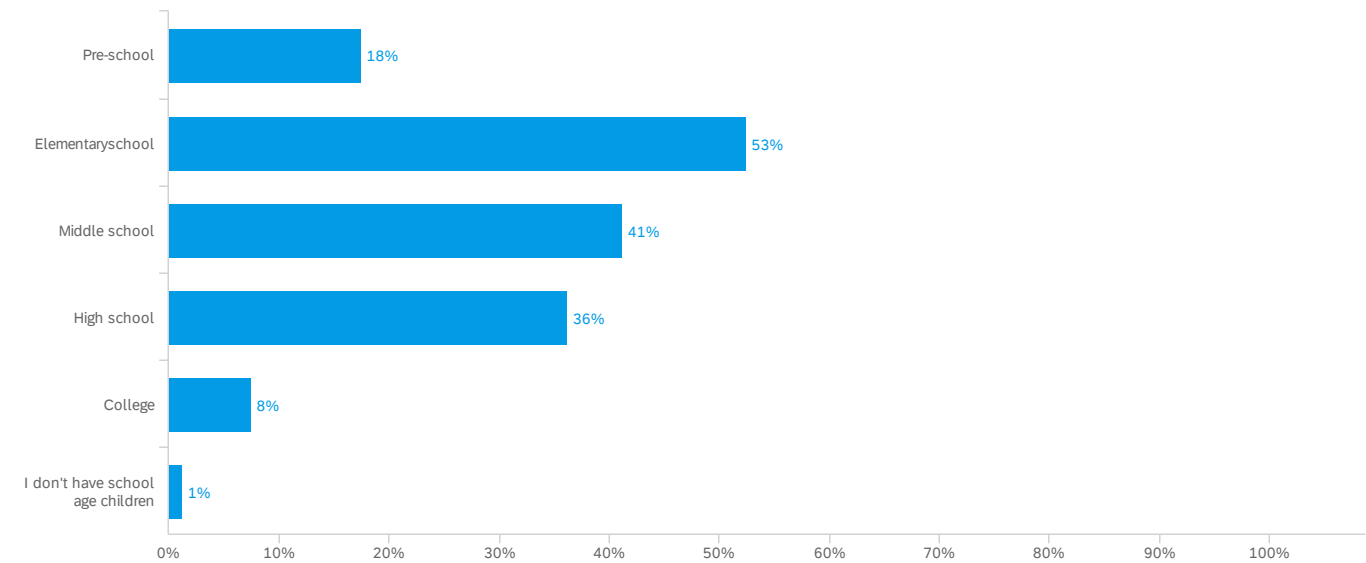
Showing rows 1 - 5 of 5



If you have school age children, please check which schools they attend (check all that apply).

#	Field	Percentage
1	Pre-school	18%
2	Elementaryschool	53%
3	Middle school	41%
4	High school	36%
5	College	8%
6	I don't have school age children	1%
		80

Showing rows 1 - 7 of 7



End of Report

Appendix E: Comments on Draft Plan

From: [Frances Caudill](#)
To: [Lewis, Courtney](#)
Subject: Difficulty using the Comment Matrix for Open Space and Recreation Plan
Date: Tuesday, June 8, 2021 4:00:16 PM

Courtney, I was on the OSRC for Manchester, MA from 2015 to 2021, so helped execute the Action Plan on the previous OSRPlan for our Town. Although I have recently left that committee, I was interested in the work of the group creating the next 7-year plan, and attended the Open Fora (plural of Forum?) that you conducted virtually.

I registered to get the Draft Plan, so have spent quite a bit of time on this huge document, skimming parts of it, and reading other sections carefully. Then I decided to try filling out the matrix, so clicked on your link to that. It tells me that this is "Read Only" and doesn't let me enter anything into the matrix. I have given up, but only have 2 brief comments, so am writing these to you now. You have my name, date and email address with this message, so I hope you can accept my comments this way.

Comment 1. P. 54 : Under Fisheries and Wildlife: I know this is an "abbreviated list" of species found in Manchester. However, only 10 common bird species are listed of the over 200 species we know we have from birding experts, many of them catalogued over recent years in the Wilderness Conservation Area just north of Route 128. On the other hand, almost all of the mammals, amphibians, reptiles and fish that I know we have are correctly listed. Perhaps you could just add a note on the listing of birds, that there are over 200 bird species that have been recorded in Manchester!

Comment 2. P. 103: In Figure 26 is written "Sharrows and trails for biking". I looked up the word "sharrow" both online and in printed dictionaries, and cannot find it. Is this a "typo"?

Thanks. Frances Caudill, 16 Magnolia Ave., Manchester, MA 01944
Sent from my iPad

Comment Matrix

HOW TO USE THIS FORM

Please use this form when submitting comments. You may email your completed comment matrices to Courtney Lewis, Regional Land Use Planner II, at clewis@mapc.org

1. Fill out the general information at the top of the page, then use the matrix on the next page to provide comments on the draft plan.

2. Complete the matrix fields as follows:

- **Column 1:** Item #
- **Column 2:** Page number being referenced
- **Column 3:** Paragraph number being referenced
- **Column 4:** Your comment (only one comment/issue per row)

Note: If you need more rows, simply highlight the last row, right click, go to *Insert*, and click *Insert Row Below*.

3. Save your file and send to clewis@mapc.org

Please save your Word file in this format: *(Your last name_date)*

Your Name: David Saunders

Your Email and/or Telephone: david_saunders@me.com

1

2

(Example)

4

(Example)

“Greenways should be considered a multi-modal transportation option.”

(Example)

1

24

1-4

The Safe Routes to school is a fantastic initiative. It seems that there are more students walking and riding bikes to school - perhaps a consequence of COVID? I observe unsafe behaviors by drivers and cyclists, as well as some areas that could use some work to enhance visibility and safety for everyone involved. As such, I think it's super important for us to continue building on the Safe Routes program through education, infrastructure shifts, and a careful assessment of how to manage car traffic during excessively busy times of school commutes during the academic year.

2

3

4

5

6

Comment Matrix

HOW TO USE THIS FORM

Please use this form when submitting comments. You may email your completed comment matrices to Courtney Lewis, Regional Land Use Planner II, at clewis@mapc.org

1. Fill out the general information at the top of the page, then use the matrix on the next page to provide comments on the draft plan.

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- **Column 4:** Your comment (only one comment/issue per row)

Note: If you need more rows, simply highlight the last row, right click, go to *Insert*, and click *Insert Row Below*.

3. Save your file and send to clewis@mapc.org

Please save your Word file in this format: **(Your last name_date)**

Your Name: Sue Brown

Your Email and/or Telephone: browns@manchester.ma.us

Item #	Page #	Paragraph #	Your Comments
1	2 (Example)	4 (Example)	"Greenways should be considered a multi-modal transportation option." (Example)
1	26	4	I would not classify the LCD as allowing mixed use as it only allows commercial and not residential
2	26	Table	You included a single overlay district, though we have many. I would simply remove the overlay district.
3	60	1	Replace "This will be achieved by...." With "Strategies for achieving this include"
4	71	1	The Town just completed a WWTF Study too determine if there is a viable alternative to the Facility at this site. I expect the report within a week or so and will offer a brief summary to add to this section.
5	77	Fig 20	Move Graves Beach marker to the Beach area. Add Christian Hill Label in the Western Woods. Ask me about the location. Should you add other cemeteries? Largest is Pleasant Grove on Pleasant St and it abuts other protected land.

6	93	2	Middle sentence has a number of phrases beginning with “if”, but no connective phrase. Add “Also” to the beginning of the sentence.
7	99	4	I would suggest the Plans also address the accommodation, as appropriate of passive recreation.
8	99	1 st bullet middle of page	Add a period
9	107	4 th full	Add “or part time environmental planner” to option for increased management
10	107	6 th full	Add Cape Ann Trail Stewards to partners list.
11	114	Fig 30	The Western Woods text and end points should be moved to the west. As currently placed, they are pointing to parcels that are already protected and managed.
12			
13			
14			
15			
16			
17			
18			
19			
20			

Appendix F: Activity and Use Limitation (AUL) Inventory

Activity and Use Limitation (AUL) Inventory										
RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
3-0027520	MANCHESTER BY THE SEA	156 PINE ST	RESIDENCE	TWO HR	02/22/2008	PSC	02/29/2016	PA		Hazardous Material
3-0022977	MANCHESTER BY THE SEA	2 PINE ST	BENNETT ST	120 DY	06/18/2003	PSC	06/19/2018	PA		Oil and Hazardous Material

Appendix G: BioMap 2 Report



BioMap2

CONSERVING THE BIODIVERSITY OF
MASSACHUSETTS IN A CHANGING WORLD

Manchester

Produced in 2012

This report and associated map provide information about
important sites for biodiversity conservation in your area.

**This information is intended for conservation planning, and is
not intended for use in state regulations.**





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Introduction

The Massachusetts Department of Fish & Game, through the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP), and The Nature Conservancy's Massachusetts Program developed *BioMap2* to protect the state's biodiversity in the context of climate change.

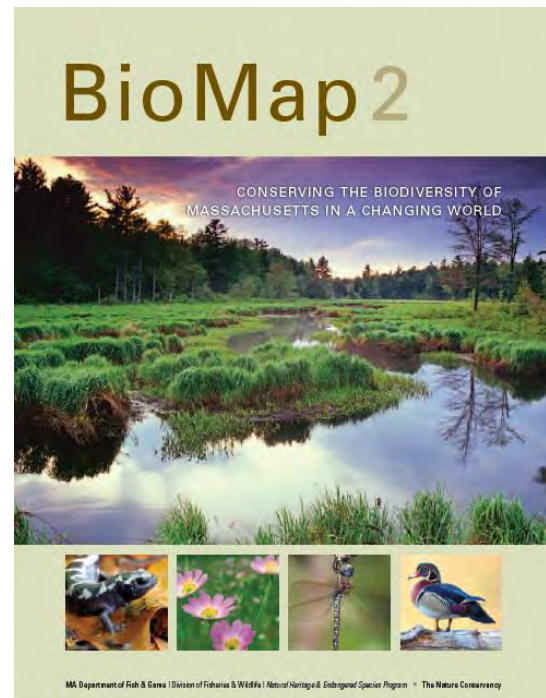
BioMap2 combines NHESP's 30 years of rigorously documented rare species and natural community data with spatial data identifying wildlife species and habitats that were the focus of the Division of Fisheries and Wildlife's 2005 State Wildlife Action Plan (SWAP). *BioMap2* also integrates The Nature Conservancy's assessment of large, well-connected, and intact ecosystems and landscapes across the Commonwealth, incorporating concepts of ecosystem resilience to address anticipated climate change impacts.

Protection and stewardship of *BioMap2* Core Habitat and Critical Natural Landscape is essential to safeguard the diversity of species and their habitats, intact ecosystems, and resilient natural landscapes across Massachusetts.

What Does Status Mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations 321 CMR 10.00. Rare species are categorized as Endangered, Threatened or of Special Concern according to the following:

- Endangered species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.



Get your copy of the *BioMap2* report! Download from <http://www.mass.gov/nhesp> or contact Natural Heritage at 508-389-6360 or natural.heritage@state.ma.us.

- Threatened species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- Special Concern species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition NHESP maintains an unofficial watch list of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated by any law or regulations, but they can help to identify ecologically important areas that are worthy of





protection. The status of natural communities reflects the documented number and acreages of each community type in the state:

- Critically Imperiled communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- Imperiled communities typically have 6-20 sites or few remaining acres in the state.
- Vulnerable communities typically have 21-100 sites or limited acreage across the state.
- Secure communities typically have over 100 sites or abundant acreage across the state; however, excellent examples are identified as Core Habitats to ensure continued protection.

In 2005 the Massachusetts Division of Fisheries and Wildlife completed a comprehensive State Wildlife Action Plan (SWAP) documenting the status of Massachusetts wildlife and providing recommendations to help guide wildlife conservation decision-making. SWAP includes all the wildlife species listed under the Massachusetts Endangered Species Act (MESA), as well as more than 80 species that need conservation attention but do not meet the requirements for inclusion under MESA. The SWAP document is organized around habitat types in need of conservation within the Commonwealth. While the original BioMap focused primarily on rare species protected under MESA, *BioMap2* also addresses other Species of Conservation Concern, their habitats, and the ecosystems that support them to create a spatial representation of most of the elements of SWAP.

***BioMap2*: One Plan, Two Components**

BioMap2 identifies two complementary spatial layers, Core Habitat and Critical Natural Landscape.

Core Habitat identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity.

Critical Natural Landscape identifies large natural Landscape Blocks that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.

The long-term persistence of Massachusetts biological resources requires a determined commitment to land and water conservation. Protection and stewardship of both Critical Natural Landscapes and Core Habitats are needed to realize the biodiversity conservation vision of *BioMap2*.

Components of Core Habitat

Core Habitat identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems.

Rare Species

There are 432 native plant and animal species listed as Endangered, Threatened or Special Concern under the Massachusetts Endangered Species Act (MESA) based on their rarity, population trends, and threats to survival. For





Table 1. Species of Conservation Concern described in the State Wildlife Action Plan and/or included on the MESA List and for which habitat was mapped in *BioMap2*. Note that plants are not included in SWAP, and that marine species such as whales and sea turtles are not included in *BioMap2*.

Taxonomic Group	MESA-listed Species	Non-listed Species of Conservation Concern
Mammals	4	5
Birds	27	23
Reptiles	10	5
Amphibians	4	3
Fish	10	17
Invertebrates	102	9
Plants	256	0
Total	413	62

BioMap2, NHESP staff identified the highest quality habitat sites for each non-marine species based on size, condition, and landscape context.

Other Species of Conservation Concern

In addition to species on the MESA List described previously, the State Wildlife Action Plan (SWAP) identifies 257 wildlife species and 22 natural habitats most in need of conservation within the Commonwealth. *BioMap2* includes species-specific habitat areas for 45 of these species and habitat for 17 additional species which was mapped with other coarse-filter and fine-filter approaches.

Priority Natural Communities

Natural communities are assemblages of plant and animal species that share a common environment and occur together repeatedly on the landscape. *BioMap2* gives conservation

priority to natural communities with limited distribution and to the best examples of more common types.

Vernal Pools

Vernal pools are small, seasonal wetlands that provide important wildlife habitat, especially for amphibians and invertebrate animals that use them to breed. *BioMap2* identifies the top 5 percent most interconnected clusters of Potential Vernal Pools in the state.

Forest Cores

In *BioMap2*, Core Habitat includes the best examples of large, intact forests that are least impacted by roads and development, providing critical habitat for numerous woodland species. For example, the interior forest habitat defined by Forest Cores supports many bird species sensitive to the impacts of roads and development, such as the Black-throated Green Warbler, and helps maintain ecological processes found only in unfragmented forest patches.

Wetland Cores

BioMap2 used an assessment of Ecological Integrity to identify the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Aquatic Cores

To delineate integrated and functional ecosystems for fish species and other aquatic





Species of Conservation Concern, beyond the species and exemplary habitats described above, *BioMap2* identifies intact river corridors within which important physical and ecological processes of the river or stream occur.

Components of Critical Natural Landscape

Critical Natural Landscape identifies intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames.

Landscape Blocks

BioMap2 identifies the most intact large areas of predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes.

Upland Buffers of Wetland and Aquatic Cores

A variety of analyses were used to identify protective upland buffers around wetlands and rivers.

Upland Habitat to Support Coastal Adaptation

BioMap2 identifies undeveloped lands adjacent to and up to one and a half meters above existing salt marshes as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

The conservation areas identified by *BioMap2* are based on breadth and depth of data, scientific expertise, and understanding of Massachusetts' biodiversity. The numerous sources of information and analyses used to

Legal Protection of Biodiversity

BioMap2 presents a powerful vision of what Massachusetts would look like with full protection of the land most important for supporting the Commonwealth's biodiversity. While *BioMap2* is a planning tool with *no regulatory function*, all state-listed species enjoy legal protection under the [Massachusetts Endangered Species Act](#) (M.G.L. c.131A) and its implementing regulations ([321 CMR 10.00](#)). Wetland habitat of state-listed wildlife is also protected under the [Wetlands Protection Act](#) Regulations ([310 CMR 10.00](#)). The *Natural Heritage Atlas* contains maps of [Priority Habitats](#) and [Estimated Habitats](#), which are used, respectively, for regulation under the Massachusetts Endangered Species Act and the Wetlands Protection Act. For more information on rare species regulations, and to view Priority and Estimated Habitat maps, please see the [Regulatory Review](#) page at <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>.

***BioMap2* is a conservation planning tool that does not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the *BioMap2* vision is fully realized, we must continue to protect our most imperiled species and their habitats.**

create Core Habitat and Critical Natural Landscape are complementary, and outline a comprehensive conservation vision for Massachusetts, from rare species to intact landscapes. In total, these robust analyses define a suite of priority lands and waters that, if permanently protected, will support Massachusetts' natural systems for generations to come.





Understanding Core Habitat Summaries

Following the Town Overview, there is a descriptive summary of each Core Habitat and Critical Natural Landscape that occurs in your city or town. These summaries highlight some of the outstanding characteristics of each Core Habitat and Critical Natural Landscape, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific fact sheets at www.mass.gov/nhesp.

Additional Information

For copies of the full *BioMap2* report, the Technical Report, and an [interactive mapping tool](#), visit the *BioMap2* [website](#) via the Land Protection and Planning tab at www.mass.gov/nhesp. If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program

By phone 508-389-6360
By fax 508-389-7890
By email natural.heritage@state.ma.us
By Mail 100 Hartwell Street, Suite 230
West Boylston, MA 01583

The GIS datalayers of *BioMap2* are available for download from MassGIS at www.mass.gov/mgis.



**Natural Heritage
& Endangered
Species Program**

Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
phone: 508-389-6360 fax: 508-389-7890

For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.



Town Overview

Manchester lies within the Southern New England Coastal Plains and Hills Ecoregion, an area comprised of plains with a few low hills. Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine. Many major rivers drain this area.



Manchester at a Glance

- Total Area: 4,983 acres (7.8 square miles)
- Human Population in 2010: 5,136
- Open space protected in perpetuity: 1,140 acres, or 22.9% percent of total area*
- BioMap2 Core Habitat: 569 acres
- BioMap2 Core Habitat Protected: 324 acres or 56.9%
- BioMap2 Critical Natural Landscape: 548 acres
- BioMap2 Critical Natural Landscape Protected: 257 acres or 46.9%.

BioMap2 Components

Core Habitat

- 3 Forest Cores
- 2 Wetland Cores
- 4 Aquatic Cores
- 4 Species of Conservation Concern Cores**
 - 2 birds, 1 amphibian, 1 insect

Critical Natural Landscape

- 2 Landscape Blocks
- 2 Wetland Core Buffers
- 4 Aquatic Core Buffers
- 3 Coastal Adaptation Areas

* Calculated using MassGIS data layer "Protected and Recreational Open Space—March, 2012".

** See next pages for complete list of species, natural communities and other biodiversity elements.

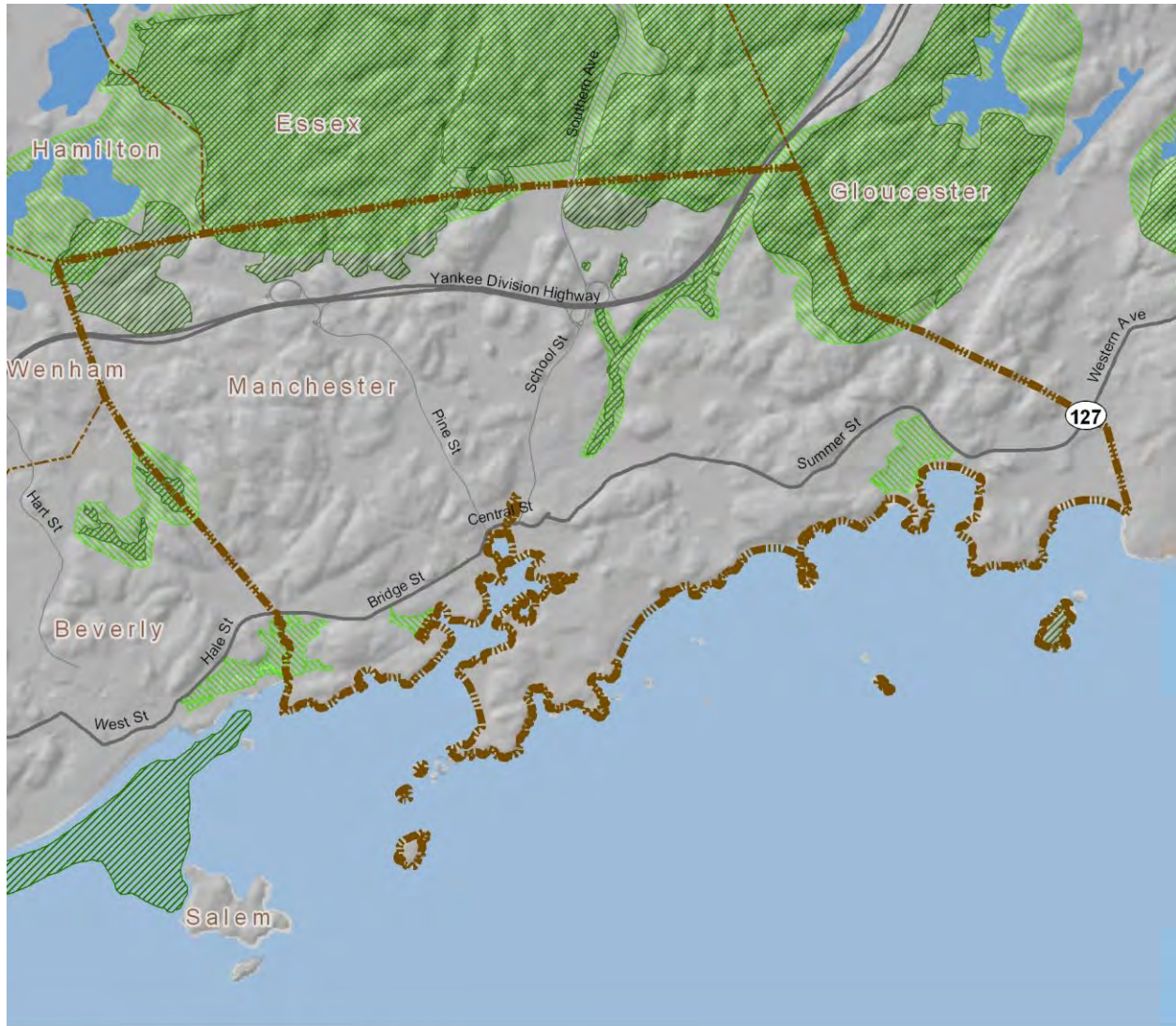




BioMap2

Conserving the Biodiversity of Massachusetts in a Changing World

BioMap2 Core Habitat and Critical Natural Landscape in Manchester

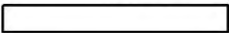


BioMap2 Core Habitat



BioMap2 Critical Natural Landscape

1 Mile



**Natural Heritage
& Endangered
Species Program**

Massachusetts Division of Fisheries and Wildlife

1 Rabbit Hill Road, Westborough, MA 01581

phone: 508-389-6360 fax: 508-389-7890

For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.



**Species of Conservation Concern, Priority and Exemplary Natural Communities,
and Other Elements of Biodiversity in Manchester**

Insects

Beetles

[Hentz's Redbelly Tiger Beetle](#), (*Cicindela rufiventris hentzii*), T

Amphibians

[Blue-spotted Salamander](#), (*Ambystoma laterale*), SC

Birds

Black-crowned Night-heron, (*Nycticorax nycticorax*), Non-listed SWAP

Snowy Egret, (*Egretta thula*), Non-listed SWAP

Other BioMap2 Components

[Forest Core](#)

[Aquatic Core](#)

[Wetland Core](#)

[Landscape Block](#)

[Aquatic Core Buffer](#)

[Wetland Core Buffer](#)

[Coastal Adaptation Area](#)

E = Endangered

T = Threatened

SC = Special Concern

S1 = Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.

S2 = Imperiled communities, typically 6-20 sites or few remaining acres in the state.

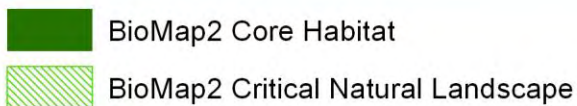
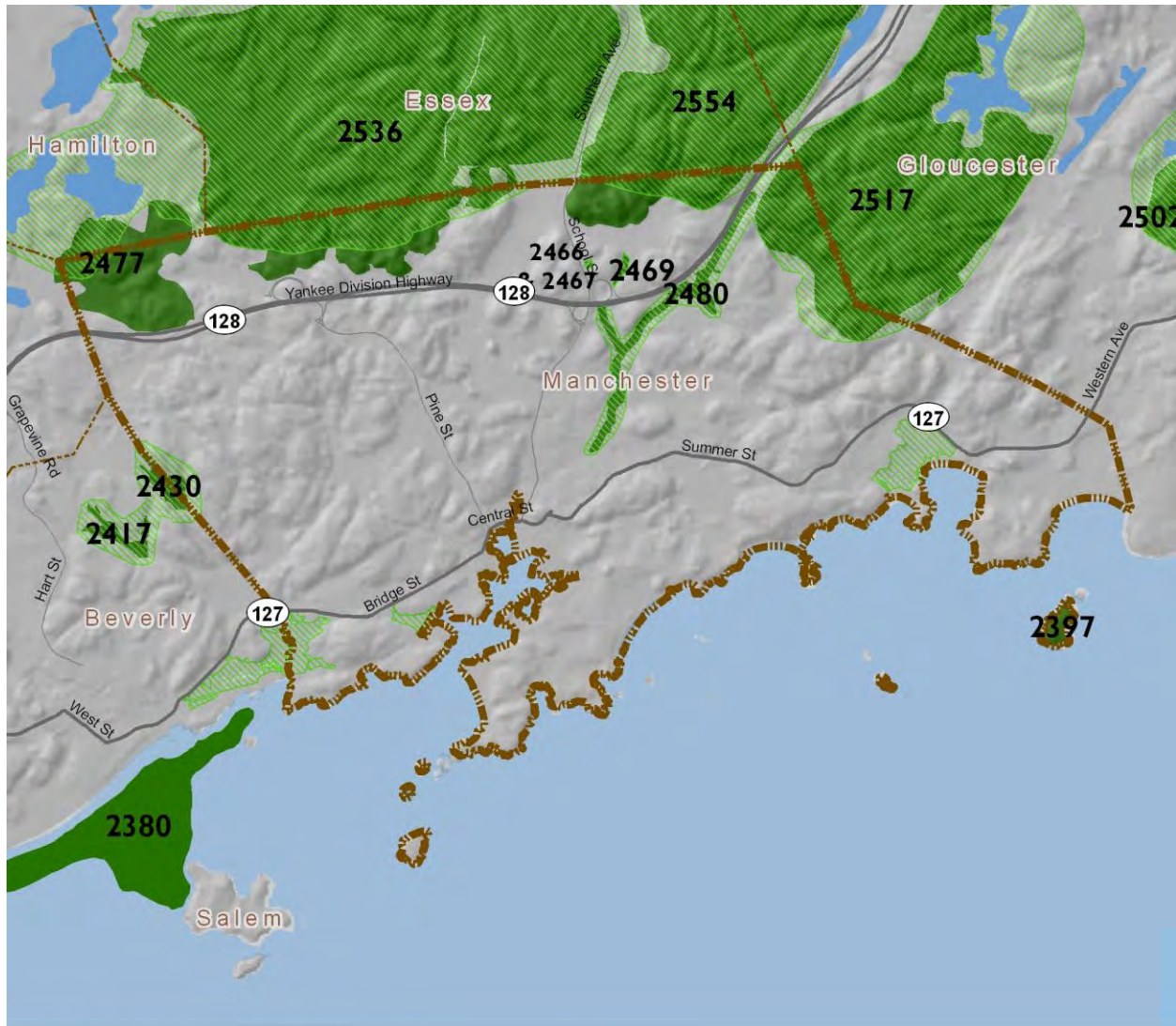
S3 = Vulnerable communities, typically have 21-100 sites or limited acreage across the state.



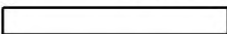


BioMap2 Core Habitat in Manchester

Core IDs correspond with the following element lists and summaries.



1 Mile



Elements of BioMap2 Cores

This section lists all elements of BioMap2 Cores that fall *entirely or partially* within Manchester. The elements listed here may not occur within the bounds of Manchester.

Core 2397

Species of Conservation Concern

Black-crowned Night-heron

Nycticorax nycticorax

Non-listed SWAP

Snowy Egret

Egretta thula

Non-listed SWAP

Core 2430

Wetland Core

Core 2466

Aquatic Core

Core 2467

Aquatic Core

Core 2469

Aquatic Core

Core 2477

Species of Conservation Concern

Blue-spotted Salamander

Ambystoma laterale

SC

Core 2480

Aquatic Core

Core 2517

Forest Core

Acidic Rocky Summit/Rock Outcrop Community

Species of Conservation Concern

Sweetbay Magnolia

Magnolia virginiana

E

Core 2536

Forest Core

Wetland Core

Species of Conservation Concern

Four-toed Salamander

Hemidactylium scutatum

Non-listed SWAP

Spotted Turtle

Clemmys guttata

Non-listed SWAP

Core 2554

Forest Core

Species of Conservation Concern

Hentz's Redbelly Tiger Beetle

Cicindela rufiventris hentzii

T





Core Habitat Summaries

Core 2397

A 12-acre Core Habitat featuring Species of Conservation Concern.

The breeding colonies of Black-crowned Night-herons, stocky, short-legged herons, are widely distributed along the Massachusetts coast. Habitats of Black-crowned Night-herons in Massachusetts include salt marshes and tidal flats, fresh and brackish marshes, ponds, and creeks. Night-herons are primarily nocturnal and crepuscular foragers on small fish, amphibians, crabs and other crustaceans, and insects.

Medium-sized white herons, Snowy Egrets nest in mixed colonies with other species of egrets and herons. The nests are in trees or patches of shrubs on coastal islands, presumably to reduce the likelihood of mammalian predation. Snowy Egrets forage in marshes and ponds near their breeding colonies for small fish, snails, and aquatic invertebrates.

Core 2430

A 15-acre Core Habitat featuring Wetland Core.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Core 2466

A <1-acre Core Habitat featuring Aquatic Core.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 2467

A <1-acre Core Habitat featuring Aquatic Core.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 2469

A 2-acre Core Habitat featuring Aquatic Core.





Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 2477

A 173-acre Core Habitat featuring a Species of Conservation Concern.

Adult and juvenile Blue-spotted Salamanders inhabit upland forests during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, whereupon they disperse into upland forest.

Core 2480

A 51-acre Core Habitat featuring Aquatic Core.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 2517

A 737-acre Core Habitat featuring Forest Core, Priority Natural Communities, and a Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.

Acidic Rocky Summits are open communities of shrubs, scattered grasses, mosses, lichens and occasional trees found on exposed rocky summits. These areas are dry with little soil, and can often be found as patches within other ridgetop communities. This example of Acidic Rocky Summit/Rock Outcrop is large and in very good condition, with little human disturbance beyond a low density trail system. It is well buffered within a larger naturally vegetated area.

In Massachusetts, Sweetbay Magnolia is a deciduous, multi-trunked tall shrub or small tree to 10 meters in height. It is found in red maple swamps on the coastal plain in this state.

Core 2536

A 1,628-acre Core Habitat featuring Forest Core, Wetland Core, and Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are





most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Four-toed Salamanders live in forested habitats surrounding swamps, bogs, marshes, vernal pools, and other fish-free waters that are used as breeding sites. Most breeding sites in Massachusetts are characterized by pit-and-mound topography with significant sphagnum-moss cover. Eggs are typically laid in mounds or patches of sphagnum moss that overhang water. Upon hatching, the larvae wriggle through the moss and drop into the water, where they will develop for several weeks prior to metamorphosis.

Strong populations of Spotted Turtles in good habitat - large, unfragmented, protected open space - continue to be of interest for the conservation of this species. This small, dark-colored turtle with yellow spots on its carapace inhabits a variety of wetlands year-round and nests in nearby uplands during spring. Road and collection are the primary conservation concerns.

Core 2554

A 1,040-acre Core Habitat featuring Forest Core and a Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.

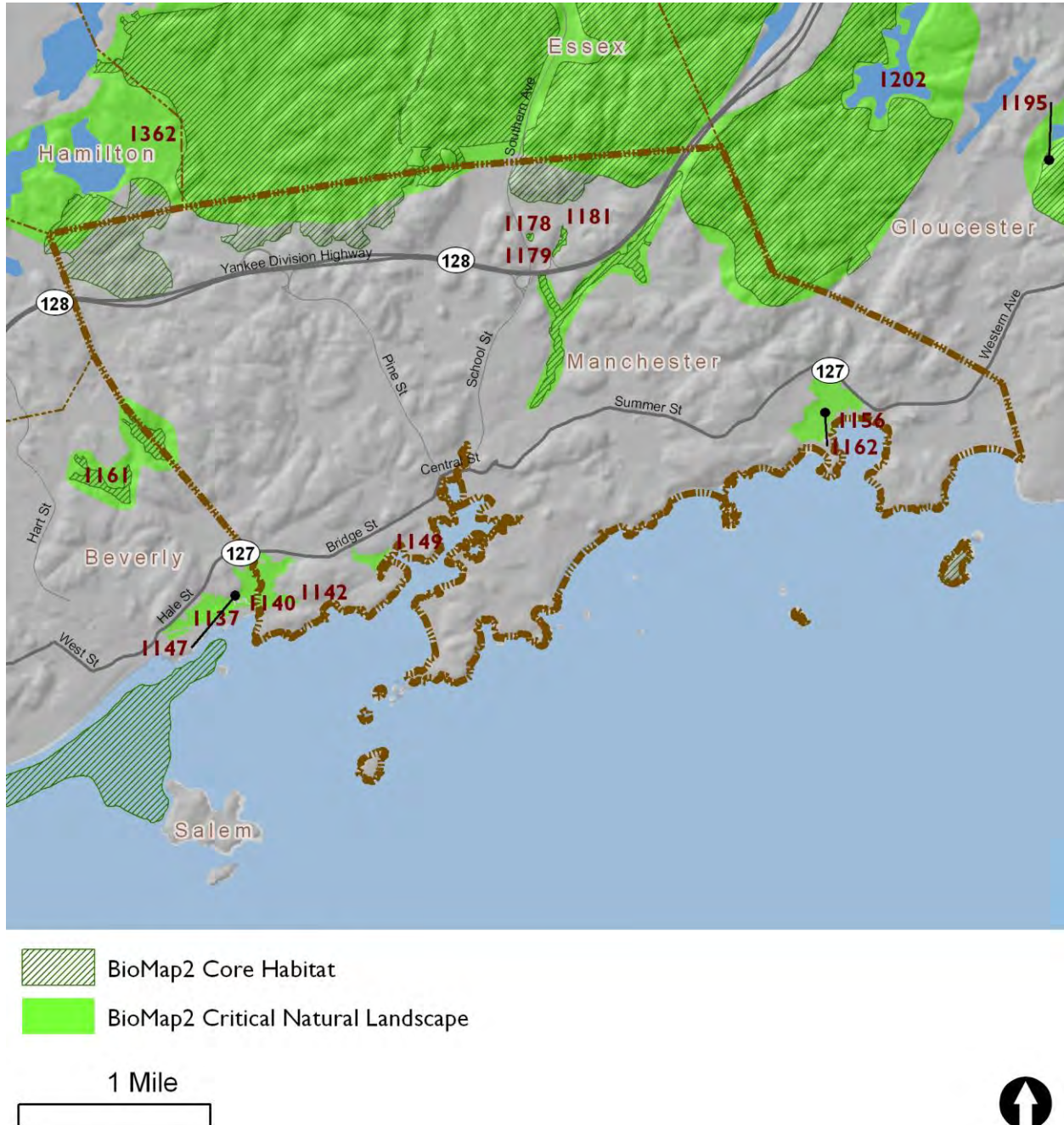
Hentz's Redbelly Tiger Beetle inhabits rock outcrops and ridges with sparse vegetation; soil-filled fissures must be present for the larvae to construct their burrows. Some of the outcrops occupied by Hentz's Redbelly Tiger Beetles burn frequently, which may enhance habitat for both adults and larvae by clearing vegetation and opening the canopy.





BioMap2 Critical Natural Landscape in Manchester

Critical Natural Landscape IDs correspond with the following element lists and summaries.





Elements of BioMap2 Critical Natural Landscapes

This section lists all elements of BioMap2 Critical Natural Landscapes that fall *entirely or partially* within Manchester. The elements listed here may not occur within the bounds of Manchester.

CNL 1140

Coastal Adaptation Area

CNL 1142

Coastal Adaptation Area

CNL 1147

Coastal Adaptation Area

CNL 1149

Coastal Adaptation Area

CNL 1156

Coastal Adaptation Area

CNL 1161

Wetland Core Buffer

CNL 1162

Coastal Adaptation Area

CNL 1178

Aquatic Core Buffer

CNL 1179

Aquatic Core Buffer

CNL 1181

Aquatic Core Buffer

CNL 1202

Aquatic Core Buffer

Landscape Block

CNL 1362

Aquatic Core Buffer

Coastal Adaptation Area

Landscape Block

Tern Foraging Area





Critical Natural Landscape Summaries

CNL 1140

A <1-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1142

A 2-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1147

A 56-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1149

A 6-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with





high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1156

A <1-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1161

A 105-acre Critical Natural Landscape featuring Wetland Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

CNL 1162

A 42-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 1178

A <1-acre Critical Natural Landscape featuring Aquatic Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.





CNL 1179

A <1-acre Critical Natural Landscape featuring Aquatic Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

CNL 1181

A 2-acre Critical Natural Landscape featuring Aquatic Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

CNL 1202

A 1,127-acre Critical Natural Landscape featuring Aquatic Core Buffer and Landscape Block.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

Landscape Blocks, the primary component of Critical Natural Landscapes, are large areas of intact predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes. Pastures and power-line rights-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species. Collectively, these natural cover types total 3.6 million acres across the state. An Ecological Integrity assessment was used to identify the most intact and least fragmented areas. These large Landscape Blocks are most likely to maintain dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes, all of which help to support wide-ranging wildlife species and many other elements of biodiversity.

In order to identify critical Landscape Blocks in each ecoregion, different Ecological Integrity thresholds were used to select the largest intact landscape patches in each ecoregion while avoiding altered habitat as much as possible. This ecoregional representation accomplishes a key goal of *BioMap2* to protect the ecological stages that support a broad suite of biodiversity in the context of climate change. Blocks were defined by major roads, and minimum size thresholds differed among ecoregions to ensure that *BioMap2* includes the best of the best in each ecoregion.





CNL 1362

A 50,627-acre Critical Natural Landscape featuring Aquatic Core Buffer, Landscape Block, Coastal Adaptation Area, and Tern Foraging Area.

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This 8,989-acre Landscape Block is the fourth largest of 62 Blocks in the ecoregion. Unlike Landscape Blocks in much of the state that are dominated by upland forests, this coastal Landscape Block is dominated by unique and important salt marsh, barrier beach, and estuary habitats.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

Terns range widely from their breeding colonies to forage. While the breeding and staging areas for Roseate, Arctic, Common, and Least Terns were included in the Species of Conservation Concern Core Habitat for *BioMap2*, tern foraging areas were included in *BioMap2* as part of Critical Natural Landscape. The extent of foraging habitat for Arctic, Common, and Roseate Terns depends on the size of the breeding colony. For Least Tern, all shallow marine and estuarine waters within 2 miles of recent colony sites and up to 1 mile offshore were mapped as foraging habitat.



Help Save Endangered Wildlife!

Please contribute on your Massachusetts income tax form or directly to the



Natural Heritage &
Endangered Species Fund

To learn more about the Natural Heritage & Endangered Species Program and the Commonwealth's rare species, visit our web site at www.mass.gov/nhesp.

Appendix H: USGS Soils Map and Report


Custom Soil Resource Report
Soil Map (Manchester-by-the-Sea Soil Map)



Custom Soil Resource Report

MAP LEGEND






















Area of Interest (AOI)




 Area of Interest (AOI)

Soils




 Soil Map Units

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot

-  Very Stony Spot
-  Wet Spot
-  Other


Special Line Features

-  Gully
-  Short Steep Slope
-  Other






Political Features

-  Cities

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

MAP INFORMATION

Map Scale: 1:47,100 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your "Coverage" were mapped at 1:15,840.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 19N NAD83

This product is generated from the "Certified" data as of the version date(s) listed below.

Soil Survey Area: Essex County, Massachusetts, Southern Part
Survey Area Data: Version 9, Feb 26, 2010

Date(s) aerial images were photographed: 7/31/2003; 8/14/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Manchester-by-the-Sea Soil Map)

Essex County, Massachusetts, Southern Part (MA606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	*.6*	&6(N
12A	Maybid silt loam, 0 to 3 percent slopes	154.6	1.8%
14B	Scitico silt loam, 0 to 5 percent slopes	184.8	2.1%
31A	Walpole fine sandy ,C ^Y r/ ^Œ Œ +Œ percent slopes	**6&	&6(N
32A	Wareham loamy sand, 0 to 3 percent slopes	*(6-	&6(N
+-"	Pipestone loamy fine sand, 0 to 3 percent slopes	(6+	0.1%
*+"	Scarboro mucky loamy fine sand, &Œ 1 percent slopes	83.7	1.0%
51A	Swansea muck, 0 to 1 percent slopes	82.4	&6.N
52A	Freetown muck, 0 to 1 percent slopes	342.0	+6.N
)+"	Freetown muck, ponded, 0 to 1 percent slopes	12.4	0.1%
70B	Ridgebury fine sandy loam, 0 to 6 percent slopes	+6-	&6&N
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	25.6	&6+N
73A	Whitman ,C ^Y r/ ^Œ Œ +Œ percent slopes, extremely stony	51.7	&6(N
102C	Chatfield-Hollis-Rock outcrop complex, 3 to 15 percent slopes	640.7	7.3%
102E	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	2,623.4	+&6&N
105D	Rock outcrop-Hollis complex, 3 to 25 percent slopes	249.8	2.9%
220A	Boxford silt loam, 0 to 3 percent slopes	40.1	&6(N
220B	Boxford silt loam, 3 to 8 percent slopes	123.9	1.4%
225B	Belgrade very fine sandy loam, 0 to 8 percent slopes	7.4	0.1%
242A	Hinckley gravelly fine sandy loam, 0 to 3 percent slopes	**6-	&6(N
242B	Hinckley gravelly fine sandy loam, 3 to 8 percent slopes	78.3	&6.N
242C	Hinckley gravelly fine sandy loam, 8 to 15 percent slopes	9.2	0.1%
242D	Hinckley gravelly fine sandy loam, 15 to 25 percent slopes	7.6	0.1%
250B	Pollux fine sandy loam, 0 to 8 percent slopes	24.8	&6+N
254A	Merrimac fine sandy ,C ^Y r/ ^Œ Œ +Œ percent slopes	108.0	1.2%
254B	Merrimac fine sandy ,C ^Y r/ ^Œ Œ -Œ percent slopes	76.3	&6.N

Custom Soil Resource Report

Essex County, Massachusetts, Southern Part (MA606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
254C	Merrimac fine sandy loam, 8 to 15 percent slopes	29.4	&6+N
254D	Merrimac fine sandy loam, 15 to 25 percent slopes	19.6	0.2%
255A	Windsor loamy sand, 0 to 3 percent slopes	2.6	&6&N
255B	Windsor loamy sand, 3 to 8 percent slopes	7.7	0.1%
255C	Windsor loamy sand, 8 to 15 percent slopes	2.4	&6&N
260A	Sudbury fine sandy ,C _{Yf} /O ₁ to +O ₁ percent slopes	218.0	2.5%
260B	Sudbury fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes	83.7	1.0%
300B	Montauk fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes	37.6	&6*N
+&&K	Montauk fine sandy loam, 8 to 15 percent slopes	2.8	&6&N
301B	Montauk fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes, very stony	5.7	0.1%
301C	Montauk fine sandy loam, 8 to 15 percent slopes, very stony	(6)	0.1%
302C	Montauk fine sandy loam, 8 to 15 percent slopes, extremely stony	-6.	0.1%
302D	Montauk fine sandy loam, 15 to 25 percent slopes, extremely stony	10.0	0.1%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	8.1	0.1%
311B	Woodbridge fine sandy loam, 3 to 8 percent slopes, very stony	6.7	0.1%
315B	Scituate fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes	(6(0.1%
316B	Scituate fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes, very stony	1.5	&6&N
316C	Scituate fine sandy loam, 8 to 15 percent slopes, very stony	12.3	0.1%
318B	Scituate fine sandy ,C _{Yf} /O ₁ to -O ₁ percent slopes, extremely bouldery	20.9	0.2%
318C	Scituate fine sandy loam, 8 to 15 percent slopes, extremely bouldery	-6*	0.1%
323C	Poquonock loamy sand, -O ₁ to 15 percent slopes, very stony	18.2	0.2%
420C	Canton fine sandy ,C _{Yf} /O ₁ to 20 percent slopes	2.9	&6&N
422C	Canton fine sandy ,C _{Yf} /O ₁ to 15 percent slopes, extremely stony	+-(6)	&6*N
422D	Canton fine sandy loam, 15 to 25 percent slopes, extremely stony	11.1	0.1%
(&&	Pits, gravel	41.2	&6)N
602	Urban land	82.3	&6.N
607	Water, saline	-.6+	1.0%
610	Beaches)&6.	&6(N
626B	Merrimac-Urban land complex, gently sloping	((6.	&6-N

Custom Soil Resource Report

Essex County, Massachusetts, Southern Part (MA606)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
651	Udorthents, smoothed	205.6	2.4%
652	Udorthents, refuse substratum	8.1	0.1%
712A	Ipswich and Westbrook mucky peats, 0 to 1 percent slopes	--6+	1.0%
714B	Melrose fine sandy ,Cvfr/O+O -O percent slopes	11.3	0.1%
720A	Whately Variant mucky fine sandy loam, 0 to 1 percent slopes	20.0	0.2%
722B	Annisquam fine sandy loam, 3 to 8 percent slopes, extremely bouldery	*6(0.1%
722C	Annisquam fine sandy loam, 8 to 15 percent slopes, extremely bouldery)6.	0.7%
722E	Annisquam fine sandy loam, 15 to 35 percent slopes, extremely bouldery	178.7	2.0%
723B	Elmridge fine sandy ,Cvfr/O+O -O percent slopes	17.0	0.2%
725A	Shaker fine sandy loam, 0 to 3 percent slopes	7.7	0.1%
Subtotals for Soil Survey Area		6,623.5	75.7%
Totals for Area of Interest		8,745.2	100.0%

Map Unit Descriptions (Manchester-by-the-Sea Soil Map)

The map units delineated on the detailed soil maps in the soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they show the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is a mixture of the soils and miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the

contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms and landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. The description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, the soils of a series have the same horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern of such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in the areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.