



Open Space and Recreation Plan 2021-2028

TOWN OF PEMBROKE, MASSACHUSETTS

Old Colony Planning Council would like to thank The Conway School which contributed to this study's completion.

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This project was funded by the District Local Technical Assistance program with support from the Department of Housing and Community Development. The Commonwealth funds the DLTA program annually to assist communities with sustainable development to achieve planning and development goals consistent with state and regional priorities. Technical support was provided by the Old Colony Planning Council.



OLD COLONY
PLANNING COUNCIL

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Section 1: PLAN SUMMARY

Pembroke is a growing South Shore community with a rich history and wealth of natural, cultural, and historic resources. Foremost amongst these are copious ponds, rivers, streams, and wetlands that dominate the landscape. It is a town that many of its residents identify as semi-rural, possessing a charming, small New England town character. This character and the sense of community that accompanies it are some of the most highly enjoyed aspects of living within Pembroke. Part of what makes up this character is the abundance of open spaces where people can enjoy recreating or simply basking in the beauty and wonder of undeveloped natural landscapes. The 2022 Open Space and Recreation Plan (OSRP) Update guides protecting and enhancing the town's many valued natural and cultural resources.

Through two community meetings, two online surveys, a public listening session, and conversations with members of assorted town boards and committees, five main goals have been articulated to satisfy Pembroke's conservation and recreation needs moving into the future.

THE OPEN SPACE AND RECREATION PLAN GOALS

1. Pembroke's abundant water resources are clean and sustainably managed.
2. Future development is consistent with and protects Pembroke's environmental, historic, and cultural resources.
3. An interconnected network of forest, riparian, and wildlife habitats enhance Pembroke's ecological integrity and sustain a resilient landscape.
4. The citizens of Pembroke enjoy better access and increased recreational use of the town's open space.
5. Planning and management for Pembroke's extensive open space and recreation lands are more efficient and coordinated with an accessible database.

To achieve these goals, this plan recommends that the Town of Pembroke, in cooperation with neighboring towns, private and nonprofit organizations, and landowners, undertake the following:

- Protect the town's ground and surface water resources.

- Prioritize areas of environmental, historic, and culturally significant resources for protection.
- Explore smart growth strategies to focus development away from valued resources.
- Increase public awareness of existing resources.
- Extend and connect protected areas to create contiguous corridors.
- Educate the public about the value of healthy ecosystems.
- Increase and improve access to open spaces.
- Connect existing trail systems for enhanced recreational use.
- Create an accessible electronic data repository for information about Pembroke’s open space and recreation lands.
- Monitor and manage open space lands in Pembroke.
- Provide adequate staffing for the planning and management of open space lands; and,
- Improve inter-departmental and inter-town communication regarding open space.

GOAL 1. PEMBROKE’S ABUNDANT WATER RESOURCES ARE CLEAN AND SUSTAINABLY MANAGED.

Building a town-wide or neighborhood-scale wastewater treatment plant to reduce dependence on private septic systems has been discussed and considered for many years. The southwest portion of town where the water supply wells are located is of particular concern, and the water quality of multiple ponds is compromised. The cost of installing a neighborhood-scale treatment plant is believed to be prohibitively high, and there is also a worry that establishing wastewater infrastructure could increase development pressure on the areas with sewers.

Further research is still needed regarding sewage treatment alternatives. The status of the Comprehensive Waste Treatment Plant, which was in the submittal stage after the previous OSRP is still unknown or unavailable currently.

To ensure the high quality of Pembroke’s many water resources, continued efforts to regularly monitor the health of the waters for contaminants and nutrient levels are key. This should be done in collaboration with organizations already engaged in these activities including the Pembroke Watershed Association (PWA), and the North and South River Watershed Alliance (NSRWA).

More research is needed to determine safe yield practices for aquifer withdrawal. It is not clear whether Pembroke's current practices meet safe yield standards. Furthermore, neighboring communities' withdrawal of Pembroke waters is widely believed to be harming the local waterbodies. Specifically, there have been concerns about reduced water levels in surrounding ponds resulting from high rates of withdrawals from Silver Lake. The terms of uncompensated withdrawals by the neighboring communities are antiquated and need to be revisited and revised to better protect the valued water resources of Pembroke.

GOAL 2. FUTURE DEVELOPMENT IS CONSISTENT WITH AND PROTECTS PEMBROKE'S ENVIRONMENTAL, HISTORIC, AND CULTURAL RESOURCES.

Resources to acquire properties for permanent protection are limited, so it is useful to have a clear and standard means to evaluate and prioritize properties for protection. The plan proposes a decision hierarchy be applied to multiple parcels to gauge their priority over other potential sites. This potential template

may require further alterations based on the agreed-upon values and priorities established by the town.

The first step is to determine what resources are present and/or potentially impacted by changes to the site. Examples of resources include:

- Core habitat areas as identified by HNESP.
- Water resources such as streams, aquifers, or vernal pools.
- Recreation areas.
- Areas within the wellhead protection zones.
- Areas of scenic importance
- Prime agricultural soil.

Next is a determination of whether the property in question is already developed. An undeveloped site is generally given higher priority as it holds greater conservation value than an undisturbed environment. In some cases, this is not a black-or-white scenario, such as with developed lands that have been abandoned, or productive agricultural land that has been disturbed from its natural state but is not technically developed. If a property is developed, an assessment of threats to existing resources by its current use should be made. If the threat is determined to be high, some means of protection should be employed to protect the resources. An example of this might be to obtain a conservation easement for woodlands and water resources that abut a cluster development.

If a site is found to be undeveloped, it is then assessed to see whether it is subject to any regulatory or legal mechanism for protection. If the site is undeveloped and unprotected, the next step is to look at the existing regulations

that might limit the site's future development. Specifically, refer to zoning restrictions that can apply to that property which might protect the parcel from development through regulations. If the risk of being developed, considering zoning, is found to be high, then the parcel is deemed to have the highest priority for protection.

Responses to the 2017 open space survey overwhelmingly express the need for safe, walkable communities. Concern was also expressed in the survey about sprawling development encroaching on ecologically sensitive areas and causing the character of the town to be lost.

Smart Growth directs and concentrates future development away from sensitive and at-risk resources such as core habitat and water supply areas and seeks to increase the density of areas that best support development. This policy would necessitate changing the current zoning regulations to focus development on specific locations, possibly with an existing infrastructure that could accommodate denser development.

The Old Colony Planning Council's 2011 report "Old Colony Region Priority Development and Priority Protection Areas" addressed the concept of directing growth through proposed priority development areas (PDAs) and priority protection areas (PPAs) for the region. The areas recommended in the 2011 report provide a strong starting point and require further analysis to ensure that they are adequate areas to site more dense development.

Some approaches that have helped towns around New England redirect and reshape development to best meet their needs include:

- Adoption of Chapter 43D (Local Expedited Permitting)
- Transfer of Development Rights
- Traditional Neighborhood Development (TND)
- Low Impact Development.

GOAL 3. AN INTERCONNECTED NETWORK OF FOREST, RIPARIAN, AND WILDLIFE HABITATS ENHANCE PEMBROKE'S ECOLOGICAL INTEGRITY AND SUSTAIN A RESILIENT LANDSCAPE.

As climate change disrupts seasonal norms and inflicts further stress upon natural systems species migration (as a form of adaptation) is likely to result. Ensuring the ability of plants and animals to safely move across regions is necessary to ensure their future survival. This can be done by creating corridors of connected open space both dry land and uninterrupted waterways. The most effective corridors provide multiple alternative pathways creating a network for uninterrupted passage. For corridors to function in the long term

across the landscape, it will be necessary for these interconnected nodes to cross town boundaries and extend throughout the region. Through the creation of corridors, Pembroke can also combat landscape fragmentation's distorting effects, which lowers species richness, alters microclimate, and reduces ecological function (Beck, 2013).

Further steps can be taken to revitalize natural areas once they have been protected from future development. Ecological restoration can assist in the return of natural functions within a system. In Southeastern Massachusetts the cultivation of cranberries has left distinct remnants of canals and irrigation ditches cut into the landscape. Some of the bogs in Pembroke have been left to return wild with little human intervention. However, some human intervention could help to strengthen the ecological integrity of these systems, creating resilient systems that function naturally and provide ecosystem services such as flood water mitigation, stormwater runoff filtration, and infiltration, as well as improve hydrologic flows.

Integrating local natural history education into schools and community activities can inspire residents, connecting them more intimately with where they live. As people understand more clearly the history of the landscape they call home, a more fervent commitment comes to care for that place and protect it from harm. The story of the Mill Creek Neighborhood in Philadelphia and the work done by Anne Spirn, her student team, and teachers and students from Sulzberger Middle School illustrates how an understanding of local ecology and natural history can empower communities, especially

children (Spirn). Through the incorporation of ecology and natural history into the public-school curriculum, schools can lead efforts to steward and protect natural communities and threatened habitat areas.

GOAL 4. THE CITIZENS OF PEMBROKE ENJOY BETTER ACCESS AND INCREASED RECREATIONAL USE OF TOWN OPEN SPACES.

Ensuring adequate access to Pembroke's open spaces allows citizens to make better use of these areas. Making these areas more widely publicized will not only increase their use but will by default make them safer, as more people interacting with these spaces will mean a higher level of public observation which can help to deter some of the less desired use of these spaces.

Maintenance of these spaces is important to keep them accessible, safe, and inviting. Enlisting the help of local groups to adopt trails or sponsor areas for regular maintenance can strengthen a community's sense of ownership and pride over its open space.

Opportunities exist to further connect trail systems to create a more cohesive trail network throughout the town. Creating a trail from the High School through the town center area behind the rec center and up to Herring Run

would provide residents with access to wooded recreational walking opportunities in the town center and create more connections between protected open spaces around the town increasing general accessibility.

*GOAL 5. PLANNING
AND MANAGEMENT
FOR PEMBROKE'S
EXTENSIVE OPEN
SPACE AND
RECREATION LANDS
ARE MORE EFFICIENT
AND COORDINATED
WITH AN ACCESSIBLE
DATABASE.*

Although Pembroke has made some significant strides in protecting its open spaces,

very few actions have been accomplished since the 2005 OSRP update was written. This is likely since most of the Conservation Commission and Open Space Committee members are volunteers with busy lives. There also seems to be a fluctuation in membership and interest within these two groups. Creating a paid part-time position to oversee most of these actions would help to ensure that they are carried out, and that progress is recorded. As part of the position, compiling and organizing data related to open space in its various forms would create an efficient way for information to be accessed and used internally and interdepartmentally.

Section 2: INTRODUCTION

A. STATEMENT OF PURPOSE

The Town of Pembroke is committed to the preservation and protection of its natural, social, and cultural resources, and to providing its citizens with opportunities to interact with and enjoy these resources. This 2022 update to Pembroke's Open Space and Recreation Plan brings the previous 2005 plan up to date with state requirements. It makes recommendations to help guide planning and development and suggests criteria and actions for protecting and stewarding Pembroke's many resources and recreational spaces.

The purpose of this plan is to inventory, assess, and plan for future open space and recreation resources. Through this process, we have identified existing and potential needs that are not currently being met or will not be met unless we start to address these shortcomings today.

A community benefits from protecting open space in many ways.

- **Attract Investment.** Parks and open spaces create a high quality of life that attracts tax-paying businesses and residents to communities. Open space and trails raise property values.
- **Revitalize Communities.** Urban parks, gardens, and recreational open spaces

stimulate commercial growth and promote inner-city revitalization.

- **Boost Tourism.** Open spaces boost local economies by attracting tourists and supporting outdoor education.
- **Prevent Flood Damage.** Floodplain protection offers a cost-effective alternative to expensive flood-control measures.
- **Protect Farms.** Protecting agricultural lands safeguards the future of farming economies and communities.
- **Promote Sustainable Development.** Open Space preservation helps communities prevent the higher costs of unplanned development.
- **Promote Healthy Lifestyles.** Nearly half of Americans get less than the recommended minimum amount of physical activity. Open Spaces and Parks play a critical role in helping residents and visitors get outside and become active.
- **Safeguard the Environment.** Open Space conservation is often the cheapest way to safeguard drinking water, clean the air, and achieve other goals.

While many of the goals and the actions from the 2005 plan have been revised for this new update, a few actions from the previous plan were carried out and should be recognized as significant accomplishments. Of particular importance is Pembroke's adoption of the Community Preservation Act (CPA) in

2006. According to the Executive Office of Energy and Environmental Affairs, the CPA allows communities to create a fund to raise money through a surcharge of up to 3 percent of the real estate tax levy on real property. This money can then be used for open space protection, historic preservation, and the provision of affordable housing. As an incentive for communities to pass the CPA, the act also creates a significant state matching fund.

Since the 2005 update, many parcels have been acquired and put into permanent protection in Pembroke, one of which was acquired with CPA funding. Maintenance and improvements have been performed on many of the town's historical and recreational properties using CPA funds as well.

Pembroke's first Open Space and Recreation Plan was prepared in 1971. This original plan was subsequently updated in 1999 with the addition of a 5-year action plan, then again in 2005.

This 2022 Open Space and Recreation Plan for the Town of Pembroke:

- ✓ Updates the 2005 plan by Massachusetts state guidelines.
- ✓ Identifies natural and recreational resources within Pembroke and takes inventory of all open spaces within the Town.
- ✓ Incorporates public input to better serve the community's needs, build support for various efforts, and encourages public participation in the protection of important resources.
- ✓ Addresses threats of climate change and recommends actions to adapt and mitigate these threats.

- ✓ Identifies strategies for directing development and resource protection.

In reviewing and updating the 2005 plan, while strides have been made to protect Pembroke's various resources, the dominant pattern of urban sprawl continues to place pressure on these resources, and this type of growth has gone largely unchecked. Pembroke finds itself at a crossroads and should be deliberate in choosing which path it will take as a community.

B. PLANNING PROCESS AND PUBLIC PARTICIPATION

In the winter of 2017, Pembroke's Conservation Commission and Open Space Committee contracted The Conway School to assist in the update of their Open Space and recreation plan. Graduate students created the required maps, conducted public forums for community input, updated the Open Space and Recreation Survey, and helped to develop goals and actions towards furthering the protection of Pembroke's many resources based on community input, relevant data, and through contact with the town governments many departments. The draft plan was then submitted to Pembroke's Open Space Committee for further review and edits.

In 2019, Old Colony Planning Council provided technical assistance to the Town to format the efforts of the students and assist the

town with submitting the draft to the Commonwealth for review.

On April 8, 2021, the Executive Office and Energy and Environmental Affairs notified the Town that the Open Space and Recreation Plan for Pembroke received conditional approval through April 2028. Conditional approval will allow the town to participate in DCS grant rounds through April 2028, and a grant award may be offered to the Town. However, no final grant payments will be made until the plan is completed.

To address deficiencies in the Plan, in the summer of 2021, the Town completed a new public participation process with enhanced outreach and public listening sessions. During these meetings, the Committee conducted additional public surveys to ensure that the Goals and Objectives and Action Plan sections of this Plan reflect the current needs of the residents of Pembroke. In 2022 additional updates were made to the demographic and population characteristics section to include updated data from the 2020 Census. A public shade tree section was reviewed by the participants and included in this revised plan. A closer look at environmental challenges and environmental equity regarding the distribution of open space and recreation resources in the town was completed to identify any areas where they might be lacking. The parcel inventory review was updated to include data from 2021.

Following plan revisions, another public listening session was held to review the Plan draft and obtain comments and suggestions from the public.

As of April 2022, Pembroke's Open Space Committee board consists of:

Michael McDonough
Robert Clarke, Jr.
Denise Moraski
Teresa Harling
Debbie Schneider
Julie Slys

Updating an OSRP is an enormous undertaking and requires the collection, coordination, and analysis of large amounts of information. This effort would not have been possible without valuable input and assistance from many people working within the town of Pembroke, as well as in the region.

Initial public participation in the process was achieved through an online open space survey and two public meetings.

Open Space Survey

An existing Open Space and Recreation survey which had been conducted in 2005 and 2014 was revised by the Conway team and Pembroke's Open Space Committee and made available for public participation in February 2017. The survey was published on the town's website as well as posted on various town Facebook pages and Pembroke Public Schools websites. The survey provided multiple-choice, rate-by-importance, and open-ended questions regarding citizens' needs and concerns about open space and recreation need in Pembroke. The survey was conducted for three weeks and received 278 participants, about 1.4 percent of the town's population. Survey results can be seen in Appendix A and Chapter 7 under the *Summary of Community Needs*.

Public orum #1 - Collecting data.

This initial meeting was held by the Conway team in early February 2017 to report initial findings and collect relevant input for

the update process. A brief presentation was made by the students covering what they understood to be relevant trends and information relating to Pembroke's current state of development concerning the conservation of areas of importance and recreational use. Attendees were encouraged to provide input through a series of activities regarding the relevance of community goals stated in the previous OSRP, as well as areas of Pembroke that require additional protection.

Public Forum #2 - Collecting Feedback

A second public meeting was held in early March of 2017. At this meeting, the Conway team presented initial recommendations and conducted activities aimed at collecting feedback on recommendations, and areas where citizens would like to see directed towards and protected from development.

Economic Justice Population

Environmental Justice (EJ) is based on the principle that all people have a right to be protected from environmental hazards and to live in and enjoy a clean and healthful environment. EJ is the equal protection and meaningful involvement of all people concerning the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits.¹

Equitable distribution and access to environmental assets including parks, open spaces, and recreation is a priority. Access to parks is also part of addressing climate change's impacts on vulnerable populations.

Although there is no Economic Justice population in Pembroke, open space and

recreational opportunities must be available to all citizens regardless of socioeconomic status.

Public Outreach 2021-2022

Open Space Survey 2021

A new public outreach campaign was initiated in the summer of 2021. This outreach consisted of **public forum #3**, a second public survey, and a **Public Listening Session in 2022**

<https://www.pembroke-ma.gov/home/news/pembrokes-open-space-and-recreation-plan-july-21-6pm>. Survey cards were distributed at several locations throughout town including the Town Hall, Library, and senior center. The announcement was made at public meetings so the public would know where to review and comment on the draft plan. Respondents were asked questions regarding their use of open space public lands, and what improvements they would like to see.

This information was collected by the town and provided to OCPC to update the current plan. A Community Resilience Building Workshop was held in 2021 and information related to open space and natural hazard mitigation from that workshop was incorporated into this plan.

A public listening session was held on July 21, 2022, to review the final Open Space and Recreation Plan after it was revised per comments received from EOEEA through its review of the draft, now proposed for town adoption. This hearing was advertised in local print and radio media, on the town website, and on the website of the Regional Planning Agency.

¹ <https://www.mass.gov/environmental-justice>

Comments received during the updating and public forums were incorporated into this final Plan.

This public listening session was recorded and posted on the town website, YouTube, and the website of the Regional Planning Agency. A copy of the recording was provided to the public access channel for community access, and an advertisement of the listening session was posted on the town meeting calendar and

advertised in local media including newsprint and radio broadcasts. A copy of the listening session can be downloaded at <https://www.youtube.com/watch?v=VpDBF1034rE>

Digital copies of the plan were provided to the delegates of the communities in the OCPC district for distribution to their constituents.

WE WANT TO HEAR FROM YOU

PEMBROKE

OPEN SPACE AND RECREATION PLAN

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TOWN OF PEMBROKE
OLD COLONY REGIONAL COUNCIL



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July 21, 2023 at 6 PM



OLD COLONY
PLANNING COUNCIL



Section 3. COMMUNITY SETTING

A. REGIONAL CONTEXT

LOCATION

Pembroke is in the South Shore area of southeastern Massachusetts, 26 miles southeast of Boston and 12 miles east of Brockton. Pembroke has a total area of 23.5 square miles (15,040 acres). The predominant land covers in town are forests (40.9%), wetlands and water (21.3%), and residential (21.3%) (MassDEP, 2006).

Pembroke shares its borders with Hanover, Norwell, and Marshfield to the north, Duxbury to the east, Kingston, Plympton, and Halifax to the south, and Hanson to the west.

Pembroke's proximity to Boston has a large influence on the town in terms of its development pressure. Over the last forty years, the South Shore has been rapidly developing as improvements to roads and other transportation infrastructure have enticed commuters to live further away from the city and their places of employment. Today 92 percent of Pembroke's working residents

commute out of town for work (towncharts.com).

SHARED RESOURCES

Pembroke also shares numerous water bodies with neighboring towns, including two rivers, and five ponds. Two of the major water bodies in Pembroke serve as reservoirs for neighboring towns. Given these shared resources and the fact that many of these water bodies are hydrologically connected with other water resources in the area, regional efforts to protect and manage these resources are incredibly important to ensure the long-term health of these water bodies and the sustainability of their continued use.

According to Biomap2 core habitat areas are shared across town boundaries to the north with Hanover and Norwell, and to the east with Duxbury. Efforts to adequately protect these areas need to be coordinated across town borders. The Wildlands Trust of Southeastern Massachusetts, a regional non-profit land trust, is carrying out this work.

WATER

Water is a dominant feature in Pembroke's landscape and is present in a myriad of forms.

It has defined the town's character and has had a strong influence on its history and development. It is also an invaluable resource for recreation and municipal use.

Pembroke straddles two watersheds. Most of the town is in the South Coastal watershed which drains to Massachusetts Bay, while the southwest corner of the town is in the Taunton River watershed, which eventually drains into Narragansett Bay in Rhode Island. Both bays are considered important resources in the region for their recreation, and scenic and cultural qualities. Efforts to maintain healthy waters are needed throughout their watersheds to attain a healthy coastline.

The Indian Head River and North River from Pembroke's northern border are connected hydrologically to the town's many water bodies. These rivers once served as a major transportation route in the region and shipbuilding along the rivers was one of the first industries in Pembroke.

Multiple brooks and streams meander across Pembroke's landscape, connecting the lakes and ponds to marshes and the rivers to the north. In addition to their historical value, once powering mills significant to the town's economy, these brooks provide migration routes for species, such as herring, which have historic, cultural, and ecological value to Pembroke and the region. Pembroke has a Herring Fisheries Commission dedicated to the protection of these fish and their habitat and migration routes within the town.

The largest concentration of surface water is on the western side of Pembroke where there are six major lakes and ponds. This is one of the most densely populated areas of the town

where once seasonal cottages have been converted to year-round residences.

Two of these water bodies are shared across town borders: Oldham Pond is shared with Hanson to the west, and Silver Lake on Pembroke's southern border straddles both Halifax and Kingston to the south. Two water bodies serve as reservoirs for neighboring towns: Great Sandy Bottom Pond is the drinking water for the Abington Rockland Water Supply, and Silver Lake provides water to the city of Brockton. Oldham Pond is a natural Great Pond and under the Colonial Ordinances of 1641-1647 allows anglers to pass over unimproved land on foot to gain access to the pond.

This water body is a public water supply (a tributary to Furnace Pond MA94043). Oldham Pond is listed in Category 4c of the 2002 Integrated List of Waters due to impairment from exotic species (MassDEP 2003a). A MA DCR Lanes and Ponds Program grant was awarded in FY2000 to the Town of Pembroke for a study of the potential sources of phosphorous and recommendations for BMPs. This was an implementation action of the 1993 Diagnostic & Feasibility Study performed by BayState Environmental Consultants (BEC 1993). The results of the investigation suggested high total phosphorus concentrations (CEI 2000).

Marshes and wetlands scattered around the town have strongly influenced Pembroke's development which has largely been directed to available dry land and avoided the wet areas. With continued development pressure, the town is seeing increased encroachment upon these wetland areas.

A second project was also implemented to remove sediment and other stormwater pollution (Appendix F, Project 01-19/319). The 1996 MassDEP synoptic survey found sparse surface plant cover throughout the pond that included the non-native wetland species *Lythrum salicaria* (Appendix C, Table C-1). Historic records indicate the pond was infested with *M. spicatum* (BEC 1993), so the *Aquatic Life Uses* are assessed as impaired.

There were no closures/postings during the 2002 or 2003 bathing beach seasons at the Pembroke town bathing beach and therefore the *Primary and Secondary Contact Recreational uses* are assessed as support (MDPH 2003 and MDPH 2004b). Camp Pembroke is authorized (MA0027006 issued in March 1981) to discharge a flow of 0.004 MGD (average monthly) of treated sanitary wastewater to Oldham Pond.

The permit requires discharge limits for BODs, TSS, settleable solids, chlorine, fecal, and total coliform bacteria. EPA is currently investigating alternative wastewater treatment operations in place of surface water discharge (Malone 2005).

Pembroke's abundance of water in combination with its sandy soil once made it an ideal location for the cultivation of cranberries. Bright red berries would fill these bogs in fall, contributing to the town's rural character as well as its economy. Ice-skating on these flooded bogs in winter was common. While these bogs were culturally and economically significant, they did negatively affect water quality. Synthetic water-soluble fertilizers were commonly used which would run off into connected waterways, eventually reaching the Atlantic Ocean. Today, cranberry bogs in the

region are struggling to remain economically viable.

There is only one cranberry bog left in operation within Pembroke, a couple of others lay fallow. There are many decommissioned bogs in Pembroke which continue to contribute to the town's semi-rural scenery as they make their slow return to forested wetlands. Tubb's Meadow located off Route 36 is a large area of protected open space highly valued by town residents as a recreation space for walking and nature watching. It has multiple bogs and irrigation ponds intersected by trails.

Pembroke draws its potable water from a large aquifer via six wells located around town. Due to the low water table and highly permeable soils across the town, efforts to protect the aquifer from pollutants and contaminants are particularly important to maintaining water quality (NRCS 2016).

B. HISTORY OF THE COMMUNITY

Pembroke has a long and rich history intimately tied to its resources. The lands today called Pembroke were once home to the Massachusetts and Wampanoag tribes, who settled in the area and relied on the abundant fertile soils and copious fish and other wildlife. In the 1600s, European settlers came to the continent, settling first in Plymouth and eventually making their way farther north and west.

Sometime around 1650, Robert Barker, Dolor Davis, and an accompanying servant traveled along the North River, eventually coming to, and overwintering at the area today known as Herring Run. It is believed that these

were the first white settlers in what would eventually become the town of Pembroke. In the preceding years, there would be other European settlers making the journey from the established settlements in the south and east, and in 1662 Josiah Wampatuck, grand sachem of the Massachusett tribe sold a large tract of land known as Mattakeesett meaning “the place between the two lakes where the corn grows best”, to the European settlers for twenty-one English pounds. This land deal included areas to the north that would later become Marshfield, Norwell, and Hanson (Pembroke 300th Anniversary Committee 2012).

In 1711, the people in the western reaches of Duxbury had grown increasingly frustrated with the long journey to Duxbury Parish. In the following year, in 1712, after successfully petitioning the local government officials, the area once known as Mattakeesett broke away from Duxbury and was officially incorporated as the town of Pembroke, which soon thereafter built its own meeting house.

The eighteenth century was a prosperous time for the town, which flourished with mills powered by the town’s many streams and brooks, as well as ironworks utilizing iron ore found in some abundance in the sediments of the many ponds in town. Today’s Furnace Pond was named for an iron furnace constructed on its shores in 1702 (Pembroke Historical Society 2014).

As the eighteenth century wore on, shipbuilding grew to be one of the leading industries in the town, with shipyards predominantly along the North River. There were at least five shipyards in Pembroke turning out over a thousand ships before the

end of the nineteenth century. The most famous was the Brick Kiln Shipyard. It turned out many well-known ships including the *Beaver*, which in 1773 was one of the ships involved in the Boston Tea Party, as well as the *Columbia*, which was the first U.S. ship to successfully circumnavigate the globe (Boston Harbor Beacon 2015). During this time, box and nail manufacturing were important economic drivers, with the Jonathan Jackson nail factory being potentially the very first of its kind in America. Aside from powering mills and factories, the abundant waters of Pembroke also contributed to the local industry in the form of ice harvesting for summer storage and food preservation, as well as cranberry cultivation, which would prove to be one of the longer-lived industries within the town (although declining over recent years, there are still at least a handful of commercial cranberry bogs within Pembroke’s borders) (2005 OSRP).

The early 1900s were a time of more leisurely industry in Pembroke with the development of the town’s designation as a vacation and tourism destination. The many lakes and ponds throughout the town provided scenic shores which attracted great throngs of vacationing visitors. This time saw the merging of the Brockton and Pembroke trolley lines which brought scores of passengers through town by rail. This increase in travelers helped usher in the booming tourism industry with a great many vacation homes and resorts constructed along with the town’s picturesque water bodies, most notable of which was the Mayflower Grove Resort on the shores of Little Sandy Bottom Pond. This resort operated and thrived for nearly forty

years until it suffered terrible damage in the great 1938 hurricane and was demolished, with the land being quickly sold off to developers (2005 OSRP).

Today, Pembroke's character and development continue to be influenced by its

rich and abundant water resources, as well as its charming scenic qualities. These characteristics continue to draw people in and have been a great driver of the town's growth and development in the 21st century.

C. DEMOGRAPHIC CHARACTERISTICS

POPULATION

The Town of Pembroke conducts population and demographic updates every ten years to comply with the national census updates. The most recent up-to-date census data was conducted in 2020. More detailed recent information comes from the American Community Survey (ACS) and the Population Estimate Program (PEP), both of which provide population estimates for 2020.

According to the 2020 US Decennial Census, the population of the Town of Pembroke was 18,361. This is less than the population estimated in the 2020 ACS, which is estimated at 18,455 Pembroke residents.

During the past four decades, the population of the town has steadily declined. The Town of Pembroke experienced the highest rate of population growth from 1990 to 2000, with 2,383 new residents, a 16.38 percent population growth. From 2000 to 2010, the population grew slower than in the previous decade experiencing a 5.38 percent increase with an influx of 910 new residents. During the most recent 2010-2020 decade, Pembroke received the lowest percentage of population increase in the region (2.94%), with 524 new residents moving into town. This 2.94 percent population increase falls behind Plympton (3.90%) and Hanson (4.21%). Areas with the highest percentage of population growth during the same decade include Brockton (12.61%), West Bridgewater (11.44%), and Avon (9.66%).

The Massachusetts Department of Transportation (MADOT) Demographic and Socio-Economic Forecast estimates that Pembroke will grow from 18,300 residents in 2020 to 18,931 residents in 2040, an increase of 3.45 percent (631 new residents) over the two decades. This growth trails other communities in the region, including Abington with growth



estimated at 9.28 percent, and Kingston, with 12.2 percent.

For the 2010-2040 period, Plymouth is estimated to experience the highest increase in population, with growth estimated at 24.5 percent or 13,844 new residents. Areas in the region where growth is least anticipated are Hanover (1.5%), Halifax (1.6%), and Duxbury (2.9%).

ACS estimates the civilian population 18 years and over to be 14,630 residents, of which 923 (6.3%) are civilian veterans. Of the total civilian non-institutionalized population (18,424) 8.6 percent (1,587) have a disability. Of the population under the age of 18 (3,794), 3.1 percent live with a disability (117). In the population over the age of 65 years (3,028), 22.2 percent (671) report living with a disability.

HOUSEHOLDS

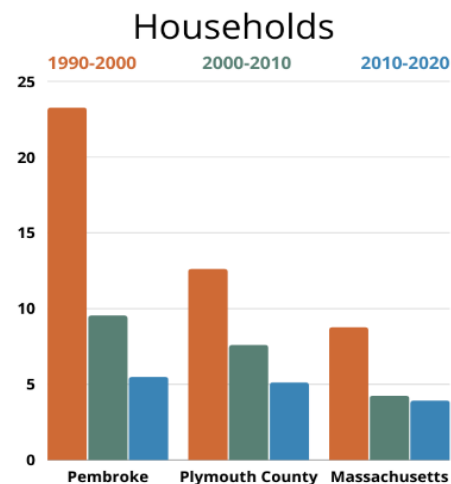
More than population, the number, and type of households and their spending power within a community correlate with housing demand. A *household* is a single person or two or more people who occupy the same housing units, which can be a house, apartment, mobile home, group home, or a single room occupied as separate living quarters. According to the US Census Bureau, a household consists of all the people who occupy a housing unit (e.g., house, apartment, single room). A household includes the related family members and all the unrelated people, if any, such as lodgers, or foster children who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing

According to the 2020 US Census, of the population in Pembroke, 93 percent identify as White alone (17,076 residents), 122 residents are Black or African American alone (0.66%) and 177 (0.97%) are Asian alone, 23 identify as Native alone, and 5 were Native Hawaiian and Other Pacific Islander alone.

a housing unit, is also counted as a household. The household count excludes group quarters.

According to the US Census Bureau, the growth of households in the Town of Pembroke has slowed over the past thirty years. Between 1990 and 2000, the number of households increased by 23.23 percent, an increase of 1,084 households. In the following decade from 2000 to 2010, the number of households increased by only 9.53 percent (548 households) almost half of the previous decade's growth. The last decade, 2010 to 2020 continued to show a decreased rate of growth, with only 345 new households, a 5.48 percent increase from the previous decade but 17.75 percent less than the growth experienced in the

Figure 1: Reduction in Households



1990-2000- decade.

Reductions in the number of households are consistent with declines in both Plymouth County and the Commonwealth. Plymouth County saw the number of households decline from the 1990-to-2000-decade 12.6 percent, 7.58 percent in the 2000-to-2010-decade and

increase by 5.1 percent between the 2010-to-2020-decade. The number of households in the Commonwealth increased by 8.74 percent during the 1990-to-2000-decade, 4.24 percent in the subsequent from decade 2000-to-2010-decade, then 3.92 percent in the 2010-to- 2020-decade.

Table 1: MADOT Household Projections

Household Projections	MADOT 2020	MADOT 2030	MADOT 2040	Percent Increase 2020 - 2040	
				Number	Percent
Abington	6,887	7,589	7,767	1,687	27.75%
Avon	1,793	1,902	2,008	299	17.52%
Bridgewater	8,946	9,553	9,626	1,631	20.40%
Brockton	34,967	35,465	35,668	2,365	7.10%
Duxbury	5,890	6,436	6,551	1,207	22.59%
East Bridgewater	5,327	5,613	5,737	987	20.78%
Easton	8,499	9,185	9,261	1,396	17.75%
Halifax	3,098	3,255	3,370	507	17.72%
Hanover	5,090	5,388	5,472	763	16.20%
Hanson	3,808	4,033	4,129	661	19.06%
Kingston	5,294	6,075	6,191	1,526	32.72%
Marshfield	10,481	11,179	11,669	2,143	22.50%
Pembroke	6,904	7,263	7,384	1,086	17.24%
Plymouth	26,119	29,172	30,283	9,014	42.38%
Plympton	1,134	1,198	1,203	197	19.54%
Stoughton	11,178	11,754	12,217	1,922	18.67%
West Bridgewater	2,779	2,956	3,006	435	16.93%
Whitman	5,808	6,071	6,195	895	16.88%
Massachusetts	2,830,145	3,044,477	3,151,722	604,647	23.74%

As of the 2020 US Census, there were 7,007 housing units in Pembroke, an increase from the 6,765 estimated in the 2020 ACS. The

Decennial Census indicates that of the total housing units (7,007), 6,683 were occupied housing units and 324 were vacant.

According to the 2020 ACS DP04, Owner-occupied housing units were 85.5 percent of the total housing units (5,677), and 14.5 percent were renter-occupied housing units (966). The average size of an owner-occupied unit in Pembroke is 2.95 people and the average size of a renter-occupied unit is 1.66. The rental vacancy rate was estimated to be 3.7.

Many Pembroke residents moved into their housing unit in 1989 or earlier (25.7%) followed by 2000 to 2009 (20.5%). Of the total housing units (6,765) more than 81 percent are housed in 1-unit detached dwellings, 16.6 percent of which were constructed between 1970 and 1979, and 15 percent were constructed between 1980 and 1989.

HOUSEHOLD SIZE

Another important factor when assessing the housing needs of a community is household size. The 2020 ACS DP02 estimates an average family size in Pembroke decreased from 3.26 indicated in the 2010 Census Summary File 1 to 3.23 persons estimated in the 2020 ACS. The average household size also decreased from 2.82 indicated in the 2010 Census Summary File 1 to 2.76 estimated in the 2020 ACS. The decline in average household size is also prevalent in most of Pembroke's neighboring communities as well as in Plymouth County.

According to the 2020 ACS, of the 6,643 households in Pembroke, 4,207 were married-couple households (63.3%), and 1,437 households were headed by females with no

spouse or partner present (21.6%). Of the households living alone, 394 were females over the age of 65 (5.9%) and 165 were males over the age of 65 (2.5%).

AGE DISTRIBUTION

The population of the US is aging at a pace historically unprecedented. This statistical demographic reality is indisputable, yet not every community is addressing this reality in policies and planning efforts. The percentage of the overall US population aged 65 and over is expected to reach 20.9 percent by 2050. People aged eighty-five and older are the fastest-growing cohorts among older adults in both absolute numbers and percentages. The US older adult population is growing steadily with increasing numbers of older adults living longer, healthier lives and contributing to their communities and society in general.

To determine how best to meet future housing needs in Pembroke, it is important to examine the current age of the population, as well as aging trends over time. The table Age Distribution 2010 to 2020 shows the population by age for the Town of Pembroke from 2010 to 2020. The data shows a significant population decline in the under 5 and five to 9 age cohorts, and the respective age cohort of their parents, 35 years to 49 years. The largest decline is in the 35 to 39 years cohort (-4.5%) followed by the 40 to 44 years (3.8%) and 45 to 49 (3%).

Table 2: Age Distribution 2010 to 2020

Age	2010 ACS S0101	2020 ACS S0101	Percent Change
Under 5 years	6.9%	4.6%	-2.3%
5 to 9 years	8.3%	4.1%	-4.2%
10 to 14 years	7.9%	7.0%	-0.9%
15 to 19 years	6.1%	7.5%	+1.4%
20 to 24 years	4.5%	6.4%	+1.9%
25 to 29 years	3.4%	5.2%	+1.8%
30 to 34 years	4.2%	5.6%	+1.4%
35 to 39 years	8.1%	3.6%	-4.5%
40 to 44 years	10.1%	6.3%	-3.8%
45 to 49 years	10.9%	7.9%	-3.0%
50 to 54 years	7.5%	8.8%	+1.3%
55 to 59 years	6.9%	6.5%	-0.4%
60 to 64 years	5.0%	10.0%	+5.0%
65 to 69 years	3.5%	7.0%	+3.5%
70 to 74 years	1.9%	4.5%	+2.6%
75 to 79 years	2.3%	3.0%	+0.7%
80 to 84 years	1.7%	1.2%	-0.5%
85 years and over	0.8%	0.7%	-0.1%

Table 3: Households and Housing Units

2020 ACS Projected Households	2020 Census Housing Units	2020 Census Occupied Housing Units	2020 ACS Average Household Size	2020 ACS Average Family Size
6,643	7,007	6,683	2.76	3.23

Population growth in Pembroke is depicted in the early adulthood ages, averaging between 1.4 percent and 1.9 percent. Significant population growth is depicted in the elderly population, with the 60 to 64 years receiving the highest increase of all age groups at five percent. This is followed closely by the 65 to 69 age group (3.5%). This trend reflects the growth and maturing of the “Baby Boom” generation (those born between 1946 and 1964) as they move across the age ranges. This aging trend is also reflected in the median age which rose from 40.3 years as reflected in the 2010 ACS and 44.6 years in the 2020 ACS.

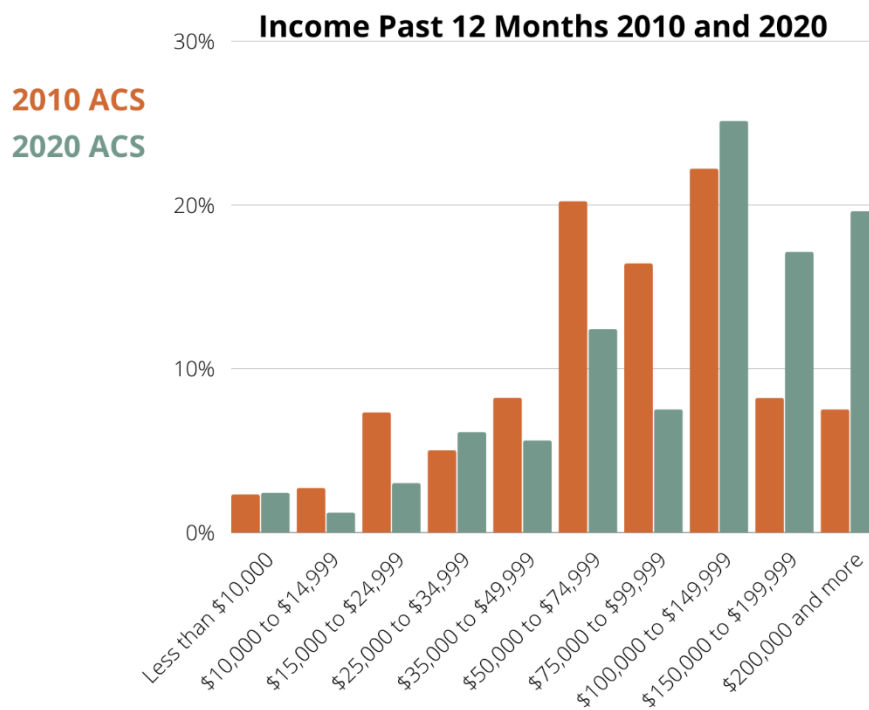
Of the total households in Pembroke, 31.3 percent are estimated to have children under the age of 18 years old (2,082), and 26.7 percent have children under 6 years of age. Pembroke residents aged 60 years or over include 47.5 percent of households and 2,316 households (34.9%) include one or more people 65 years and over.

339 grandparents are living with their grandchildren under the age of 18 years. Of those, 41 (12.1%) are responsible for their grandchildren, 28 of them have been responsible for their grandchildren for five or more years (8.3%) and 13 have been responsible for their grandchildren for 3 or 4 years (3.8%).

The median age in Pembroke is 44.6 years, slightly older than the county median age (42.7) and older than the state median age of 39.6 and the national median age (38.2). As this population ages in the coming seven years, it will be important for open space and recreation to be accessible to people with limited mobility (ACS).

EDUCATION

School enrollment trends are a critical component of Pembroke’s town-wide growth and population trends. An analysis of school enrollment helps to frame a discussion of the potential future impacts of population change



on both the school system and the community and helps better plan for future local housing needs. The results of the analysis are useful in formulating an affordable housing strategy that is sensitive to these changes over time.

The Town of Pembroke Public School System is a comprehensive public school system serving 2,563 students in Pre-Kindergarten to 12th grade in 2022. The district consists of 5 schools, three elementary schools, one middle school, and one high school.

A review of district enrollment data from the Massachusetts Department of Education for the years 2010 through 2022 indicates school enrollment in the Pembroke public schools has consistently decreased, ending the study period with a total district enrollment of 878 students, a 25.5 percent decrease from 2010 enrollment.

All public schools in the town experienced reductions in student enrollment during the study period from 2010 through 2022. Bryantville Elementary School data reflects the highest decrease in the student body enrollment, 286 fewer students over the 12-year study period, a 39.3 percent reduction.

The North Pembroke Elementary School is the next highest loss in enrollment. The data reflects a decrease in enrollment between 2010 and 2022 of 30.1 percent (223 fewer students), followed closely by the Pembroke Middle School, with enrollment decreasing by 27.1 percent (153 fewer students).

These reductions to the student body population mirror the population decrease of residents 14 years and younger (7.4%) with decreases in the age cohorts reflecting parenthood, ages 35 to 49 years (11.3%).

According to the 2020 ACS, the residents of Pembroke are well educated, with 97.5 percent of residents graduating high school or higher and 40 percent earning a bachelor's degree or higher. Of the population 25 years and over (12,986), only 0.70 percent have less than a 9th-grade education and 14.5 percent earn a graduate or professional degree, and 18.2 percent have some college but do not earn a degree.

INCOME AND EMPLOYMENT

According to the 2020 American Community Survey (ACS), the median household income in Pembroke is \$119,827, about \$35,442 more than the state median income per household (\$84,385), and \$26,921 more than the median income in Plymouth County (\$92,906).

ACS data estimates that 2.4 percent of Pembroke households earn less than \$10,000 per year and 1.2 percent earn between \$10,000 to \$14,999. Of the total households in Pembroke (6,643), 18.3 percent earn less than \$50,000 per year and 19.6 percent earn more than \$200,000 per year.

The average commute to work for Pembroke residents is estimated to be 36.5 minutes, suggesting that most people commute outside of town for employment. Travel time to work statistics estimate that 24 percent of Pembroke residents travel 60 or more minutes to work, 83 percent travel by car, truck, or van, and 75.6 percent drive alone. Only 3.7 percent of Pembroke residents are estimated to use public transportation to get to work.

For residents of Plymouth County, the 2020 ACS estimates the average travel time to work is 33.2 minutes, 84.5 percent of Plymouth County residents are estimated to commute to work by car, truck, or van and 5.2 percent use public transportation.

Both Pembroke and Plymouth County's travel time to work numbers are higher than the state average. In Massachusetts, the mean travel time to work is estimated to be 30.0 minutes, more than 75 percent of Massachusetts residents commuted via car, truck, or van and 9.5 percent used public transportation, 4.3 percent higher than the number of Pembroke residents estimated to be commuting on public transit.

According to 2020 ACS, the workforce in Pembroke is estimated to include 10,377 residents 16 years or older, 5,215 are male (50.3%) and 5,162 are female (49.7%). Education, healthcare, and social services account for the highest sector of employment for Pembroke residents, making up an estimated 22.2 percent of the workforce. Professional, scientific, management, administrative, and waste management services account for 13.3 percent of employed Pembroke residents, followed closely by retail trade at 12.76 percent of residents.

The residents of Pembroke, and the entire planet, are currently recovering from the COVID-19 pandemic. Between July 2020 to June 2021, the labor force included 10,538 Pembroke residents of those 9,820 were employed and 718 were unemployed resulting in an unemployment rate for this period of 6.8 percent.

The tax rate in Pembroke is a one-rate system. During FY19 Pembroke had the lowest

one-rate tax rate of the OCPC region at \$14.60. By FY21 they were no longer the lowest in the region with a one-rate tax rate of \$14.58, the two communities with the FY21 lowest one-rate tax rate were Bridgewater and Duxbury at \$14.48, just slightly lower than Pembroke. The OCPC communities with the highest FY21 tax rates under the one-rate system were Plympton at \$17.49 and Halifax at \$17.39.

Of the OCPC communities with the two-rate tax rate system, the communities with the highest FY21 commercial tax rates were Avon at \$31.60 and Brockton at \$29.64. Communities with the lowest two-rate residential tax rate include Brockton at \$14.50 and Stoughton at \$15.10.

The two largest employers in Pembroke are the Pembroke Hospital and the Pembroke Public Schools. These businesses are followed by Eye Health Services Inc, Home Instead Senior Care, and Kohls in the number of employees.

ENVIRONMENTAL JUSTICE

Environmental Justice (EJ) Populations are identified as a neighborhood that meets 1 or more of the following four criteria: 1) the annual median household income is not more than 65 percent of the statewide annual median household income; 2) minorities comprise 40 percent or more of the population; 3) 25 percent or more of households lack English language proficiency; or 4) minorities comprise 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is

located does not exceed 150 percent of the statewide annual median household income.

Environmental Justice Populations were defined so that all people, regardless of race, class, income, color, origin, or English proficiency, would have the right to be protected from environmental pollution and to live and enjoy a clean and healthful environment. Environmental Justice is the equal protection and meaningful involvement of all people concerning the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits.

As of 2020, there are no state-recognized Environmental Justice populations found within the town boundaries of Pembroke. Within a 5-mile radius, there are two small Environmental Justice populations in the towns of Whitman and Rockland. Both

populations are recognized as lower-income populations. Within a 10-mile radius, six more towns have Environmental Justice Populations, the largest being in the City of Brockton, which has income, minority, and English isolation populations. Environmental Justice Populations continue to increase in number and density past the 10-mile radius, especially in the Boston Metropolitan area (MassGIS 2010).

Because there are no state-recognized Environmental Justice populations found in Pembroke, preservation, and maintenance of open space land, both existing and proposed, will not consider the bolstering of income, minority, or English-isolated neighborhoods in Pembroke. Although these populations may not be recognized in Pembroke, residents of the town must have access to a safe, hazard-free environment.

Table 4: Census Racial Composition

Town/City	2020 Population	2010 Population	Change from 2010	% of total Latino	% of total White	% of total Black	% of total AI/AN	% of total Asian	% of total Other	% of total Multi
Brockton	105,643	93,810	12.60%	12.10%	27.80%	33.80%	0.20%	2.10%	6.90%	17.10%
West Bridgewater	7,707	6,916	11.40%	3.30%	86.90%	3.20%	0.20%	1.10%	0.60%	4.70%
Avon	4,777	4,356	9.70%	6.50%	63.60%	18.60%	0.10%	4.10%	2.20%	4.90%
Stoughton	29,281	26,962	8.60%	6.60%	61.00%	17.30%	0.10%	5.40%	2.80%	6.80%
Kingston	13,708	12,629	8.50%	2.00%	91.70%	0.90%	0.10%	1.20%	0.70%	3.40%
Easton	25,058	23,112	8.40%	3.80%	82.90%	5.10%	0.10%	3.20%	0.90%	3.90%
Plymouth	61,217	56,468	8.40%	2.90%	88.20%	1.80%	0.20%	1.10%	1.20%	4.50%
Bridgewater	28,633	26,563	7.80%	4.40%	81.30%	6.90%	0.20%	1.90%	1.00%	4.30%
Hanover	14,833	13,879	6.90%	1.90%	91.90%	0.80%	0.00%	1.80%	0.80%	2.90%
Duxbury	16,090	15,059	6.80%	2.20%	92.70%	0.40%	0.10%	1.40%	0.40%	2.90%
Abington	17,062	15,985	6.70%	3.90%	82.20%	3.90%	0.20%	2.50%	2.20%	5.20%
East Bridgewater	14,440	13,794	4.70%	2.50%	88.50%	2.60%	0.10%	0.90%	0.90%	4.40%
Whitman	15,121	14,489	4.40%	3.60%	86.00%	2.90%	0.10%	1.30%	1.30%	4.80%
Hanson	10,639	10,209	4.20%	1.90%	91.60%	0.80%	0.00%	1.00%	1.10%	3.50%
Plympton	2,930	2,820	3.90%	1.30%	94.00%	0.70%	0.30%	0.40%	0.40%	2.70%
Halifax	7,749	7,518	3.10%	1.80%	92.70%	0.90%	0.20%	0.40%	0.90%	3.10%
Pembroke	18,361	17,837	2.90%	1.70%	92.50%	0.60%	0.10%	1.00%	0.70%	3.40%

Source: <http://www.bostonglobe.com/2021/08/12/metro/new-census-data-see-how-each-mass-town-has-changed/>

Figure 2: Pembroke, MA Racial Composition

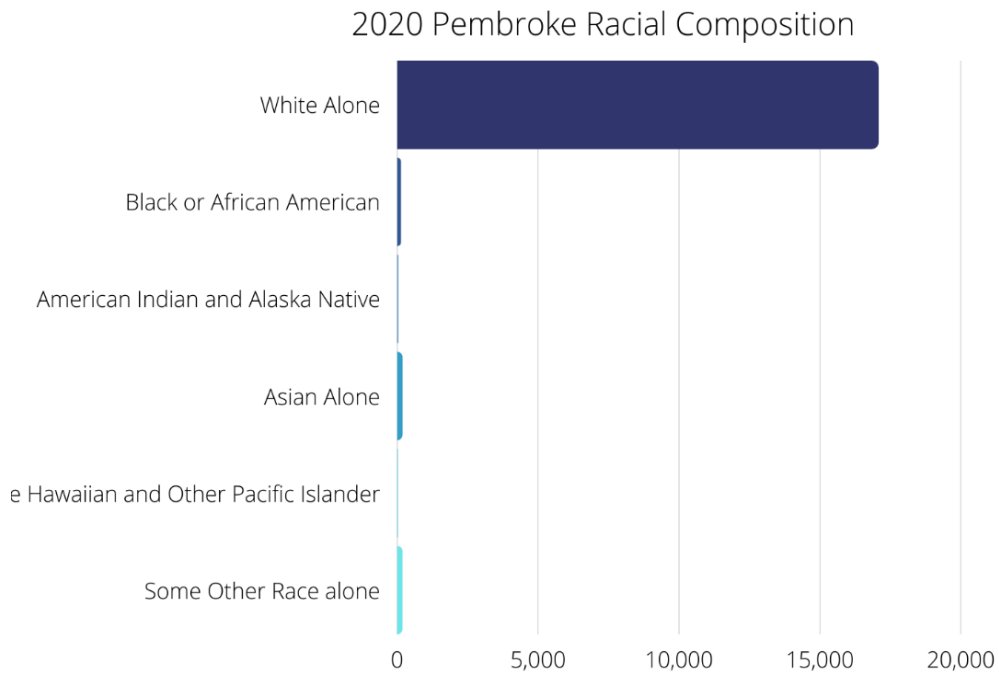
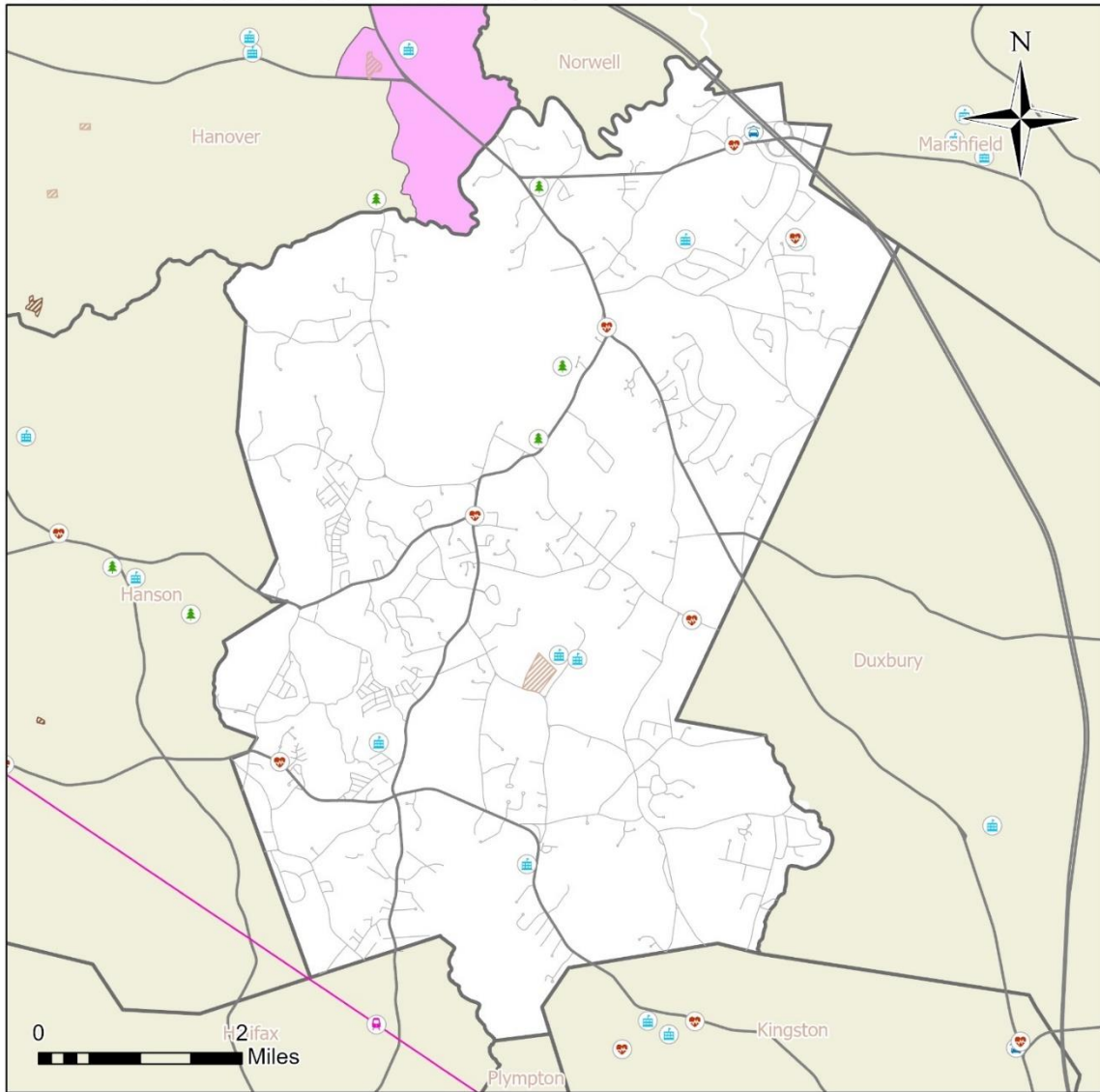


Figure 3: Environmental Burdens

Environmental Burdens: Pembroke



- | | |
|---------------------------------|-------------------------------------|
| ● Prison | Income |
| Ⓜ Park-n-Ride Lots | Minority |
| 🎓 Schools | Minority and English |
| 🌳 Parks | Minority and Income |
| 🏠 Sewage Treatment Plants | Minority, Income and English |
| 🏥 Health and Medical Facilities | Dumps, Landfills, Transfer Stations |
| 🎓 Colleges and Universities | Brownfields |
| 🚆 Commuter Rail Stations | |
| — Commuter Rail Lines | |



Old Colony Planning Council
70 School Street, Brockton, MA 02301

www.ocpcrpa.org
Created September 2021

GIS Data Sources
Department of Transportation
(MassDOT), Office of Geographic
Information (MassGIS)

Table 5: Population Change 1990-2020

	Decennial Census Population				Change 1990-2000		Change 2000-2010		Change 2010-2020	
	1990	2000	2010	2020	Number	Percent	Number	Percent	Number	Percent
Abington	13,817	14,605	15,985	17,062	788	5.70%	1,380	9.45%	1,077	6.74%
Avon	4,558	4,443	4,356	4,777	-115	-2.52%	-87	-1.96%	421	9.66%
Bridgewater	21,249	25,185	26,563	28,633	3,936	18.52%	1,378	5.47%	2,070	7.79%
Brockton	92,788	94,304	93,810	105,643	1,516	1.63%	-494	-0.52%	11,833	12.61%
Duxbury	13,985	14,248	15,059	16,090	263	1.88%	811	5.69%	1,031	6.85%
East Bridgewater	11,104	12,974	13,794	14,440	1,870	16.84%	820	6.32%	646	4.68%
Easton	19,807	22,299	23,122	25,058	2,492	12.58%	813	3.65%	1,946	8.42%
Halifax	6,526	7,500	7,518	7,749	974	14.92%	18	0.24%	231	3.07%
Hanover	11,912	13,164	13,879	14,833	1,252	10.51%	715	5.43%	954	6.87%
Hanson	9,028	9,495	10,209	10,639	467	5.17%	714	7.52%	430	4.21%
Kingston	9,045	11,780	12,629	13,708	2,735	30.24%	849	7.21%	1,079	8.54%
Pembroke	14,544	16,927	17,837	18,361	2,383	16.38%	910	5.38%	524	2.94%
Plymouth	45,608	51,701	56,468	61,217	6,093	13.36%	4,767	9.22%	4,749	8.41%
Plympton	2,384	2,637	2,820	2,930	253	10.61%	183	6.94%	110	3.90%
Stoughton	26,777	27,149	26,962	29,281	372	1.39%	-187	-0.69%	2,319	8.60%
West Bridgewater	6,389	6,634	6,916	7,707	245	3.83%	282	4.25%	791	11.44%
Whitman	12,240	13,882	14,489	15,121	1,642	13.42%	607	4.37%	35,900	7.25%
Plymouth County	435,276	472,822	494,919	530,819	37,546	8.63%	22,097	4.67%	35,900	7.25%
Massachusetts	6,016,425	6,349,097	6,547,629	7,029,917	332,672	5.53%	198,532	3.13%	482,288	7.37%

Source: US Census Bureau, 1990, 2000, 2010, & 2020

Table 6: MADOT Demographic and Socio-Economic Forecast Population Projections, 2010-2040

	2010 Census	2020 Census	2030 Projection	2040 Projection	Change 2020-2040	
					Number	Percent
Abington	15,985	17,062	18,764	19,000	1,938	11.36%
Avon	4,356	4,777	4,444	4,500	-277	-5.80%
Bridgewater	26,563	28,633	28,333	28,689	56	0.20%
Brockton	93,810	105,643	96,700	97,100	-8,543	-8.09%
Duxbury	15,059	16,090	15,307	15,500	-590	-3.67%
East Bridgewater	13,794	14,440	14,616	14,800	360	2.49%
Easton	23,112	25,058	24,689	25,000	-58	-0.23%
Halifax	7,518	7,749	7,620	7,640	-109	-1.41%
Hanover	13,879	13,864	13,999	14,084	220	1.59%
Hanson	10,209	10,639	10,863	11,000	361	3.39%
Kingston	12,629	13,708	14,814	15,000	1,292	9.43%
Pembroke	17,837	18,361	18,695	18,931	570	3.10%
Plymouth	56,468	61,217	68,559	70,312	9,095	14.86%
Plympton	2,820	2,930	2,963	3,000	70	2.39%
Stoughton	26,962	29,281	28,279	28,635	-646	-2.21%
West Bridgewater	6,916	7,707	7,549	7,644	-63	-0.82%
Whitman	14,489	15,121	15,389	15,583	462	3.06%
Massachusetts	6,547,629	7,029,917	7,225,472	7,380,399	350,482	4.99%

Table 7: Households 1990-2020, OCPC Region

	1990 Census	2000 Census	2010 Census	2020 ACS DP02	Change 1990-2000		Change 2000-2010		Change 2010-2020	
					Number	Percent	Number	Percent	Number	Percent
Abington	4,817	5,263	6,080	6,081	446	9.26%	817	15.52%	1	0.02%
Avon	1,591	1,705	1,709	1,634	114	7.17%	4	0.23%	-75	-4.39%
Bridgewater	5,947	7,526	7,995	8,367	1,579	26.55%	469	6.23%	372	4.65%
Brockton	32,850	33,675	33,303	31,459	825	2.51%	-372	-1.10%	-1,844	-5.54%
Duxbury	4,625	4,946	5,344	5,800	321	6.94%	398	8.05%	456	8.53%
East Bridgewater	3,593	4,344	4,750	4,899	751	20.90%	406	9.35%	149	3.14%
Easton	6,436	77,489	7,865	8,938	1,053	16.36%	376	5.02%	1,073	13.64%
Halifax	2,362	2,758	2,863	2,901	396	16.77%	105	3.81%	38	1.33%
Hanover	3,742	4,349	4,709	4,663	607	16.22%	360	8.28%	-46	-0.98%
Hanson	2,838	3,123	3,468	3,872	285	10.04%	345	11.05%	404	11.65%
Kingston	3,224	4,248	4,665	5,234	1,024	31.76%	417	9.82%	569	12.20%
Pembroke	4,666	5,750	6,298	6,643	1,084	23.23%	548	9.53%	345	5.48%
Plymouth	15,875	18,423	21,269	24,412	2,548	16.05%	2,846	15.45%	3,143	14.78%
Plympton	766	854	1,006	993	88	11.49%	152	17.80%	-13	-1.29%
Stoughton	9,394	10,254	10,295	11,052	860	9.15%	41	0.40%	757	7.35%
West Bridgewater	2,232	2,444	2,571	2,503	212	9.50%	127	5.20%	-68	-2.64%
Whitman	4,435	4,999	5,300	5,596	564	12.72%	301	6.02%	296	5.58%
Plymouth County	149,519	168,361	181,126	190,355	18,842	12.60%	12,765	7.58%	9,229	5.10%
Massachusetts	2,247,110	2,443,580	2,547,075	2,646,980	196,470	8.74%	103,495	4.24%	99,905	3.92%

Source: US Census 1990, 2000, 2010, 2020 ACS 5-Year Estimates

Table 8: School Enrollment 2010 - 2022

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Amount	Change
Pembroke School Enrollment															
Entire District	3,441	3,378	3,328	3,329	3,272	3,224	3,111	3,002	2,894	2,797	2,723	2,599	2,563	878	-25.5%
Bryantville Elementary	727	687	672	638	608	596	547	514	502	500	487	452	441	286	-39.3%
Hobomock Elementary	498	481	490	473	450	439	446	435	425	425	404	397	408	90	-18.1%
North Pembroke Elementary	740	733	694	380	641	650	615	576	549	561	562	511	517	223	-30.1%
Pembroke Middle School	565	545	533	590	589	524	493	504	496	462	454	431	412	153	-27.1%
Pembroke High School	911	932	939	948	984	1,015	1,010	973	922	879	816	808	785	126	-13.8%

Source: Mass Dept. of Education Portal

Table 9: 12-Month Employment Data

Massachusetts Cities and Towns
Average Data from July 2020 to June 2021

Area Name	Labor Force	Employment	Unemployment	Rate
Abington Town	9,224	8,518	706	7.7
Avon Town	2,718	2,510	208	7.6
Bridgewater City	14,686	13,646	1,040	7.1
Brockton City	48,853	43,294	5,559	11.4
Duxbury Town	7,581	7,082	499	6.6
East Bridgewater Town	8,630	8,064	566	6.6
Easton Town	14,150	13,307	843	6.0
Halifax Town	4,363	4,043	319	7.3
Hanover Town	7,643	7,153	489	6.4
Hanson Town	6,358	5,930	428	6.7
Kingston Town	7,395	6,884	511	6.9
Pembroke Town	10,538	9,820	718	6.8
Plymouth Town	32,576	30,192	2,384	7.3
Plympton Town	1,647	1,529	119	7.2
Stoughton Town	16,341	15,089	1,252	7.7
West Bridgewater Town	3,881	3,617	264	6.8
Whitman Town	9,265	8,600	665	7.2

<https://www.mass.gov/find-unemployment-rates>

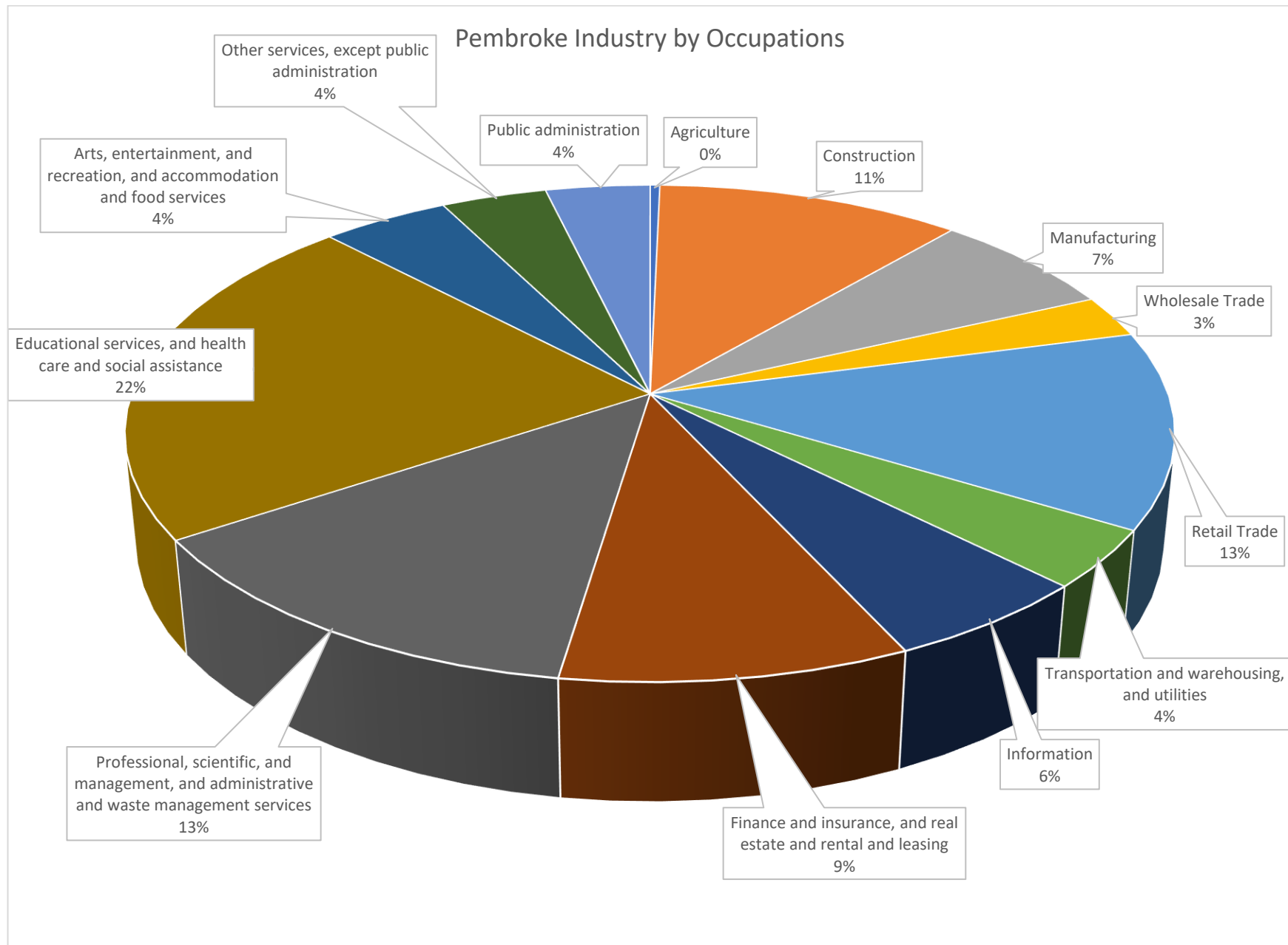


Table 10: Residential and Commercial Tax Rates, FY2019-2021

	Commercial Tax Rate	FY19	FY20	FY21	Residential Tax Rate	FY19	FY20	FY21
Abington	One Rate	\$17.39	\$17.00	\$16.48	One Rate	\$17.39	\$17.00	\$16.48
Avon	Commercial/Industrial	\$34.33	\$33.42	\$31.60	Residential	\$17.99	\$17.70	\$16.78
Bridgewater	One Rate	\$14.83	\$14.73	\$14.48	One Rate	\$14.83	\$14.73	\$14.48
Brockton	Commercial	\$31.68	\$30.41	\$29.64	Residential	\$15.54	\$15.15	\$14.50
Duxbury	One Rate	\$14.68	\$14.66	\$14.48	One Rate	\$14.68	\$14.66	\$14.48
East Bridgewater	One Rate	\$17.56	\$17.29	\$17.05	One Rate	\$17.56	\$17.29	\$17.05
Easton	One Rate	\$15.96	\$15.38	\$15.48	One Rate	\$15.96	\$15.38	\$15.48
Halifax	One Rate	\$17.47	\$17.44	\$17.39	One Rate	\$17.47	\$17.44	\$17.39
Hanover	Commercial	\$17.38	\$17.07	\$17.09	Residential	\$16.41	\$16.31	\$16.33
Hanson	One Rate	\$15.53	\$15.27	\$15.10	One Rate	\$15.53	\$15.27	\$15.10
Kingston	One Rate	\$16.46	\$16.28	\$16.08	One Rate	\$16.46	\$16.28	\$16.08
Pembroke	One Rate	\$14.60	\$14.49	\$14.58	One Rate	\$14.60	\$14.49	\$14.58
Plymouth	One Rate	\$16.54	\$16.35	\$16.16	One Rate	\$16.54	\$16.35	\$16.16
Plympton	One Rate	\$17.68	\$17.62	\$17.49	One Rate	\$17.68	\$17.62	\$17.49
Stoughton	Commercial	\$26.73	\$25.59	\$25.49	Residential	\$15.34	\$14.89	\$15.10
West Bridgewater	Commercial	\$27.65	\$28.46	\$27.68	Residential	\$16.53	\$16.37	\$16.71
Whitman	One Rate	\$15.28	\$15.85	\$15.50	Residential	\$15.38	\$14.85	\$15.50

Table 11: Pembroke’s Largest Employers

	Company name	Address	Number of employees
1	Pembroke Hospital	Oak St	250-499
2	Pembroke Public Schools	Pilgrim Rd	250-499
3	Eye Health Svc Inc	Church St # 4	100-249
4	Home Instead Senior Care	Schoosett St # 504	100-249
5	Kohl's	Church St	100-249
6	Lowe's Home Improvement	Old Church St	100-249
7	New England Village Inc	School St	100-249
8	Pembroke Country Club	W Elm St	100-249
9	Pembroke Senior Housing LLC	Cross St	100-249
10	Revenue Solutions Inc	Washington St	100-249
11	South Shore Gunitite Pool & Spa	Washington St	100-249
12	Stop & Shop Supermarket	Church St # C	100-249
13	Arrow	Center St	50-99
14	Bryantville Elementary School	Gurney Dr	50-99
15	Christmas Tree Shops	Old Oak St # 5	50-99
16	First Student Inc	Plain St	50-99
17	Hobomock Elementary School	Learning Ln	50-99
18	Hyer Industries	Schoosett St	50-99
19	Longhorn Steakhouse	Church St	50-99
20	North Pembroke Elementary Sch	Pilgrim Rd	50-99
21	Pembroke Community Middle Sch	School St	50-99
22	Personal Best Ltd	Washington St	50-99
23	Re/Max Spectrum	Center St	50-99
24	Stop & Shop Supermarket	Mattakeesett St	50-99
25	A J Tomasi Nurseries	Oak St	20-49
26	Acella Construction Corp	Washington St	20-49
27	Antenna Research Assoc	Riverside Dr # 2	20-49
28	Armstrong Fence Co Inc	Church St	20-49
29	Arnold Hall Administration	Randall St	20-49
30	August West Chimney Co	Riverside Dr	20-49
31	Boston Connect Real Estate LLC	Mattakeesett St	20-49
32	Bright Horizons	Old Oak St	20-49
33	British Beer Co	Columbia Rd # 10B	20-49
34	Burger King	Church St	20-49
35	Cadete Enterprises	Riverside Dr	20-49

36	Century 21 Alliance Realty	Schoosett St # 2B	20-49
37	Charm Medical Supply	Corporate Park Dr # 880	20-49
38	Clean Out Your House Inc	Spring St	20-49
39	Coastal Pools Inc	Mattakeesett St	20-49
40	CVS/PHARMACY	Mattakeesett St	20-49
41	Donovan Electric Construction	Washington St	20-49
42	Dunkin'	Center St	20-49
43	E S Ritchie & Sons Inc	Oak St	20-49
44	Emergency Medical Teaching Svc	Oak St	20-49
45	Friendly's	Church St	20-49
46	Group Insurance Svc Ctr Inc	Winter St # 1	20-49
47	H&R Block	Old Church St # 3	20-49
48	Harbor Medical Assoc PC	Riverside Dr # 3	20-49
49	Iheartmedia Inc	Washington St	20-49
50	Itzaparty	Schoosett St	20-49
51	King Collision	Schoosett St	20-49
52	Markings Inc	Riverside Dr	20-49
53	Mcgee Pre-Owned Superstore	Schoosett St	20-49
54	Nelco Products	Riverside Dr	20-49
55	New England Bath Inc	Corporate Park Dr # B	20-49
56	New Era Recruiting	Riverside Dr # 103	20-49
57	Olde School Cafe	School St	20-49
58	Panera Bread	Church St	20-49
59	Pembroke Fire Dept	Center St	20-49
60	Pembroke Town Civil Defense	Center St	20-49
61	Pembroke Town Police Dept	Center St	20-49
62	Pembroke Youth Flag Football	Indian Trail	20-49
63	Poopsies	Church St # A	20-49
64	Preferred Mechanical Svc	Center St	20-49
65	Protectowire Co Inc	Washington St	20-49
66	Sampson Lumber Co Inc	Mattakeesett St	20-49
67	Shindigz Parties LLC	Schoosett St # 201	20-49
68	South Shore Therapies Inc	Winter St # 25	20-49
69	Staples	Church St # 170	20-49
70	Sun & Ski Sports	Old Oak St	20-49

D. GROWTH AND DEVELOPMENT PATTERNS

PRESENT LAND USE PATTERNS

Through the nineteenth century, Pembroke was largely an agricultural and industrial community. As early as the turn of the twentieth century though, the town became a center for vacation and recreation activity, in large part drawing on its picturesque water bodies and forests to attract throngs of city dwellers looking to escape the crowded hustle and bustle of the metropolitan areas. This led to extensive development of the areas around the lakes and ponds within Pembroke for seasonal vacation homes, many of which have since been converted into year-round residences. Today, the abundance of water resources and the accompanying scenic character of the town, in combination with its proximity to larger urban areas (Boston in particular), has helped push the town's residential growth, rather than commercial or industrial development.

Today, the shorelines continue to be some of the most densely developed areas of town, and residential development continues to be the dominant form of developed land use. From 1971 to 2005, Pembroke saw a 3.14 percent increase in residential land use, which equates to an increase in nearly 550 acres. This change accompanied a

corresponding 2.94 percent decrease in the amount of natural, undeveloped lands (MassGIS 2005). According to the MassGIS 2005 Land Use data layer, commercial establishments made up about 2.05 percent of the total area of the town and are concentrated within the historic center district along Route 14 as well as in the northeastern portions of town, along Routes 3 and 53.

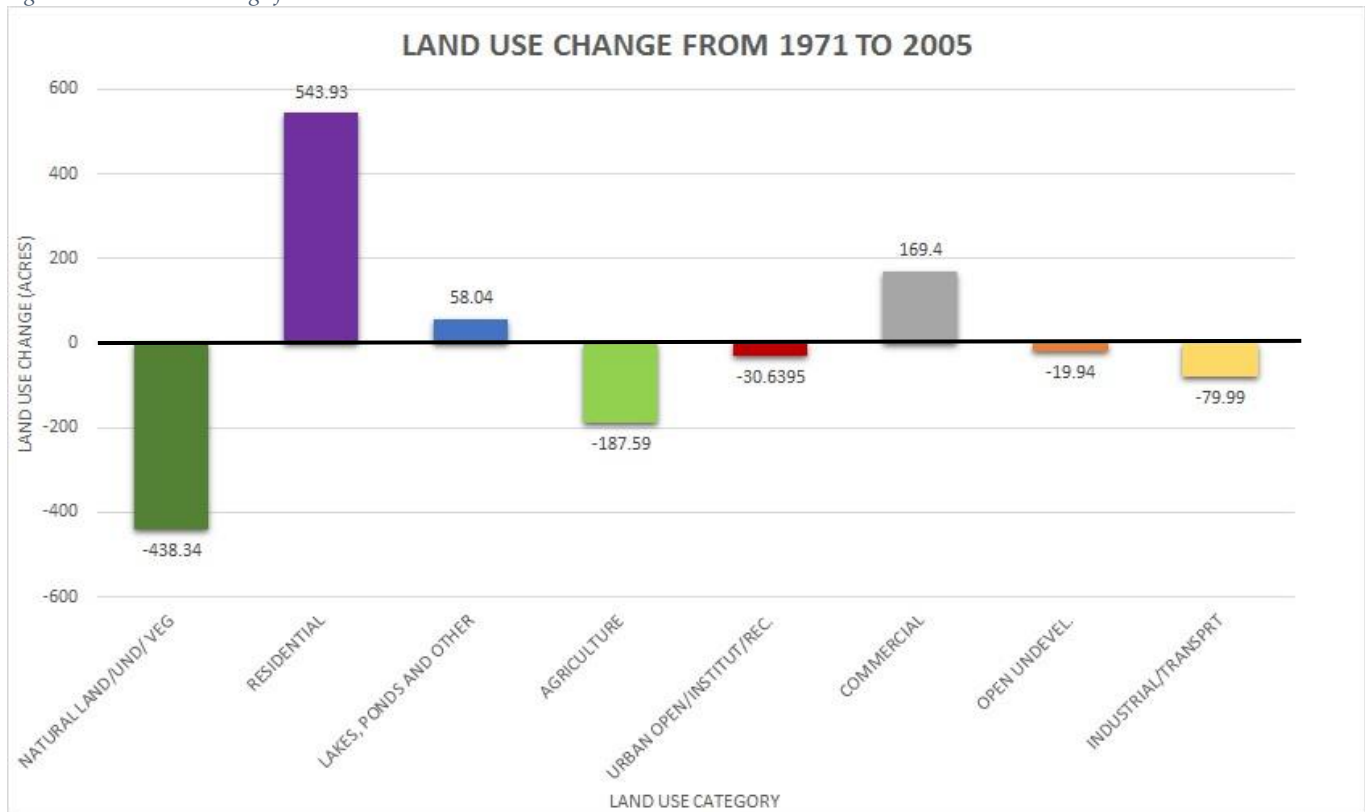
This area is also home to the greatest concentration of industrial development within the town, including a concrete block factory. The amount of active agricultural lands diminished by 1.25 percent, or 186 acres between 1971 and 2005, with a sharp decline in the number of active cranberry bogs in town. According to a study conducted by the Mass Audubon, from 2005 to 2013 there were 4.6 -8.0 acres of new development per square in Pembroke. This puts the total percentage of developed land in Pembroke at a range of 1,226 percent for 2013, with 66-83 percent of land remaining naturally under forest, wetland, or water cover (Mass Audubon 2014).

The current zoning bylaws (see **Map Zoning**), which were adopted in 2005, accommodate a focus on residential development. Pembroke has five different zoning areas, but nearly 90 percent of the town's area is classified as residential zoning. Much

smaller areas are given to commercial, mixed, and industrial activities. Some of the commercial, industrial, and mixed districts also allow for some residential uses specific to their zones. One of the important changes to occur to the zoning

structure with the 2005 version was the creation of a wellhead protection district in the southern end of town that restricts activities and structures that pose a threat to water quality near aquifer-fed wellheads.

Figure 4: Land Use Change from 1971 to 2005



Although these 2005 regulations limit new constructions or renovations, they have little power over the many densely sited converted summer homes which make up the bulk of structures within these sensitive areas. This threat should be considered a priority for further protection measures which will be discussed in the Seven-Year Action Plan See chap. 9).

INFRASTRUCTURE

Population growth in a community can often require a town to increase infrastructure needs to accommodate the needs of residents. Infrastructure development, such as maintenance to and construction of roads, municipal water mains, and stormwater sewer systems must meet the needs of a growing community to ensure the safe and orderly delivery of public services.

TRANSPORTATION

Growth in a region generally means more cars and more impact on roads, leading to increased road maintenance. Residents who responded to the 2017 OSRP survey voiced concerns about the increase in traffic. The Old Colony Planning Council's (OCPC) Traffic Volume Report for 1985 to 2015 showed that the annual daily traffic (ADT) in Pembroke has generally decreased. The areas of increased traffic were along major roads close to the borders of neighboring towns. Although traffic has not substantially increased in the last thirty years, the OCPC Traffic Volume Report shows an increase in the percentage of heavy vehicles driving through Pembroke.

Within the town of Pembroke, the major roads leading north-south are Route 3, a principal arterial connecting Boston with Cape Cod, Route 53, and Route 36. Roads running east-west include Route 14, Route 139, and Route 27. Routes 36 and 27 run through Zone I well-protection areas, and Routes 14, 27, and 36 run through the Zone II protection area. Routes 3, 53, 139, 14, and 27 all cross over major lakes and streams within Pembroke. As traffic increases and road maintenance needs become more frequent, it is likely that water and air pollution from cars and construction will negatively impact these water resources.

Although Pembroke is part of the 78-member Massachusetts Bay Transportation Authority (MBTA) and was assessed \$149,114 in 2005, the town received no direct transportation service. The neighboring towns of Halifax, Hanson, and Kingston all have passenger rail services that

connect people in the region to the Boston metropolitan area. The MBTA services in these towns provide Pembroke residents that work in or around Boston with an alternative transportation opportunity.

BICYCLE AND PEDESTRIAN

Pembroke is a suburban community located in the South Shore area of southeastern Massachusetts. The town can be characterized by single-family homes and commercial and industrial areas along arterials. Route 3 traverses through Pembroke in the upper northeast section of town.

Due to the rural nature of Pembroke, the primary mode of transportation is the private automobile. The reliance on automobiles by Pembroke residents along a dispersed pattern of development has led to a road system that lacks accommodations for alternative modes such as walking and bicycling. The sidewalk network has gaps in connectivity. Several sidewalks in Pembroke are in housing subdivisions and lack connections that would allow people to walk between neighborhoods or commercial areas. Limited nonexistent connections between neighborhoods leave pedestrians the choice to either walk in the roadway or over-rely on automobile transportation.

As Pembroke's population has grown it has transitioned from rural to suburban, yet the town lacks some amenities for alternate forms of transportation like walking and biking. Cul-de-sacs, subdivisions, and neighborhoods are filled with active families and residents who desire safe and walkable places to take a morning jog, an evening dog walk, or an afternoon bike ride.

According to the February 2017 Pembroke OSRP survey, the highest-ranking responses regarding what people liked least about the town pertained to a lack of sidewalks and safe road conditions (37.9%). Many survey respondents voiced concerns over dangerously narrow roads and speeding motorists and vied for safer conditions for walking and biking. Sidewalks and bike lanes provide many opportunities to improve the quality of life for Pembroke’s residents, and future planning for both has been confirmed along Routes 14, 36, and 53 as these roads are widened and resurfaced.

The Bay Circuit Trail extends across thirty-seven towns in eastern Massachusetts, connecting many parks and open spaces in fifty-seven communities. In Pembroke, this trail crosses the southern portion of the town, connecting many protected open spaces within the town. It crosses town boundaries shared with Hanson to the west, Kingston to the south, and Duxbury to the east.

Currently, the Town of Pembroke does not have an established bicycle network.

PLANNED IMPROVEMENTS

There are two proposed projects in the Old Colony Transportation Improvement Program (TIP) that involve pedestrian accommodation and improvements in the Town of Pembroke.

1. Resurfacing and Related Work on Route 53 – This approved project, which is currently underway, and was funded under the FFY 2020-2024 TIP under FFY 2020, consists of mill and overlay work on Route 53. In addition to the

reconstruction of existing sidewalks, the drainage system will be upgraded, and pavement markings and signs will be added.

2. Rehabilitation of Route 36 (Center Street) from Route 27 to Route 14 – This proposed project, listed in the FFY 2022-2026 TIP under FFY 2022, will consist of resurfacing/rehabilitation and full-depth reconstruction of certain segments of Route 36 (Center Street). The length of the project will begin from the intersection of Route 27 to the south to the intersection of Route 14 to the north. Sidewalks will be constructed where they currently do not exist and where sidewalks currently exist will be reconstructed. The existing drainage will also be updated, and signs and pavement markings are also included in the scope of work.

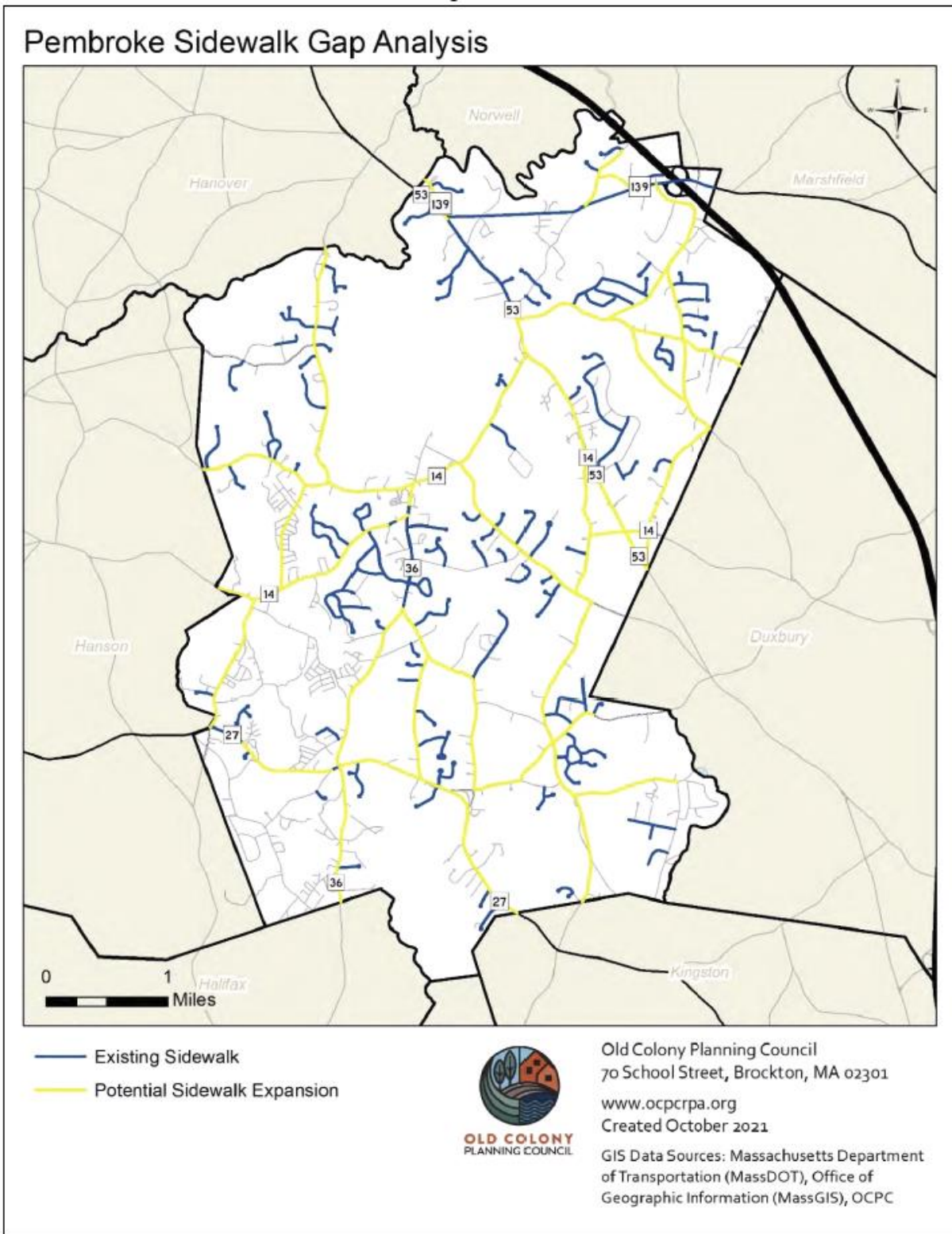
POTENTIAL IMPROVEMENTS

In its current form, the sidewalk network is limited to neighborhood streets that are not connected to main arterial roads and are essentially dead-end sidewalks. To improve this situation, the Old Colony Planning Council recommends the town of Pembroke create a Sidewalk and ADA Transition Plan utilizing the Pembroke Sidewalk Gap Analysis Map to identify major gaps in the network and to locate where sidewalk connections can be made.

Providing wayfinding in the Town of Pembroke may improve the patronization of businesses by helping direct cyclists toward key destinations. OCPC recommends creating a

uniform sign design for wayfinding to be implemented throughout the town. It would be in the interest of the town to coordinate the amenities for cyclists to coincide with key destinations.

Figure 5: Pembroke, MA Sidewalk Gap Analysis



WATER SUPPLY

Six gravel-packed wells draw from the aquifer in and around the western portion of Pembroke. There are 3 water tanks in town that store treated water from the aquifer. The water department recently acquired land around Pudding Brook near an abandoned cranberry bog to install a seventh well that would pump from a high-contribution aquifer in the northern part of town. Although the town has the underground infrastructure to supply municipal water to residents, some residents still pump from private wells. According to Pembroke's Board of Health, an estimated 250 private wells are operating in the town.

SEWER AND STORMWATER

Pembroke lacks a central sewer service, so all households and businesses are on septic systems. This in conjunction with high water tables and well-drained soils poses a continued threat to both surface and groundwater resources, especially as development encroaches on wetlands and water bodies.

High desirability and increasing market value have led to many of the lakeside homes being sold and retrofitted, which requires septic system inspection, and often upgrades, to comply with Title 5 septic requirements. However, septic systems still require regular maintenance and periodic replacement. When septic systems are not well maintained, they pose a risk of failure causing leakage of effluent and excessive nutrients. In Pembroke, where the groundwater level is high, septic failure has the potential to pollute water resources.

The previous 2005 OSRP stated a Comprehensive Wastewater Treatment Plan was in the approval stage with the DEP. Although the plan was close to completion in 2005, it has not been made available to the team developing this OSRP.

Pembroke has a stormwater management infrastructure that includes hundreds of catch basins across town. Many of these lead to outfalls, a few of which are monitored, but most are not. Of particular concern are those outlets within the water supply protection zones. All the outfalls pose a threat to surface and groundwater quality, and the town could likely benefit from adapting stormwater gray infrastructure to green infrastructure practices which focus on the removal of pollutants and infiltration of stormwater back into the ground close to where it falls.

LONG-TERM DEVELOPMENT PATTERNS

Current population trends in combination with recent development practices and current zoning bylaws show that Pembroke will likely see increases in population as well as residential and commercial development. According to the UMASS Donahue Institute's population change estimates, Plymouth County will experience slight population increases within the next twenty-five years. The population estimates from 2010 to 2015 showed a 0.01 - 0.5 percent increase in Pembroke's population and this trend may continue, potentially raising the town's population beyond 20,000 by 2020. Population

increases in Pembroke and Plymouth County will increase development and the pressures associated with development, like road maintenance and water distribution. Regionally, withdrawal from Pembroke's aquifer, which supplies water to other towns in Plymouth County, may increase which could threaten both the quality and quantity of water resources.

Most of the town of Pembroke is zoned Residential A, requiring about one acre of land to have ample room for a septic system that will not affect neighboring properties. Because most of the land is zoned residential (about 90%) and those residences have large lot size requirements, Pembroke has conditions that allow for residential sprawl. Sprawl has already begun to occur, and dwellings continue to be built each year. From 2010 to 2015, 133 dwellings were constructed with an average of 22 per year. As residential development continues, the town risks continued infringement upon the numerous wetlands throughout the town.

Massachusetts General Law Chapter 40B development projects have allowed cluster development to become more common in Pembroke. As of 2014, 9.6 percent of Pembroke's dwellings were listed as affordable dwellings. To meet the 10 percent goal of the state, 40B development, which bypasses local zoning requirements, has taken place allowing for the construction of cluster houses in areas that usually require over an acre of land.

Simultaneously, lakeside properties, which were once affordable housing units, have started to become renovated to increase their property values, diminishing the number of affordable housing units. These two trends combined to create an environment suitable for negative ecological consequences. Renovations to lake houses may ensure better septic installations, but cluster housing may concentrate septic systems which could potentially pollute groundwater.

As these trends continue, the town's residential development projects infringe upon wetlands, threatening the natural resources associated with wetlands, such as water and habitat. If these wetlands are lost, the town will lose ecosystem services like flood mitigation, stormwater infiltration, and pollution filtration. Through increased and more intensely concentrated construction as well as increased non-point source pollution from increased growth (e.g., brake dust, fertilizers, pesticides, pet waste, and road salt), wetlands may become more stressed and unable to properly handle contaminants. The danger of polluting water resources may be exacerbated by the construction of cluster housing near water resources due to the combined septic needs of the many residents. These effects all potentially threaten the quality of the aquifer.





Section 4: ENVIRONMENTAL ANALYSIS

A. GEOLOGY, SOILS, AND TOPOGRAPHY

GEOLOGY AND SOILS

Most of the surficial materials in Massachusetts are deposits of the last two continental ice sheets that covered all New England in the latter part of the Pleistocene ice age. The glacial deposits are divided into two broad categories, glacial till and moraine deposits, and glacial stratified deposits. Widespread till deposits were laid down directly on bedrock on semi-consolidated coastal plain strata by glacier ice. Tills in thick-till (>15 ft thick) drumlin landforms are found in all parts of the State. Areas of shallow bedrock contain thin discontinuous till deposits and several bedrock outcrops and are located chiefly in rocky upland areas. Moraine deposits related to glacial ice lobes of the last ice sheet are located mostly in southeastern Massachusetts. Glacial stratified deposits concentrated in valleys and lowland areas laid down by glacial meltwater in streams, lakes, and the sea in front of the retreating ice margin during the last deglaciation. Postglacial

deposits, primarily flood-plain alluvium, and swamp deposits make up a lesser proportion of the unconsolidated materials.

Pembroke's surficial landscape was formed over 18,500 years ago by the Laurentide ice sheet, a large glacier that covered the northeastern portion of the continent. As this mile-high glacier expanded southwards from eastern Canada it scoured its way across the landscape, picking up bedrock and surficial materials and depositing these as it advanced. After extending southward to southern New England, the climate warmed and the glacier began to melt, depositing the remaining materials as it receded northward.

These materials were deposited onto the region's geological bedrock base. In Pembroke, the eastern quarter of the town is seated on Avalon granite bedrock, while the western three-quarters are sedimentary bedrock of the Narragansett basin.

Mixed till materials that were deposited in the northern portion of Pembroke likely built upon existing bedrock topography to create the upland hills of this part of the town. Deposits of sand and gravel washed down off the glaciers as they melted, thinly covered the upland till deposits and created the predominantly sandy loam soils found there now. These soils are of the Birchwood-Poquonock-Mattapoisett series and are generally poorly suited for development with septic systems due to their slow permeability and perched, seasonally high-water tables (nesoil.com). This soil series extends from the north-central upland areas of Pembroke, down to the southeast corner of the town, and includes an isolated area in the northwest corner.

Melting ice carrying finer sands and gravel also created the glacial outwash plains of the southern portion of Pembroke. Here, the glacial ice melted and deposited various materials at its edges and left depressions in the ground. In

many cases today, these depressions occur below ground-water level and are now the ponds, bogs, and wetlands that characterize Pembroke's southern landscape. Soil types found in these areas include the Hinkley-Windsor-Deerfield series, which are generally well suited to development where the water table is not shallow, and the groundwater is too high.

Lastly, alluvial deposits were developed in low-lying areas along rivers as slower water released these finer materials. These areas make up many of Pembroke's wetlands, bogs, and marshes to the north, where soils are characterized by deposits of organic peat and muck. A high-water table and low soil strength make them unsuitable for development, but prime areas for wetland and marshland ecosystems. These soil types tend to be the Freetown-Swansea-Scarboro series, with a variety of minor soils within these map units. (Turenne 2016).

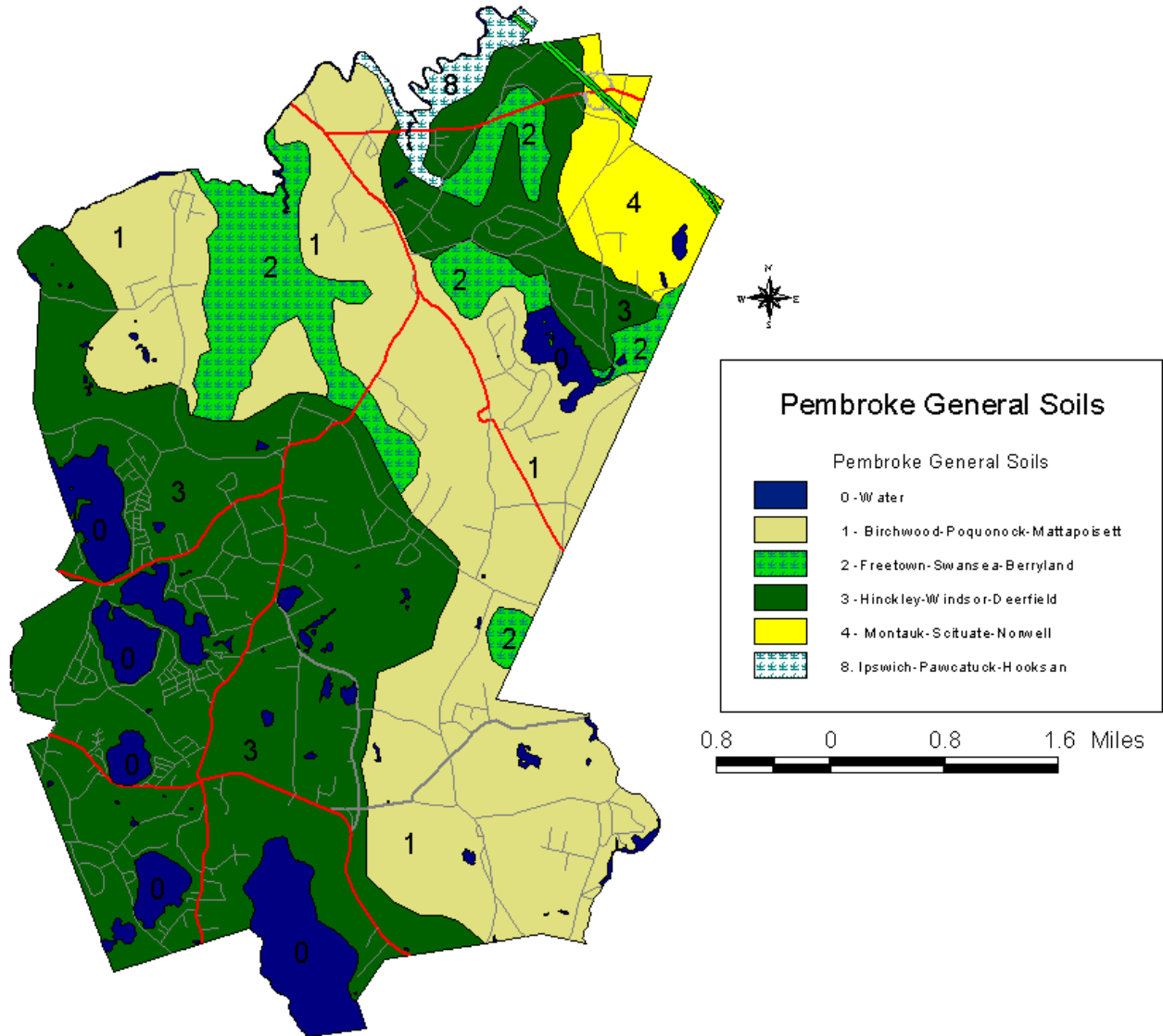


Figure 6: Pembroke General Soils

A small area in the North River basin consists of the Ipswich-Pawcatuck-Hooksan series, soils formed in organic and sandy marine deposits; in sheltered areas along coastal shorelines and bordering brackish water bodies (Turenne 2016).

The northeast corner of Pembroke has soils of the Scituate-Montauk-Norwell series, sandy loams underlain by a dense glacial till. Considered well suited for woodland and croplands, these soil types are not well suited for septic systems as the dense substratum prevents

proper absorption and drainage. This layer also causes a perched seasonal high-water table (Turenne 2016).

SUITABILITY FOR DEVELOPMENT

Analysis of Pembroke’s soils via the USDA Natural Resource Conservation Service Web Soil Survey indicates that much of Pembroke is limited in its suitability for development. In cases

where suitability is considered somewhat or very limited, this indicates that additional measures must be taken to ensure the intended

development will be done safely and dependably. In some cases, it makes the case that specific sites are unsuitable for development.

The Table Below Lays Out Percentages of Soil in Pembroke with Varying Degrees of Limitation for Intended Uses Associated with Development.

Table 12: Soil Limitations

Use	Very Limited	Somewhat Limited	Not Limited	Not Rated
Septic tank absorption fields	89.0%	2.2%	0%	8.8
Dwellings with basements	52.7%	24.5%	14.0%	8.8
Dwellings without basements	33.8%	30.2%	27.2%	8.8

Pembroke has very little soil that is considered suitable for septic tank absorption fields. According to the Web Soil Survey, soils are evaluated for their ability to absorb effluent, for properties that may affect construction and maintenance, and for public health implications. The majority of Pembroke (89 percent) is considered very limited for septic suitability, with no soils in Pembroke falling within the “Not Limited” category. Despite these limitations, there is no public sewer in Pembroke, and all houses have septic systems.

This suggests that very little of the town’s soil can support functioning septic systems; however, with improved septic technology, such as mound systems, towns, and developers have found ways to address native soil impediments. These systems still require maintenance and could have a

negative influence on surface and groundwater quality if not properly maintained. Relatedly, houses with septic systems built within the less-than-suitable areas before the establishment of current state and federal standards could be contributing to ground and surface water contamination.

A similar, though less severe, situation is found for the suitability of the construction of dwellings in Pembroke. Web soil survey defines a dwelling as a single-family unit of three stories or less. Dwelling suitability is determined based on “soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs.” These factors can include depth to the water table, ponding and flooding, compressibility, and depth to

any type of bedrock. Depending on whether the dwelling will have a basement or not affects the depth to which the soil is evaluated. Dwellings with basements are significantly more restricted.

In general, soils with poor drainage, perched water tables, and poor supportive structure pose the highest challenges to both septic function and the sound construction of dwellings.

PRIME AGRICULTURAL SOILS

Although there is not currently an active agricultural industry in Pembroke and only a handful of working farms, there are significant concentrations of NRCS-classified prime agricultural soils, soils of statewide importance, and soils of unique importance (See Map Soils and Geographic Features). These soils are classified on their agricultural merits, with specific attention paid to their chemical makeup and structural characteristics (MassGIS 2012).

The largest tracts of prime soil are in the southeast of town between Silver Lake and Chandler Pond. There are also moderate concentrations along Route 14 in the north-central areas. Soils of Statewide importance are more common throughout Pembroke, but the largest contiguous tract is in the northwest corner along the Hanover border. Soils of unique agricultural importance, largely composed of mucks, peats and heavy sands are mostly found in the southern

ponds with the largest area between Great Sandy Bottom and Stetson Ponds.

TOPOGRAPHY

Elevation changes are generally subtle throughout the town. Most of the town is relatively flat or gently sloping. The elevations in Pembroke range from 135 feet near the Hobomock Elementary school to 60 feet around the ponds, to just 10 feet above sea level in the North River and the Herring Brook Valley. However, there are some hills such as Long Hill off Pleasant Street, the slopes up from Robinson Creek, the slopes to the west of Herring Brook Valley, and the area between the Hobomock Elementary School and the Mill Ponds.

Pembroke's topographic character is not found in its elevational relief, but rather in the diversity of its low-lying wet areas. These areas include the North River Tidal Basin, the Herring Brook Valley which includes the Atlantic Cedar Swamp, Pembroke's numerous ponds and lakes, and its various rivers, streams, bogs, and wetlands.

LANDSLIDES

Landslides include a wide range of ground movements, such as rock falls, deep failure of slopes, and shallow debris flows. Although gravity, acting on an over the steep-ended slope, is a factor in landslides, there are other contributing factors.

B. LANDSCAPE CHARACTER

The character of a town, and how it feels to the residents and visitors, is extremely important in how a community defines itself. The landscape character includes offers many unique habitats and recreation destinations. The many waterbodies of Pembroke have influenced the history of the community and shaped the community. Rivers and streams flow into the many ponds, wetlands, and marshes, creating an interconnected network of corridors, habitats, and resource areas that make up an even larger patchwork of forests.

The North River, a designated scenic river, forms the northern boundary of Pembroke and is its major tributary, connecting the town with the Atlantic Ocean. Along Pembroke's northern boundary, Herring Brook joins with the North River. Herring Brook offers passage to migrating alewife, who return to spawn. The annual return of the alewife to the town's ponds is recognized by the residents of Pembroke as a celebratory occasion.

Many smaller streams, perennial and ephemeral, flow into Herring Brook, forming a sinuous matrix that spreads through the northern part of town, helping form many interesting habitats like the Atlantic Cedar Swamp and tidal marshes. The streams flow from the multiple streams and aquifer-fed water bodies along with the western and southwestern areas of

Pembroke. These include Oldham Pond, Furnace Pond, Great Sandy Bottom, Little Sandy Bottom, Stetson Pond, and Silver Lake. These water bodies offer ample recreation opportunities, and some provide drinking water for the communities of Abington, Rockland, and Brockton.

Active cranberry bogs used to dot the landscape of Pembroke, like many other southeastern Massachusetts towns, yet only one actively continues production today. Cranberry bogging was the most prevalent form of agricultural cultivation in Pembroke during the last two hundred years they offered economic opportunities for seasonal workers, and they acted as ice skating rinks in the winter. Today, the characteristic canals cut into sandy soil still mark the landscape, creating unique habitat areas for such wildlife as deer and blue jays. These distinct areas connect the natural and cultural landscape of Pembroke.

Wooded areas spread through most of the town on private and public land. The woods have many distinct configurations and components, creating unique ecosystems, such as wooded swamps and mixed coniferous and hardwood stands. Many people's properties sit nestled in these wooded pockets, offering many a feeling of seclusion and privacy. The sinuous and narrow back roads throughout the town also contribute to this feeling of seclusion, making the forests seem large and unbroken.

Pembroke has many historical structures throughout the town, which provide a defining description of the town's

development. The historical features in Pembroke range from stone walls, churches, and cemeteries to homes, a factory, and a fire station. These historical buildings range in age from 357 to 70 years of age. Most of these historical features are located along Route 53 (the Historic District) and on Route 14, in the historical Town Center.

C. WATER RESOURCES

WATERSHED AND LOCAL WATER PROTECTION EFFORTS

Roughly 95 percent of Pembroke is in the South Coastal watershed, which drains east into Massachusetts Bay. The remaining 5 percent, located in the southwest corner of Pembroke, sit within the Taunton River watershed, which drains to Rhode Island’s Narragansett Bay. This area includes Stetson Pond and multiple smaller water bodies just south of Little Sandy Bottom Pond.

Like other communities in the area, Pembroke has extensive surface water resources. Rivers, streams, ponds, and wetlands provide a myriad of human benefits and ecosystem functions, including drinking water, recreation, wildlife habitat, migration routes, flood mitigation, and

aquifer recharge. Several organizations and governmental bodies have formed over the years to manage and protect these resources, a task increasingly important as various land uses encroach on these sensitive areas.

WATERSHED ASSOCIATIONS

The Pembroke Watershed Association was formed in 2004 as a volunteer-run non-profit organization whose mission is “to educate the public and to restore the ponds of Pembroke for clean and safe recreational use.” The PWA oversees Furnace, Hobomock, Little Sandy Bottom, Oldham, and Stetson Ponds. It monitors water quality in the ponds, conducts annual cleanup days, and runs a Weed Watchers program to address invasive aquatic species. The PWA also conducts educational outreach to the public and the youth of Pembroke. They do this through informational pamphlets and through the Junior Watershed Rangers program, which engages school children in learning about the importance of watersheds and their protection.

Another entity involved in ongoing efforts to protect Pembroke’s water resources is the Herring Fisheries Commission, whose mission is “to keep the rivers, streams, brooks, and ponds clear of debris for the safe passage of the alewife herring fishery.” Additionally, it works to educate the public about water quality and the migration of the herring.

The North and South Rivers Watershed Association, Inc. (NSRWA) is a non-profit grassroots environmental organization with 1,150 members whose mission is “to preserve, restore, maintain and conserve in their natural state, the waters and related natural resources within the watershed.” Its goals are to:

- Protect the watershed and promote responsible growth by working in partnerships to preserve open space, scenic vistas, and sensitive natural resources.
- Protect the watershed and promote responsible growth by working in partnerships to preserve open space, scenic vistas, and sensitive natural resources.
- Educate and encourage stewardship of the watershed through public education, outreach, and recreation programs; and
- Restore the water quality of the rivers by identifying and correcting adverse impacts.

The NSRWA works with Pembroke and the eleven other towns within the watershed: Norwell, Hingham, Scituate, Marshfield, Hanover, Whitman, Hanson, Duxbury, Weymouth, Rockland, and Abington.

The North River Commission was formed by the state legislature to administer the Massachusetts Scenic Rivers Act for the North River. It serves to review and regulate activities within three hundred feet of the river in Pembroke and five other towns

along the North River (Hanson, Hanover, Scituate, Marshfield, and Norwell).

CLASSIFICATIONS OF WATER AND ASSESSMENT OF QUALITY

Under Section 305(b) of the Federal Clean Water Act (CWA), every two years MassDEP must submit to the EPA a statewide report that describes the status of water quality in the Commonwealth. The CWA Section 305(b) water quality reporting process is an essential aspect of the nation's water pollution control effort. It is the principal means by which the EPA, Congress, and the public evaluate existing water quality, assess progress made in maintaining and restoring water quality, and determine the extent of remaining problems. In so doing the state reports on water bodies according to their designated uses (described below in each class). Each class is identified by the most sensitive and, therefore, governing water uses to be achieved and protected: Aquatic Life, Fish Consumption, Drinking Water, Primary Contact Recreation, Secondary Contact Recreation, Shellfish Harvesting, and Aesthetics. Each designated use within a given water body or river segment is individually assessed as support or impaired. When too little current data exist or no reliable data are available, the use is not assessed.

Classification of water bodies determines their assessed use, while the category rating reflects what degree the water quality of a given water body meets the standards for its intended use. The Integrated List of Waters report lists each waterbody or segment in one of the following five categories:

- Category 1) Unimpaired and not threatened for all designated uses.
- Category 2) Unimpaired for some uses and not assessed for others.
- Category 3) Insufficient information to make assessments for any uses.
- Category 4) Impaired for one or more uses, but not requiring the calculation of a Total Maximum Daily Load (TMDL). (Impairment is due to influences such as low flow, habitat alterations, or non-native species infestations).
- Category 5) Impaired for one or more uses and requiring the calculations of a TMDL. (Impairment is due to the pollutant(s) such as nutrients, metals, pesticides, solids, or pathogens).

Waters listed in Category 5 constitute the 303(d) List. The formulation of the 303(d) List includes a more rigorous public review and comment process than reports in Section 305(b), and the final version of the list must be formally approved by the EPA. (MassGIS Data - MassDEP 2014 Integrated List of Waters (305(b)/303(d)).

It is important to note that not all waters are assessed. Many of the small and/or unnamed ponds, rivers, and estuaries in Pembroke are currently unassessed; the status of their designated uses has never been reported to EPA in the Commonwealth’s 305(b) Report of the Integrated List of Waters nor is information on these waters maintained in the Waterbody System database (WBS) or the new assessment database (ADB). According to MassDEP policy, water bodies that have not been classified are assumed to be class B if freshwater or SA if salt water.

The water classifications as defined in the South Shore Coastal Watersheds 2001 Water Quality Assessment Report are as follows:

Table 13: Inland Water Classes

Class A	Waters are considered suitable for use as a public water supply, excellent habitat for fish, other aquatic life, and wildlife, suitable for primary and secondary contact recreation, have excellent aesthetic value, and are designated for protection as Outstanding Resource Waters.
Class B	Waters are suitable for aquatic life and wildlife, and primary and secondary contact recreation.

Class C	Waters are suitable for aquatic life and wildlife, and secondary contact recreation only.
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Table 14: Coastal Saltwater Classes

Class SA	These waters are designated as an excellent habitat for fish, other aquatic life, wildlife, and primary and secondary recreation. In approved areas, they shall be suitable for shellfish harvesting. These waters shall have excellent aesthetic value.
Class SB	These waters are designated as a habitat for fish, other aquatic life, wildlife, and primary and secondary contact recreation. In approved areas, they shall be suitable for shellfish harvesting. These waters shall have consistently good aesthetic value.
Class SC	These waters are designated as a habitat for fish, other aquatic life, wildlife, and secondary contact recreation. They shall also be suitable for certain industrial cooling and process uses. These waters shall have good aesthetic value.

Surface Waters

RIVERS

North River, Classification SA, Category 5

The North River, which drains into Massachusetts Bay, is tidal. It plays a critical role in the annual herring migration, providing a route from the Atlantic Ocean to the smaller tributary streams and ponds which are the herrings’ spawning grounds. Its tidal influence also creates freshwater tidal marsh conditions, providing habitat for numerous plant and animal species which are discussed in detail in the vegetation and wildlife sections of this chapter.

The North River is also appreciated by residents of the region as a recreational resource for canoeing and kayaking. Limited public access to the North River exists in Pembroke.

Currently, these include a little-known access point at the end of Brick Kiln Road, and from the Nature Preserve, Inc. property on Washington Street. Residents have expressed the need for improved access and adequate parking.

The North River was recognized by the federal government in 1977 as a national natural landmark. In 1978, the North River received protection status under the Massachusetts Scenic River Act, and the North River Commission was formed. Today the North River is considered an Outstanding Water Resource (Pembroke’s 2005 OSRP, 4-8).

According to the MassDEP 2018/2020 Integrated List of Waters, the North River doesn’t meet its assessed use for fish

consumption due to mercury contamination. Other impaired uses are primary contact recreation and shellfish harvesting due to fecal coliform bacteria counts exceeding recommended limits.

Indian Head River, Classification B Category 5

A tributary to the North River, the Indian Head River forms the border between Pembroke and Hanover to the north. The presence of a closed fireworks factory upstream of Pembroke has contributed persistent pollutants to this river, affecting water quality and making fish caught here inedible (MassDEP, 2006). Additionally, municipal point source discharges contribute phosphorus and cause decreased dissolved oxygen levels in the river, impairing its aquatic life and wildlife assessed use classification (MassGIS, 2014).

Public access to the Indian Head River can be found at the Tucker Preserve off West Elm Street. This preserve is owned by the Pembroke Conservation Commission, and it abuts Hanover Conservation and Wildlands Trust lands. Within this area hiking, picnicking, and bird watching are common.

BROOKS AND STREAMS

Herring Brook, unclassified

A primary tributary to the North River, the Herring Brook is a primary migration route for herring and has a protected park known locally as “Herring Run” located on Barker Street (Route 14) where an annual fish fry and herring monitoring events take place each spring.

Pudding Brook, unclassified

Pudding Brook makes up part of the herring migration corridor as it flows in the Herring Brook. Pudding Brook can be seen from Washington Street (Route 53).

Robinson Creek, unclassified

Robinson Creek is in the northeast corner of Pembroke and has an expansive panorama of tidal marshes. This habitat supports vegetation and wildlife adapted to the tide’s influences. For this reason, Pembroke’s school teachers have used this area as an outdoor classroom.

Tubb’s Meadow Brook, unclassified

Tubb’s Meadow Brook once ran from Silver Lake and connected to Herring Brook. In the early 1900s, while Silver Lake became a reservoir, its ties to Herring Brook were severed due to the transition of nearby wetlands to cranberry bogs. However, it now carries diverted water from Furnace Pond to Silver Lake.

PONDS AND RESERVOIRS

The surface waters of the town include scores of small ponds. The larger, named ponds that have scenic and recreational significance to the town at large include the following:

Oldham Pond, Classification A, Category 4C

Oldham Pond is a 235-acre pond shared between the towns of Pembroke and Hanson. It is also the headwaters of Herring Brook. Oldham Pond has several small tributaries and drains directly into Furnace Pond through a

culvert under Mattakeesett Street. Oldham Pond has a public beach with an adjacent boat ramp off Wampatuck Street on the eastern side of the pond. Most of the shoreline is occupied by private residences.

In recent years, blue-green algal blooms have occurred during the summer months, indicating excess nutrients are finding their way into the pond and causing eutrophication. Various chemical treatments have been used to address algae (Mann, 2010). Additionally, MassDEP cites the presence of non-native plant species as impairing the aquatic and wildlife-assessed use of the pond. It is unclear which species is of concern.

Furnace Pond, Classification A, Category 5

Furnace Pond, located to the southeast of Oldham Pond, is a 107-acre great pond. It is a man-made water body, created in the early 1700s to facilitate the construction of a blast furnace on its shores. Outflow from Oldham Pond as well as water from several small tributaries and storm drains flow into Furnace Pond, primarily along the eastern side of the pond. On occasion, overflow from Great Sandy Bottom Pond enters Furnace Pond from the southwest. Furnace Pond's outlet to the southeast marks the beginning of Herring Brook.

Furnace Pond is also largely ringed by residential property but has a semi-public beach at its southern end, which is maintained by the Furnace Pond Neighborhood Association. Boats can be launched at the northern edge of the pond along Mattakeesett Street.

Furnace Pond's water is seasonally diverted to Silver Lake to supplement Brockton's reservoir. Serving as an "on-demand" tributary to Silver Lake influences the ecology of both Furnace and Oldham Ponds. When water levels drop, water temperatures increase, and outflow to tributaries such as Herring Brook can be slowed or stopped altogether, which could have a disastrous effect on the springtime herring migration. Although state legislation put in place in 1964 provides some protection to Furnace Pond by setting limits on when withdrawals can happen, the use of Furnace Pond as a source of Brockton's water supply continues to be an unresolved and contentious issue in the town of Pembroke.

Great Sandy Bottom Pond, Classification A

Great Sandy Bottom Pond is a source of drinking water for the Abington-Rockland Joint Water Works. It is a 109-acre pond surrounded by residential homes and the Abington-Rockland treatment plant.

Little Sandy Bottom Pond, unclassified

This 54-acre pond sits just north of the Taunton watershed basin divide. Discharge from a cranberry farm operation to the north of the pond occasionally puts water removed from Little Sandy Bottom Pond into Great Sandy Bottom (Pembroke 2005 OSRP, 4-9). The east and west shorelines of Little Sandy Bottom Pond are densely residential.

Stetson Pond, unclassified

Stetson Pond is in the Taunton River basin and flows to East Monponsett Pond in Halifax via Stetson Brook and a direct outlet. It receives

water mainly from ground-water inflow and a cranberry farm to the north and passes water into the Monponsett Pond system through its outlet (Pembroke 2005 OSRP, 4-9).

There is a public beach and boat launch area off Plymouth Street along the southwest edge of the pond. Most of the shoreline is residentially developed. Stetson Pond experienced a severe infestation of blue-green algae in 2010 (Mann, 2010).

Hobomock Pond, unclassified

Hobomock Pond is a kettle hole that is used for swimming and fishing. Public access can be found on the southern edge of Hobomock Street. Its shoreline is both residential and wooded.

Silver Lake, Classification A

At 640 acres, Silver Lake is the twelfth-largest natural lake in Massachusetts. It straddles the towns of Pembroke, Kingston, and Plympton, and is the primary water supply serving the City of Brockton. The Central Plymouth County Water District was established by the Acts of 1964, Chapter 371 as an emergency law authorizing the City of Brockton to extend its source of water supply. Beyond acquiring a desalinization plant that is rarely used, Silver Lake and its tributary ponds remain the primary source for the city. In addition to Brockton's water treatment and pumping facility, Silver Lake's shoreline is residential, wooded, and swampland (Pembroke 2005 OSRP, 4-10).

As of January 2017, Silver Lake's water level was at a 30-year low, creating flow alterations in many connected waterways and

causing significant water quality degradation. The city is pumping an average of ten million gallons from the lake daily (Carini, 2017).

AQUIFER RECHARGE AREAS

An aquifer in the western part of town supplies Pembroke with all its municipal water. Pembroke draws water from six wellheads and distributes it throughout the town. This aquifer also lies beneath the towns of Hanover to the west and Halifax to the south. Both towns have wells that draw from this aquifer. Brockton, Abington, and Rockland draw water from Great Sandy Bottom Pond and Silver Lake both of which sit in the aquifer contribution zone and are hydrologically connected to this aquifer. In combination with a high-water table, sandy soils, and minor tributaries, ponds like Oldham Pond are spring fed by the aquifer. Since the aquifer feeds all the water bodies in the western portion of town, drawing water from wells or the reservoir has an impact on the entire hydrological system (Carlson and Lyford).

The contribution zone of this aquifer encompasses the south and western portions of Pembroke and expands to the towns of Hanson, Halifax, Plympton, Kingston, and Duxbury which are found in Pembroke. In 1989, Pembroke adopted the Groundwater Protection District to protect its municipal water resources. The Groundwater Protection District encompasses most of this aquifer's zone of contribution but also includes areas in eastern Hanson.

Another aquifer lies in the northern part of town, between Routes 139 and 53. Although the town does not currently draw water from this aquifer, according to Pembroke's water department the town plans to construct another wellhead in this area. The wellhead will be located close to Pudding Brook, on the site of a decommissioned cranberry bog. The land that overlays this aquifer's zone of contribution (748 acres), is much smaller than that of the south (MassGIS MassDEP Wellhead Protection Areas). As in the south, residential development has covered much of the land overlying the aquifer. Residents located over this aquifer need to understand the existence of this water source and what impacts residential properties might have on the quality of water that contributes to the aquifer.

A third aquifer lies on the northern border of the town, extending into Marshfield. There are at least eight wellheads within this aquifer that Marshfield uses for municipal needs. Busy Route 3 crosses over this aquifer. Part of Pembroke's industrially zoned districts overlay this aquifer. High volumes of traffic and swaths of impermeable surfaces reduce the infiltration capabilities of stormwater, due to their lack of vegetation. Impermeable surfaces might contribute to concentrated amounts of automobile and industrial pollution entering this aquifer's zone of contribution.

The southern aquifer, which provides drinking water for Pembroke residents and many other towns, must be protected. Considering recent drought conditions and future climate change projections it will be

important for Pembroke to monitor the quantity and quality of the water in the aquifer as well as the water sources in the aquifer's zone of contribution. It will be imperative to reduce non-essential draws from ground and surface water sources and ensure that all communities that draw from these water resources do so in a fashion that does not impair hydrological function. Nonpoint source pollution from residents within the zone of contribution should also be monitored to reduce the risk of contamination of the aquifer. Reducing the use of fertilizers and pesticides, repairing leaking septic systems, and implementing stormwater infiltration in and around the zone of contribution will reduce the likelihood of contaminating the aquifer and keeping the drinking-water supply of Pembroke safe for the use of Pembroke's citizens.

FLOOD HAZARD AREAS

Many rivers, streams, and brooks traverse the town. Periodically, these interconnected water bodies become inundated, which can be hazardous to the residents.

The Federal Emergency Agency (FEMA) has determined which areas in Pembroke have a one percent chance of being flooded in a year. These areas are referred to as the 100-year flood zones. FEMA divides the 100-year flood zone into two categories: A (the 100-year flood zone without a determined Base Flood Elevation) and AE (the 100-year flood zone with a determined Base Flood Elevation). The 100-year flood zones encompass land adjacent to four open water bodies (Silver Lake, Furnace

Pond, Oldham Pond, and Hobomock Pond), along the North River and Indian Head River, and along the two main tributaries in town (Herring Brook and Pudding Brook). However, the largest 100-year flood zone is located within the northern wetlands, in the Atlantic Cedar Swamp area. The 500-year flood zone (X) is an area predicted to have a 0.2 percent chance of being flooded in a year. Some areas surrounding Great Sandy Bottom Pond and Little Sandy Bottom Pond and the land between these two ponds, FEMA considers to be within a 500-year flood zone. Climate change predictions forecast that in areas in eastern Massachusetts, the 100-year flood zones could overflow every three to five years by 2050 (Climate Change Adaptation Report).

Routes 139, 53, 14, and 27 all cross 100-year flood zones. In these cases, Pembroke might find it useful to prioritize these areas for the implementation of flood mitigation infrastructure. Protecting and enhancing green infrastructure, such as increased riparian plantings along the flood zones may reduce negative deluge effects through the capture and storage of water. Considering climate change and sea-level rise, these flood zones may become more inundated frequently. It is important to continue protecting the wetlands and river areas which reduce the frequency and intensity of floods by soaking up and storing water.

WETLANDS

Wetlands cover about a quarter of the total surface area of Pembroke, roughly 3,625 acres.

They take many different forms due to the varying substrates, water levels, and histories. These areas provide a habitat for an array of flora and fauna, both common and rare. Wetlands also offer ecosystem services, including flood mitigation, storm damage suppression, and pollution filtration.

Swamps have highly saturated soils with high levels of nutrient-rich organic matter, defined by predominantly woody species such as red maple and Atlantic white cedar. Most of Pembroke's wetlands are classified as wooded swamps, but there are some shrub swamps (See Section 4D for further details).

Marshes are frequently inundated wetlands that are predominantly inhabited by emergent soft-stemmed vegetation, such as cattails. Surface water sources usually feed marshes, but some are saturated by groundwater. Marshes have a relatively neutral pH and can support a large diversity of wildlife. Marshes are divided into two categories: tidal and non-tidal. The marshes of Pembroke are mostly non-tidal which includes poorly drained depressions and seasonally inundated depressions, including vernal pools. (See Section 4D for further details).

Bogs are wetlands characterized by the prevalence of sphagnum which captures and stores moisture mainly from precipitation. This vegetation can spread over lakes and ponds or form in drylands as the thick carpets of moss absorb water. Bogs also have high contents of peat moss (dead sphagnum moss which falls to the bottom of the bog) which add to the low nutrient and acidic environments. Most of

Pembroke’s bogs are in the southeastern areas of town. (See Section 4D for further details).

In addition to wetlands, the Wetlands Protection Act regulates lands within a 200-foot Riverfront protection area, certified vernal pools, flood zones, and a 100-foot wetland buffer. These areas are protected under the Act because they provide ecosystem services like habitat, flood mitigation, stormwater infiltration, and pollution infiltration. Any development or alteration within these areas must be reviewed and approved by the local conservation commission.

D. VEGETATION

GENERAL INVENTORY

Much of Pembroke’s scenic beauty is derived from the variety of forests, agricultural fields, swamps, and marshes, and the many different plant communities found in these areas.

Sprawling development and the resulting fragmentation of habitat, as well as pollution from human activity, threaten the size, health, and functioning of these plant communities. These stressors combined with the threat of rising temperatures and an increase in drought frequency associated with climate change place Pembroke’s plant and wildlife communities at further risk. By protecting these areas and directing the development and human activity away from them, these resources will continue to provide essential ecosystem services, as well as recreational use where appropriate.

FOREST LAND

The coastal lowland oak-pine forests typical in this region contain white pine (*Pinus strobus*); jack pine (*P. banksiana*); hemlock (*Tsuga canadensis*); black, white, and chestnut oaks (*Quercus velutina*, *Q. alba*, and *Q. Montana*); shagbark hickory (*Carya ovata*); and black gum (*Nyssa sylvatica*). The town-owned J.J. Shepard Memorial Forest and Veteran’s Memorial Forest are examples of this forest type.

Willow Brook Farm contains a stand of black cherry (*Prunus serotina*) and a dense grove of ironwood (*Carpinus caroliniana*). It is uncommon to find such a large stand of mature ironwoods in the region. Willow Brook Farm and the abutting properties make one of the largest tracts of undeveloped land and uninterrupted woodlands in southeastern Massachusetts (OSRP 2005).

Forests can provide many ecological and social benefits, including groundwater infiltration, carbon sequestering, wildlife habitat, air and water filtration, timber products, and recreational opportunities.

PUBLIC SHADE TREES

Public shade trees include street trees, cemetery trees, and trees in parks or other prominent locations. The first version of the Public Shade Tree Law was enacted in 1899 in Massachusetts. All trees within a public way or on the boundaries thereof shall be public shade trees. Public shade trees shall not be cut, trimmed, or removed, in whole or in part, by any person other than the Tree Warden or his

deputies, except upon a permit in writing from the Tree Warden after a hearing under C. 87 § 3. If someone objects in writing to the cutting or removal of a tree at or before a hearing, it may not be removed unless cutting or removal is also approved by the Selectmen. Tree Wardens and their deputies, but no other person, may without a hearing trim, cut down, or remove trees, less than one- and one-half inches in diameter in a public way and any other trees ordered by the Selectmen that obstruct or endanger traveling persons. If tree removal is authorized, the applicant will likely have to replant trees in the area at the Tree Warden's direction as replacements. No tree shall be planted in a public way without the approval of the Tree Warden. For trees along state highways, MassDOT shall have care and control of all trees within state highways. No such tree shall be cut or removed within state highway layouts without a permit from MassDOT.

The Town of Pembroke does not have an inventory of these trees and one is needed. The town does not have a public shade tree bylaw, but one is currently being reviewed before town meeting adoption, perhaps as early as next spring. Included in this Appendix are samples of a Shade Tree Bylaw, Shade Tree Policy, and Shade Tree Regulations should the community require additional samples to consider for adoption.

AGRICULTURAL LAND

Cranberry bogs were once a part of Pembroke's working landscape. Today many decommissioned bogs contribute to the town's

semi-rural character as they make their slow return to forested wetlands. Allowing these wetlands to return to a more biologically diverse plant community would allow for improved ecosystem functions and wildlife habitat. Tubb's Meadow located off Route 36 is a large area of protected open space highly valued by town residents as a recreation space for walking. It has multiple bogs and irrigation ponds, intersected by trails.

LAWNS AND THE HUMAN LANDSCAPE

Because residential development is the largest growing land-use type in Pembroke, it stands to reason that it is also the largest threat to natural plant communities. This is largely through the loss of habitat area to new construction and environmental degradation associated with runoff and other environmental impacts. Lawns and conventional landscapes are generally resource-intensive landscapes that are maintained with regular fertilizing and watering regimes and are not as biologically diverse as the natural plant communities they replace. This leads to fragmentation and loss of existing habitat, which can have detrimental effects on the population levels of many plant species.

WETLAND VEGETATION

Pembroke is home to an unusually high quantity of wetland areas. In total, these important and sensitive habitat resources make up 24 percent of the town, totaling

approximately 3,625 acres. These areas provide a wide variety of important ecological resources on top of supporting a rich variety of plant and animal species, many of which are now rare and/or threatened within the Commonwealth.

A great variety of wetland habitats and plant communities have been identified in Pembroke by the Natural Heritage and Endangered Species Program (NHESP), including brackish and freshwater marshes, tidal shrublands, wooded swamps, shallow, and deep marshes, bogs, alluvial Atlantic white cedar swamps. The differences between these types of wetlands are highlighted in the previous section (4. C) in the discussion of water resources.

TIDAL WETLANDS

Tidal Swamps

Though not a coastal community, the ocean still influences Pembroke's wetlands. An important and regionally uncommon type of wetland found in Pembroke is the tidal swamp. It is found in both freshwater and brackish forms in town. Although flooded twice a day with high tides, and unlike other tidal wetland types, tidal swamps still maintain a three-tiered structure of trees, shrubs, and herbaceous plant species. These special habitat types are found in the northern end of Pembroke, with the freshwater tidal swamps found along the confluence of the North River and Herring Brook, and the brackish tidal swamps located farther to the east just north of

Water Street, and the south of the North River. The tree or upper canopy layer contains a greater diversity of tree species than the Atlantic white cedar swamp, with a less pronounced dominance by the white cedar. Other species within this layer include red maple, white swamp oak (*Quercus bicolor*), and occasionally green ash (*Fraxinus pennsylvanica*) and American elm (*Ulmus americana*). Because of the saturated soil conditions that come with the tidal flooding, all these tree species are typically found on elevated mounds called hummocks, which help prevent the roots of these trees from becoming waterlogged and suffocating (NHESP 2016).

The woody shrub layer in the tidal swamp is noticeably denser than the tree canopy and contains a multitude of species. Some of the shrubs found within this habitat include Northern arrowwood (*Viburnum recognitum*), winterberry holly (*Ilex verticillata*), swamp rose (*Rosa pulustris*), and silky dogwood. Several woody vining species cling and climb over the other tree and shrub species to reach the sunny patches in the upper layers of the canopy. The vining species include common greenbrier (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), and wild grapes (*Vitis spp.*).

Below the shrub layer, growing within the mucky hollows that form because of regular water inundation, are a variety of herbaceous plant species that are typical of saturated and sometimes totally inundated soil conditions. Some of the more common elements of the herbaceous layer within this type of wetland are sensitive fern, arrow arum (*Peltandra*

Virginia), assorted members of the Polygonaceous family (also known as the smartweed or knotweed family), water purslane (*Ludwigia palustris*), watercress (*Cardamine hirsuta*), and both estuary and Eaton's beggar ticks (*Hyperborearborea* and *B. eatronii*).

Additionally, wild rice (*Zizania* spp.) is also a common component of freshwater but not the brackish versions of the tidal swamps (NHESP 2016).

Tidal Shrub Lands

In Pembroke, there are also wetland areas that are influenced by the daily rising and falling of the tides, but which lack the overstory canopy characteristic of the tidal swamp. These areas are transitional habitats between the swamps and the marshes and are referred to as tidal shrublands. Like the other tidally influenced wetlands, there are freshwater and brackish forms and all experienced flooding on a twice-daily basis. The freshwater tidal shrublands are concentrated around the confluence of Herring Brook and the North River near the tidal swamp but on the east side of Herring Brook and just north of the Indian Head River, as well as to the west of Robinson Creek. The brackish tidal shrubland habitat is less extensive than the freshwater and is largely confined to a small area on the east side of Robinson Creek (NHESP b 2016).

This habitat type is devoid of over-story tree cover and is dominated by several wet-loving shrub species, with the most prevalent being sweet gale (*Myrica gale*) and both the smooth and speckled alders (*Alnus serrulata*

and *A. incana* ssp. *rugosa*). Other, less prevalent shrub species in this habitat include silky dogwood, swamp rose, winterberry holly, common elderberry (*Sambucus nigra* ssp. *Canadensis*), and buttonbush (*Cephalanthus occidentalis*), and poison ivy.

On the ground level, there are a variety of herbaceous plant species specially adapted to live in the wet and soggy conditions that characterize the tidal shrubland habitat. Some of these species include royal and marsh ferns, arrow arum, assorted bedstraw species (*Galium* spp.), and common cattail (*Typha latifolia*). There are also several more showy and colorful species such as false nettle (*Boehmeria cylindrica*), jewelweed (*Impatiens capensis*), swamp milkweed (*Asclepias incarnata*), and New York aster (*Symphytotrichum Novi-belgii*) (NHESP b 2016).

Tidal Marshes

Marshes are characterized by their lack of significant tree or shrub presence, and the clear dominance of herbaceous plant species, the majority of which can be classified as either grasses or reeds. In Pembroke, there are both freshwater and brackish tidal marshes, with the brackish tidal marshes found along the portion of the North River where Pembroke borders Norwell and the freshwater tidal marshes farther to the west across Route 53, and in the area where Herring Brook meets the North River. The most common grass or grass-like plants (graminoid) found in the tidal marshes are a combination of the narrow-leaved cattail (*Typha angustifolia*) and the

aggressive exotic common reed (*Phragmites australis*). Other commonly encountered but less prevalent species are freshwater cordgrass (*Spartina pectinata*) in freshwater areas and the salt marsh bulrush (*Bolboschoenus robustus*) in more brackish environments. Other species typical of this wetland habitat, especially along the banks of the river or stream, are switchgrass (*Panicum virginicum*), seaside goldenrod (*Solidago sempervirens*), rose mallow (*Hibiscus moscheutos*), saltmarsh sedge (*Carex paleacea*) and bent grass (*Agrostis stolonifera*) (NHESP c 2016).

In the lowest-lying areas of the tidal marshes, which experience the greatest level of inundation and sedimentation, are the mudflat species which include salt marsh cordgrass (*Spartina alternifolia*), common three-square (*Schoenoplectus pogens*), salt marsh fleabane (*Pluchea odorata*), water pimpernel (*Samolus reptans*), mud lily (*Lilaeopsis Chinensis*), and creeping spearwort (*Ranunculus reptans*). Less commonly found are Atlantic mud wort (*Limosella australis*), Parker's pipewort (*Eriocaulon parkeri*), and Eaton's beggar-ticks (NHESP c 2016).

NON-TIDAL WETLANDS

Pembroke also has several wetland areas that are not affected by the movements of the tide, and therefore are not exposed to the twice-daily flooding that occurs in the tidal habitats. Although there are many familiar species from the tidal habitat types, the non-tidal wetlands can also be home to a slightly different array of botanic characteristics than those which have adapted to the flooding regimes of the tidal

habitats. The non-tidal wetland environments, similarly, to their tidal variants, include tree-dominated swamps, intermediary wet shrub lands, herbaceous predominantly graminoid marshes, and the nutrient-poor and sphagnum-dominated bogs, as well as the richer and more diverse fens.

ATLANTIC WHITE CEDAR SWAMP

The largest tract of wetland habitat is the Great Cedar Swamp, in the northern portion of town (though there are several much smaller Atlantic white cedar swamps in the southwest area of town). This swamp floods one or more times per year, and the sediments deposited during those events create a nutrient- and mineral-rich soil that supports a three-tiered structure of canopy trees, shrubs, and understory trees, and a ground layer of herbaceous vegetation. The over-story for the Atlantic white cedar swamp is dominated, as the name would imply, by Atlantic white cedar (*Chamaecyparis thyoides*), with a strong representation of red maple (*Acer rubrum*). Additionally, there is a strong representation of yellow birch (*Betula allegheniensis*) which is characteristic of alluvial (as opposed to coastal) Atlantic white cedar swamps (NHESP d 2016).

In the understory grows several water-loving shrub species, which are adapted to survive and thrive in somewhat to fully saturated soil conditions. These species include highbush blueberry (*Vaccinium corymbosum*), summer sweet (*Clethra alnifolia*), and silky dogwood (*Swida amomum* formerly part of the

Cornus genus). In the ground cover below these shrubs grows various herbaceous species, including sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), and marsh fern (*Thelypteris palustris*). There are also forb species such as bugleweed (*Lycopus* spp.), marsh St. John's wort (*Triadenum virginicum*), and the heart-leaved twayblade (*Neottia cordata*), all of which intermingle with a somewhat sparse patchwork of sphagnum moss (*Sphagnum* spp.) (HNESP d 2016).

WOODED SWAMPS

The wooded swamps, wetlands that are dominated by an over-story of tree species, are more widely distributed through Pembroke than their tidal variations. The largest wooded swamp can be found along Herring Brook around the eastern edge of the Great Cedar Swamp, with smaller patches scattered throughout the town. These wooded swamp areas contain many of the same over-story tree species found in Atlantic white cedar swamps and tidal swamps, including red maples, yellow birch, ash, American elm, white pine, and swamp white oak. The main difference is the size and distribution of the trees. In the wooded swamps, the tree species tend to be less confined to raised hummocks because the flooding of these areas is less frequent, resulting in soil conditions that are favorable for supporting more and larger trees (NHESP e2015).

Below the over-story is a shrub layer of smaller woody species, including highbush blueberry, winterberry holly, swamp azalea, wild raisin (*Viburnum cassinoides*), summer

sweet, and red-osier dogwood (*Swida sericea*). Typically, in this type of habitat, greenbriers can also be found winding their way through the shrub layer.

On the rich and moist ground level, a variety of herbaceous species take advantage of the abundant moisture and shade to grow in lush carpets. The dominant plant form in this layer are ferns such as sensitive, cinnamon, and royal ferns. Mixed in with these are also skunk cabbage, jewelweed, and an assortment of different sedge species (NHESP e 2016).

SHRUB SWAMPS

Shrub swamps are characterized by a small percentage of stunted tree species and a dense and diverse shrub layer that makes up as much as 75 percent of the total species composition. The trees found in the shrub swamps are typically small red maples, gray birches, and white pines. These trees often range in size from less than three feet to no more than fifteen feet in height (NHESP f 2016).

Dominating this habitat type is a diverse cast of shrubs and bushes including species such as the speckled and smooth alders, winterberry holly, sweet gale, buttonbush, and both meadowsweet and steeple bush (*Spirea alba* ssp. *latifolia* and *S. tomentosa*). There is also swamp azalea, arrowwood, low-growing willows (*Salix* spp.) poison sumac (*Toxicodendron vernix*) dewberry (*Rubus hispidus*), and water willow (*Decodon verticillatus*).

Some of the herbaceous species typically associated with the wet and shady environment of the shrub swamp may include

many of the species of ferns and sedges listed in the previous sections, but the shrub swamps are also home to clearweed (*Pilea pumila*), turtlehead (*Chelone glabra*) and the vining and climbing devil's darning needles (*Clematis virginiana*) (NHESP f 2016).

MARSHES

As the trees become less prominent, the shrubs cover less than 25 percent of the landscape, and the graminoid species come to dominate, the habitat becomes classified as a marsh. These largely herbaceous areas have mucky, saturated soils that are seasonally inundated, with large areas year-round of standing water ranging in depth from three inches to three feet. In Pembroke, the largest area of this habitat type is located along Herring Brook northwest of Barker Street, with smaller patches distributed along Pudding Brook to the east (NHESP g and h 2016).

The sparse shrub layer in this community is made up of such species as smooth and speckled alders, and often sweet gale, steeple bush, and meadowsweet. Most of this habitat (75% or more) is made up of herbaceous species, with a significant proportion of grass or grass-like plants, including common and narrow-leaf cattails (*Typha angustifolia*), common reed, wool grass (*Scirpus cyperinus*), common three-square, blue joint grass, reed canary grass, rice cut grass (*Leersia oryzoides*), and assorted sedge species (NHESP h 2016).

There is also a slew of non-graminoid plant species that although they appear in lesser density and number than the grass-like plants, still are valuable contributors to the overall

functioning and health of the marsh environment. These include tear thumb, bulb let water hemlock (*Cicuta bulbifera*), swamp candles, beggar's-ticks, bedstraws, arrowleaf, and the slender leaved goldenrod (*Euthamia caroliniana*). The only fern species typically found in the marsh environment is the marsh fern (NHESP g and h 2016).

BOGS

The defining characteristic of a bog is the substantial presence of sphagnum ground cover and acidic, still, oxygen-poor water, which prevents the decomposition of organic material below its surface, thereby forming deposits of peat. Although there are several old and abandoned cranberry bogs located in town, the NHESP natural communities' data have listed only a single occurrence of naturally formed and unmanaged bogs.

There are typically few and very stunted tree species found within this habitat type, the most common of which is red maple, and in particular instances, Atlantic white cedar. Other woody vegetation common to this community includes several shrub species, most of which are members of the heath family and are specially adapted to thrive in very acidic and nutrient-poor conditions, including highbush blueberry, cranberry species (*Vaccinium* spp.), sheep and bog laurels (*Kalmia angustifolia* and *K. polifolia*), bog rosemary (*Andromeda polifolia*), Labrador tea (*Ledum* spp.), and Rhodora (*Rhododendron canadense*) (NHESP i and j 2016).

Along with the sphagnum moss, the herbaceous understory of the bog environment

is made up of a variety of specialized plant species that have developed adaptations allowing them to live in harsh conditions, including carnivorous plants such as the pitcher plants (*Sarracenia* spp.) and sundews (*Drosera* spp.), as well as three-leaved Solomon's seal (*Maianthemum Trifolium*), bog orchids (*Platanthera* spp.), and an assortment of sedges (NHESP i and j 2016).

FENS

Like bogs but of a less acidic and nutrient-poor character are fens. These habitat types are still quite water-logged and experience long periods of saturation and seasonal fluxes of inundation but are home to a greater diversity of species than bogs, and additionally are less dominated by sphagnum formations and peat deposits. In Pembroke, fens are found east of Hobomock Street, and a small patch has been identified off Valley Street between Upper and West Chandler Ponds (NHESP K and l 2016).

Fens typically include a light to moderate peat and sphagnum base with a moderately dense layer of small, mostly deciduous shrubs. These include groupings of sweet gale and water-willow, with less sporadic appearances of summer sweet, spireas, and leatherleaf (*Chamaedaphne calyculata*). Additionally, saplings or very stunted forms of red maple, white pine, or Atlantic white cedar typically reside in these habitats.

The herbaceous layer is highly variable, sometimes being dense and diverse, while in other instances being thinly distributed and made of only a small handful of species. Some of the more common species are St. John's

Worts (*Hypericum* spp.), arrowheads, arrow-arum, rose pogonia (*Pogonia ophioglossoides*), and Virginia chain fern (*Woodwardia virginica*). Typical of fens in New England is an assortment of graminoid species including cotton-grass (*Eriophorum* spp.), pond shore rush (*Juncus podocarpus*), beak-rushes (*Rhynchospora* spp.), beaked sedge (*Carex Utricularia*), woolly-fruited sedge (*C. lasiocarpa* ssp. *Americana*), white-beaked sedge (*Rhynchospora alba*), and twig sedge (*Dulichium arundinaceum*) (NHESP k and l 2016).

RARE AND ENDANGERED SPECIES

As the preceding sections have demonstrated, there are many diverse habitat types found in Pembroke. These habitats are home to many familiar species as well as rare species that have been officially recognized as being endangered, threatened, or rare to the point of being a listed species of special concern within the Commonwealth of Massachusetts. There are no species found in Pembroke that are on the federal list of endangered or threatened plant species (NHESP 2017).

According to the Massachusetts Division of Fisheries and Wildlife, there are six plant species categorized as endangered, threatened, or of special concern in Massachusetts. Among these are seabeach needlegrass (*Aristida tuberculosa*), which is a threatened species that is an annual grass that is typically found in coastal dunes but is less commonly found along sandy roadways and other loose

substrates that have been disturbed. The most recent recorded observation of this species in Pembroke was in 2004 according to the Division of Fisheries and Wildlife data (NHESP 2015).

Another critical species that is currently listed as endangered is the estuary beggar-ticks (*Bidens Hyperborea*), which was observed in Pembroke as recently as 2015. This annual species from the aster family is often found in the tidal wetland habitats in Pembroke and is more commonly found in regions farther north, it is at its southern range limit within Massachusetts. This means that there is an increased threat of habitat loss as the climate changes, and we experience an increase in global heating (NHESP b 2015).

Long's bittercress (*Cardamine longii*) is also an endangered species in Massachusetts. The last recorded observation of it in Pembroke was in 2012. This bittercress is a small, perennial member of the mustard family that is dependent on tidal wetland habitats for its survival. Like the estuary beggar-ticks it is currently at the southern end of its range in Pembroke, and as such is facing increasing pressure and threat as climate change progresses and the planet warms (NHESP c 2015).

One of the species listed as being of special concern is the New England blazing star (*Liatris scariosa* var. *novae-angliae*). It was last seen in Pembroke in 1997. This endemic species of the Aster family is found in disturbed and open habitats that are characterized by poor soil fertility and sandy, coarse substrate. It does

not fare well in later successional stages dominated by shrubs and trees (NHESP d 2015).

A threatened plant species of concern in Pembroke is the pale green orchid (*Platanthera Flava* var. *herbiola*), which has had no confirmed observations within the town since 1932, as reported by the Division of Fisheries and Wildlife, but it is still believed to be present within the town's borders in small and discreet populations. Its habitat is characteristically rich and wet environments that experience cyclic flooding and changes in water level. These conditions are most associated with the tidal wetlands found around the northern portions of Pembroke. (NHESP e 2015).

Hemlock parsley (*Conioselinum Chinese*), a perennial species in the carrot family is rare to the point of being listed in Massachusetts as a species of special concern. It is found in moist habitats such as swamps, bogs, and wet meadows. It is one of the few carrot family species found in wooded swamps, it is one of the more shade-tolerant species of that family. It has been noted as being particularly sensitive to disturbances, alterations in moisture regime, and pollution. Encroaching development in and around wetlands certainly has negative impacts on the few existing populations in Pembroke (NHESP f 2015).

The final plant species of concern found in Pembroke is the slender marsh pink (*Sabatia campanulata*), which is listed as endangered in Massachusetts and has had no confirmed observations within Pembroke since 1884. A small-statured perennial of the Gentian family,

the slender marsh pink is found in a variety of different habitat types from sandy or pebbly pond shores to mucky, rich wetlands to brackish tidal environments. Unlike many of the other listed rare and threatened species in Pembroke, the slender marsh pink is at the northern end of its natural range in Massachusetts, and although it is one of the more seldom-seen plants listed, it could potentially become more common as the climate changes and warms (NHESP g 2015).

The greatest concentration of habitat areas is found in the northern portion of town. The greatest diversity of different habitat types is centered on the confluence of the North/Indian Head Rivers and Herring Brook. This area also represents the largest block of core habitat area within Pembroke. This area is of high conservation value for the protection of natural resources.

E. FISHERIES AND WILDLIFE

WILDLIFE AND HABITAT INVENTORY

The great variety of environments found in Pembroke offers great habitats for several animal species. The largest, most encountered habitat type found in Pembroke is the coastal lowland oak-pine forest, which makes up most of the wooded, undeveloped areas of town. This habitat type is home to many animal species, though none of them are obligated to

that habitat, meaning that there are no species that rely solely upon this type of community.

Animals found in the lowland oak-pine forest include the catbird (*Dumetella* spp.), an assortment of warblers (*Mniotilta* spp.), the white-footed mouse (*Peromyscus leucopus*), gray squirrel (*Sciurus carolinensis*), and white-tailed deer (*Odocoileus virginianus*). Additionally, this habitat often supports some reptile species such as the Eastern box turtle (*Terrapene Carolina*) (NHESP 2016).

The Atlantic white cedar swamp is an important habitat for several species of amphibians and invertebrates including spring peepers (*Pseudacris crucifer*) and fairy shrimp (*Eubranchipus Vernalis*) (Mass Audubon 2017). Deciduous wooded swamps can host a great number of animal species like those found in the upland forest communities described above (NHESP b 2016). Shrub swamps provide many migratory bird species and small mammals such as cottontail rabbits (*Sylvilagus transitionalis*) with protection and food sources (NHESP c 2016).

Freshwater marshes are a favorite nesting area for many bird species such as grebes (Podicipedidae family) and a variety of duck (Anatidae family) species. These special habitats also support a great variety of frogs and other salamander species such as leopard frogs (*Lithobates pipiens*) and red-backed salamanders (*Plethodon cinereus*) (NHESP d 2016).

Bogs and fens have conditions that are inhospitable to most reptiles and amphibians, but larger mammal species and birds often

pass through and use them as temporary foraging sites or seasonal nesting grounds. Examples of animal species potentially found in this community include white-tailed deer (*Odocoileus virginianus*), red-winged blackbirds (*Agelaius phoeniceus*), and catbirds (NHESP e 2016).

Freshwater and brackish swamps and marshes in Pembroke contain many similar species to those found in the other habitats

described above with some variations, notably roosting great blue, and green herons (*Ardea Herodias* and *Butorides striatus*), raptor species such as the red-tailed hawk (*Buteo jamaicensis*), and wood duck (*Aix sponsa*) (NHESP f and g 2016).

The following inventory covers many of the macro-fauna found in Pembroke but is not a definitive listing of every species present.

Fish and Shellfish

Largemouth bass	<i>Micropterus salmoides</i>
Yellow perch	<i>Preca flavescens</i>
Pumpkinseed	<i>Lepomis gibbosus</i>
American eel	<i>Anguilla rostrate</i>
Brown Bullhead	<i>Ameiurus nebulosus</i>
White sucker	<i>Catostomus commersonii</i>
Freshwater mussel	<i>Unionoida family</i>
White perch	<i>Morone Americana</i>
Bluegill	<i>Lepomis macrochirus</i>
Chain pickerel	<i>Esox niger</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
White crappie	<i>Pomoxis annularis</i>
Herring	<i>Clupeidae family</i>

Waterfowl

Common Loon	<i>Gavia immer</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>

Double-crested Cormorant	<i>Phalacrocorax auritus</i>
Mute swan	<i>Cygnus olor</i>
Canada Goose	<i>Branta canadensis</i>
American black goose	<i>Branta hutchinsii</i>
Wood duck	<i>Aix sponsa</i>
Greater scaup	<i>Aythya marila</i>
Lesser scaup	<i>Aythya affinis</i>
Common goldeneye	<i>Bucephala Clangula</i>
Bufflehead	<i>Bucephala albeola</i>
Ruddy duck	<i>Oxyura jamaicensis</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Common merganser	<i>Mergus merganser</i>
Red-breasted merganser	<i>Mergus serrator</i>
American coot	<i>Fulica americana</i>
Mallard	<i>Anas platyrhynchos</i>

Hérons, Sandpipers, and Gulls

Great blue heron (<i>Ardea herodias</i>)	Green heron (<i>Butorides virescens</i>)
Great egret (<i>Ardea alba</i>)	Snowy egret (<i>Egretta thula</i>)
Black-crested night heron (<i>Nycticorax</i>)	Herring gull (<i>Larus smithsonianus</i>)
Yellow-crowned night heron (<i>Nyctanassa violacea</i>)	Ring-billed gull (<i>Larus delawarensis</i>)
Spotted sandpiper (<i>Actitis macularius</i>)	Greater blackback gull (<i>Larus marinus</i>)
Arctic tern (<i>Sterna paradisaea</i>)	

Hawks and Eagles

Cooper's hawk (<i>Accipiter cooperii</i>)	Red-tailed hawk (<i>Buteo jamaicensis</i>)
Osprey (<i>Pandion haliaetus</i>)	Bald eagle (<i>Haliaeetus leucocephalus</i>)

American kestrel (*Falco sparverius*)

Marsh hawk (*Circus cyaneus*)

Other Birds

Mourning dove (*Zenaida macroura*)

Common Flicker (*Colaptes auratus*)

Ruby-throated hummingbird (*Archilochus colubris*)

Purple martin (*Progne subis*)

Hairy woodpecker (*Leuconotopicus villosus*)

Downy woodpecker (*Picoides pubescens*)

Eastern kingbird (*Tyrannus tyrannus*)

Eastern phoebe (*Sayornis phoebe*)

Tree swallow (*Tachycineta bicolor*)

Barn swallow (*Hirundo rustica*)

Rough-winged swallow (*Stelgidopteryx serripennis*)

Blue jay (*Cyanocitta cristata*)

Fish crow (*Corvus ossifragus*)

Black-capped chickadee (*Poecile atricapillus*)

Tufted titmouse (*Baeolophus bicolor*)

White-breasted nuthatch (*Sitta carolinensis*)

Red-breasted nuthatch (*Sitta canadensis*)

Brown creeper (*Certhia americana*)

Carolina wren (*Thryothorus ludovicianus*)

Catbird (*Dumetella carolinensis*)

Northern mockingbird (*Mimus polyglottos*)

American Robin (*Turdus migratorius*)

Yellow Warbler (*Setophaga petechia*)

Pine Warbler (*Setophaga pinus*)

Yellow-rumped Warbler (*Setophaga coronata*) House sparrow (*Passer domesticus*)

Red-winged blackbird (*Agelaius phoeniceus*)

Baltimore oriole (*Icterus galbula*)

Common grackle (*Quiscalus quiscula*)

Brown-headed cowbird (*Molothrus ater*)

Northern cardinal (*Cardinalis cardinalis*)

Purple finch (*Haemorhous purpureus*)

American goldfinch (*Spinus tristis*)

Junco (*Junco hyemalis*)

White-crowned sparrow (*Zonotrichia leucophrys*)

Song sparrow (*Melospiza melodia*)

White throated sparrow (*Zonotrichia albicollis*)

Cedar waxwing (*Bombycilla cedrorum*)

Indigo bunting (*Passerina cyanea*)

Pine grosbeak (*Pinicola enucleator*)

Wood thrush (*Hylocichla mustelina*)

Scarlet tanager (*Piranga olivacea*)

Woodcock (*Scolopax minor*)

Great horned owl (*Bubo virginianus*)

Partridge (*Perdix perdix*)

Mammals

Raccoon (*Procyon lotor*)

Skunk (*Mephitis mephitis*)

Gray squirrel (*Sciurus carolinensis*)

Mole (*Scalopus aquaticus*)

Chipmunk (*Tamias striatus*)

Mouse (*Mus* spp.)

Otter (*Lontra canadensis*)

Woodchuck (*Marmota monax*)

Muskrat (*Ondatra zibethicus*)

Cottontail rabbit (*Sylvilagus transitionalis*)

Red squirrel (*Sciurus vulgaris*)

Opossum (*Didelphimorphia* spp.)

Shrew (*Sorex araneus*)

White-tailed deer (*Odocoileus virginianus*)

Red fox (*Vulpes vulpes*)

Mink (*Neovison vison*)

Reptiles and Amphibians

Snapping turtle (*Chelydra serpentina*)

Painted turtle (*Chrysemys picta*)

Box turtle (*Terrapene Carolina*)

Water snake (*Nerodia sipedon*)

Black racer snake (*Coluber constrictor*)

Green frog (*Rana clamitans melanota*)

Spotted salamander (*Ambystoma maculatum*)

(2005 OSRP)

Spotted turtle (*Clemmys guttata*)

Stinkpot Turtle (*Sternotherus odoratus*)

Garter snake (*Thamnophis sirtalis*)

Milk snake (*Lampropeltis triangulum*)

Leopard frog (*Lithobates pipiens*)

Bullfrog (*Lithobates catesbeianus*)

American toad (*Anaxyrus americanus*)

VERNAL POOLS

Vernal pools (sometimes called autumnal pools) are small, localized, and isolated areas of temporarily standing shallow water that have no fish for at least two months, and which typically develop in woodlands and low-lying areas. They can form in the fall or spring months and result from raised groundwater levels associated with precipitation, snowmelt, and/or the decreased evapotranspiration of deciduous trees after they drop their leaves. They typically range in size from a few yards to a few acres (NHESP 2009). They often retain their water into the summer months or in some cases even through to the next year, becoming a year-round water body for several years concurrently. These vanishing pools serve as crucial habitats for several amphibian and invertebrate species that rely on the fish-free, shallow water environment to lay their eggs and in which the young amphibians can live out their aquatic life stages (NHESP 2017).

One example of a species that is entirely dependent on vernal pools and is an indicator species for certifying the presence of vernal pools is fairy shrimp (*Eubranchipus Vernalis*), which are tiny crustaceans that live their entire lives in the pools, even though the dry periods of high summer and frozen periods of winter. Also, dependent on these water bodies are several amphibian species such as the spotted salamander (*Ambystoma maculatum*) and the blue-spotted salamander (*A. lateral*).

Species that are not dependent on the pools, but which make great and frequent use of them include the American toad (*Anaxyrus americanus*), and the small spring peeper frog (*Pseudacris crucifer*). Insects such as the caddish fly (class *Insecta*, order *Trichoptera*) can often be found using the protection and warmth of the temporary pools to hatch and grow their larval forms (Mass Audubon 2017).

Birds, mammals, and reptiles that are not as dependent on vernal pools as some of the amphibians and invertebrates benefit from their presence. Vernal pools provide valuable water resources and prey opportunities for many species in the surrounding woodland ecosystem. Their influence ripples out from their immediate locations to help sustain the rest of the forest (NHESP 2009).

In Massachusetts, there are at least five regulations that protect certified vernal pools. Vernal pools are eligible for protection under the Massachusetts Wetland Protection Act (WPA) as a function that provides habitat. The area of protection includes the vernal pool and up to 100 feet around the vernal pool borders. To receive protection, the vernal pool must be within a wetland resource area. The Massachusetts Surface Water Quality Standards designate certified vernal pools as Outstanding Water Resources that cannot receive new or increased discharges. This applies even if the certified vernal pool is not in a WPA-designated resource area. The Massachusetts Environmental Title 5 protects certified

vernal pools by setting a 50-foot minimum away from septic tanks and a 100-foot boundary away from septic leach fields. The Massachusetts Forest Cutting Practices Act Regulations require that no more than 50 percent of trees are cut within 50 feet of a certified vernal pool. They also require that no trees or treetops are felled into certified vernal pools and restrict the pools to staging areas or skidder trails. Communities can create zoning bylaws that further protect the vernal pool. Pembroke has not written any zoning bylaws which further protect vernal pools, but they may be able to protect both certified and uncertified vernal pools through bylaw amendments.

CORRIDORS

Wildlife corridors provide migration routes for many species and connect large patches of habitat. Corridors allow wildlife to travel unimpeded with access to food and shelter and relative protection from predators and the dangers of development (e.g., cars and pollution). By connecting habitats, these corridors provide access to resources that help populations thrive. Development, including homes and roads, has altered the landscape, blocking access to resources for many species. This fragmentation of travel routes has negatively impacted many migratory species and created the need to prioritize protecting still intact corridors, as well as trying to mend some of those already altered by development.

Different species have different corridor needs. Power lines, for example, offer travel routes for larger animals like coyotes and foxes. Contiguous tracts of woodlands also serve as important corridors for species such as the white-tailed deer. Currently, the largest contiguously protected parcels are in the wetlands of the Great Cedar Swamp, which is included on the maps created by the University of Massachusetts' Conservation Assessment and Prioritization System (CAPS) project. This project processes its results in an Index of Ecological Integrity (IEI). The corresponding map showed that the largest uninterrupted habitat areas in Pembroke, which could also be used as corridors, were found in the Great Cedar Swamp and the wetland areas in the southeast corner of town.

At a broader regional scale, many of Pembroke's ponds and flowing water bodies are connected to the Atlantic Ocean and provide important corridors for anadromous species that live most of their adult lives in the sea but return to freshwater to spawn, such as the herring and American eel. Streams and their corresponding riparian areas in Pembroke, such as Pudding Brook and Herring Brook, are crossed by major roads including Routes 53 and 14. It is important to assess whether these areas can provide sufficient migration access to species that use these aquatic and semi-aquatic corridors. Additionally, some efforts are in the works to monitor and ensure the passage of fish species within the region. The North and South Rivers Watershed Association has

worked to ensure that access is available for herring migration through the installation of fish ladders. One such ladder was built in Pembroke in Herring Brook.

RARE SPECIES

The Massachusetts Department of Fisheries and Wildlife’s Natural Heritage and Endangered Species Program (NHESP) has collected information on rare species and landscapes of concern. Many species have been sighted and recorded in Pembroke, mostly along waterways and wetlands. Habitat areas are dispersed throughout Pembroke and cross into the surrounding towns. The largest concentration of the many rare species in Pembroke is in the wetlands in the north of town, which encompasses the Atlantic Cedar Swamp. BioMap2 was built off the work produced by NHESP to guide the conservation of species of concern as well as natural communities and core habitats.

The NHESP list of species and natural communities includes:

Amphibians

- Four-toed Salamander (*Hemidactylium scutatum*) – Non-listed SWAP

Birds

- Sharp-Shinned Hawk (*Accipiter striatus*) – SC

Insects

- Damselflies
 - New England Bluet (*Engallagma laterale*) – Non-listed SWAP species

- Dragonflies
 - Spine-crowned Clubtail (*Gomphus abbreviatus*) – SC
 - Umber Shadowdragon (*Neurocordulia obsoleta*) – SC

Mussels

- Tidewater Mucket (*Leptodea ochracea*) – SC
- Eastern Pondmussel (*Ligumia nasuta*) – SC

Reptiles

- Eastern Box Turtle (*Terrapene Carolina*) - SC
- Eastern Ribbon Snake (*Thamnophis sauritus*) – Non-listed SWAP
- Northern Black Racer (*Coluber constrictor*) – Non-listed SWAP
- Spotted Turtle (*Clemmys guttate*) – Non-listed SWAP

Priority Natural Communities

- Estuarine Intertidal: Freshwater Tidal Marsh - S1
- Estuarine Intertidal: Fresh/Brackish Tidal Swamp - S1

Critical Natural Landscapes (CNL)

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.

According to the BioMap2 data, the most expansive tract of land that contains the largest diversity of rare species extends beyond the boundaries of Pembroke. The area shown contains species that are not listed as observed in Pembroke, including the Mocha Emerald (*Somatochlora linearis*), Least Tern (*Sternula Hirundo*), and Parker’s Pipewort (*Eriocaulon parkeri*). This core habitat area is important to species diversity within Pembroke and the adjacent towns of Hanover and Norwell. Other habitats and critical natural landscapes ignore town boundaries to the north and east, linking land in Pembroke and with that in Duxbury and Marshfield. Conservation efforts looking to protect species’ habitats must look beyond town boundaries and work to protect open space between communities.

In addition to the data collected through the BioMap2 project, NHESP maintains a list of all MESA (Massachusetts Endangered Species Act) documented observations by town. This list includes species not found in BioMap2, such as:

Birds

As New England evolves from farmland back to forest or to large-lot subdivisions, open land, which gives scenic vistas and reveals the underlying terrain, is increasingly rare. Past State (Department of Environmental Management) Inventories of Scenic Resources listed nothing in Pembroke or other non-

Bald Eagle (*Haliaeetus leucocephalus*) – T

Reptiles

Northern, Red-bellied Cooter (*Pseudemys rubriventris*) – E

Additionally, NHESP has listed various natural communities of conservation importance within Pembroke. However, some natural communities are not found within their database but are explored in other research. The Atlantic White Cedar Swamp that is in the northern wetlands of Pembroke is not listed. Because of this, some species of concern, such as Hessel’s Hairstreak (*Callophrys hesseli*), might be found in Pembroke but not recognized. Further, a study to delineate this habitat would be important for more accurate conservation efforts focused on specific species and their habitats.

F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

SCENIC LANDSCAPES

coastal portions of Southeastern Massachusetts since they concentrated on large-scale multi-community vistas, with considerable relief and good visibility from highways. Pembroke’s scenic areas are water related.

Pembroke’s many water resources (previously described) offer rich ecological diversity, cultural and historic relevance, and a source of recreation. As such, they figure prominently in the town’s scenic unique features:

Rivers and Streams

- Indian Head River
- North River
- Herring Brook
- Pudding Brook

Lakes and Ponds

- Oldham Pond
- Furnace Pond
- Great Sandy Bottom Pond

Although the DCR has not officially categorized any areas in Pembroke as scenic landscapes, the town abounds with beauty. Its combination of historical sites such as the Adah Hall farmhouse, many water features such as Herring Brook, and recreational opportunities like the Tucker Preserve nature trail provide habitat, and scenic interest, and contribute to the character of Pembroke.

- Horse Farms
- Town Forest/Mattakeesett Field

The historical Town Center along Route 14 acts as a crossroads in the center of Pembroke. The Town Center includes public buildings like the Town Hall and newly built public library as well as significant public spaces like the Town Green and Center Cemetery.

Although the Town Center is a significant feature that helps define the community, there are many more historic sites throughout Pembroke, the largest concentration of which sit along Route 53. Some of the most notable historic sites include:

- Adah Hall House
- The Town Pound
- Pembroke Friends Meeting House
- Gilbert H. West Box Factory
- North River Bridge

CULTURAL, ARCHEOLOGICAL, AND HISTORIC AREAS

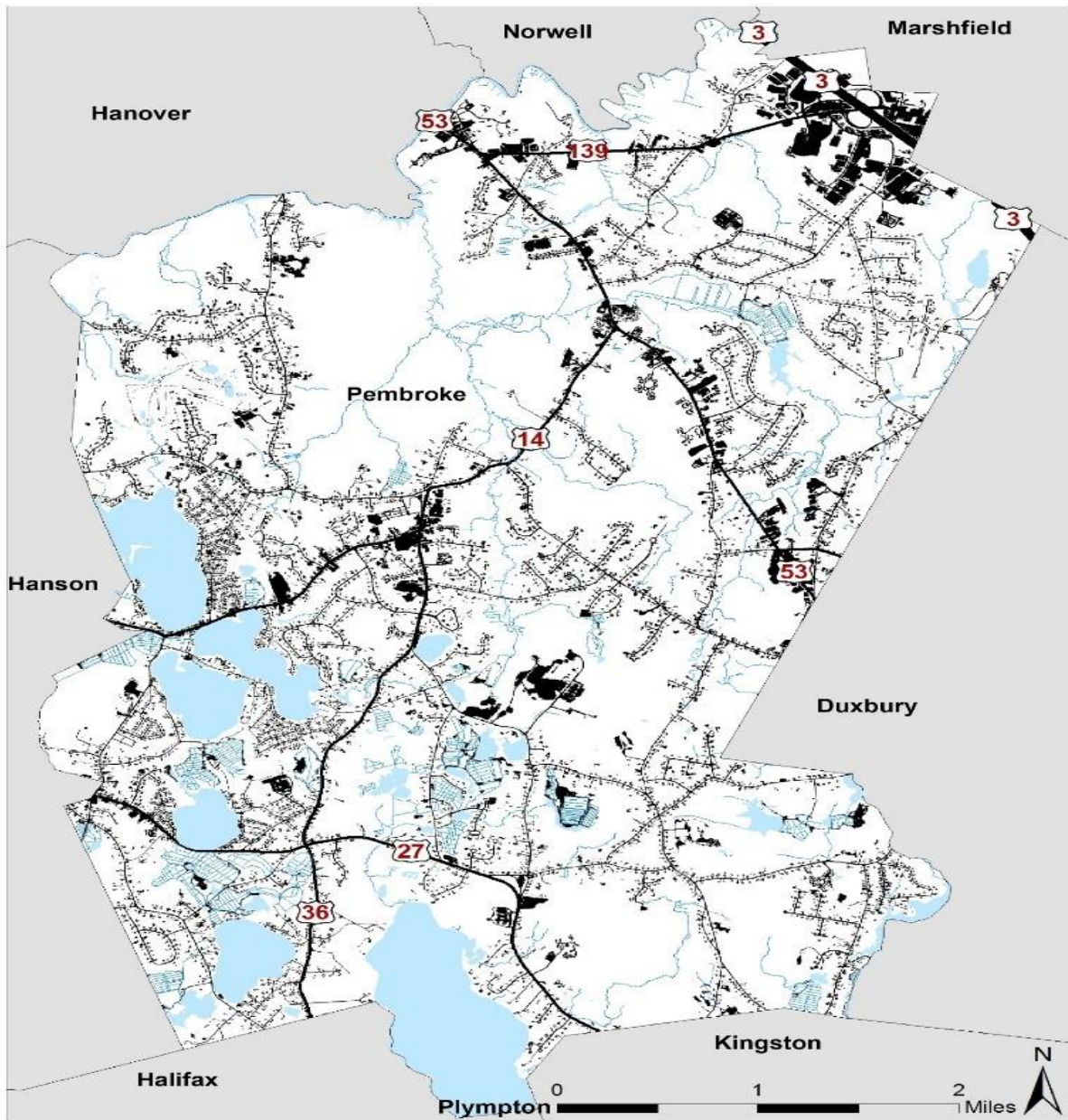
Pembroke’s long and rich history has left several culturally significant and historic sites throughout the town. One such site which holds significant ties to the early American Revolution is the Friends Meeting House. This 1706 structure, which can still be seen standing today on Washington Street, is the oldest building in Pembroke, and one of the oldest Quaker Meeting Houses in the United States. It was also the site of one of the very first active public outcries and declarations against British rule in the early American colonies. The people assembled in that small meetinghouse and drafted an official declaration which they sent to the King of England espousing their discontent in reaction to the unjust taxation applied to the colonies (2005 OSRP).

Another culturally significant site about the founding of the United States is the Brick Kiln Shipyard. Located on the banks of the North River in the northern reaches of Pembroke, the Brick Kiln Shipyard turned out some of the most famous eighteenth-century New England vessels, including the British brig *The Beaver*, which was one of several boats involved in the Boston Tea Party in 1773. Other well-known vessels built here were the *Columbia*, which was the first ship to successfully circumnavigate the globe, and *the Bedford*, which was the first ship to take the American flag into a foreign port.

The old blast furnace site, which was constructed in 1702 on the shores of what is today known as Furnace Pond (the pond is a manmade pond made to support the furnace), was the home of the very first American-made cannon, cast from the iron ore dredged from the sediments of the pond.

Pembroke also is home to one of very few (estimated no more than a half dozen in New England) original town pounds. This small stone enclosure can still be seen today at the Town Common not far from the Town Hall and was originally constructed in 1824 to temporarily house “strays and other disturbers of the bovine peace” (2005 OSRP). In total, there are 50 designated historic sites in Pembroke, which range in age from 357 to 70 years and include a combination of still-standing structures and sites where historic structures once stood. They are concentrated along Routes 53 and 14 in the northern end of town, in the Historic District and the Center District, but also occur in less dense groupings in the northeast and southwest portions of the town (MassGIS 2016).

Figure 7: Impervious Surfaces depicted in Black.



INVENTORY OF HISTORIC SITES

HISTORIC NAME	COMMON NAME	ADDRESS	CONSTRUCTION
		144 Water St	1820
		151 Washington St	1900
Abington and Rockland Joint Water Works		14 Pumping Station Ave	1886
Barker, Lt. Robert Jr. House - Parris Farm	Fairfield, Elizabeth Nursing Home - Briggs Farm	172 Washington St	1705
Barker, Peleg House		443 Center St	1855
Barker, Thomas - Collamore, Dr. Anthony House		225 Washington St	1713
Bethel Chapel		Washington St	1851
Bishop, Hudson House		101 Oldham St	1704
Bryantville United Methodist Church		540 Mattakeesett St	1825
Central Grammar School Building	Pembroke Center Public Lending Library	Center St	1923
Chamberlain, Capt. Freedom House	Josselyn, Johnathan house	359 West Elm St	1785
Cobb Library		Union St	1900
Columbia Bridge	Columbia Road Bridge over North River	Columbia Rd	1930
Cushing - Whitman, Judge Kilborn House		44 Center St	1765
Cushing, Capt. Josua House	Little, Issac House	84 Little's Ave	1710
East Pembroke Village Post Office		Elm St	1942
First Church of Christ in Pembroke	Old Indian Church	Center St	1837
First Parish Church Sewing Circle	Pembroke Town Center Library	Center St	1858
Foord, William House		4 Taylor St	1660
Hall, Adah - Barker, Robert Jr. House	Pembroke Historical Society Museum	52 Barker St	1765
Hatch, Capt. Seth House		132 Water St	1765
Hatch, George Francis High School	Pembroke School Department Building	36 Center St	1907
Hatch, Seth Jr. House		161 Water St	1725
Hexagonal House - Briggs, Luther Jr. House		206 Washington St	1853
Josselyn, Henry House		319 West Elm St	1701
Keene, Benjamin House		368 Pleasant St	1703
Keene, Josiah House	Squire Keene Mansion	75 Barker St	1749
Kings Highway Inn	Arnold, F. P. Company Shoe Factory	242 Washington St	1660
Magoun, John House		248 Water St	1666
Magoun, Paul House		186 Water St	1830
Mitchell, Jacob - Turner, Barker House		2 Brick Kiln Ln	1738
Morton, Capt. Silas - Torrey, Caleb House		331 Washington St	1770
North Pembroke Schoolhouse and Barn	Turner's Prime Tavern	Washington St	1750
North River Bridge	Old Washington Street Bridge over North River	Old Washington St	1904
Old Bay Path Stone Bridge		West Elm St	1682
Pembroke Fire Department Company #1		37 School St	1947
Pembroke Fire Station	Pembroke American Legion Headquarters	37 School St	1912
Pembroke Friends Meetinghouse	Scituate Upper Meetinghouse	Washington St	1706
Pembroke Grammar Schoolhouse #6	Pembroke Historical Society Museum - Swamp School	Center St	1847
Pembroke Town Pound		Center St	1712
Randall, Job House		300 Water St	1700
Salmond, Peter House		60 Allen St	1750
Simmons, Joseph E. Post 111 G. A. R. Hall	Pembroke Police Association Boy's Club	140 Center St	1896
Standish, David House	Briggs, Luther House	69 Brick Kiln Ln	1750
Turner, Capt. Job House		409 Washington St	1730
Turner, Elmer House		116 Washington St	1890
Turner, Isaiah Alden House		126 Washington St	1850
Turner, John House		147-149 Washington St	1760
Turner, Thomas House	River House, The	2 Old Washington St	1732
West Box Factory Worker Housing	Box House	Washington St	1890
West Box Factory Worker Housing	Box House	Washington St	1890
West Box Factory Worker Housing	Box House	Washington St	1890
West Box Factory Worker Housing	Box House	Washington St	1890
West Box Factory Worker Housing	Box House	Washington St	1890
West Elm Street Bridge over Indian Head River		West Elm St	1894
West, Gilbert H. Box Factory		369 Washington St	1939
West, James Horace House		18 Pleasant St	1855
Whitman, Dea. Seth House	Barker, Samuel House	137 Barker St	1837

UNIQUE ENVIRONMENTS

The previous sections on plant and animal communities (Section 4 Parts D and E) have outlined how the many wetland environments

and copious water resources, in combination with a large amount of undeveloped land (approximately 70%), have contributed to the formation of a great variety of habitat types throughout Pembroke. Most notable of these are the tidal swamps, marshes, and the large

Atlantic white cedar swamp. All these environments are concentrated in the north-central portion of the town. There are currently no officially recognized Areas of Critical Environmental Concern in Pembroke as defined and delineated by the Massachusetts Bureau of Land Management.

UNUSUAL GEOLOGIC FEATURES.

The USGS indicates that the counties of Bristol, Norfolk, and Plymouth contain the Rhode Island Formation, a sandstone, graywacke, shale, and conglomerate with minor beds of meta-anthracite. Rhode Island Formation is the thickest and most extensive formation in the Narragansett basin. Does not extend to the Norfolk basin. Consists of gray sandstone and siltstone and lesser amounts of gray to black shale, gray conglomerate, and coal beds 10 m thick. Interfingers with Wamsutta Formation in Narragansett basin. Geologic hazards can include earthquakes, landslides, sinkholes, and subsidence. Statewide data did not identify any local areas that were previously recorded as being vulnerable to geologic hazards.

G. ENVIRONMENTAL CHALLENGES

The primary environmental challenge is improving the water quality of its lakes, ponds, rivers, and streams. Development has resulted

in a host of negative impacts on Pembroke’s water resources, including weed growth, poorly planned shoreline development, poor erosion control, and/or non-point pollution such as washing away the salt from roadway maintenance efforts, fertilizers from lawn maintenance, or pesticide applications. Any of the environmental challenges listed here may have a greater likelihood of impacting environmental justice populations than they may other segments of the population.

Environmental justice is rooted in a common understanding that all people have a right to be protected from environmental pollution and to be surrounded by clean, healthy environments. Often historical legacy, siting of major roadways, and negative impacts of the previous industry have greater adverse impacts on minority or low-income populations than on those who are not. There are no environmental justice populations in the Town of Pembroke. The nearest block group is in Hanover MA and is an EJ population with the criteria Income. The EJ characteristic of this block group is a median household income of \$52,438 (2020 Census) which is 61.1 percent of the Massachusetts median income. The total minority population of this block group is 14.2 percent and households with language isolation account for 8.9 percent of households. This municipality has a median household income of \$127,981, which is 149.1 percent of the Massachusetts MHHI. In 2019 this block

group had a population of 1,236 in 494 households.²

Pembroke’s efforts to manage stormwater runoff are also contributing factors to the quality of the Town’s various water resources. Water from storm events flows across impervious surfaces (pavement, rooftops, and other surfaces that prevent water from sinking into the ground) and is collected in various stormwater management devices (pipes, detention ponds, etc.) before being channeled into a wetland, waterbody, stream, or river. Many Massachusetts communities are investigating the use of Low Impact Development (LID) stormwater management techniques as a method to reduce negative stormwater impacts. LID techniques are low-cost methods that use better site design practices and natural systems to reduce stormwater impacts. Otherwise known as “country drainage”, LID techniques use grassy swales and vegetated buffers to absorb and filter stormwater. LID methods can replace the more expensive “pipe and pond” practices that gather stormwater in large collection systems (detention ponds).

STEWARDSHIP

Stewardship of natural resources requires a multi-faceted approach. Conservation lands and trails; rivers and streams; wildlife; agricultural fields, and water resources are all ecologically intertwined, but each has its unique challenges that require management

plans for protection. Active stewards who assume responsibility for natural resources are charged with protecting, managing, and providing education about these resources. Active participation and investment by community leaders can inspire others to get involved. Neighborhoods that border natural resources can also serve as stewards and can organize into “Friends” groups to support the responsible use of natural resources. Community education and awareness of natural resources and their threats will be important to cultivating stewardship in the community.

VOLUNTEERISM

Stewardship cannot exist without volunteerism. Volunteerism plays an important role in the success or failure of conservation activities. It is easy to ask people if they care about conservation. Most people agree that conservation initiatives are important to the town. The survey results confirm that Pembroke residents value conservation. The challenge is getting enough of those people involved as volunteers regularly. With all modern life responsibilities and stressors, it can be difficult to convince people to add more to their already full plates.

The opportunity in conservation-based volunteerism is that people can incorporate many beneficial conservation activities into their existing routines. If you walk your dog or have fun on the same trail every day, maybe

² <https://mass-eoea.maps.arcgis.com/apps/webappviewer/index.html?id=1d6f63e7762a48e5930de84ed4849212>

you become a steward of that trail, meaning you pick up trash as you walk, or you keep a lookout and report any illicit behavior you come across. Maybe you lead your child’s scout troop and see an opportunity to build a trail kiosk as part of their Eagle Scout project. These are seemingly small changes to one’s life that can make a big difference in the conservation goals of the community. Participating in small ways can nurture a larger interest and may inspire people to get involved in a larger capacity, for example sitting on a committee, organizing a community event, or getting involved in fundraising. In natural resource protection, there are many ways to become a volunteer that fit individual interests and lifestyles.

FUNDING

Funding plays a significant role in natural resource preservation. Land acquisition, property clean-up, stormwater infrastructure, trail engineering, and invasive species removal all come with associated costs. Conservation projects usually require a unique funding strategy, combining town resources, grant money, and private donations. Community awareness and volunteerism, as touched on previously, play an integral role in garnering support and funding for projects that promote natural resource preservation. Grant opportunities are competitive but available, like Land Grants. Many times, private donors have an interest in donating to the conservation of property that has special meaning to them. Environmental foundations may donate to projects that fulfill the ecological goals they

support. Knowing where to find funding and piecing together different funding sources is a challenge for natural resource projects, but with dedicated volunteers and community support, it is not out of reach.

HABITAT LOSS AND FRAGMENTATION

Habitat loss and fragmentation of open space are challenges that many communities face. Ideally, we would like to have a contiguous network of open space for wildlife migration and ecological connectivity. Practically, this can’t always be the case due to the variety of ways that open space parcels are acquired. A cohesive open space plan and criteria for high-value natural resources can help strategize which properties to focus on for connectivity and habitat purposes.

Habitat loss occurs most frequently through sprawl, a dispersed and cumulative development pattern that can consume the landscape. It is important to create awareness about the threats and strategize plans for habitat protection.

It is also important to preserve ecologically fragile and significant habitats, like wetlands and vernal pools, which serve as feeding and breeding areas for many species. Actively maintaining Pembroke’s natural resources and wildlife will help to maintain Pembroke’s rural character. Maintaining an accurate list of wetlands that would benefit from restoration efforts and/or are particularly vulnerable to habitat loss is also important.

WATER QUALITY AND STORMWATER MANAGEMENT

Water quality and stormwater management go hand in hand. Nearly everyone has seen the effects of stormwater at one time or another: streets and basements flood, erosion threatens properties, and drinking water sources become compromised. However, other implications of stormwater are not so easily seen. For example, without properly maintained stormwater infrastructure, oils and sediments, enter the municipal drainage system and are eventually deposited into local rivers, deteriorating the water quality to the detriment of plants, wildlife, and the people who enjoy them. Additionally, without proper stormwater management, the quantity and quality of the drinking water supply are threatened.

So, what can be done? Educating the community about water quality and stormwater should be a priority so that people become aware of why they should care about stormwater. Stormwater management bylaws and regulations, utilizing best management practices, for both commercial and residential development, should be adopted and enforced. Identifying wetlands that contribute to water quality protection is another strategy. In fact, with the rollout of the EPA's MS4 Permit process over the past few years, municipalities will be responsible for any illicit stormwater discharges and the quality of those discharges, resulting in fines if not compliant. This OSRP is

a good opportunity to prioritize these issues so that as a community we can start exploring and drafting bylaws to regulate and manage stormwater and water quality for the protection of rivers and streams, and personal property.

TRAIL MANAGEMENT

Trails create opportunities to access land and water for residents and tourists to enjoy natural, scenic, and recreational areas. Access to recreational trails was identified as a priority by those who participated in the OSRP survey and visioning sessions.

There are twelve hiking trails in the Town of Pembroke, with nine that have trailhead parking. Trail Head parking locations for each trail map are listed on the Town website at www.Pembroke-ma.gov. A map depicting the nine hiking trails is included in the Appendix. The Pembroke Hiking Trails with trailhead parking include:

- 34 Ingham Way Misty Meadow Conservation Area
- 80 Learning Lane PHS Trail
- 81 Learning Land Hobomock Trail
- Off Washington St. Canoe Clue
- Old West Elm Tucker Preserve
- Willow Brook Farm
- JJ Shepherd Memorial Forest
- Tubbs Meadow
- Veterans Commemorative Forest

Select the trail listed below for a map to follow:

Bay Circuit Trail Map - <https://www.pembroke->

[ma.gov/sites/g/files/vyhli3666/f/uploads/bay_circuit_map.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/bay_circuit_map.pdf)

Bicentennial Trail Map -

https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/bicentennial_trail_map.pdf

Canoe Club Preserve Trail Map -

https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/canoe_club_preserve_and_map.pdf

Hobomock Trail Map -

https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/phs_hobomock_trails_1.pdf

Indian Head River Trail Map -

[ihr trail map brochure final.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/ihr_trail_map_brochure_final.pdf) (Pembroke-ma.gov)

Misty Meadows Conservation Area -

[misty meadows 0.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/misty_meadows_0.pdf) (Pembroke-ma.gov)

Pembroke High School Trail Map -

[phs hobomock trails 1.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/phs_hobomock_trails_1.pdf) (Pembroke-ma.gov)

Shepherd's Forest Trail Map -

[shepherds forest trails 0.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/shepherds_forest_trails_0.pdf) (Pembroke-ma.gov)

Tubb's Meadow Conservation Area -

[tubbs meadow trails 0.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/tubbs_meadow_trails_0.pdf) (Pembroke-ma.gov)

Tucker Preserve -

[tucker preserve trail map and summary.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/tucker_preserve_trail_map_and_summary.pdf) (Pembroke-ma.gov)

Veteran's Commemorative Town Forest -

[veterans commemorative town forest 0.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/veterans_commemorative_town_forest_0.pdf) (Pembroke-ma.gov)

Willow Brook Farm -

[https://www.pembroke-](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/willow_brook_farm_map.pdf)

[ma.gov/sites/g/files/vyhli3666/f/uploads/willow_brook_summary_and_map.pdf](https://www.pembroke-ma.gov/sites/g/files/vyhli3666/f/uploads/willow_brook_summary_and_map.pdf)

CLIMATE CHANGE

The Commonwealth of Massachusetts is already experiencing climate change in the form of hotter summers and warmer winters, rising sea levels and seawater temperatures, more frequent flooding, and changes in precipitation patterns both in frequency and intensity. These climatic changes are having effects on natural and human communities across the state (Rao, 2011).

Changes in precipitation, winter snowpack and snowfall, and extreme storm events have increased base and average stream and river flow in many parts of New England. (Climate Action Tool, a) Increased intensity of rain events can increase the delivery of excess nutrients and pollutants to downstream and coastal habitats. Fluctuations in rainfall seasonally have effects on stream and river flow volume and can affect groundwater and aquifer recharge, and the frequency and severity of flooding events (Rao, 2011).

Temperature changes are leading to a shifting of seasons. Spring is arriving earlier, and fall is changing later, resulting in longer summers and milder winters. This has far-reaching implications on plants and wildlife as species have adapted to rely on climatic signals for almost every aspect of their survival in Massachusetts including migration, hibernation and emergence, reproduction, and development (Climate Action Tool).

Impacts of climate change on humans include health and safety issues, and

disruption to infrastructure and natural systems we all depend upon.

Climate projections point toward these changes continuing to increase for the foreseeable future. Implementing strategies for adapting to and mitigating these changes is integral to the longevity and sustainability of Pembroke. Strategies often can achieve multiple benefits, offering adaptive and mitigative values, such as aggregation and protection of large parcels of core critical habitat or creating open spaces where surface and stormwater can be directed and allowed to infiltrate such as what has been done at the Pembroke High School. Suggested actions in the seven-year action plan (see Section 9) aim to help Pembroke adapt to and mitigate climate change whenever possible. Creating a town-wide or region-wide Climate Action Plan is strongly recommended to help coordinate efforts across municipalities and town government bodies (Rao, 2011).

EROSION

Although it was reported to be a non-issue in the 2005 OSRP, erosion is likely to occur to some extent around the town. Observations of overgrazed horse paddocks, inadequately vegetated slopes and stream banks, and non-paved roads and driveways, in combination with reports of sedimentation issues in some of the town's ponds, led to the conclusion that erosion is occurring. Construction sites or areas of disturbed and exposed soil, of which many have been observed in Pembroke, can also be prone to erosion, and practices such as silt fences and retention ponds are now common

practices for most developers. It is unclear to what extent these techniques are being practiced in Pembroke.

SEDIMENTATION

Sedimentation is caused by the deposition of particles that have been eroded by wind or water. Sediment that is deposited in a waterbody can cause high turbidity, loss of depth, and cover fish spawning areas. Often this deposition of soil materials adds excess nutrients to the water body, leading to eutrophication and algal blooms (MassDEP, NPS manual).

Sedimentation is a concern around Oldham and Furnace Ponds. In Furnace Pond, the 2005 OSRP cites a state-funded project to install catch basins and trap systems to manage sedimentation into ponds. At the time, the project was 72 percent complete, and sedimentation chambers were installed at Indian Head Park (the head of the North River) to control street drainage into the Indian head pond and the North River.

A dredging feasibility study was conducted in 2007 to explore the removal of the sediment layer in Furnace Pond. As the pond decreases in-depth, its waters warm up increasing undesirable plant growth and algal formations. Subsequently, in 2011 an investigation was conducted to study the hydrological effect dredging may have on the town's aquifer. Initial recommendations prioritize dredging where sediment is deepest, and its removal is likely to have the least effect on groundwater. The report also provides rough estimates on the cost of dredging and

suggests selling the dredged material “for beneficial uses.” As of March 2017, the town has yet to proceed with dredging Furnace Pond. The town’s limited resources have gone to control algae and invasive aquatic species in these water bodies (conversation with town representatives 3/4/17). Pembroke needs to address erosion and resulting sedimentation to maintain the health and recreation opportunities in these water bodies.

FLOODING

According to the Massachusetts Emergency Management Agency (MEMA), as of 2022, there were 39 National Flood Insurance Program (NFIP) policies in force in Pembroke. Only eleven claims were made from 1978 to November 2013, totaling \$21,590. Additionally, there are no Repetitive Loss (RL) or Severe Repetitive Loss Properties (SRL) in Pembroke. According to the 2005 OSRP update for Pembroke, the property at Oldham and Pheasant Lane is the lowest point in town and has experienced flooding problems. It is unclear whether the property owners or the town have made any efforts to address this issue.

Sea level rise and more intense rainfall events are projected for Massachusetts in the coming years. This suggests that flooding may become a more regular event and that the extent of these events may exceed current trends (Rao, 2011). Protecting areas that can mitigate flooding through absorption and ground infiltration and minimizing the development of more impermeable surfaces

throughout Pembroke, will help reduce the threat of flooding.

HAZARDOUS WASTE AND BROWNFIELDS

At the current writing, there are no recognized brownfield sites in town according to the Massachusetts Department of Environmental Protection (DEP). The closest official brownfield sites are located to the west and northwest in the neighboring communities of Hanson and Hanover, with the nearest site being a little more than a mile over the town boundary. There are designated sites within five of the eight abutting towns (Mass DEP 2014). The proximity to Pembroke and the total number of sites upstream from Pembroke make the risk of contamination a real concern, especially given the likelihood of increased flooding events in the wake of continued climate change.

According to Massachusetts DEP, there are no listed hazardous waste sites in Pembroke. There are, however, several sites that are registered as large-quantity toxic users (LQTU), and large-quantity toxic generators (LQG) (MassGIS 2016). Several of these sites are located near Pembroke and are located in the upslope of the town.

In the Town of Pembroke, there are concerns about hazardous waste due to potential impacts on the drinking water supply, threat of surface contamination, and groundwater pollution.

Brownfields, while a challenge, also present opportunities for redevelopment in

areas that already have the infrastructure in place. In addition, these sites can save the development of “green sites” that would otherwise be developed.

DEP maintains detailed records of contaminated sites in the Commonwealth and charts the progress of cleaning efforts at each site under the state’s waste site cleanup regulations, the Massachusetts Contingency Plan. The progress of the cleanup efforts and the compliance status of these sites are available for public information on the DEP searchable waste site list weblink: <http://public.dep.state.ma.us>

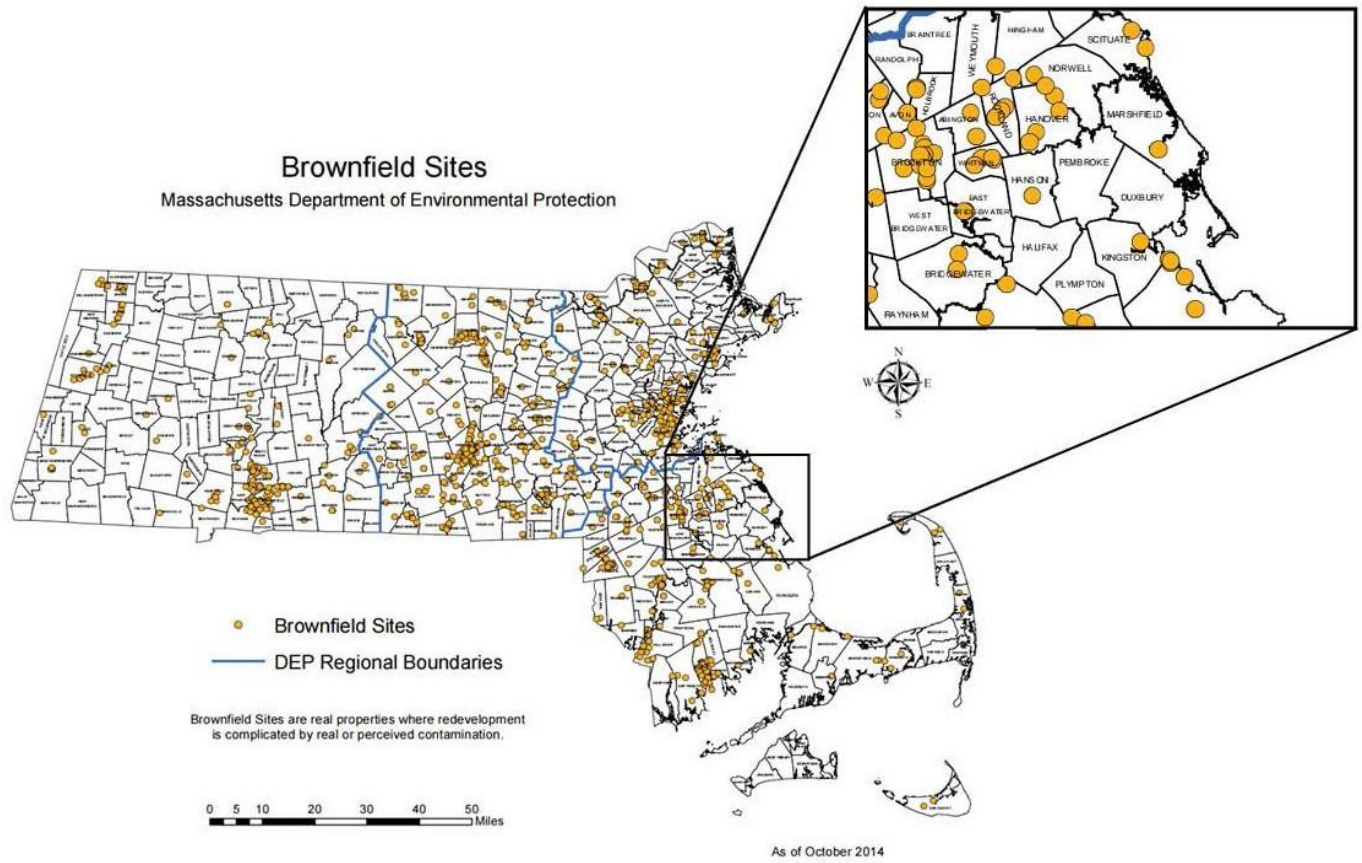
The Executive Office of Energy and Environmental Affairs (EEA) Waste Site and Reportable Releases for Pembroke indicate seventy-nine sites that have undergone some

level of petroleum or hazardous material cleanup as reported in the MassDEP 21E Reportable Release database. Eight sites were Phase II, one site was Phase III, and four sites were Phase V.

Figure 7 shows a map of the Waste Site and Reportable Releases for the Town of Pembroke. Open Sites are indicated in red dots, Closed Sites are shown in blue dots, and Closed Sites with Use Limitations are depicted in green dots.

There are two Open Sites indicated in the Figure which are depicted in red font and one Closed with Site Use Limitations depicted in green font on the table of Reportable Releases.

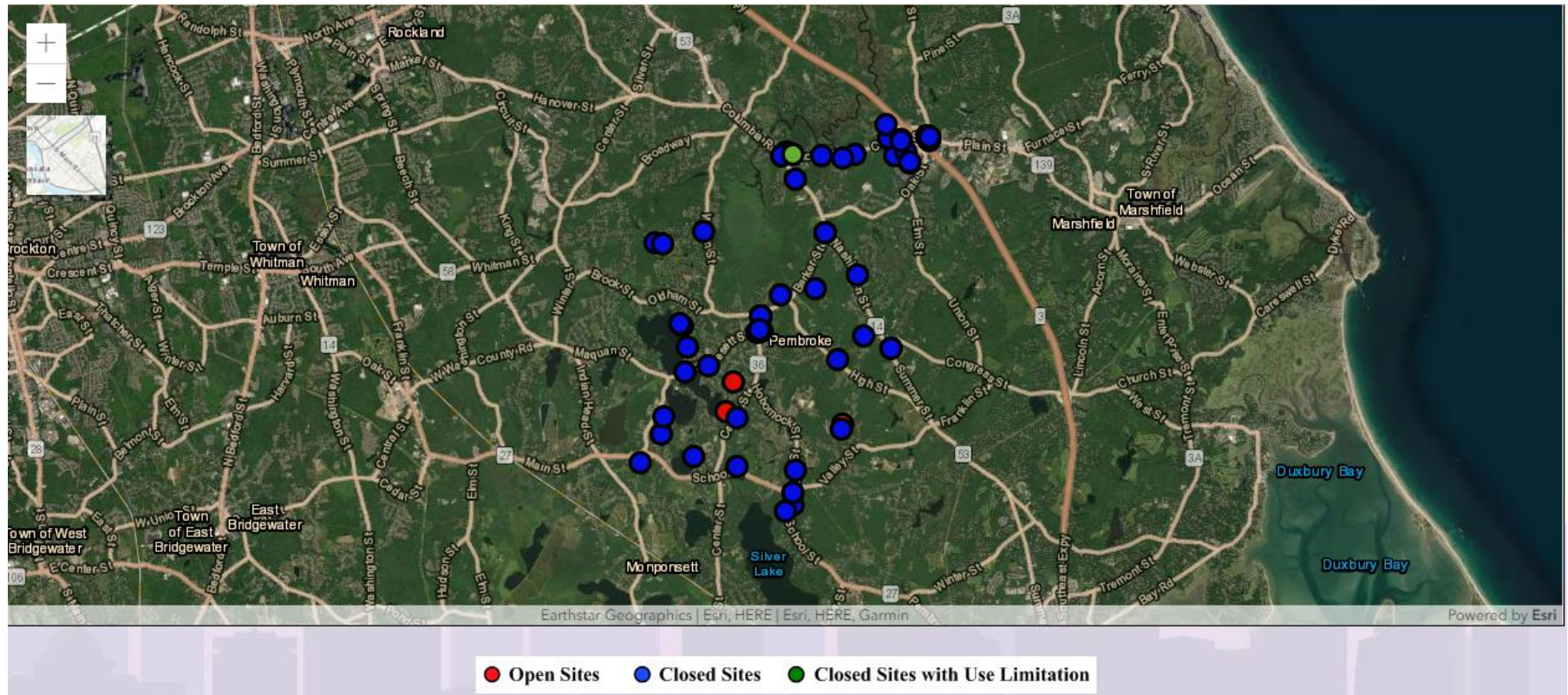
Figure 8: Brownfield Sites in Massachusetts



Map produced by Massachusetts Department of Environmental Protection

<http://www.mass.gov/eea/docs/dep/cleanup/bfmap1014.pdf>

Figure 9: Waste Sites and Reportable Releases



CHAPTER 21E SITES

RTN	City/Town	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
4-0028461	PEMBROKE	IVO 74 TO 100 ELM STREET	EASY DISPOSAL	TWO HR	08/18/2020	PSNC	09/30/2020		PN	
4-0028288	PEMBROKE	IVO 8 BLALTZER DRIVE	HYDRAULIC OIL RELEASE	TWO HR	04/27/2020	PSNC	06/29/2020		PN	
4-0028268	PEMBROKE	254 TAYLOR STREET	DIESEL FUEL RELEASE	TWO HR	04/12/2020	PSNC	06/10/2020		PN	
4-0027783	PEMBROKE	42 HIGH AVENUE	PRIVATE RESIDENCE	TWO HR	05/22/2019	PSNC	10/29/2019		PN	
4-0027547	PEMBROKE	92 GORHAM AVE.	EZ DISPOSAL TRASH TRUCK ACCIDENT	TWO HR	11/07/2018	PSNC	12/12/2018		PN	
4-0027139	PEMBROKE	IVO 722 WASHINGTON ST	POLE 129-30 AND 129-31	TWO HR	03/07/2018	PSNC	05/07/2018		PN	
4-0026915	PEMBROKE	NEAR 38 ALLEN ST	ALLEN STREET	TWO HR	10/30/2017	PSNC	11/29/2017		PN	
4-0026643	PEMBROKE	166 CENTER STREET	FORMER GASOLINE STATION	120 DAY	05/11/2017	TIER1D	05/18/2018			
4-0026439	PEMBROKE	158 CENTER STREET	NEW ENGLAND QUILT WHOLESALE	120 DAY	11/30/2016	DPS	01/06/2017			
4-0026100	PEMBROKE	125 CHURCH STREET	BEHIND STOP AND SHOP	TWO HR	05/16/2016	PSNC	07/15/2016		PN	
4-0026088	PEMBROKE	243 CHURCH ST	FORMER SHELL STATION	72 HR	05/12/2016	RTN CLOSED	09/11/2016			
4-0025981	PEMBROKE	139 CHURCH STREET	KOHL'S DEPARTMENT STORE	TWO HR	02/16/2016	PSNC	04/18/2016		PN	
4-0025879	PEMBROKE	56 GORHAM AVE	RESIDENCE	TWO HR	11/19/2015	PSNC	09/26/2016		PN	
4-0025817	PEMBROKE	355 WASHINGTON STREET	XTRA MART CONVENIENCE STORES	TWO HR	10/05/2015	PSNC	09/22/2016		PN	
4-0024396	PEMBROKE	208 CHURCH STREET	MOBIL STATION	72 HR	01/31/2013	RTN CLOSED	03/06/2013			
4-0024272	PEMBROKE	NEAR 7 DWELLEY ST	TRANSFORMER RELEASE	TWO HR	10/30/2012	RAO	12/27/2012		A1	
4-0023849	PEMBROKE	VIC 263 MATTAKEESETT ST	RT 14 ROADWAY	TWO HR	03/09/2012	RAO	05/03/2012		A1	Oil
4-0023840	PEMBROKE	208 CHURCH STREET	MOBIL GAS STATION	72 HR	03/09/2012	REMOPS	03/09/2021	PHASE V		Oil
4-0023826	PEMBROKE	174 DWELLEY ST.	RESIDENCE	TWO HR	03/01/2012	RAO	04/30/2012		A2	Oil
4-0023825	PEMBROKE	60 WASHINGTON STREET	THE PROTECTOWIRE COMPANY, INC.	TWO HR	03/01/2012	RAO	04/13/2012		A2	Oil
4-0023586	PEMBROKE	145 CHURCH STREET	MOBIL GAS STATION	TWO HR	09/29/2011	RAO	11/23/2011			
4-0023584	PEMBROKE	145 CHURCH STREET	VERC MOBIL PEMBROKE	TWO HR	09/27/2011	RAO	11/23/2011		A1	Oil
4-0023232	PEMBROKE	226 CHURCH STREET	CUMBERLAND FARMS	72 HR	05/05/2011	RTN CLOSED	07/06/2011			Oil
4-0022951	PEMBROKE	145 CHURCH ST	PEMBROKE MOBIL	72 HR	11/02/2010	RTN CLOSED	08/02/2011			Oil
4-0022569	PEMBROKE	159 FOREST ST	OLD COLONY SPORTSMEN'S CLUB	120 DAY	04/28/2010	ADEQUATE REG	04/28/2011			Hazardous Material
4-0022252	PEMBROKE	316 SCHOOL ST	PUMP STATION	TWO HR	10/20/2009	RAO	12/17/2009		A1	
4-0022201	PEMBROKE	145 CHURCH ST	EXXON MOBIL STATION	72 HR	09/25/2009	RTN CLOSED	04/08/2010			Oil
4-0022006	PEMBROKE	46 FAIRWOOD DR	RESIDENCE	TWO HR	06/22/2009	RAO	08/17/2009		A1	Oil
4-0021882	PEMBROKE	145 CHURCH ST	MOBIL SERVICE STATION # 10531	120 DAY	04/09/2009	REMOPS	02/22/2016	PHASE V		Oil and Hazardous Materials
4-0021780	PEMBROKE	192 MATTAKEESETT ST	NO LOCATION AID	120 DAY	02/04/2009	RAO	01/21/2010		A2	Oil and Hazardous Materials
4-0021350	PEMBROKE	4 MATTAKEESETT ST	MOBIL STATION #10369/FRM STATION	120 DAY	06/23/2008	RTN CLOSED	01/27/2009			Hazardous Material
4-0021334	PEMBROKE	770 CORPORATE PARK DR	SURGICAL RECONSTRUCTION	TWO HR	06/24/2008	RAO	10/21/2008		A1	Oil
4-0021016	PEMBROKE	4 MATTAKEESETT	MOBIL SERVICE STATION # 10369	120 DAY	01/17/2008	RAO	08/20/2009	PHASE II	A3	Oil and Hazardous Materials
4-0020724	PEMBROKE	794 WASHINGTON ST	R&K ASSOCIATES	72 HR	08/21/2007	RAO	08/28/2008		A2	Oil
4-0019567	PEMBROKE	226 CHURCH ST	CUMBERLAND FARMS	72 HR	01/19/2006	RTN CLOSED	11/28/2006			Hazardous Material
4-0019151	PEMBROKE	139 CHURCH ST	STRIP MALL	TWO HR	06/13/2005	RAO	10/10/2006	PHASE II	A1	Oil
4-0019066	PEMBROKE	242 HIGH ST	SEVEN HILLS FOUNDATION	72 HR	05/04/2005	RAO	06/14/2005		A1	Oil

4-0018949	PEMBROKE	340 OAK ST	NO LOCATION AID	120 DAY	03/04/2005	RAO	03/20/2006		B1	Hazardous Material
4-0018843	PEMBROKE	300 CORPORATE PARK	LLDG BLOOK 1700-1900	TWO HR	12/30/2004	RAO	02/28/2005		A1	Oil
4-0018546	PEMBROKE	208 CHURCH ST	MOBIL STATION #12720	120 DAY	07/12/2004	RAO	07/01/2005		A2	Oil and Hazardous Materials
4-0018485	PEMBROKE	68 SUOMI RD	NEAR FURNACE POND	TWO HR	06/08/2004	TIER 2	06/07/2005	PHASE II		Oil
4-0018387	PEMBROKE	546 SCHOOL ST	BILL'S GAS STATION	120 DAY	04/15/2004	PSNC	11/23/2016		PN	Oil
4-0018169	PEMBROKE	3 ALICE AVE	NO LOCATION AID	TWO HR	12/17/2003	RAO	12/22/2004		A2	Oil
4-0017987	PEMBROKE	RTE 139	WINDALIER NORTH RIVER PLAZA	120 DAY	08/21/2003	RAO	03/20/2006			Hazardous Material
4-0017821	PEMBROKE	20 OVERBROOK RD	NO LOCATION AID	72 HR	05/14/2003	RAO	09/19/2003		A2	Oil
4-0017666	PEMBROKE	27 PLYMOUTH ST	PLYMOUTH & UNION ST	72 HR	03/03/2003	RAO	07/29/2003		A2	Oil
4-0017413	PEMBROKE	243 CHURCH ST	SHELL SERVICE STATION	72 HR	10/14/2002	RTN CLOSED	10/03/2003			Oil
4-0016901	PEMBROKE	216 QUEEN BROOKS RD	PEMBROKE	TWO HR	02/24/2002	RAO	05/06/2002		A1	Oil
4-0016875	PEMBROKE	226 CHURCH ST	GULF STATION	72 HR	02/07/2002	RTN CLOSED	02/10/2003			Oil
4-0016376	PEMBROKE	32 SCHOOSSET ST	NO LOCATION AID	120 DAY	07/09/2001	RAO	10/16/2012	PHASE II	A2	Oil
4-0016280	PEMBROKE	FOREST AVE	NO LOCATION AID	TWO HR	06/03/2001	RAO	07/27/2001		A1	Oil
4-0015844	PEMBROKE	30 RIVERSIDE DR	MARKINGS INC	TWO HR	10/27/2000	RAO	12/30/2008	PHASE II	A2	Oil
4-0015837	PEMBROKE	355 WASHINGTON ST	NO LOCATION AID	120 DAY	10/06/2000	RAO	10/16/2003	PHASE II	A2	Hazardous Material
4-0015749	PEMBROKE	SCHOOSSET ST	UTILITY POLE NO 31& 32	TWO HR	09/16/2000	RAO	11/15/2000		A1	Oil
4-0015675	PEMBROKE	82 WASHINGTON ST	HONEY DEW DONUTS	120 DAY	09/07/2000	RAO	09/10/2001		A2	Oil
4-0015278	PEMBROKE	355 WASHINGTON ST	SHELL STN	72 HR	02/04/2000	RAO	02/09/2001	PHASE II	A2	Oil
4-0015097	PEMBROKE	30 RIVERSIDE DR	MARKINGS INC	TWO HR	10/28/1999	RAO	10/30/2000		A2	Oil and Hazardous Materials
4-0014456	PEMBROKE	LAKE ST	POLE #30	TWO HR	01/13/1999	RAO	03/16/1999		A1	Oil
4-0014243	PEMBROKE	145 CHURCH ST	VERC MOBIL	72 HR	10/11/1998	RAO	12/17/1998		A1	Oil
4-0013602	PEMBROKE	RTE 53 @ RTE 14	FRONT OF SHELL STATION	TWO HR	01/06/1998	RAO	02/13/1998		A1	Oil
4-0012812	PEMBROKE	TOOL TRAIL RD	NO LOCATION AID	TWO HR	01/28/1997	RAO	03/28/1997		A1	Oil
4-0012571	PEMBROKE	ANN MARIE TER	POLE #14	TWO HR	10/20/1996	RAO	12/18/1996		A2	Oil
4-0012312	PEMBROKE	18 GLENWOOD AVE	RESIDENTIAL	TWO HR	06/27/1996	RAO	08/27/1996		A2	Oil
4-0011554	PEMBROKE	38 LIANE LN	WRIGHT RESIDENCE	72 HR	07/28/1995	TIER1D	07/07/2008			Oil
4-0011093	PEMBROKE	5 BURR AVE	NO LOCATION AID	TWO HR	01/26/1995	RAO	02/09/1996		A2	Oil
4-0010988	PEMBROKE	559 SCHOOL ST	SILVER LAKE JR HIGH SCHOOL	TWO HR	12/13/1994	RAO	01/27/1995		A1	Oil
4-0010790	PEMBROKE	22 RAYMOND AVE	BRYANTVILLE	72 HR	09/21/1994	RAO	01/20/1995		A2	Oil
4-0010433	PEMBROKE	154 CENTER ST	CIRCLE K FMR	72 HR	04/22/1994	RAO	04/21/1995		A2	Oil
4-0010346	PEMBROKE	10 OVERBROOK RD	NO LOCATION AID	TWO HR	03/16/1994	RAO	05/11/1994		A2	Oil
4-0006074	PEMBROKE	CHURCH AND OAK ST	SHELL SERVICE STATION	NONE	09/09/1992	REMOPS	04/26/2004	PHASE V		Oil
4-0006011	PEMBROKE	OFF DWELLY ST	PEMBROKE COUNTRY CLUB	NONE	12/31/1993	RAO	10/05/2001	PHASE II	A2	
4-0001354	PEMBROKE	CHURCH ST AND OAK ST	GULF SERVICE STATION	NONE	10/01/1993	REMOPS	01/05/2009	PHASE V		Oil
4-0001314	PEMBROKE	562 WASHINGTON ST	MIKE BARBOURS AUTO REPAIRS	NONE	07/15/1993	RAO	08/07/2003	PHASE III	A2	Oil
4-0000984	PEMBROKE	CENTER ST	MOBIL STATION 01 726	NONE	07/15/1993	RAO	01/11/1995		A2	
4-0000762	PEMBROKE	OAKDALE SQUARE PLAIN ST	RYDER STUDENT TRANSPORT	NONE	10/15/1989	RAO	12/26/2007		A2	Oil
4-0000442	PEMBROKE	82 WASHINGTON ST	MOBIL STATION 01 JFC	NONE	01/15/1988	RAO	11/01/1996		A2	Oil
4-0000381	PEMBROKE	OLD WASHINGTON ST	AETNA PUMP	NONE	01/15/1987	DEPNDS	07/23/1993			
4-0000253	PEMBROKE	159 WASHINGTON ST	BETHAL CHAPEL	NONE	11/25/1986	DEPNDS	07/23/1993			

Several sites overtop the aquifer that provides Pembroke with its public water supply. Given the great interconnection of the waterways on the south shore, the position of these sites could potentially pose a contamination threat during a high-intensity event. The two closest LQTUs are a LiteControl Corp property in Hanson just over a mile over the western border, which formerly manufactured light fixtures and associated products (LiteControl 2017), and a Hapco Inc. property in Hanover just short of two miles northwest of the town line, which manufactures industrial heating components and commercial roofing materials (Hapco Inc 2017).

In 2015 the owner of the current LiteControl property on Hawks Avenue, Hubbell, began work on the site to remediate the contamination resulting from historic plant operations. The proposed project includes the removal of debris to remediate soil and groundwater contamination within upland and wetland areas, and the demolition of most of the buildings on site.

Several sites in the neighboring towns generate large quantities of waste products that could potentially pose a contamination threat. The two closest sites to Pembroke are an Allied Waste Service center and a Sullivan Tire property that are both less than a mile northeast of the Pembroke town line. In total, there are three LQGs of hazardous waste products within a mile radius of Pembroke and thirteen sites within a two-mile radius (MassGIS 2016).

LANDFILLS

There are no active landfill sites in Pembroke; the 19-acre site on Hobomock Street was officially closed and decommissioned in 1991. The former landfill was successfully capped in 2011 with a three-foot-thick site-wide cap that also included a 1-foot-thick hydraulically conductive clay layer, four drainage basins, and approximately 4,000 square feet of replicated wetland (Environmental Partners Group 2014). The Hobomock site is now slated to be developed into the site of a 2-megawatt solar array (Laidler 2016).

NEW DEVELOPMENT

Development has been identified by residents and town officials as one of the most ubiquitous threats to the cultural and natural resources in Pembroke. Residential zoning requires that houses be built on a lot of one acre or more (due to septic setbacks, so that human waste does not become concentrated), which has contributed to the trend of sprawl. The industrial zoning district, located in the northern section of town where Route 3 enters Pembroke, also contributes to increased volumes of traffic, especially heavy vehicles (OCPC), and increased impervious surfaces.

Residential land use is the most common form of development and new construction in Pembroke. It cuts into forests and abuts wetlands and water resources. With the trend toward growth, sprawl is expected to continue encroaching on the natural landscape, contributing to fragmentation, and increasing

demands on water resources and town infrastructure, including new roads, drainage systems, and municipal water.

From the beginning of the twentieth century, residential development left a legacy of vacation cottages concentrated near and around water bodies like Oldham and Furnace Ponds. Many of these old cottages have been converted into year-round residences and are on much smaller lots than are required by the zoning regulations (some are as small as quarter acre lots since their construction predates the adoption of zoning regulations). These dense clusters of dwellings along the waterfront can contribute to the pollution of water resources through the runoff of fertilizers, pesticides, stormwater, and septic leaks which potentially add excess nutrients to ground and surface waters.

The concentrated industrial and commercial zones in the north part of town create conditions for nonpoint source pollution. Increased traffic and impervious surfaces can increase automobile pollution. The industrial section of the town is located near the North River, which is an impaired water body. The proximity of the industrial district to the river may be contributing to the pollution of the North River. The section of the North River that is closest to Route 3 has impaired water quality, with elevated mercury and fecal coliform. The sources of these contaminants are currently not known, but they might serve the communities of Pembroke, Marshfield, and Hanover to assess whether the high traffic and large impervious

area have contributed to the pollution of the North River.

GROUND AND SURFACE WATER POLLUTION, POINT AND NON-SOURCE POINT

On the west side of Pembroke, four of the seven major water bodies (Oldham Pond, Furnace Pond, Stetson Pond, and Silver Lake), are considered impaired to varying degrees, according to MassDEP. The Indian Head River and North River are also considered impaired. The waters of the Indian Head River, along the western half of Pembroke's northern border, have elevated levels of phosphorus and diminished levels of dissolved oxygen from municipal point source discharges into the river, which threatens habitat quality for aquatic species. There are also elevated levels of mercury in the fish in the Indian Head River, due to contaminated sediments. Fish from the North River are unsafe to eat due to elevated mercury; similarly, shellfish harvesting is prohibited due to the presence of fecal coliform. Primary contact recreation is also not recommended due to fecal coliform. The sources of pollution along the North River are currently unknown.

Fish and aquatic habitats in Oldham Pond are currently impaired due to the presence of non-native invasive species. Furnace Pond has low levels of dissolved oxygen which impairs

the quality of aquatic species. Stetson Pond suffers from an increased level of phosphorus and diminished levels of dissolved oxygen, as well as the presence of non-native invasive aquatics, all of which impair the habitats of aquatic species. Due to water flow diversions, probably from withdrawal, Silver Lake does not fully support the habitat for fish and other aquatic life.

Indian Pond and Great Sandy Bottom Pond have not been evaluated for safe use. It would be wise for the town to test the quality of these waters, especially as the residents enjoy recreating them.

FLOODING/EROSION

Flooding can be caused by various weather events including hurricanes, extreme precipitation, thunderstorms, nor'easters, and winter storms. Flooding can be both riverine (topping the banks of streams, rivers, and ponds) and stormwater that is not properly infiltrated into the ground. While Pembroke experiences these events, the impacts of climate change will lead to increasingly severe storms and, therefore, increasingly severe impacts. The impacts of flooding include injury or death, property damage, and traffic disruption. Areas within FEMA flood zones, repetitive loss sites, and local areas identified as flood-prone are more vulnerable to the impacts of flooding.

Flood hazards are also linked to erosion, which can compromise receiving water quality, slope stability, and the stability of building foundations. These impacts put current and future structures and populations located near steep embankments at risk. Erosion can also

undercut streambeds and scour around stream crossing, creating a serious risk to roadways.

Currently, the Conservation Commission maintains and enforces requirements for erosion and sedimentation control for construction projects within 100 feet of wetlands, or when work results in a negative environmental impact on Wetland Resource Areas. The Board of Health has the regulatory responsibility to regulate the prevention of stormwater sheet flow resulting in ponding on abutting properties in all new construction projects. Erosion and sedimentation control are provided by the installation of sediment control barriers including straw wattles secured by wood stakes, geotextile silt fencing embedded in the ground, secured hay bale rows, TRMs (Turf reinforcement mats), wood chips, composted berms, temporary settling basins, fractionalization tanks, polymerization of untreated effluent, filtered dewatering, and a host of others. All construction sites that disturb 1 acre or greater are required to obtain coverage under an EPA NPDES (National Pollutant Discharge Elimination System) permit for surface-generated stormwater discharges. This includes the implementation of a site Stormwater Pollution Prevention Plan (SWPPP), specifying site erosion control and non-structural Best Management Practices, such as operation and routine maintenance procedures and record-keeping obligations.

INVASIVE SPECIES

Pembroke is home to a great variety and diversity of desirable plant and animal species. However, over the years the number of exotic

invasive species has increased, drawing great concern from the Conservation Commission as well as private and nonprofit environmental groups and members of the public. These species threaten the overall and long-term health of many of Pembroke’s rich natural habitats because they outcompete native species for precious resources and, in extreme cases, eliminate native species from those habitat areas.

Of greatest concern are those invasive species that reside in some of the town’s water bodies. These species degrade the ecological health of these systems and limit recreational use. Hobomock Pond is occasionally closed for recreation due to an abundance of the aquatic plant hydrilla (*Hydrilla SSP*). Efforts to eradicate the persistent weed have lasted for years with varying degrees of success. Other problematic aquatic and riparian species include common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) fanwort (*Cabomba spp*), and variable milfoil (*Myriophyllum heterophyllum*) (Glover 2012).

In addition to the aggressive exotic plant species, there are also concerns about invasive insects threatening the local landscape in Pembroke. The gypsy moth (*Lymantria dispar*) is a member of the Eurasian species that was introduced in the late 1800s and since that time has been responsible for the mass defoliation of countless acres of woodlands. (Mass Audubon 2016) Though still a common problem in the region there have not been large-scale gypsy moth infestations in Pembroke for the last seven or eight years according to one of the

town’s conservation agents (personal communication 03/12/17).

Forestry Issues

As listed in the following table, approximately 27.1 percent (6,116 acres) of total land consists of Evergreen Forest, Scrub/Shrub, and Forested and Non-Forested Wetlands in 2022. As conservation land, these larger tracts of forested areas are protected from future development. Unprotected areas are of interest to the Town as well, particularly those adjacent to these lands for conservation, wildlife habitat protection, and drinking water protection.

Table 15: Forest Land Use Type

FOREST LAND-USE TYPE	ACRES
Evergreen Forest	2,823.55
Scrub/Shrub	56.1
Forested Wetland	2,880.03
Non-forested Wetland	356.77
Saltwater Wetland	2.68
Other Impervious	1,590.73
Mixed-Use - Primarily Residential	599.5
Residential – Single-Family	5,587.43
Residential - Multi-Family	699.66
Commercial	345.95
Mixed-Use - Primarily Commercial	15.68
Industrial	135.4
Right-of-Way	768.47
Bare Land	81.43
Water	1,166.43
Aquatic Bed	62.78
Developed Open Space	1,723.91
Grassland	243.61
Deciduous Forest	3,432.64
TOTAL	22,572.75

ENVIRONMENTAL EQUITY

Environmental Equity means looking at conservation and recreation opportunities available in the town and determining if there are areas that seem to be lacking resources. Residents may be unable to afford recreational opportunities that require a fee and may lack transportation to open spaces and recreation resources in other areas of town. It is therefore important to ensure free access to an adequate amount of well-maintained open space and recreational resources within walking distance of homes in these areas.

According to MassGIS, there are no Environmental Justice populations identified in the Town of Pembroke.

There are numerous pieces of permanently protected land scattered throughout the Town, so much so that most Pembroke residents can find at least one open space area within a mile of their residence.

The main recreation facilities in the town are the trails and Town Forest. These are in rural areas and thus roughly equally accessible to all residents, a means of transportation, usually, a car is needed to access these resources.

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.

Adaptive capacity: Adaptive capacity is the ability of communities, institutions, or people to adjust to potential hazards, take advantage of opportunities, or respond to consequences.

As climate change will affect different people differently, 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.

However, important differences in access to open space and recreation still exist between different groups of residents. 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 most parks and open spaces in Pembroke without the help of someone who can drive them. Generally, protected open spaces and conservation areas are well distributed throughout town.

Passive recreation areas are well distributed throughout Pembroke. Active recreation areas are concentrated around the schools.

To promote greater equity throughout the region, it is also important to promote access to public open space areas and parks across municipal lines. 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 recreation, and escaping the heat by swimming or walking in a forested area. 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 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.

There are no current Environmental Justice populations located in Pembroke (See Environmental Justice Map). However, there are some within a ten-mile radius, in the towns of Whitman, Rockland, Middleborough, Weymouth, Plymouth, Holbrook, Braintree, and Brockton. According to the 2020 American Community Survey estimates, 2.5 percent of the population of Pembroke is living below the poverty. This is less than the 6.7 percent estimated to be living in poverty in Plymouth County. Of those living in poverty, 0.4 percent are under the age of 18 years and 6.7 percent are 65 years of age or older. Despite the absence of an Environmental Justice population and a low poverty rate, it is important that all residents can access open spaces and recreate without discrimination.



Section 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

A. IMPORTANCE OF OPEN SPACE PROTECTION

The natural resources and open spaces help to make the Town of Pembroke an attractive and interesting place to live. Protection of these areas is critical for providing safe drinking water, clean air, and outdoor recreation opportunities.

Government agencies, landowners, non-profits, and local land trusts all play a role in the important task of preserving open space for the benefit of current and future populations. Land conservation, especially on a permanent, landscape scale, provides numerous community benefits: protecting diverse landscapes; preserving habitat for rare or endangered species; maintaining

species diversity; ensuring water quality; facilitating wildlife adaptation to climate change; and enhancing recreational access.

Open space also has a critical role to play in the fight against climate change, and efforts to build resilience to the impacts of climate change. Lands that best support wildlife, absorb pollutants, and filter stormwater should be prioritized for protection. Climate-resilient open spaces and conservation lands not only protect wildlife but also provide natural defenses against flood, drought, and other risks to people.

Protected open space serves several valuable functions. Depending on the type (e.g., forest, meadow, wetlands, farmland), open space can provide valuable habitat for plants and wildlife; help replenish and protect aquifers; reduce and absorb stormwater runoff; provide a sustainable

and wide range of resources and absorb and/or treat pollutants. Open space also offers numerous active and passive recreational opportunities and adds scenic views to the landscape. “Protected” open space is land that is preserved because it is under the care and custody of the Conservation Commission, Water Commission, or Park and Recreation, is subject to a Conservation Restriction (CR) or other deed restriction; is owned by a nonprofit organization whose purpose is the preservation of open space; is dedicated as park land’ or is otherwise protected by Article 97 of the Massachusetts Constitution.

Establishing criteria to prioritize open space parcels for protection would help the Town and regional conservation partners to be strategic about which lands to acquire. Such a strategy can focus on developing a network of large, connected parcels of open space which have higher ecological value. Because natural systems do not necessarily adhere to political boundaries, natural resource protection is best achieved through regional collaboration. This approach emphasizes connections between natural habitat areas and corridors, studies, and collecting inventory information for unique sites of special importance such as vernal pools or endangered or rare habitats and species. This work will often reach beyond municipal limits.

In a broad sense, open space includes any lands that are minimally or wholly undeveloped. They can accommodate a

wide range of activities such as sports, nature study, and conservation, and have a variety of different ownership types. Some open space lands are publicly owned by municipal, state, or federal government, while others are owned privately or by nonprofits. Similarly, there are different levels of protection afforded to these natural, historic, and cultural resources. The highest level of protection is permanent protection that attaches to the deed of a property. Permanently protected lands in Massachusetts include publicly owned and designated conservation areas, as well as private lands with permanent conservation restrictions. Public lands that are afforded protection in perpetuity may only have that protection lifted if authorized by a two-thirds vote of the town governing body, followed by a two-thirds vote of the Massachusetts legislature. (Although there have been contentious situations in recent years of energy corporations overriding state land protection to develop pipelines through protected lands).

Open space that has less protection is at risk for future development. These types of open space lands include town-owned lands such as school athletic fields, which are likely to remain undeveloped due to their use but are without any legal or binding mechanism to prevent them from being developed. Additionally, any private lands enrolled in the state Chapter 61 program are viewed as having a temporary or limited level of protection that still puts them at risk for

future development. Chapter 61 land participants agree to not develop their enrolled lands for a set period and to maintain them as working lands for forestry, agriculture, or recreation. In return, the property owners receive a reduction in their property tax payments. Participants can still sell or remove their lands from the program by paying the accrued back taxes on the property, but the town in which the property is located is given the chance at the first refusal to buy lands. It is also within the power of a town to assign that right to nonprofit groups.

There are also open spaces and recreation lands in public and private ownership which have no level of protection. Nonetheless, some of these properties are within valuable resource areas where certain activities could either enhance or threaten habitat, water quality, historic sites, or scenic beauty. In Pembroke, a number of these properties are sufficiently large or abut existing protected lands that would make them of great interest for conservation and/or recreation protection. A full inventory of all the protected lands in Pembroke, as sourced from the town assessor in June 2022, is given in Tables 16 through 20. This information is subject to change over time and represents the state of parcels at the time of writing.

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B. INVENTORY

The open space and recreation areas in the Town of Pembroke encompass both land and water sites, publicly and privately owned. The purpose of this inventory is to identify areas of conservation and recreation interest in the Town to evaluate current and future open space planning needs. Areas of interest include open spaces that are valued for one or more of the following factors: recreation opportunities, protection of natural resources, and historic and scenic character.

The inventory is divided into two sections: public or non-profit land; and private open space. Within these sections, land has a ranging degree of protection, which prevents or restricts land uses and development. Protected open spaces are private or public parcels that are permanently committed to conservation or recreation purposes by deed restriction or easement. Unprotected open spaces are areas that are of conservation or recreational interest to the Town but are not permanently protected as open spaces. Partially or limited protected open spaces are areas that have a partial or short-term restriction on development but are not protected forever.

The inventory of lands of conservation and recreation interest describes ownership, management agency, lot size, primary use, public access, and type of public grant accepted for each parcel (if applicable). Further detail on current use, zoning,

condition, and recreation potential (potential future interventions that could broaden recreational opportunities on a site) is provided for all town-owned conservation and recreation parcels. The degree of protection from destruction or degradation that is afforded to various parcels of land owned by private, public, and nonprofit owners is also evaluated.

- Private lands can be protected in perpetuity through deed restrictions, or conservation easements, known in Massachusetts as Conservation Restrictions (some non-statutory restrictions may only run for 30 years, and those lands are therefore not permanently protected open space).
- Lands under taxation programs Chapter 61, 61A, or 61B, are actively managed by their owners for forestry, agricultural, horticultural, or recreational use. The Town has the right of first refusal should the property owner decide to sell and change their use of the land. Therefore, it is important to prioritize these lands, track their status, and consider steps the community should take to permanently protect these properties when the opportunity arises.
- Land acquired for watershed and aquifer protection is often permanently protected in open spaces.
- Public recreation and conservation lands may be permanently protected

open spaces if they have been dedicated to such uses as conservation or recreational use by deed.

PUBLIC AND NON-PROFIT PARCELS

The Open Space and Recreation resources in the Town of Pembroke consist of present public and semi-public holdings and facilities, and, more broadly, of other natural and scenic assets which give the town some of its character and may require protection. Some resources can be protected by partial or full acquisition. Others, such as a scenic landscape or a historic development pattern, may be difficult to protect without changed perspectives on approaches to land use.

In 1972, the Massachusetts Legislature and electorate voted to add Article 97 to our state's Constitution. This amendment guarantees that "the people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment. Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two-thirds vote taken by yeas and nays, of each branch of the general court." Both state and municipal-owned land acquired for conservation or recreation

purposes are protected by Article 97. In addition to the legislative two-thirds vote, municipal conservation or recreation commissions must approve the conversion, as well as the town meeting. Replacement of land of equal value and utility must be found and dedicated to recreation and conservation purposes. Article 97 is very much like Section 6(f)(3) of the Land and Water Conservation Fund Act.

The Town of Pembroke owns approximately 253 properties totaling 3,352 acres. Nearly half of the land held by Pembroke (185 properties) is not designated to a particular town department in the records provided by the town assessor, and the level of protection for those lands is yet to be determined.

Pembroke-owned properties are presented in the following tables. At least 835.96 acres (representing 44 different properties) are managed and owned by the Conservation Commission and have permanent protection. The largest of these properties is 138 acres located on Monroe Street between Silver Lake and Furnace Pond. There are also 75 acres owned by the town's water department that are under permanent protection. Additionally, 505.6 acres are owned and managed by the Department of Public Works.

Some of the neighboring municipalities also own and control land within Pembroke's boundaries. These lands total 117 acres, the bulk of which (108 acres) are owned and

managed by the City of Brockton and are directly associated with the water supply areas within Pembroke that provide drinking water for that city. Abington/Rockland also has ownership of eight acres, again in connection with the drinking water resources in Pembroke which provide water for those two towns. Kingston's Conservation Commission also owns nearly 7.5 acres in Pembroke.

The Commonwealth of Massachusetts owns five small parcels totaling just over one acre within Pembroke, (given the small size, it is unlikely that these are open space or recreation land) and the federal government has ownership of just shy of two acres in a single parcel which contains a post office.

Nonprofit organizations own 603 acres in Pembroke. Eight of these properties, totaling 275 acres, are owned by the Wildlands Trust of Southeastern Massachusetts. These lands are all permanently protected and contain important conservation areas as well as recreational trails. These parcels range in size from three acres up to 73, the largest of which is located west of Route 14 and is part of the Great Cedar Swamp. Churches and church organizations own a total of 188 acres, the second-largest group of lands held by non-profits. These lands are not formally protected as open spaces but are nonetheless important within the town and offer many recreational services for the people of Pembroke. Many of the playgrounds within the town are on church properties and are

widely used by the public. There are 15 properties totaling 134 acres owned and managed by other assorted non-profit organizations, including Boy and Girl Scout headquarters, VFWs, campgrounds, and assisted living communities. These lands are unprotected and could be lost to development at any point.

PRIVATE PARCELS

In addition to the private non-profit lands, there is also privately owned open space in Pembroke. While some of this land is partially protected from development or else considered undevelopable, much of it is not currently protected or restricted although it is vacant. It is important to realize that some of these parcels will play vital roles in creating open space and recreation opportunities in Pembroke. In some cases, unprotected open spaces may be the missing links in creating connections between protected open spaces. In other cases, some of these parcels might be acquired by the Town to meet the growing demand for recreational lands.

CHAPTER 61, 61A, AND 61B

Chapter 61, 61A, and 61B is a voluntary program designed by the Massachusetts Legislature to tax real property in the Commonwealth at its timber resources,

agricultural, or recreational value rather than its highest and best use (development) value. Landowners who enroll their land in the program receive property tax reductions in exchange for a lien on their property. The terms of the lien require that enrolled land remain undeveloped and be managed for forest production, agricultural production, or recreation. Furthermore, the lien provides the municipal government of the City/town in which the enrolled property has located a right of first refusal should the landowner put the land up for sale while it is enrolled in the program. Towns may assign their right of first refusal to a state agency or a non-profit land trust. Landowners who develop their land while enrolled in the program, or for a period after withdrawing from the program, may be required to pay penalties.

The Town of Pembroke currently has 1,308.47 acres of land protected under Chapters 61, 61A, and 61B.

AGRICULTURAL PRESERVATION RESTRICTION (APR)

The Agricultural Preservation Restriction program is a voluntary program that offers a non-development alternative to farmland owners for their agricultural lands who are faced with a decision regarding the future use and disposition of their farms. The program offers farmers a payment up to the difference between the “fair market value”

and the “fair market agricultural value” of their farmland in exchange for a permanent deed restriction, which precludes any use of the property that will hurt its agricultural viability. (MA DAR, 2013) More recent APRs also include an ‘Option to Purchase Premises at Agricultural Value’, ensuring that protected farmland is not sold at prices beyond the reach of working farmers.

According to Town records, there are currently 306.31 acres that are subject to a private conservation restriction, enrolled in the state’s agricultural preservation restriction program, or held by land trusts or non-profits (See Table on page 111 under Private Properties with Conservation Restrictions and Charitable Organizations Conservation Restrictions, Natural Resources Conservation Restrictions). These methods of conservation should be promoted and encouraged by private landowners.

CONSERVATION RESTRICTIONS

One type of privately owned and permanently protected open space is land that has a conservation restriction or easement (these areas in Pembroke are shown in Private Properties with Conservation Restrictions). In these instances, private property owners have sold off the development rights for their land, in exchange for cash payment; they may also

receive tax benefits by donating the developments (Catanzaro 2017).

In the town of Pembroke, private conservation restrictions protect a total of 279.3 acres (See Tables under Private Properties with Conservation Restrictions and Charitable Organizations Conservation Restrictions). The term of the restriction is negotiable between the parties involved but is often employed permanently. Six Pembroke properties have easements; three are held by the U.S. Natural Resource Conservation Service, two are held by the Wildlands Trust of Southeastern Massachusetts, and one is held by the town of Pembroke. The largest of these conservation areas is 124 acres and sits between Stetson Pond to the south and Furnace Pond to the north. This method of conservation is a good alternative to town acquisition in fee because the property remains under private ownership but is nevertheless permanently protected against future development without the great expenditure of funds required for acquisition.

In Pembroke, there are many properties enlisted in the Chapter 61 working lands program (Chapter Lands) totaling 1,308.47 acres, accounting for nearly 9 percent of the town public designations within this program: Chapter 61, which is applied to properties that are at least ten contiguous acres and are dedicated to forestry production and enrolled for a term of ten years during which they cannot be

developed or used for other purposes; Chapter 61A, which applies to lands that are at minimum five acres and are dedicated to agricultural endeavors and have enrollment terms of five years; and Chapter 61B, which also have five-year enrollment terms and a minimum size of five acres, and are used for recreational activities and are open to the public. This program intends to give financial incentives to private landowners to keep their lands for working production or recreational use, and to resist the temptation to sell or develop their lands. The lands enrolled in the program have a temporary level of protection against being developed, and as such are seen as a high priority for permanent protection measures.

According to records from the town assessor in 2022, Pembroke has only two properties enrolled in the Chapter 61 forestry program totaling 200.87 acres. This is a decrease from the five properties and 216 acres listed in the 2005 OSRP. None of the three properties formerly enrolled in Chapter 61 were subsequently acquired by the town and are now available to be developed.

As of June 2022, there are 17 properties (362.8 acres) enrolled in Chapter 61A for agricultural use, ranging in size from two acres to 112. These numbers are down from 33 properties totaling 903 acres in 2005 but include six new properties (144 acres). Of the properties no longer enrolled in the program, seven (209 acres) have been

purchased by the town and are now under permanent protection.

Private properties enrolled in Chapter 61B for recreational use include 30 properties that range in size from one acre to 165 acres, totaling 745.52 acres. This represents an increase of two properties since 2005 but is a 149-acre decrease. Of the properties no

longer enrolled in the program from 2005, one was purchased by the town (48 acres) and is now under permanent protection.

Chapter 61, 61A, and 61B lands which are afforded temporary protection if they are maintained for forestry, agriculture, and recreation respectively, constitute nearly 9 percent of the land in Town.

Private Properties with Conservation Restrictions Tables

Wildlands Trust Conservation Restrictions

Table 16: Wildlands Trust Conservation Restrictions

Wildlands Trust Conservation Restrictions					
Parcel ID#	Street Address	Acres	LUC	Owner	Book/Page
B13-3	West Elm Street	78.58	950	Wildlands Trust	116011
C11-12	Cedar Swamp	40	950	Wildlands Trust	39924-1
C14-3	Canoe Club Lane	20.03	950	Wildlands Trust	39924-1
D10-23	10 Center Street	9.3	950	Wildlands Trust	39924-1
D11-1	Barker Street	24	950	Wildlands Trust	39924-1
D11-2A	99 Barker Street	73	950	Wildlands Trust	39924-1
D11-15	Barker Street	3.2	950	Wildlands Trust	39924-1
D12-2	Washington Street	27	950	Wildlands Trust	39924-1
Total		275.11			

Charitable Organizations Conservation Restrictions

Table 17: Charitable Organizations Conservation Restrictions

Charitable Organizations Conservation Restrictions					
Parcel ID#	Street Address	Acres	LUC	Owner	Book/Page
A9-38	0 Oldham St	0.27	950	Girl Scouts of America	1745-488
D3-7D	630 School St	3.92	950	New England Village Inc.	51478-58
Total		4.19			

Total Private Properties with Conservation Restrictions

Table 18: Total Private Properties with Conservation Restrictions

Private Properties with Conservation Restrictions	
Total Private Properties with Conservation Restrictions	
Wildlands Trust Conservation Restrictions	275.11
Charitable Organizations Conservation Restrictions	4.19
Total Private Properties with Conservation Restrictions	279.3

Temporarily and Permanently Protected Land

Table 19: Temporarily and Permanently Protected Land

Temporarily and Permanently Protected Land		
Privately Owned Open Space	Acres	% Of Total Land Area in Pembroke (15,040 ac total)
Chapter Lands		
<i>Temporarily Protected Under Chapter 61 Land Forestry</i>	200.87	1.34%
<i>Temporarily Protected Under Chapter 61A</i>	362.08	2.41%
<i>Temporarily Protected Under Chapter 61B</i>	745.52	4.96%
Total Temporarily Protected Chapter Lands	1,308.47	8.70%
Additional Land Permanently Protected by Conservation Restriction		
<i>Town Owned Municipal Land under Conservation Commission</i>	832.96	5.53%
<i>Private Properties with Conservation Restrictions</i>	279.3	1.86%
<i>Town Owned Water Department Land</i>	505.6	03.36%
Total Permanently Protected Lands	1,617.86	7.89%
Total Temporarily and Permanently Protected Land in Pembroke	2,926.33	19.45%

Total Chapter Lands

Table 20: Total Chapter Lands

TOTAL CHAPTER LANDS	
TOTAL CHAPTER LANDS	ACRES
TOTAL CHAPTER 61 FOREST LANDS	200.87
TOTAL CHAPTER 61A AGRICULTURAL LANDS	362.08
TOTAL CHAPTER 61B RECREATION LANDS	745.52
TOTAL ACREAGE	1,308.47

Chapter 61 Forest Lands

Table 21: Chapter 61 Forest Lands

CHAPTER 61 FOREST LANDS				
Parcel ID#	Street Address	Acres	LUC	Owner
A12-40	201 Dwelley Street	124.95	016	Red's Realty Trust
E10-1	409 Washington Street	75.92	061	98 Barker Street Realty
TOTAL OF CHAPTER 61 FOREST LANDS		200.87		

Chapter 61A Agricultural Production Lands

Table 22: Chapter 61A Agricultural Production Lands

CHAPTER 61A AGRICULTURAL PRODUCTION LANDS				
Parcel ID#	Street Address	Acres	LUC	Owner
A10-6	323 Oldham St.	6.43	017	Three Hundred and Twenty-Three Oldham Street Realty Trust
A4-44	34 Lydia Ford Rd.	6.8	017	Brooks Steven A.
B2-60	Plymouth St.	45.20	710	SMJ Cranberry Assoc. LLC
B10-3	58 West Elm St.	12.15	017	Peterson Carl
C-10-16	27 Pheasant Ln.	6.04	101	Pheasant One Realty Trust
C4-16	53 Farnum Rd.	8.20	017	Hatton Daniel/Kimberly
C7-100	Cranberry Rd.	6.24	132	Mac-N-Berries Inc.
D10-7	25 Center St.	6.11	017	Kelley Andrea/ Christopher
D14-90	Brick Kiln Lane	2.10	717	Nature Preserve Inc.
D13-46	233 Washington St.	10.13	017	Bickford Hill Show Stables
E7-2	315 High St.	60.87	017	Hold Fast Farm Realty Trust
F2-28	Pelham St.	36.30	710	Harju Bros Cranberry Inc.
F4-2	221 Valley St.	112.08	071	J & J Family Farm, LLC
F7-6	367 Taylor St.	6.56	071	Anderson Ann /Phillip
F8-1	170 Old Washington St.	12.42	017	Vac Realty Trust
F8-55	254 Taylor St.	6.60	017	Taylor Street Realty Trust

F9-7	177 Taylor St.	17.85	017	Moraski Denise M.
TOTAL OF CHAPTER 61A AGRICULTURAL LANDS		362.08		

Chapter 61B Recreation Lands

Table 23: Chapter 61B Recreation Lands

CHAPTER 61B RECREATION LANDS				
Parcel ID#	Street Address	Acres	LUC	Owner
A6-238	30 Gardner Lane	28.44	018	Dawe Stanley A., Jr.
A10-5A	343 Oldham Street	16.56	803	Peterson Family Trust
A10-61	21 Lake Avenue	6.57	803	Venkatesan Thangaraj Trust
A10-62	13 Lake Avenue	1.16	803	Venkatesan Thangaraj Trust
A10-63	7 Lake Avenue	3.42	803	Venkatesan Thangaraj Trust
B10-8	Oldham Street	18.32	803	Aretino Ellen B.
B11-33	94 West Elm Street	244.0	013	Weathervane at Pembroke Country Club
B12-3B	Standford Hill Road	7.34	803	Leblanc Family Realty Trust
C6-171	3 Macomber Lane	3.23	018	Albee, Troy and Krista
C6-173	6 Macomber Lane	3.31	081	Albee, Troy and Krista
C10-15A	Oldham Street	6.90	803	Panacy Victoria/ Kenneth
D6-1-2	Hobomock Street	28.7	803	Hobomock Solar, LLC
D9-89	26 James Way	34.79	018	James, Realty Trust
D10-9	44 Center St.	5.94	018	Cushing Charles/ Lauren
D10-12	210 Barker Street	28.59	803	Fee Eamon/ Kathi
D11-26	86 Barker St.	10.01	018	Cloyes Peter S.
D13-47A	Washington Street	71.76	087	Nature Preserve, Inc.
D15-9A	2 Washington St.	14.20	018	Andrew K. Sullivan 2018 Trust
D15-27	95 Brick Kiln Lane	6.05	018	Parks David / Judith
D15-74	48 Shipyard Lane	16.82	018	Andrew Sullivan 2018 Trust
E9-6	45 Pudding Brook Dr.	20.00	018	Milton Jeff /Jill K.
E11-1	40 Barker Street	15.34	803	Kenneth Roberts/ Linda Roberts Trust
E12-60	331 Washington St.	20.00	018	Silverado Farm LLC
F2-4	183 Pelham Street	44.82	803	Domaszewicz Michael/Agneta
F2-5	198 Pelham St.	13.92	018	Domaszewicz Agneta
F3-178	24 Pine Mill Drive	13.94	018	Daniel Jennifer Smith

F7-2	374 High St.	13.33	018	Mccolgan Lee
F8-46	829 Washington St.	15.69	038	White, Norman Bonnie
F12-93	38 Spring St.	6.19	018	Tardanico Daniel /Carol
G11-12	159 Spring St.	26.18	018	Southworth Richard /Kathy
TOTAL CHAPTER 61B RECREATION LANDS		745.52		

Natural Resources Conservation Service NRCS – Agricultural Protection Restrictions

Table 24: NRCS Agricultural Protection Restrictions

Natural Resources Conservation Service Conservation Agricultural Protection Restrictions					
Parcel ID#	Street Address	Acres	LUC	Owner	Book/Page
B4-43	70 Elmer St	74.01	930	Town of Pembroke/ Edgewater Easement	35779-189
B4-141	65 Elmer St	35.93	930	Town of Pembroke/ Edgewater Easement	35779-189
B4-146	675 Elmer St	33.84	930	Town of Pembroke/ Edgewater Easement	35779-189
C5-9	0 Monroe St	137.53	932	Town of Pembroke/ Northland Cranberries	18625-305
C5-54	0 Monroe St	12.16	932	Town of Pembroke/ Hoggs Boggs	48951-336
D5-44	0 Monroe St	12.84	932	Town of Pembroke/ Hoggs Boggs	48951-336
Total		306.31			

WRP Proposed Easement

Customer(s): EDGEWOOD TRUST Town of Pembroke) Estimated Easement Acres = 119.1

Location: Blue Berry Ln, Pembroke MA



District: Plymouth County Conservation District

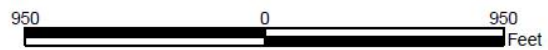
Field Office: West Wareham Field Office
Agency: USDA-NRCS



Legend



-  WRP Proposed Easement
-  Estimated Property Line



WRP Proposed Easement Total Easement Area = 23.5 ac



Hoggs Bogs (Town of Pembroke)
District: Plymouth County Conservation District

Field Office: WEST WAREHAM SERVICE CENTER
Agency: USDA-NRCS



Legend



-  Proposed Easement
-  Bog Line



Conservation Commission Managed Properties

Table 25: Conservation Commission Managed Properties

Map Lot	Site Address	Acres	Owner Management	Use Description	Public Access	Degree of Protection	Zoning	Book Page	Public Grant	Condition	Recreation Potential
A6-248	0 Mattakeesett	0.615	Conservation	shrub swamp	None	Article 97	Res. A	56765-73	N/A	Poor	Poor. Mostly shrub swamp.
A7-135	0 Mattakeesett	39.29	Conservation	Former cranberry bog, Wooded swamp mixed trees, deciduous	None	Article 97	Res. A	37420-291	N/A	Poor	Poor. Former cranberry bog.
A9-39	Oldham Pond Island	0.07	Conservation	Wooded Island – Habitat Protection	None	Article 97	Res. A	13877 - 74	N/A	Fair	Fair. Boat access only, limited.
A11-10	Oldham St	2.89	Conservation	Water Protection	None	Article 97	Res. A Zone II WHP	22419-293	N/A	Poor	Poor. Landlocked
A11-11	Oldham St	1.12	Conservation	Water Protection	None	Article 97	Res. A Zone II WHP	108142	N/A	Poor	Poor. Landlocked, mostly wetlands
B2-2430	0 Chandler St	0.11	Conservation	Wooded, Vacant land in a residential area, former “tea lots”	Street access	Article 97	Res. A	18706-206	N/A	Poor	Poor. Former “tea lots”. Not suitable for recreation purposes.
B2-2437	0 Morse St.	0.11	Conservation	Vacant land in a residential area, former “tea lots”	Street access	Article 97	Res. A	44205-19	N/A	Poor	Poor. Former “tea lots”. Not suitable for recreation purposes.
B2-2532	0 Ramsdell St.	0.055	Conservation	Vacant land in a residential area, former “tea lots”	Street access	Article 97	Res. A	18514-276	N/A	Poor	Poor. Former “tea lots”. Not suitable for recreation purposes.
B2-2930	Beech Street	0.06	Conservation	Wooded parcel in a residential area - Water Protection	Limited	Article 97	Res. A, Zone II WHP	B2-2930	N/A	Fair	Poor, paper road, overgrown with little access.
B2-2939	Elmer Ave	0.08	Conservation	Wooded pond frontage - Water Buffer	Street and pond access	Article 97	Res. A	2317 - 416	N/A	Excellent	Good. Limited parking but could be a small residential beach area or a boat launch.
B2-3105	Beech Street	0.17	Conservation	Wooded - Water Protection	Street access	Article 97	Res. A	No Reference	N/A	Fair	Fair. Some street access but no parking.

B2-3117	Beech Street	0.06	Conservation	Wooded - Water Protection	Low	Article 97	Res. A	No Reference	N/A	Poor	Poor. Landlocked between residential parcels, no frontage.
B6-385	Furnace Colony Drive	1.0	Conservation	Furnace Pond Beach - Swimming Dock / Beach Access on Furnace Pond	Street access, limited parking	Article 97	Res. A	120478	N/A	Beach area, some trees	Excellent. Potential, beach area, limited parking.
B8-92	0 Mattakeesett St.	9.81	Conservation	wooded swamp, deciduous	Street access no parking undisturbed property	Article 97	Res A	45746-199	N/A	Fair	Fair. Wooded swamp parcel. Potential for limited passive recreation.
B8-99	0 Mattakeesett Street	0.238	Conservation	Waterfront area between roadway and pond	No parking, limited access	Article 97	Res A	2039-001	N/A	Poor	Poor. A limited area between the roadway layout and the waterfront.
B8-121	0 Mattakeesett	0.025	Conservation	Landlocked, scrub swamp	Landlocked, no access	Article 97	Res A	2250-487	N/A	Poor	Poor. Landlocked scrub swamp parcel.
B8-332	Indian Trail	22.65	Conservation	Wetlands, No Bottom Pond - Water Protection	None	Article 97	Res. A, Zone II WHP	4934 - 477	N/A	Good	Good. Potential trails or scenic areas, no current street address.
B12-129	Seltsam Way	17.2	Conservation	Wooded, end of a cul-de-sac - Cedar Swamp	Street access, no parking	Article 97	Res. A	45065 - 251	N/A	Fair	Fair. Limited public access, the potential for passive recreation if connected to neighboring parcels.
B13-17	Summer Pathway	14.05	Conservation	Wooded Swamp - Water Protection	None	Article 97	Res. A, Zone II WHP	29046 - 259	N/A	Poor	Poor. Wooded swamp, mixed trees, Deciduous, landlocked
C5-9	Monroe Street	137.53	Conservation	Tubbs Meadow Preserve - Existing trail in a largely undeveloped area with access from Monroe Street and Mill Street for hiking along dirt roads. The Preserve property comprises three parcels with an	Full access - Tubb's Meadow Preserve comprises a pond, abandoned cranberry bogs, trails, and woodland in the drainage of Tubb's Meadow Brook. The	Article 97	Res. A	18625 - 305	N/A	Excellent	Excellent. Tubbs Meadow's existing trails. Short-term site improvements a. Remove the log blocking the main pathway. Long-term site improvements a. Slightly regrade the slopes on the second pathway to meet the ADA requirements.

				<p>area of 137.53 acres, the largest of which occurs west of Monroe Street and East of Center Street. Two smaller parcels occur just northwest of the intersection of Center and Mill Streets. These parcels and 4 adjacent parcels to the southwest are owned by the Town of Pembroke.</p>	<p>property is crisscrossed with dirt roads suitable for hiking. Two trailheads are marked with gates and kiosks. No information is posted at the kiosks. Dirt parking areas at two access points provide parking for Tubb's Meadow Preserve. The parking area off Monroe Street is about 3,900 square feet and has space for approximately 20 cars. The preserve is not well marked from the street. No trail signs were found. One trail was blocked by a log near the trailhead, and the alternative trail was not suitable for wheelchair</p>						
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					access due to its slope.						
C7-7	Liane Way	5.0	Conservation	Wooded, some wetlands - Water Protection	Street access	Article 97	Res. A, Zone II WHP	4034 - 483	N/A	Good	Good. Residential area, with access to Liane Way, a potential pocket park.
C10-46E	Equestrian Way	16.4	Conservation	Wetland, landlocked - Cedar Swamp	None	Article 97	Res. A	44158 - 149	N/A	Poor	Poor. No access, all wetlands, wooded swamp.
C11-9	Cedar Swamp	16.69	Conservation	Wooded swamp, mixed trees, Deciduous, landlocked - Cedar Swamp	None	Article 97	Res. A	21694 - 278	N/A	Good	Good. Close to established trails at Misty Meadow.
C12-39	Cedar Swamp	0.7	Conservation	Wooded swamp, mixed trees, Deciduous, landlocked - Cedar Swamp	None	Article 97	Res. A	45065 - 251	N/A	Poor	Poor. Landlocked, wooded swamp.
C12-50	Cedar Swamp	3.07	Conservation	Wooded swamp, mixed trees, Deciduous, landlocked - Cedar Swamp	None	Article 97	Res. A	7905 - 028	N/A	Poor	Poor. Landlocked, wooded swamp.
C13-7	Cedar Swamp	43.12	Conservation	Wooded swamp, mixed trees, Deciduous, landlocked - Cedar Swamp	None	Article 97	Res. A, Zone II WHP	15069 - 154	N/A	Poor	Poor. Landlocked, wooded swamp.
C13-42	Cedar Swamp	6.75	Conservation	Wooded swamp, mixed trees, Deciduous, landlocked - Cedar Swamp	None	Article 97	Res. A	22788 - 31	N/A	Poor	Poor. Landlocked, wooded swamp.
D4-15	Plain Street	6.17	Conservation	Wooded, some wetlands - Water Protection	Street access	Article 97	Res. A	12097 - 222	N/A	Fair	Fair. Passive recreation potential presents challenges.
D10-1A	Barker Street	13.07	Conservation	Wetlands/Buffer, adjacent to the existing Herring Run Park	None	Article 97	Res. A	3615 - 570	N/A	Excellent	Excellent. Large potential for enhanced use through improvements and access through Herring Run Park.
D10-2	211 Barker Street	36.5	Conservation	Herring Run Park - Herring Run	Full - The park is not well	Article 97	Res. A/Historical	1802 - 469	N/A	Excellent	Excellent.

				<p>Historical Park is a small sparsely developed public area accessed from an at-grade gravel parking area on the northwest side of Route 14. Herring Run Park contains two historical displays, several picnic tables, a grill, an old mill site, and two fish ladders. There is a small open lawn area to the north of the car park with two granite benches and a historical structure. Access from the parking area to the larger side of the park requires pedestrians to cross two brooks. Passage over the first brook is provided by either a flush concrete bridge with wood rails or a wood deck bridge with two step-ups on either side. Both bridges lead to the grassy median between</p>	<p>marked from the street. The parking area is not paved and has no marking of parking spaces. A single sign indicating handicapped parking is at the western end of the parking area near the concrete-decked bridge. The pathway to the bridge has a variable slope from 2 to 10 degrees and a cross-slope of 2 to 5 degrees. The area accessed by the concrete bridge is grass and contains no developed pathway. There are no outdoor recreation access routes (ORAR) within the entire site. For there to be access to the picnic tables, grill, and</p>						<p>Large potential for enhanced use through park improvements including parking access, and connection to adjacent trail networks.</p> <p>The site contains two branches of Herring Brook and Lower Little Pudding Brook. Surrounding areas are owned by the Town and the Wildland Conservancy of Plymouth and include large undeveloped parcels containing marshlands and wooded areas held for land conservation.</p> <p>Short-term site improvements</p> <p>a. There is currently a sign indicating a “designated accessible route”, but the route is not accessible. The town is required to make this an accessible route because it is designated as one. A short-term solution to this would be to add a stone dust pathway from the parking area to the concrete bridge and from the concrete bridge to the gravel path over the culvert. The stone dust path should extend to the grill area where there is an annual fish fry.</p> <p>b. An option for short-term improvements to address accessible parking space would include paving two spaces with room for an aisle and adding line striping indicating that handicapped space. Access from the access aisle to the ORAR is required.</p> <p>Long-term site improvements</p> <p>c. Long-term options include extending the ORAR up to the Indian rock, along the woodland edge to meet the brook, then following the brook past the house and back to the culvert to create a perimeter path that allows access to all amenities. Adding benches with companion seating</p>
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				the two brooks. Access over the second brook is provided by another wood deck bridge with two step-ups on either side or a gravel path leading over the culvert in the southeast corner of the park.	benches, they need to be along an ORAR.						along the brook/ loop path would enhance the amenities available to all users.
D10-14	190 Barker St.	29.08	Town of Pembroke	Wooded swamp	Access off Route 14	Article 97	Res. A	47248-29	N/A	Poor	Poor. Street access. Wooded swamp.
D10-69A	Center Street	3.78	Town of Pembroke	Shrub swamp, wooded swamp	Access off Route 14	Article 97	Res. a	52069-217	N/A	Poor	Poor. A landlocked parcel, shrub swamp, and wooded swamp covers 99% of the parcel.
D12-1	Barker Street	70.6	Conservation	Existing Trail network - Cedar Swamp	Limited parking, some street access	Article 97	Res. A, Zone II WHP	No Legal Ref.	N/A	Good	Good. Large potential for enhanced use through trail improvements including markings, parking access, trailhead, and map.
D13-51	Washington Street	73.69	Conservation	Misty Meadow Conservation area, wooded, existing trails - Cedar Swamp	Limited parking, some street access	Article 97	Res. A, Res-Com, Historical	4744 - 315	N/A	Good.	Good. Limited potential for passive trails. Wooded swamp, mixed trees, Deciduous.
E2-3	Station Street	4.79	Conservation	Wooded - Water Protection	None	Article 97	Res. A	15326 - 120	N/A	Poor	Poor. Landlocked parcel, wooded swamp mixed trees, deciduous.
E2-25	760 School Street	1.13	Conservation	Wooded, some wetlands - Water Protection	Street access	Article 97	Res. A	15146 - 175	N/A	Fair	Fair. Passive recreation potential but parking presents challenges.
E2-26	School Street	0.46	Conservation	Wooded, some wetlands - Water Protection	Street access	Article 97	Res. A	15362 - 296	N/A	Fair	Fair. Passive recreation potential but parking presents challenges.
E2-29	School Street	75.76	Conservation	Wooded, some wetlands - Water Protection	Street access	Article 97	Res. A	No Legal Ref.	N/A	Fair	Fair. Passive recreation potential but parking presents challenges.
E3-13	Off Pelham Street	10.06	Conservation	Undisturbed wooded area –	None	Article 97	Res. A	38960 - 129	N/A	Fair	Fair.

				Habitat Protection							Limited public access, the potential for passive recreation if connected to neighboring parcels.
E8-15	Pratt Farm Lane	19.32	Conservation	Wetlands, Undisturbed wooded area	None	Article 97	Res. A	32166 - 315	N/A	Excellent	Excellent. Large potential for enhanced use through park improvements including parking access, and connection to adjacent trails network.
E8-47A	204 Old Washington St	7.59	Conservation	Wooded, Habitat Protection	Street access	Article 97	Res. A	14223 - 064	N/A	Fair	Fair. Passive recreation potential but parking presents challenges.
E9-62	0 Highland Drive	5.16	Conservation	End of James Way in a flood plain, wooded swamp, mixed trees, landlocked – Habitat Protection	None	Article 97	Res. A	No Reference	N/A	Poor	Poor. Landlocked parcel, wooded swamp mixed trees, deciduous.
E10-71A	Washington St.	46.7	Conservation	Wooded swamp mixed trees landlocked - Habitat Protection	None	Article 97	Res. A	49195-214	N/A	Poor	Poor. Wooded swamp mixed trees. Passive recreation trails potential.
E14-11	Schoosett Street	23.42	Conservation	N. River Water Buffer wetlands	Limited	Article 97	Res. A & Bus. B	4337 - 420	N/A	Poor	Poor. Wetlands, wooded swamp mixed trees.
F3-4	Pelham Street	24.82	Conservation	Wooded, wetlands – Habitat Protection	Street access	Article 97	Res. A	38753 - 121	N/A	Fair	Fair. Passive recreation potential but parking presents challenges.
F4-93	Off Cardinal Circle	23.73	Conservation	Wooded, wetlands – Habitat Protection	Limited	Article 97	Res. A	110235	N/A	Fair	Fair. Limited public access, the potential for passive recreation if connected to neighboring parcels.
F5-44	32 Blackbird Drive	2.96	Conservation	Undisturbed wetlands – Habitat Protection	Residential lot	Article 97	Res. A	110236	N/A	Poor	Poor. A small residential lot, wetlands.
F8-34	Washington Street	32.17	Conservation	Wooded Wetlands/Buffer	None	Article 97	Res. A	15724 - 349	N/A	Poor	Poor. Limited potential. Corner parcel, wooded swamp mixed trees, deciduous.

F8-50	Off Taylor Street	0.42	Conservation	Wooded, abuts driving range Buffer	None	Article 97	Res. A	15662 - 198	N/A	Poor	Poor. No access, low potential.
F9-21E	Congress Street	1.82	Conservation	Wooded Wetlands	Limited street access, no parking	Article 97	Res-Com	13685 - 242	N/A	Poor	Poor. Wooded swamp mixed trees.
F10-65	Juniper Lane	0.7	Conservation	Wooded wetlands	Street access	Article 97	Res-Com	10539 - 212	N/A	Fair	Fair. Limited potential for a pocket park in nearby residential areas.
F10-82	68 Edgewater Dr	0.92	Conservation	Undisturbed Wetlands	Residential lot	Article 97	Res. A	10539 - 212	N/A	Poor	Poor. A small residential lot, wetlands.
F10-92	Juniper Lane	0.92	Conservation	Undisturbed Wetlands	Residential lot	Article 97	Res. A	10539 - 212	N/A	Poor	Poor. A small residential lot, wetlands.
F10-93	Juniper Lane	0.96	Conservation	Undisturbed Wetlands	Residential lot	Article 97	Res. A	10539 - 212	N/A	Poor	Poor. A small residential lot, wetlands.
F14-32	Captain North Way	24	Conservation	Wooded, Wetland Buffer	Limited	Article 97	Res. A	15437 - 154	N/A	Good	Good. Passive recreation potential but parking presents challenges.
F16-6	Expressway	3.25	Conservation	Wetlands – Expressway Buffer	None	Article 97	Res. A	46672 - 77	N/A	Poor	Poor. Expressway buffer.
Total Protected Acreage		832.96									

Pembroke Recreation Managed Parcels

Table 26: Pembroke Recreation Managed Parcels

Parcel ID	Address	Acres	Owner	MGMT Agency	Use/Desc.	Public Access	Book - Page	Degree of Protection	Zoning	Type of Grant	Condition - Rec. Potential
A8-54	Taylor Point Road	0.6	The Road	Highway Dept	Roadway layout	Full	1881 - 135	Protected	Res. A	N/A	Poor, Roadway layout.
A9-40	Oldham Pond	2.28	Monument Island	Highway Dept	Monument Island	None	2478 - 98	Protected	Res. A, Zone II WHP	N/A	Good. Limited passive recreation
B2-4	Plymouth Street	1.26	Town Beach	Town Manager	Stetson Park Beach -	Full -	3646 - 42	Protected	Res. A	N/A	Good. Swimming, boating

					<p>Stetson Beach is a small sparsely developed public area accessed from an at-grade gravel parking area on the northeast side of Plymouth Street between the street and Stetson Pond. The property comprises a single undeveloped parcel of 1.26 acres owned by the Town of Pembroke. The Town of Pembroke also owns undeveloped property on the southwest side of Plymouth Street between the street and Chaffin Reservoir.</p>	<p>Stetson Park contains a dirt parking area, a small floating dock on the north side of the parking area, and an unimproved boat ramp on the south side of the parking area. Except for the areas immediately adjacent to the floating dock and the boat ramp, the shoreline is vegetated. A single portable toilet is placed on the north side of the parking area. Access from the parking area to the float is from a short steep dirt path. Access to the unimproved boat ramp is a graded dirt slope directly from the parking area. There is a public beach sign indicating hours of use and beach rules.</p>					<p>The park is not well marked from the street. The parking area is not paved and has no marking of parking spaces. Both the floating dock and the boat ramp are accessed by steep unimproved slopes.</p> <p>Short-term site improvements</p> <p>a. Short-term site improvements for accessibility would include defining the pathway from the parking to the beach with a minimum width of 60" and running a removable beach mat from the parking to either the float dock ramp or the normal recreation water level of the pond.</p> <p>b. An option for short-term improvements to address accessible parking space would include paving two spaces with room for an aisle and adding line striping indicating that handicapped space. Access from the access aisle to the ORAR is required.</p> <p>c. To address access to the floating dock, a transition plate would have to be installed between the edge of the ramp and the removable beach mat leading to the ramp. This would eliminate the large vertical gap (exceeding 1/2") between the two surfaces.</p> <p>Long-term site improvements</p> <p>a. A long-term goal would include fine grading and compaction of the existing boat ramp to improve the eroding gravel and adding an accessible ORAR leading down to the boat ramp from the parking area.</p>
B5-58	Woodbine Ave	0.03	Town Beach	Town Manager	<p>Little Sandy Beach – a small public area providing access from Woodbine Avenue to a beach/swimming</p>	<p>Limited - Parking for Little Sandy Park is on-street with spaces for perhaps 3 vehicles. No parking stalls are marked; no</p>	1876 - 521	Protected	Res. A, Zone II WHP	N/A	<p>Good. Swimming, boating</p> <p>Short-term site improvements</p> <p>a. Short-term site improvements for accessibility would include running a removable beach mat</p>

				<p>area on Little Sandy Pond.</p> <p>Little Sandy Park comprises an unimproved sand strip, approximately 32' wide, connecting the paved portion of Woodbine Avenue to Little Sandy Pond. A single portable toilet is placed on one northeast side of the sandy area. A small equipment building is located approximately 20 feet from the paved portion of Woodbine Avenue. No on-street parking is indicated in the vicinity of the park. Three picnic tables and two wooden benches are located on the northern side of the sandy area. The benches sit parallel with a black vinyl chain link fence that separates the sandy beach area from the adjacent neighbor's property. The distance from the paved street to the water is approximately 105'. There is a floating dock with a ramp connecting to the</p>	<p>handicapped spaces are indicated. The restroom facility provided is not ADA-compliant. No emergency telephone is provided. The park is well-marked from the street. Parking is not well-defined, and the swimming area is accessed by steep unimproved paths. There are no outdoor recreation access routes (ORAR) within the entire site. For there to be access to the picnic tables and swimming area, they need to be along an ORAR.</p>					<p>from the paved street to the normal recreation water level of the pond.</p> <p>b. The current portable toilet on site is not ADA-compliant. It is recommended to update this to an ADA-compliant portable restroom and provide an ORAR, whether is it a mat or one of the other acceptable surfaces, to the compliant restroom.</p> <p>c. An option for short-term improvements to address accessible parking space would include paving one space with room for an aisle and adding line striping indicating that handicapped space. Access from the access aisle to the ORAR is required.</p>
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					beach. The dock is 5' wide, parallel with the southern property line, and extends approximately 50' out into the pond.						
B7-183	29 Furnace Pond	0.13	Beach Area	Town Manager	Town Beach - Swimming Dock / Beach Access on Furnace Pond without picnic areas	Full	No Legal Ref.	Protected	Res. A, Zone II WHP	N/A	Good. Swimming, boating Short-term Improvements – installation of picnic tables with ORAR within the entire site.
B8-72	187 Wampatuck Street	0.75	Town Landing	Town Manager	Town Landing – Town Landing contains paved parking, a small boat launch ramp and adjacent float dock, roughly 21,300 square feet of sandy area with two float docks for swimming, a children’s play area, 4 picnic tables, and a restroom building.	Limited – Town Landing is a small developed public area on the east shore of Oldham Pond, accessed from a paved parking area or diagonal off-street parking on the west side of Wampatuck Street. Parking for Town Landing is provided in an at-grade paved lot containing marked spaces for 18 vehicles and one marked handicapper space. Off-street parking along Wampatuck Street is provided in 19 marked diagonal spaces; access from Wampatuck Street is through a gate with a 4-inch curb. No sign indicates the handicapped space. A single restroom is provided in a storage building located in the northeast corner of the	No Legal Ref.	Protected	Res. A, Zone II WHP	N/A	Good. Short-term site improvements a. A short-term improvement would include the placement of a removable beach mat from the gate to the play area and the placement of another mat perpendicular to the first mat that leads down to one of the float docks. The sand beneath the mat would need to be smoothed and should have a running slope no greater than 10% and a cross slope no greater than 5%. The running slope and cross slope are recommended, but not required for removable mats. b. If the mat ran to the edge of the float, the transition between the mat and the float would need to be modified to assure that all height differences were 1 inch or less and that the float was modified to be ADA-compliant. This includes adding detectable warning strips along the edges of the floating dock, adding a transition plate from the sand to the top of the wall/beginning of the ramp to the dock, adding a transition plate from the ramp to the top of the floating dock and adding handrails on both sides of the ramps coming off the dock and into the water. c. The surface of the play area should receive additional mulch/wood chips to meet the fall height requirements of the play equipment and should extend to the edge of the play equipment safety zones (usually 6’ from the edge). It is

						sandy area. The restroom is not accessible by wheelchair and contains no ADA-compliant fixtures. No emergency telephone is provided.					<p>recommended that a concrete curb be added around the limits of the play surfacing to contain the wood fiber mulch efficiently.</p> <p>d. Provide additional bathroom facilities; for example, an ADA-compliant porta-potty until modifications can be made to the existing facilities.</p> <p>Long-term site improvements</p> <p>a. Provide a paved ORAR from the entry gate to the playground and bathroom facility.</p> <p>b. Update the bathroom facility to be ADA-compliant.</p> <p>c. Install poured-in-place rubber safety surfacing at the play area in place of the wood fiber mulch.</p>
B8-228	Wampatuck Street	0.16	Town Landing	Town Manager	Town Landing Access from the parking area to the sandy area is through a gate. Access to the play area and swimming floats is across approximately 100 feet of loose sand.	Limited - The park is visible, but not well marked from the street. The parking area is paved and contains marked parking spaces. One handicapped parking space is marked, but no signs indicate its location nor is the gate to the Sandy area indicated. The pathway to the gate is flat. The parking area slopes to the water at approximately 4 degrees. The sandy area is generally flat between the gate and the play area. The slope to the water is approximately 4 degrees and ends at a 4-inch-wide concrete wall along the water.	3398 - 100	Limited Protection	Res. A, Zone II WHP	N/A	<p>Good.</p> <p>Landing area - There are no outdoor recreation access routes (ORAR) within the entire site. For there to be access to the picnic tables, and the play area of swimming floats, they need to be along an ORAR.</p> <p>Barriers that limit access to existing uses</p> <p>i. Lack of accessible surfacing. For a pathway to be considered an ORAR, the surfacing must be accessible. Acceptable surfacing materials include a beach mat, concrete, asphalt, crushed stone, packed soil, and soil stabilizer. The only available surface is sand, which is not considered an accessible surface.</p> <p>ii. Inaccessible floating docks. The floating docks designated for swimming are currently inaccessible due to the top of the concrete wall being raised above the surface of the sand.</p> <p>There is a single restroom in the concrete storage building. Access to the restroom is from the</p>

						The top of the wall extends approximately 4 inches above the sand; the distance from the top of the wall to the water is approximately 18 inches. The water is approximately 3 inches deep at the base of the wall.					sandy area and involves a 4-inch step to a 14-inch-wide apron along the side of the building.
C3-3	Owl Head Promenade	12.88	Town of Pembroke	Highway Dept.	Veteran's Town Forest	Limited	2173 - 166	Protected	Res. A	N/A	Good. Existing hiking trails
C9-5	Curve Street	2.02	Recreation	Recreation	Town Common	Full	No Legal Ref.	Protected	Historic	N/A	Good. Passive recreation
D6-13	Hobomock Street	0.07	Board of Health	Highway Dept	Buffer	None	3366-116	Limited Protection	Res. A	N/A	Poor. Buffer
D10-6	Center Street	0.5	Town of Pembroke	Recreation	Town Green – Community Center Playground, 10 and Under Playground Picnic Tables	Limited	No Legal Ref.	Limited Protection	Res. A	N/A	Good. Passive recreation
D14-13	Schoosett Street	11.53	Magoun Park	Recreation	Magoun Ball Park – no other facilities	Full	1619 - 134	Protected	Historic - Bus. B	N/A	Good. Active ball field Short-term Improvements - Gravel Path to field / Parking Spots w/ Placard
D15-13	0 Brick Kiln Lane	50.19	Town of Pembroke	Conservation	Wooded swamp mixed trees with Shallow Marsh Meadow or Fen	Limited - Dated Playground Equipment Uphill Grade w/ no hard surface.	No Legal Ref.	Limited Protection	Res. A	N/A	Good. Short-term Improvements - Walking Path to Magoun Park
Total		82.4									

Pembroke Select Board Properties

Table 27: Pembroke Select Board Properties

Parcel ID	Site Address	Acres	Owner Manager	MGMT Agency	Use Description	Public Access	Recreation Potential	Zoning	Book Page	Type of Public Grant	Condition	Recommendations
A5-5	Cyril Ave	0.67	SB	SB	Wetlands	none	low	Res. A, Zone II WHP	108137	N/A	wetlands	Maintain current use
A5-59	9 Union St	0.25	SB	SB	Cobb Library	high	none		1053-361	N/A	library	Maintain current use
A10-35	Shore's Edge	0.13	SB	SB	Buffer	low	none	Res. A, Zone II WHP	118762	N/A	wooded	Maintain current use
B12-74	62 Standford Hill Rd	7.43	SB	SB	Wetlands	limited	limited	Res. A	10176 - 198	N/A	wetlands	Maintain current use
B5-254	Braeburn Ave	0.12	SB	SB	Buffer	none	none	Res. A, Zone II WHP	430151	N/A	wooded	Maintain current use
B9-352	Cove Lane	0.28	SB	SB	Wetlands	low	none	Res. A, Zone II WHP	14467 - 191	N/A	wetlands	Maintain current use
D6-4C1	62 Standish St	2.56	SB	SB	Wetlands	limited	low	Res. A, Zone II WHP	117429	N/A	wetlands	Maintain current use
E9-12A	Old Washington	1.88	SB	SB	Wetlands	limited	low	Res. A	13570 - 203	N/A	wetlands	Maintain current use
F12-13	213 Pleasant Street	0.61	SB	SB	Wetland Buffer	low	low	Res. A	15595 - 15	N/A	wetlands	Maintain current use
F3-160	16 Pine Street	0.37	SB	SB	Wetland Buffer	low	low	Res. A	13877 - 76	N/A	wetlands	Maintain current use
F9-37	85 Congress St	1	SB	SB	Wetlands	low	low	Res-Com	82502	N/A	wetlands	Maintain current use
G11-30	Elm Street	1.7	SB	SB	Wetlands	low	low	Res. A	15326 - 121	N/A	wetlands	Maintain current use
G4-4	48 Chapel St	0.73	SB	SB	Wetlands	low	low	Res. A	16430 - 100	N/A	wooded	Maintain current use
Total		17.73										

Pembroke Water Department Properties

Table 28: Pembroke Water Department Properties

Parcel #	Address	Acreage	Owner	MGMT Agency	Use/Desc.	Public Access	Rec. Potential	Zoning	Book - Page
B4-141	65 Elmer Street	35.93	DPW	Water Dept.	Recharge/ Wetlands	Limited	Limited hiking potential, wetlands	Res. A, Zone II WHP	35779 - 189
B4-146	657 Elmer Street	33.84	DPW	Water Dept.	Recharge/ Wetlands	Limited	Limited hiking potential, wetlands	Res. A, Zone II WHP	35779 - 189
B4-38	120 Elmer Street	15.98	DPW	Water Dept.	Recharge/ Wetlands	Limited	Limited hiking potential, wetlands	Res. A, Zone II WHP	35779 - 189
B4-43	70 Elmer Street	74.01	DPW	Water Dept.	Recharge/ Wetlands	Limited	Limited hiking potential, wetlands	Res. A, Zone II WHP	35779 - 189
B4-62	465 Center Street	0.14	DPW	Water Dept.	Buffer	Limited	None	Res. A, Zone II WHP	35779 - 189
F12-16	Pleasant Street	268.49	DPW	Water Dept.	Stump Pond/Wetlands	Limited	Potential hiking, wetlands	Res. A	41255 - 60
B10-92	64 West Elm St	2.58	DPW	Water Dept.	Water Tower	None	None	Res. A	16213 - 226

B5-271	35 Sandy Lane	18.95	Water	Water	PW-4	Limited	None	Res. A	5540 - 352
C5-2	Center Street	26.89	Water	Water	Well Buffer	Limited	None	Res. A, Zone II WHP	3315 - 202
C5-26	316 School Street	10.2	Water Shed	Water	Production Well	None	None	Res. A, Zone II WHP	CRT 39200
C5-27	570 Center Street	16.21	Water Shed	Water	Production Well	None	None	Res. A, Zone II WHP	No Legal Ref.
G14-9	196 Oak Street	1.52	Water	Water	Water Tower	None	None	Industrial A	No Legal Ref.
E7-18	303 High Street	0.86	Water	Water	Water Tower	None	None	Res. A	1612 - 532
Total		505.6							

Pembroke School Department and Library Properties

Table 29: Pembroke School Dept. and Library Properties

Parcel #	Address	Acreage	Owner	MGMT Agency	Use/Desc.	Public Access	Rec. Potential	Zoning	Book - Page
D9-1	128 Center Street	34.19	Library	Recreation	Library/Comm. Center	Full	At potential	Historic - Res. A	15435 - 169
B5-14	29 Gurney Drive	30.51	Bryantville	School Dept.	Bryantville Elem.	Full	At potential	Res. A, Zone II WHP	2541 - 392
D6-9	95 Learning Lane	100.02	Hobomock	School Dept.	Hobomock Elem.	Full	At potential	Res. A	3739 - 563
D7-7	100 Learning Lane	46.14	High School	School Dept.	High School	Full	At potential	Res. A	22801 - 281
E7-8	340 High Street	0.56	Lydia Drake	Library	Lydia Drake	Full	At potential	Res. A	No Legal Ref.
F13-74	74 Pilgrim Road	2.11	N. Pem Elem.	School Dept.	N. Pem Elem.	Full	At potential	Res. A	3198 - 105
E13-9	Hillvale Road	140.4	Town of Pembroke	School Dept.	N. Pem Elem.	Full	At potential	Res. A	3149 - 95
D3-1	559 School Street	38.96	Town of Pembroke	School Dept.	PCMS	Full	At potential	Res. A	22801 - 281
Total		392.89							

Pembroke Housing Authority Properties

Table 30: Pembroke Housing Authority Properties

Parcel #	Address	Acreage	Owner	MGMT Agency	Use/Desc.	Public Access	Rec. Potential	Degree of Protection	Zoning	Book - Page
A5-31A	1 Mayflower Court	7.82	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Bus. A	CRT 42270
B12-62	295 West Elm Street	0.92	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A	4239 - 17
B2-7	895 Center Street	1.33	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A	4097 - 508
C6-18D	490 Center Street	0.5	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A, Zone II WHP	9420 - 248
C7-57	22 Cranberry Road	0.96	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A, Zone II WHP	4151 - 259

C9-28	1 Kilcommons Drive	8.3	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A	4390 - 10
C9-99C-42	34 Mattakeesett, Unit 42	0	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A, Zone II WHP	9258 - 116
C9-99C-8	34 Mattakeesett, Unit 8	0	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A, Zone II WHP	9530 - 337
D13-52	A Macdonald Way	5.96	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Historic - Res. A	4918 - 187
D5-6C	42 Lake Street	1.32	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A, Zone II WHP	4169 - 221
E14-1A	176 Schoosett St, Unit 1&2	0.44	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Bus. B	12751 - 109
G4-85	101 Harvard Street	0.59	Housing Auth.	Housing Auth.	Affordable Housing	Full	Maintain current use	Protected	Res. A	4099 - 110
Total		28.14								

Pembroke Cemeteries

Table 31: Pembroke Cemeteries

Address	Acreage	Owner	MGMT Agency	Use/Desc.	Public Access	Rec. Potential	Degree of Protection	Zoning	Book - Page
40 Oldham Street	15.85	Cemetery	Cemetery	Center Cemetery	Full Access	Passive walking	Protected	Historic	1920 - 398
Washington Street	1.73	Briggs Burial	Cemetery	Briggs Cemetery	Full Access	Passive walking	Protected	Historic	No Legal Ref.
Water Street	0.01	Randall Cemetery	Cemetery	Randall Cemetery	Limited Accessibility	Passive walking	Protected	Bus. B	1404 - 340
Water Street	0.22	Magoun Cemetery	Cemetery	Magoun Cemetery	Limited Accessibility	Passive walking	Protected	Bus. B	No Legal Ref.
212 Elm Street	7.2	Pine Grove Cemetery	Cemetery	Pine Grove Cemetery	Full Access	Passive walking	Protected	Res. A	2150 - 144
High Street	1.08	Town of Pembroke	Historical Society	Sachem Lodge Cemetery	Full Access	Passive walking	Protected	Res. A	No Legal Ref.
Total	26.09								

Pembroke Historic Structures

Table 32: Pembroke Historic Structures

Parcel #	Address	Acreage	Owner	MGMT Agency	Use/Desc.	Public Access	Rec. Potential	Degree of Protection	Zoning	Book - Page
C9-39	100 Center Street	1.97	Town Hall	SB	Town Hall	Full Access	Limited passive recreation	Protected	Historic	1545 - 544
D14-20	155 Washington Street	0.47	Bethel Chapel		Friends Meeting House	Full Access	Passive recreation	Limited	Historic	8420 - 336
C9-34	148 Center Street	2.41	Council on Aging		Council on Aging	Full Access	Limited passive recreation	Protected	Historic	No Legal Ref.
C9-36	120 Center Street	0.5	Hatch Building		Hatch Building	Full Access	Passive recreation	Limited	Historic	1472 - 246
C10-17	80 Center Street	1.81	Police Station	Police Dept.	Police Station	Full Access	Maintain current use	Protected	Historic	No Legal Ref.
E12-13A	380 Washington Street	0.5	N. Pem Fire	Fire Dept.	Volunteer Fire Station	Full Access	Maintain current use	Protected	Historic - Bus. B	2021 - 398
D10-36	177 Fairwood Drive	1.03	Town of Pembroke	Historical Society	Historic Peter's Well	Limited	Limited passive recreation	Limited	Res. A	No Legal Ref.

F15-1	334 Old Oak Street	40.38	N. River Church		Church	Full Access	Maintain current use	Limited	Res. A	96773
C9-37	116 Center Street	0.34	Hist. Soc.	Historical Society	Historical Society Bldg	Full Access	Maintain current use	Protected	Res. A	2212 - 82
D10-54	Fairwood Drive	0.06	Hist. Soc./Peter's Well	Historical Society	Peter's Well	Full Access	Maintain current use	Protected	Res. A	3086 - 468
D14-2	70 Washington Street	0.88	Historical Society	Historical Society	Quaker Meetinghouse	Full Access	Maintain current use	Protected	Res. A	3968 - 2
E11-1A	52 Barker Street	5.1	Historical Society	Historical Society	Historical Structure	Full Access	Maintain current use	Protected	Res. A	3490 - 46
Total		55.45								

Pembroke Religious Properties

Table 33: Pembroke Religious Properties

Parcel #	Address	Acreage	Owner	Book - Page
F15-1	334 Old Oak Street	40.38	N. River Church	96773
A5-292	540 Mattakeesett Street	3.56	Bryantville Methodist	3344 - 407
C9-4	105 Center Street	0.87	First Church	No Legal Ref.
D14-18	145 Washington Street	11.67	St. Thecla's	2906 - 274
G12-7	20A Randall Street	129.15	Arnold Hall	9224 - 313
C8-52	1 Greenwood Ave	0.28	First Parish	2615 - 83
F7-17	421 High Street	0.63	High St Methodist	49896 - 171
C9-38	110 Center Street	0.05	Sewing Circle	453 - 262
F7-9	Taylor Street	0.21	W. Duxbury Methodist	3427 - 364
F8-29	786 Washington Street	1.12	Assembly of God	465 - 122
Total		187.92		



Section 6. COMMUNITY

Pembroke is a community with a strong commitment to the protection and environmental stewardship of its natural resources. The community's rural character, open spaces, agricultural lands, and water resources, provide opportunities for residents to enjoy clean air and water, and recreational opportunities, with diverse plant, and wildlife habitats.

VISION

A. VISION

This plan should be considered a blueprint to help Pembroke preserve those places and values that are most important to residents – rural character, healthy and diverse natural environments, economic sustainability, and the sense of community that is such a mosaic of Pembroke's identity. It also provides direction and guidance to help local officials address the recommendations of this plan.

The following core values are derived from engagement with public officials and the community and reflect the long-term direction for Pembroke's future as a thriving community.

We embrace the Town's unique historical character and cultural resources and encourage an understanding of our town's history.

We protect our natural resources and natural recreation opportunities with a

strong commitment to environmental stewardship.

We recognize important land uses, including forests, farms, and open space, that supports a healthy and sustainable environment to live, work and play.

We encourage the use of tools and incentives to support a walkable, dynamic community.

We promote a strong mix of land uses that meet the varied needs of the community.

We seek to preserve and enhance a vibrant community that embraces its unique, historical character, values its forests, farms, and rural character, and supports a healthy, sustainable environment.

B. DESCRIPTION OF PROCESS

The Pembroke Open Space Committee engaged the services of the Conway School for the update to their Open Space and Recreation Plan in the winter of 2017. In late January, the Conway student team, consisting of Ben Rippe, Devan Arnold, and Ben Covino, met with the client and chair of the Open Space Committee, Mike McDonough, members of the Open Space Committee, members of the Pembroke Conservation Commission, and Pembroke's Planning Board. The purpose of this gathering was to meet the stakeholders, collect preliminary input and materials, learn about conservation history in Pembroke, and

understand the attendees' priorities regarding open space and recreation.

The first public forum to obtain community input on the project was held on February 2, 2017, at the Pembroke Public Library's meeting room. A dozen people attended, comprising mostly Conservation Commission and Open Space Committee members, as well as representatives from other interested parties, such as the Historical Society and the Recreation Commission.

The Conway student team gave a brief presentation about the role of an OSRP and how it could assist a community like Pembroke. The Conway student team facilitated activities to elicit community input on various aspects of the project. Participants were asked whether goals identified from the past OSRP update were still relevant to Pembroke's community, and to verify if the information collected thus far was accurate and relevant. Overwhelmingly the feedback supported the previously stated goals to protect Pembroke's natural, cultural, and historical resources. Additionally, participants shared opinions regarding specific struggles and challenges associated with protecting these resources, such as managing invasive species, maintaining access and signage at the town's numerous open space properties, and the contentious and antiquated water-sharing relationships between Pembroke and surrounding towns that use water from its aquifers.

In mid-February, an updated open space survey was published on the town's website and posted to various town Facebook pages

and Pembroke Public Schools websites. The survey provided multiple-choice, rate-by-importance, and open-ended questions regarding citizens' needs and concerns about open space and recreation in Pembroke. Active for three weeks, the survey received 278 responses. Assuming each response correlates with one town resident, about 1.4 percent of the town's population participated in the survey.

A second public forum held on March 2 at the same location drew nine participants.

A public listening session was held on July 21, 2022, to review the final Open Space and Recreation Plan after it was revised per comments received from EOEEA through its review of the draft, now proposed for town adoption.

This public listening session was recorded and posted on the town website, YouTube, and the website of the Regional Planning Agency. A copy of the recording was provided to the public access channel for community access, and an advertisement of the listening session was posted on the town meeting calendar and advertised in local media including newsprint and radio broadcasts.

Digital copies of the plan were provided to the delegates of the communities in the OCPC district for distribution to their constituents.

Findings from the meetings, survey, and 2005 OSRP revealed the resources that Pembroke's residents value and wish to see preserved. In general, these community engagement efforts highlighted residents'

The Conway student team presented their analyses and working recommendations for the town's open space plan and conducted activities to obtain feedback from attendees on the recommendations. The attendees identified areas of town they would like to protect from development and guide development towards. The participants also identified areas of open space that were well used and maintained and those that require attention.

concerns about the loss and degradation of natural resources, especially water, and woodlands. Pembroke's citizens regard their natural and historical resources as key contributors to their community's semi-rural character. The development of new homes within Pembroke continues to encroach further into the woods and closer to wetland borders.

Pembroke's community feels that continued pressures from long-term water-sharing now threaten to diminish the quality and quantity of their ground and surface water, especially regarding extended drought conditions.



Section 7: ANALYSIS OF NEEDS

A. SUMMARY OF RESOURCES PROTECTION NEEDS

The analysis of Pembroke open space and recreation needs is based on information received from the Core Group guiding the Open Space and Recreation Plan, Open Space and Recreation Plan community meetings, the Open Space and Recreation Plan community surveys, Pembroke Municipal Vulnerability Preparedness and Hazard Mitigation Plan, and the previous Open Space and Recreation Plan. The Analysis of needs is grouped into three categories: resource protection, community needs, and management needs. The resource protection needs are related to the natural systems and resources of the town. Community needs relate to the needs of the population of the town and the quality of life and lifestyle expectations for the residents of Pembroke. The management needs relate to how resources should be managed and

what procedures and routines should be in place to ensure appropriate stewardship of these resources over time.

According to the goals of the 2005 OSRP and the OSRP surveys from 2005, 2014, and 2017, water is of paramount concern to Pembroke residents, contributing to the scenic, cultural, and natural resources of Pembroke. Situated within the South Coastal and Taunton watersheds, Pembroke is endowed with a complex web of rivers, streams, wetlands, marshes, ponds, lakes, and vernal pools, as well as a substantial aquifer under the southern half of the town, and a second smaller aquifer underlying portions of the northeast corner. These water resources offer habitat, corridors for migration, recreational opportunities, and drinking water for residents in and around Pembroke. Some of the major running-water

sources, like the North River, Herring Brook, and Pudding Brook, intersect with major roads, like Routes 53, 14, and 3, which threaten the quality of these resources. Continued development near many of the water resources also threatens the quality of those waters.

The development of Pembroke from a tourist destination to a year-round residential community likely impacted the health of its many water bodies. Summer vacation homes from the early twentieth century that surrounded the ponds in the southwest were retrofitted to become year-round residences. Today, this high-density residential area has small lot homes with individual septic systems which potentially threaten the water quality of the ponds. On a broader town-wide scale, fertilizers and untreated stormwater runoff from houses, roads, parking lots, and businesses could in part contribute to the eutrophication of the water bodies they surround. Action is necessary to improve the quality of these resources so they may continue to support the town residents and their neighbors.

The aquifers in Pembroke not only provide water to the people of Pembroke, but also contribute drinking water to Brockton, Abington, and Rockland. These towns pull water from Great Sandy Bottom Pond, Silver Lake, and Furnace Pond, which are likely fed in part by the underlying aquifers (Carlson and Lyford, 2005). This transfer of water, for which Pembroke receives no monetary or other compensation, has been in effect since the early twentieth

century. Considering current drought conditions as well as future drought projections, the withdrawal of water from the aquifer and its hydrologically connected water bodies may threaten its long-term viability and health. This poses a danger not only to the communities that use this water for drinking and irrigation but also to the communities of plants and animals whose habitats rely on aquifer-fed waterbodies.

A long history of agriculture, predominantly in the form of cranberry bog cultivation, altered the hydrology of some of the water bodies in Pembroke. These bogs were once quite common and originally constructed along many of the ponds and streams in town. Today there are only a handful of active bog sites, but the legacy of this once-booming industry is still apparent in the many decommissioned sites throughout Pembroke. Combined efforts by the town's Water Department, the Conservation Commission, and the Wildlands Trust have protected these once-active bogs from development and allowed them to return to semi-wild states in which they can enhance water quality. Further restoration efforts to return bogs to wetland ecosystems (as the Eel River Project has done in Plymouth, MA), could positively contribute to water and habitat quality in these areas.

The natural landscapes of Pembroke vary from wetlands to forested uplands. These different environments provide habitat and corridors for rare and threatened species as well as many common species in

Pembroke. The extensive water networks also provide important migration routes and spawning areas for fish species. According to the Natural Heritage and Endangered Species Project's (NHESP) BioMap2 data, Pembroke has approximately 3,239 acres of core habitat that supports rare, threatened, or endangered animal or plant species. The largest tract of identified core habitat in Pembroke is the Great Cedar Swamp in the north, which covers approximately 225 acres.

Although most of this habitat area is under permanent protection, there are still portions of identified core habitat throughout the town and in neighboring communities that are not currently protected and are threatened by increased development and the indirect impacts (increased stormwater runoff and pollution) associated with them. Continued efforts within Pembroke and in collaboration with abutting towns are needed to preserve these important and sensitive habitats.

All of Pembroke's largest surface water bodies (Oldham, Furnace, Stetson Ponds, and Silver Lake) are classified as core habitats. These important natural resources help to support abundant plant and animal species that contribute to a healthy and functional ecosystem and the scenic character of the town. However, these special environments have been fragmented and have become isolated from one another over the years as development expanded through the more ecologically sensitive parts of town, creating gaps in important

corridors, and reducing the connectivity of these core habitat areas.

There have been efforts by groups such as Wildlands Trust, to connect these resources by creating inter-town trail networks through protected lands in these habitat areas, but there is still much work to be done.

Because these core habitat areas extend beyond the town's borders, especially along the northern and eastern borders, alliances between Pembroke and its neighbors would be more effective than solo efforts.

Additional habitat areas include nine certified vernal pools and eighty-one potential vernal pools. Vernal pools offer habitat and breeding grounds for environmentally sensitive species, like fairy shrimp and wood frogs. Certifying vernal pools and connecting vernal pools via upland corridors and landscape block areas could assist in enhancing and protecting biodiversity.

CONSERVATION AND RESOURCE PROTECTION NEEDS

The protection of the Town's existing and future water supply is a fundamental need for the town. The source of Pembroke's drinking water is aquifer-based. The aquifer water supply is finite and irreplaceable and the quality and quantity of water in the aquifer must be protected. This protection is

achieved both through groundwater protection and treatment and through the conservation of water resources through regulation and education. The town will need to continue to devote resources to protecting drinking water and respond to any threats identified to the quality and quantity through the continuous and careful monitoring of drinking water resources in the town.

In addition to protecting drinking water, these protection measures benefit groundwater more generally and help to improve the quality of water in surface water features. The town's many ponds, rivers, and streams are a continuous focus for maintenance and improvement efforts to assist the health and functioning of these natural systems. The need to reduce wastewater contamination, reduce invasive species, and decrease sedimentation should be monitored and managed for each of the town's ponds, rivers, and streams.

The surface water features in the town are important habitats. Habitat areas include streams, wetlands, river corridors, forests, agricultural lands, and other natural areas that are of critical importance in the Town and should remain a continued focus for resource protection. Protecting and restoring a water body, river, or stream benefit drinking water, groundwater, and habitat for both fish and wildlife. These areas include important habitat land including BioMap2 Core and Critical Natural Landscape areas and riparian buffers. The riparian buffers include land within 100 feet

of surface waters and wetlands. The conservation and protection of these lands enhance biodiversity, and this resource protection remains a priority for the town; particularly as more land continues to face development pressure and may result in fragmented habitat areas.

The review and approval of future development remain important aspects of resource protection. The Planning Board, Conservation Commission, Zoning Board of Appeals, and other committees and boards responsible for project review should continue to review projects from a perspective of resource protection and define conditions for approval that will improve conservation and resource protection efforts in the Town. This may include placing conservation restrictions on critical portions of a development parcel to add to contiguous conservation areas that may be adjacent to the parcel, encourage low-impact development techniques as part of the development plan, and retain natural features on the property.

Greenbelt System, Stream, Wetlands Protection. The Town of Pembroke could develop a system of greenbelts along its streams and wetlands areas while opportunities remain. To do so, it should identify critical pieces of the potential systems and implement methods to protect them, e.g., purchase, land dedication, conservation restrictions, and local open space provisions.

Bikeway, Trail System. The Town lacks a town-wide multi-purpose trail system

allowing non-motorized off-road travel. Pembroke should seek to use existing proposed easements, sidewalks, and small land purchases to connect residential, open spaces, recreational areas, and other destinations.

Maximum Opportunities for Persons with Disabilities. Since the inventory reveals some inaccessible resources, Pembroke needs to identify and implement ways to provide full access to conservation and recreation areas.

Water Resource Protection. Water quality in Pembroke is protected by the Sanitary Code for septic systems and by water protection zoning districts. Since ownership is the best protection, conservation restrictions, and purchase should be considered to prevent development in the flood plain or sensitive recharge areas.

Augmented Natural Flood Control. The Town's streams, wetlands, and other natural portions of the drainage system provide much flood storage, but the drainage system is inadequate and needs rehabilitation. It is also important to protect the quantity of groundwater by enhancing groundwater recharge. Any future drainage improvements should be designed to take advantage of flood control, recharge wildlife habitat, and open space value of any existing or potential detention areas.

B. SUMMARY OF COMMUNITY'S NEEDS

Throughout Pembroke, there are ample opportunities to partake in outdoor recreation, from hiking, swimming, and canoeing to organized sports. Pembroke is fortunate to have a wealth of recreational spaces, including woods, rivers, parks, and sports fields, that allow people to be physically active and engaged with both their natural and human communities.

Pembroke residents are fortunate to have many recreational opportunities available to them. The Recreation Department develops and oversees numerous recreation programs for residents of all ages, and non-residents when space is available. Activities sponsored by the Recreation Department provide a variety of choices for preschoolers to elders, including playgroups, sports and games, arts and crafts, summer activities, educational courses, music, drama, fitness, wellness, and field trips for all ages.

Although the town continues to strengthen a network of convenient and amenity-rich open space resources, many groups within the community may not feel included or accommodated in park and recreation spaces. It is important that a network of parks and open spaces provide active and healthy recreational opportunities for all users and that a sense of inclusiveness and welcome be strengthened among the

open space resources. In Pembroke, the demographics and community discussion point to seniors among an aging population as the group most in need of future accommodation and a thoughtful approach to inclusiveness.

Seniors, particularly seniors that live alone, are more vulnerable to social isolation and physical and mental health issues that may be associated with lower levels of activity. Parks, open spaces, and recreational facilities provide settings where seniors can interact with others, get active and exercise, and enjoy the benefits and beauty of the natural surroundings. The needs of elderly residents are generally divided between the younger, more active senior citizens and the less active elderly population that may be experiencing declining health. The less active elderly generally requires therapeutic recreational services. More active seniors tend to enjoy walking, golf, tennis, and swimming, among other activities. Elderly residents may also have similar needs as residents with disabilities in terms of their ability to access recreational facilities.

As it relates to open space areas, seniors and those with disabilities would benefit from more benches, paved pathways around parks, sufficient shade trees, and more age-appropriate and low-impact active programming such as bocce, shuffleboard, corn hole, and walking groups may be uses that enhance a sense of welcome and inclusion.

Different ages and user groups, within the town, have particularized needs, which

can be accommodated through good planning and design. The use of Universal Design concepts in parks provides accessibility for those with disabilities and enables multi-generational play between youth, teens, and seniors. The Center for Universal Design at North Carolina State University provides the following seven guiding principles for Universal Design.

1. **Equitable Use:** The design is useful and marketable to people with diverse abilities.
2. **Flexibility in Use:** The design accommodates a wide range of individual preferences and abilities.
3. **Simple and Intuitive Use:** The use of design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. **Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. **Tolerance for Error:** The design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. **Low Physical Effort:** The design can be used efficiently and comfortably and with a minimum of fatigue.
7. **Size and Space for Approach and Use:** Appropriate size and space are provided for approach, reach, manipulation, and use regardless of

the user's body size, posture, or mobility.

To best serve elderly residents and other individuals with mobility limitations, both the design of internal park layouts and the pathways residents take to access them should be evaluated and improved as necessary. Following these principles helps to reinforce inclusion and welcome for all users in the community. This type of inclusion can build a sense of social cohesion where individuals of different backgrounds and abilities are coming together to share community spaces and resources. As all users feel more welcomed and invited to participate, the more likely positive social interactions become in these community spaces. This has the potential to create benefits for social cohesion in the community and creates opportunities for other benefits, such as intergenerational spaces.

Another way to enhance access to the resources of the open space in Pembroke is to enhance the multimodal connections to them. Pembroke is already connected to the Bay Circuit Trail, one of the great multimodal trails in the region. The Bay Circuit Trail is a permanent recreation trail and greenway extending through 37 towns in Eastern Massachusetts, linking parks and open spaces in fifty-seven Boston area communities.

Increasing the awareness of open space resources is another way to enhance knowledge and access for the community. The Town has open space resources that may

be underused because people are unaware of the available resources.

Through two public meetings and two online surveys, many Pembroke residents indicated that the diverse open spaces in town strongly contribute to the town's overall identity and make it a special and lovable place. The outreach survey was designed to uncover and better understand the community's recreation needs. The findings of the survey are summarized below. When people were asked in the 2017 survey about which specific areas are important contributors to the visual character of the town, the top three responses were the historic town center, the ample water resources, and the abundant forested areas. Specifically, Herring Run was mentioned repeatedly as a place that embodies scenic quality. Continuing to make efforts to protect important resources that could potentially be lost to development was an often-voiced need of the community.

Of the respondents to the survey, 63 percent stated that they consider Pembroke to be a town in transition. Given the trends in growth and development outlined in previous sections, it is apparent that this transition is eroding the town's rural, small-town character and creating a more developed suburban feel. The fear of losing the defining characteristics of the town was echoed in discussions with residents at two public OSRP meetings.

In the 2017 open space survey, 67 percent of people reported that continuing development was the most imminent threat

to the many special natural, historic, and cultural resources throughout the town. Half of the 67 percent of people who considered development to be the most imminent threat to the town's resources specified new housing developments as being particularly dangerous to the town's character.

Many individuals have reported that Pembroke has several open spaces not currently used by the public since many are unaware that such resources exist. Although 68 percent of those surveyed thought that the current open space areas within the town were easy to find and enjoy, when asked what steps should be made to increase the use of open space, the most common suggestion (35%) was to increase awareness through advertising and promotion, especially through social media platforms and on the town's website. By increasing awareness and use of the many diverse recreational opportunities within the town, these areas may become safer and better cared for through an increased sense of public ownership.

Of the already established protected open spaces, most survey respondents mentioned a need for improvements in signs, maintenance, and access. When polled on what activities they enjoy in designated open space areas, nearly all respondents (93%) reported walking as their principal activity. One of the biggest concerns voiced by residents was the lack of proper access to many of the open space areas. Specifically, the lack of connected sidewalk routes was frequently noted. There was also a described

desire for greater interconnection of existing trail networks, both in Pembroke and neighboring towns. Additionally, improving access in the form of increased, clearly designated parking areas was highlighted as a community need, and improving signs at and leading to open space areas was mentioned to encourage awareness and more frequent use.

A second survey was conducted in 2021 with 65 respondents. When asked the question, "How do you use town-owned Open Space and Recreation Land?" Eighty-seven percent responded, "Walking". This was followed by nature appreciation (62.5%), hiking (40.6%), and biking (39.1%).

When asked, "Should Pembroke actively try to acquire and protect more Open Space?" of the 54 responses to this question, ninety-six percent answered, "Yes". When asked, "What are your favorite Open Space and Recreation locations in Pembroke?" 47 responses indicated Tubbs Meadow.

When asked, "What are your priorities for new or improved Open Space and Recreation locations?" respondents indicated Parking, followed by Playgrounds, Passive Recreation Potential, and the Creation of continuous trails.

When respondents were asked to list any additional activities of interest they would like to see included in an Open Space and Recreation Facility in Pembroke, community gardens and pickleball courts were identified.

RECREATION NEEDS

The Park and Recreation Commission established long-range goals and objectives and develops recreation programs and activities in cooperation with other town bodies and local recreational organizations.

DETERMINING RECREATION NEEDS

Community Park. These serve the entire community with a large, contiguous open space.

Neighborhood Park. These resemble community parks but serve a smaller area.

Playfields. These accommodate outdoor sports competitions, especially for teenagers and adults. They can be all-purpose or designed specifically for baseball, football, or soccer according to league requirements. *Some guidelines suggest three acres per 1,000 residents, with a 10-acre minimum, and adequate parking.*

Playgrounds. Playgrounds provide game space for a particular neighborhood and larger ones should include a tot lot. Some guidelines suggest one acre per 250 elementary school children in dense neighborhoods and a service radius of one-half mile.

Play Lot or Tot Lot. A play lot should have swings, a sandbox, and other equipment to serve one to five years old. They can also help lessen the social isolation of suburban parents. *Some guidelines suggest one-half acre for every 1,000 persons*

in densely populated neighborhoods and a service area radius of one-quarter mile.

Tennis Courts. Some guidelines suggest one per 2,000 persons.

Further standards exist for swimming and other activities.

Little analysis has gone into increasingly important facilities for skateboards, rollerblades, and mountain bikes. There may be too few facilities to meet growing demands regardless of formal standards.

SPECIAL GROUP NEEDS

The focus on Universal Design discussed earlier will help to better meet the needs of several special groups in Pembroke including people with disabilities, youth, teens, and seniors. The special need for accessible and multi-generational spaces has been noted and would benefit each of these special needs. Additional amenities and activities could be designed to support this multi-generational approach including additional seating, safe spaces for passive recreation, and sufficient nearby parking. The needs of youth, adults, and seniors are recognized through Pembroke Recreation Programs. Teens could be more explicitly recognized in the amenities and programs.

The design process for new parks, park renovations, or other investments in open space should include a significant public process and input from the community with a particular focus on the special group needs to integrate accommodations and amenities

that will enhance the ability of all residents to enjoy open spaces and feel welcomed and included in these resources.

Survey responses and conversations with residents and town officials highlighted the importance of increasing the management of existing open space areas. The threats to natural resources and open space posed by development need to be addressed.

Pembroke's Open Space Committee runs on a volunteer basis and has a fluctuating state of interest and participation. In turn, it has been difficult for the Open Space Committee to organize times to meet and prioritize its actions. Given these constraints, they need a person or people to monitor the continued efforts to implement the actions laid out in the OSRP and to identify areas for improvement or concern. Coordinated volunteer workdays could tackle some of the large maintenance projects associated with many of the town-owned open space areas. A trial adoption program could encourage local faith, school, and other groups to take on longer-term care of some of the townlands.

Pembroke would benefit greatly from digitizing its town records to provide a centralized, updated record of town development projects and the state of current resources.

This would make communication more efficient and accurate and improve the ease and efficiency of coordinating efforts to maintain and protect these resources. The town's 2004 master plan listed the need to

create a centralized digital database of its records. Based on multiple conversations with various town departments and committees, and given the difficulty experienced in accessing compiled and concise data from these various departments, little progress has been made since this recommendation was presented.

There is also a need to rethink the current zoning regulations for the town, with specific attention given to regulations about clustered and mixed-use development. Pembroke is a steadily growing town, and it is both unlikely and undesirable that all development should cease. Rather, the challenge is to wisely plan for development in a way that poses minimal threat to the many resources found within the town. Through public meetings and the open space survey, the town's residents communicated their desire for walkable communities, and they would prefer that development is conducted in ways that reduce the impact on the town's natural and cultural resources. Current zoning regulations limit opportunities for denser infill development, a form of development that could relieve pressure on sensitive resource areas and create mixed-use communities and village centers. These types of communities were once the standard for towns in New England but have been lost as automobile culture and the desire for large lot sizes have directed growth away from this model. Pembroke needs to address the regulatory and social hurdles which currently limit the town from directing growth in this direction.

SPECIAL LOCAL OPPORTUNITIES

Needs and opportunities can be quite mixed. An underlying need/obligation is to take advantage of unique local opportunities and to protect unique or characteristic resources. Not every community can or must have every resource or facility but pursuing local special opportunities will increase the variety of resources open within the region.

AGE-FRIENDLY COMMUNITIES

While addressing the needs of older adults, communities can create an opportunity to ensure that the needs of individuals of all ages and abilities are addressed. For the first time in the history of the Commonwealth, there are more individuals over the age of 60 than those under the age of 20. This trend will continue for many years. In 2018, Gov. Baker designated Massachusetts as an Age-Friendly State, with the goal that all 351 communities would work towards this designation. As of 2021, there are 195 communities in Massachusetts in the process of or that have successfully acquired the age-friendly status. In 2018, the Governor also introduced this designation as an option with the Community Compact and by doing so, offered funding opportunities for those communities working toward this designation.

There are 8 themes to be addressed as part of age-friendly initiatives: Outdoor Spaces & Buildings, Transportation,

Housing, Social Participation, Respect, and Social Inclusion, Civic Participation and Employment, Communication and Information, and Community and Health Services, which are related to open space and recreation facilities and programs. Currently, Pembroke's Senior Center provides a variety of recreational, social, and educational programs, as well as support services to Pembroke's older residents.

Planning for youth and teenagers is also important to meet the needs of all residents. Almost half of the respondents indicated someone under the age of 18 in their household. Sidewalks and bicycle facilities were a high priority for many respondents, and it is also a priority for youth. Survey respondents identified demand for a splash pad and outdoor water feature for children and a place for teens to congregate and a skate park.

C. MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

Management and maintenance of the Town's open space and recreation facilities are critical to the safe functioning and continuing operation of these resources. Maintaining safe and secure access by residents, maintenance of grounds and fields, maintenance of equipment, and protection against vandalism are a few of the many issues which must be addressed on a

routine schedule by the Town. Funding for the management and maintenance of open space and recreation facilities must be evaluated when considering the acquisition of future resources.

The group readily agreed that the following five hazards were of greatest concern to the Town: (1) Extreme/High Wind Events, (2) Flood/Intense Rainfall, (3) Drought, (4) Snowstorms/Blizzards/Nor-easters, (5) Extreme Temperatures.

The Community Resilience Building Workshop (2021) also identified management needs to respond to the top five hazards that were identified by the community including (1) Extreme/High Wind Events, (2) Flood/Intense Rainfall, (3) Drought, (4) Snowstorms/Blizzards/Nor-easters, (5) Extreme Temperatures. The workshop identified several concerns relevant to this plan and management needs.

Hazard Mitigation Goals.

The Town of Pembroke identified 9 goals for the MVHMP as follows:

1. Prevent or minimize loss of life, injury, public health impacts, and damage to property, the economy, and the environment from natural hazards and climate change.
2. Prevent or minimize damage to public and private infrastructure, buildings, and utilities from natural hazards and climate change.
3. Seek to use nature-based solutions as hazard mitigation whenever possible to reduce and minimize damage while accomplishing the

- accessory goals of environmental restoration and resource protection.
4. Ensure that future development within the Town meets federal, state, and local standards for climate resiliency and natural hazard mitigation.
5. Incorporate climate change resiliency and hazard mitigation policies, guidance, and requirements into relevant Town plans and policies.
6. Identify and seek funding to implement priority hazard mitigation projects identified in the MVHMP.
7. Collaborate with surrounding communities and state, regional, and federal agencies to ensure broad cooperation to maximize mitigation cost and effectiveness across multiple communities.
8. Promote awareness of hazard mitigation, priority project implementation, and MVHMP maintenance among municipal departments, committees, boards, and the public at large, with emphasis on vulnerable and isolated populations.
9. Maximize community participation in the development, implementation, and update of the MVHMP. Invite the business community, public institutions, educational sector, and non-profits, particularly those that work with

sensitive or vulnerable populations, to review, implement, and contribute to the development and maintenance of the Plan.

Pembroke High, Medium, and Additional Priority Actions HIGH Priority Actions & Timing (Short, Long, Ongoing)

Water Supply – Perform a comprehensive water supply study to support the construction of resiliency improvements to include pipe redundancy, distribution system upgrades, and the development of new wells and sources to ensure adequate safe supply in future drought scenarios. Assess source quality threats and implement protections. Seek inter-municipal cooperation to assess intergovernmental reliance on Pembroke’s supply. (*Short-term*).

Water Supply – Construct a new water storage tank at Oak Street to add system resiliency to address climate change-related drought. Currently, the well runs 24/7 to maintain an adequate supply. (*Short-term*)

HIGH Priority Actions & Timing (Short, Long, Ongoing)

Water Supply – Provide generators for High Street, West Elm, and Oak Street water towers. (*Short-term*) **Water Supply** – Develop a new water supply at the Swanberg Property (awaiting final DEP approval) to increase water security and resiliency to drought. (*Short-term*)

Water Supply – Replace the Lowell Road 8-inch asbestos cement water main. (*Short-term*)

Tree / Forest Management Study – Conduct a Town-wide inventory of trees to identify areas for pruning/ removal to mitigate power loss and areas for replating to increase community canopy cover and provide outdoor cooling to mitigate extreme temperatures. Include an assessment of parks/playgrounds for shade infrastructure needs (e.g., Ford Park). (*Short-term*)

Culverts - Update the 15-year-old Town-wide culvert assessment to identify and prioritize the need for repair, replacement, and upsizing. Specific areas to be addressed include enlarging Birch Street at Duxbury Town Line (Pine Brook) to address flooding (carried forward from 2015), Dwelley Street at Hanson Town Line, Congress Street, Mill Street (Houses #54 and #36), Herring Run (design and permitting completed), Park Street (design underway), Taylor Street at the Ledges, Lorna Avenue in the Blake Ave and Burr Ave area, Woodbine and Shepard

Avenues at the beach, Brenda Lane at Plymouth Street, Mill Pond off Hobomock Street, Indian Head River Dam at West Elm Street at Hanover Town Line, Valley Street at Duxbury Town Line – Upper Chandler Pond. The assessment will specifically include an evaluation of opportunities to incorporate green infrastructure and nature-based solutions to mitigate direct stormwater discharge into wetlands and ponds. *(Short-term)*

Culverts/Flood Control – Install outfall control structures and address drainage from Hobomock Pond down Center Street to alleviate local flooding, in coordination with the Route 35 TIP project. *(Short-term)*
Stormwater – Upgrade or replace 2 failing detention basins and 6 leaching areas on Mill Pond Road. (Carried forward from 2015) *(Short-term)*

MEDIUM Priority Actions & Timing

Septic Systems - Prepare a Town-wide study to evaluate the impacts of septic systems on the Town's water resources and drinking water supply in the face of changing precipitation patterns due to climate change. Identify and evaluate areas most vulnerable to malfunction/failure under future conditions to determine the need for the installation of sewer infrastructure in selected areas. *(Long-term)*

Dams - Conduct a Town-wide assessment of public dams to determine the level of risk concerning climate change,

evaluate emergency overflow needs, and evaluate opportunities to increase stormwater management potential at Mill Pond/Furnace Pond Dam and Lower Chandler Pond Dam. Based on assessment results, develop, and implement a local flood mitigation dam management program. *(Short-term)*

Transportation/Roadways - Prepare a Town-wide assessment of areas of flooding to evaluate the need to elevate roadways and/or otherwise identify retrofits to manage stormwater, including direct discharges to wetlands. *(Short-term)*

Public Buildings/Shelters - Retrofit public buildings that serve emergency management or emergency shelter functions during extreme temperatures and disaster events for HVAC and filters. *(Short-term)*

ADDITIONAL Priority Actions & Timing

Water Resources Quality - Assess the quality of the Town's ponds concerning nutrient loading, stormwater impacts, and invasive species colonization due to increasing extreme weather events. Evaluate dredging and other alternatives to correct existing problems and mitigate future impacts with an emphasis on nature-based solutions (NBS). *(Long-term)*

Emergency Response – Maintain and improve emergency response plans. Ensure access routes and the ability to maintain them for residential services and non-mobile (no car) residents. Coordinate with food

pantries to ensure adequate provision of food to vulnerable populations during disaster events. (*Short-term & Ongoing*)

Public Buildings – Replace Public School parking lots with impervious pavement to remediate flooding; evaluate opportunities to install stormwater trees and rain gardens in these locations. (Long-term)
Public Outreach - Develop and disseminate public information materials to educate the community on emergency response during natural disasters and extreme weather events. (Short-term & Ongoing)

Snow/Flood Management – Assess Town-owned properties for retrofit opportunities to control and treat stormwater to reduce flooding and mitigation water quality impacts on Town wetlands, ponds, and watercourses. (Long-term)

2020 OPEN SPACE MANAGEMENT GUIDELINES

The Town of Pembroke adopted Open Space Management Guidelines which were updated in December 2020. These guidelines were developed to facilitate the Planning and management of Pembroke’s conservation and recreation lands that support passive recreation and protection. These guidelines aid in executing the current Open Space and Recreation Action Plan and support Goal 4 from the OSRP. *Goal 4: Help*

the citizens of Pembroke enjoy better access and increased recreational use of town open space.

- Increase access to open spaces in Pembroke.
- Educate the public about the existence importance and possible uses of town open space.
- Improve maintenance of the town’s recreation areas.
- Connect existing trail systems for enhanced recreation use.

A copy of these guidelines can be downloaded from [open space guidelines.pdf](https://www.pembroke-ma.gov/open-space-guidelines.pdf) ([Pembroke-ma.gov](https://www.pembroke-ma.gov)).

IMPLICATIONS OF THE STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN

The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a document provided by the state government that discusses common needs, goals, preferences, and histories of outdoor and recreational spaces across the varied regions of the Commonwealth. Using information provided by the SCORP, communities statewide will be guided to make informed decisions regarding the

types of outdoor and recreational spaces that are most needed, and most population, and may reap possible grants and funding from the state level. Communities that have an updated SCORP of their own are eligible to receive grants from the Land and Water Conservation Fund to improve upon or create recreational projects.

The SCORP is broken down into five major chapters, the first chapter identifies the benefits of outdoor recreation and open space protection, funding for outdoor recreation projects, the statewide comprehensive outdoor recreation plan, and planning on a local level. The second chapter of the SCORP provides an overview of Massachusetts including geography, population trends, development impacts, and economic trends, as well as a history of preferred and population outdoor recreation activities across the region.

Chapter 3 reviews the outdoor recreation supply for Massachusetts including public, private, and non-profit landowners. Chapter 4 reviews the outdoor recreation demand, as well as the recreation, needs survey results.

The report's findings for Pembroke present opportunities for the community's recreational facilities to improve in a way that will cater to the needs of residents while also adhering to SCORP guidelines, allowing for possible grants and additional funding. The Land and Water Conservation Fund (LWCF) provides grants and funding to communities that procure land to set aside for conservation, preservation, and

recreational uses. Pembroke has several wetland ecosystems that the town is working to protect for both environmental and recreational purposes. Considering guidelines for land protection as outlined by the LWCF, Pembroke planners can best identify how to conserve and acquire land that will have the most recreational and ecological value.

The SCORP also holds communities accountable for providing recreational and outdoor activities that are specifically for the town's population. Pembroke has a large population of baby boomers, residents who are aging towards their elderly years. Recreational planners in Pembroke must consider accessibility and disability issues, as many of the trails and paths that are popular in town will no longer meet the needs and desires of an aging population. SCORP suggests gardening and swimming are more popular than walking or biking in households with disabled residents, and with a growing population of residents who may develop disabilities, a shift in recreational focus to improve swimming and gardening opportunities in town would better follow SCORP guidelines. These are among the many examples of SCORP that can be used to effectively plan and fund Pembroke's recreational future.

Pembroke's open space and recreational goals focus on sustainable community development, allowing for greater recreational opportunities for all residents while also maximizing environmental protection, appreciation, and well-being.

Recreational facilities, such as softball fields and play structures, may be constructed or improved upon in neighborhoods that have less access to recreational outlets so that residents do not have to drive outside of their neighborhood for outdoor recreation. An increase in the number of facilities will lessen demand for these spaces and will allow for less maintenance and upkeep of certain locations, ultimately improving both the quality and quantity of these built structures for each geographic population of Pembroke.

Improving access from neighborhoods to existing facilities elsewhere in town, through either biking or walking connections, is a realistic opportunity to increase access to recreational and conservation spaces for Pembroke residents who may otherwise need an automobile to access such areas. Many recreational areas go unknown to the public, due to insufficient or obscured signage or a general lack of public awareness. Local educational efforts to inform residents of all recreational spaces in town may lead to increased use in less popularized locations, decreasing demand for the most frequent spaces. As more residents take advantage of these recreation and conservation areas, appreciation for nature will increase, as well as environmental awareness, education, and stewardship.

Outside of locational accessibility, recreational opportunities must be provided for all age groups. Pembroke's generally

aging population may no longer be well served by walking trails or sports facilities and will need additional recreational outlets. Gardening and swimming are increasingly popular among Pembroke's older residents. Community gardens, whether operated through town boards, civic organizations, or privately, add a social aspect to gardening as well. Most of Pembroke's municipal recreational areas are not easily accessible to people with disabilities, regardless of age, though the elderly are more proportionately affected. Access to recreational areas in Pembroke's passive and active recreational areas for people with mobility limitations is lacking and needs to be incorporated into new projects and facility upgrades.

The goals outlined in this report hope to create inclusive recreational spaces that provide for all of Pembroke's population, despite individual location, age, disability, or other factors. These spaces particularly include recreational opportunities on conservation lands and preserved open spaces, allowing for both the ecological health of the environment and the mental spirit of Pembroke's residents to better flourish.

GOAL 1. ACCESS FOR UNDERSERVED POPULATIONS.

The SCORP finds that people with disabilities may face a greater challenge than most if facilities are not designed with their

needs in mind or if programming is not accessible to them. Having a disability should not prevent someone from using a park or open space. As cited within the SCORP, 11.7 percent of Massachusetts residents report having a disability.

The SCORP identified the following objectives:

1. Support the acquisition of land and development of new open spaces in areas that lack existing or useable open spaces.
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 the park and open space designs.
4. Encourage the establishment of programming endowments.

GOAL 2. SUPPORT THE STATEWIDE TRAILS INITIATIVE.

Trails are important for several different reasons. They connect communities. They provide a non-vehicular mode of transit. They improve public health by giving people an active way to get where they are going. They can increase the value of homes and businesses by making an area a more desirable place to live or work.

Trails are also the second most requested recreational amenity by survey respondents. The phone survey found that 50.3 percent of people wanted new or improved hiking trails; paved, multi-use trails, such as rail trails; unpaved, multi-use trails, such as mountain bike trails. The same activities were also expected to show a continuing increase in popularity over the next five years.

The SCORP identified the following objectives:

1. Support the acquisition of land and development of new open spaces that can provide a trail network.
2. Fill in the gaps in 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.

Protecting water resources serves multiple purposes. It provides people with a place to relax. It protects the habitat for plant and animal species that depend on its water quality. It helps to protect our drinking water supplies. When asked what services our state and local parks and open spaces provide, other than outdoor recreation, the top three answers were: protecting wildlife, improving quality of life,

and protecting drinking water supplies. Water-based recreation was the number one most requested amenity by phone survey respondents when asked what three new or improved facilities should be developed in state parks. Fifty-eight percent requested some type of water amenity, including beaches; outdoor swimming pools or spray parks, fresh or saltwater swimming areas, and motor boating or sailing areas.

The SCORP identified the following objectives:

1. Support the acquisition of land that will provide for water-based recreation.
2. Support the acquisition of land that will increase the drinking water supply.
3. Develop water-based recreation facilities, including swimming areas, spray parks, boating facilities, fishing areas, etc.

GOAL 4. SUPPORT THE CREATION AND RENOVATION OF NEIGHBORHOOD PARKS.

To get more people outside, facilities and amenities should be developed close to where people reside. This can be accomplished through the development of new and the improvement of existing, neighborhood parks. Parks and open spaces provide places for communities to gather, whether it be a family or neighborhood get-

together. Respondents to the phone survey were interested in improvements to neighborhood parks, such as dog parks, playgrounds, and picnic areas. Playgrounds and off-leash dog parks were the second and fifth most requested improvements, respectively, in community facilities. Community gardens, nature playgrounds, and spray parks were also desired at high rates.

The SCORP identified the following 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.

Work with community development organizations to improve walking access to local parks.



Section 8. GOALS AND OBJECTIVES

This section presents Open Space and Recreation goals and objectives for the Town of Pembroke based on the values and concerns identified by the Open Space and Recreation Plan Committee, Town Staff, and residents through the survey and at the public meetings. The goals are broad statements framed to indicate a desired future condition or achievement by the Town. The objectives are more specific statements that outline measurable steps that will help the Town achieve these goals. Together these guide the development of the Action Plan outlined in the following section.

For all the goals, objectives, and actions that follow, the availability of funding is paramount. Safeguarding existing sources and diligently pursuing new sources of funding will be necessary to achieve the proposed actions in this plan.

A. STATEMENT OF OPEN SPACE AND RECREATION GOALS

During the Open Space Plan development, Pembroke residents engaged in setting goals and objectives for a variety of thematic issues including agriculture, resource protection, and parks and recreation.

SETTING CONSERVATION GOALS

- Protect water quality.
- Provide accessible, quality, outdoor recreation.
- Protect wildlife habitats for diversity and the sustainability of flora and fauna.
- Improve the quality of life and the health of our communities.

- address climate change through forest, wetland, and riparian area stewardship, ecosystem protection, urban and community forestry, and community planning.

The following goals were developed with the Open Space and Recreation Committee after the results of the survey and the visioning session were reviewed and analyzed for trends.

B. THE OPEN SPACE AND RECREATION PLAN GOALS

The following goals and objectives were developed through an analysis of growth and development, natural resources, various forms of community input, and consideration of the goals from the 2005 OSRP. Through discussion with the Open Space Committee, public feedback was collected through four community surveys (2005, 2014, 2017, and 2021), two public meetings in the winter of 2017, one public meeting in 2021, and a public listening session in 2022, the refined goals articulate the needs and desires of Pembroke's community.

- Increase the availability of water-based recreation.
- Manage the quantity and quality of groundwater and surface water to protect the town's water resources.
- Provide places for education and research.
- Protect and enhance scenic, historic, and cultural resources.

GOAL 1. PEMBROKE'S ABUNDANT WATER RESOURCES ARE CLEAN, SUSTAINABLY MANAGED, AND PROTECTED.

The surface and groundwater of Pembroke are protected through functioning stormwater infrastructure and planning. Residents of Pembroke reduced their use of fertilizers and pesticides to prevent excess nutrients and contaminants from entering their drinking water or harming the natural communities of their town. Pembroke works with the communities of Brockton, Abington, and Rockland, to make sure that withdrawal from reservoirs does not disrupt hydrologic functions nor imperil aquatic ecosystems while providing residents with a sufficient supply of potable water.

- Protect the town's groundwater and aquifers.
- Promote town-wide water-saving techniques.
- Protect and monitor Pembroke's streams, rivers, ponds, and wetlands.

- Prioritize remaining parcels along waterways for protection when they become available.
- Support the acquisition of land that will provide for water-based recreation.

GOAL 2. FUTURE DEVELOPMENT IS CONSISTENT WITH AND PROTECTS PEMBROKE'S ENVIRONMENTAL, HISTORIC, AND CULTURAL RESOURCES.

The cultural and historical character of Pembroke remains intact and has not been compromised to accommodate growth. The Historical District and the Town Center are revitalized, providing gathering spaces for citizens, and inviting locations for businesses to thrive. Focused development around village centers has strengthened cohesive communities and directed growth away from the woods and waters of Pembroke. Historic structures and sites tell the story of how Pembroke evolved throughout history, connecting its rich past with those that live in the town today.

- Prioritize areas of environmental, historic, and cultural significance for protection.

- Support the acquisition of land that will increase the drinking water supply.
- Develop water-based recreational facilities, including swimming areas, spray parks, boating facilities, and fishing areas.
- Explore strategies to focus growth in developed areas and away from sensitive resources.
- Increase public awareness of existing historical resources and threats thereto.
- Invest in racially, economically, and age-diverse neighborhoods gave their projected increase in participation in outdoor recreation.
- Encourage the establishment of programming endowments.

GOAL 3. AN INTERCONNECTED NETWORK OF FOREST, RIPARIAN, AND WILDLIFE HABITATS ENHANCE PEMBROKE'S ECOLOGICAL INTEGRITY AND SUSTAIN A RESILIENT LANDSCAPE.

Wildlife habitats are protected, and the integrity of the landscape is strong.

Ecosystems function to their fullest, reducing flood damage, filtering stormwater, filtering air pollutants, and generally adapting to climate change in a resilient landscape with high biodiversity. Some of the abandoned cranberry bogs have been returned to their natural forms, functioning as prosperous ecosystems which provide habitat for native biota. The rivers and streams flow cleanly and clearly.

- Protect and improve Pembroke's threatened habitats and wildlife corridors.
- Extend and connect protected areas to create continuous corridors.
- Educate the public about the value of healthy ecosystems and their services to natural and human communities.
- Monitor and manage invasive species in ecologically supportive ways.

GOAL 4. THE CITIZENS OF PEMBROKE ENJOY BETTER ACCESS AND INCREASED RECREATIONAL USE OF TOWN OPEN SPACE.

The citizens of Pembroke value and use the myriad of open spaces for their many different recreation needs. These well-maintained lands and facilities allow the citizens to physically engage with their Town's abundant resources. Residents and

visitors of Pembroke regularly hike, play sports, observe nature, and participate in many other activities associated with the town's easily accessed open spaces. Clear signs direct people to different resources while educating them about proper uses for each area and sharing interesting facts about the history and ecology of Pembroke.

- Increase the availability of all types of trails for recreation.
- Support the acquisition of land and development of new open spaces that can provide a trail network.
- Fill in gaps in existing trail networks.
- Invest in recreation and conservation areas that are within a short walk or bike ride to a large portion of Pembroke's population.
- Increase access to open spaces in Pembroke.
- Promote the acquisition and development of neighborhood parks where none currently exist.
- Develop amenities supported by neighborhood parks, such as playgrounds, off-leash dog parks, and community gardens.
- Work with community development organizations to improve pedestrian connectivity, and walking access to local parks.
- Educate the public about the existing, importance, and possible uses of town open space.
- Improve maintenance of the town's recreation areas.

- Improve connectivity of and access to recreational resources.
- Study and plan for bicycle use in Pembroke.
- Develop parks and open spaces that offer amenities that go above and beyond ADA requirements for people with disabilities.
- Ensure that any existing or new trails are fully accessible to people with disabilities.
- Provide neighborhood-oriented opportunities for recreation and gardening by creating informal playing fields, expanding community garden locations, maintaining, and improving existing playgrounds.
- The citizens of Pembroke commit to considering the needs of underserved demographic groups – senior citizens and teenagers, in the park and open space designs.

GOAL 5. PLANNING AND MANAGEMENT FOR PEMBROKE'S EXTENSIVE OPEN SPACE AND RECREATION LANDS ARE MORE EFFICIENT AND COORDINATED WITH AN ACCESSIBLE DATABASE.

The various departments and boards in Pembroke collaborate in their planning and management of open space. Members from each department gather to discuss how open space relates to their work and they work together to come up with solutions that benefit all departments. The town digitally archives all open space lands and understands where threats currently exist and how to reduce or prevent impacts of those threats when possible. The Town also works with neighboring communities and regional organizations to jointly manage important resources extending across borders.

- Research the acquisition history and deeds for all municipal and conservation areas and identify those parcels that have affirmative Town Meeting Votes stipulating that the land is for either conservation or

recreation use, and deeds echoing that particular purpose for acquisition. Fix any errors by recording a corrective deed with the authorizing Town Meeting Vote as an adjunct to the deed.

- Create an accessible data repository for Pembroke's open space and recreation lands.
- Monitor and manage open space lands in Pembroke.
- Provide adequate staffing for the management of open space and recreation lands.
- Improve inter-departmental and inter-town communication regarding open space.
- Identify any shortfall between what the community has today and what it would like in the future for both open space resources and recreational opportunities.
- Through these goals, this plan seeks to maintain and enhance Pembroke's character, protect the health and function of its natural resources, and ensure the quality of life of its residents and visitors.



Section 9. SEVEN-YEAR ACTION PLAN

In social and political landscapes, as in nature, no action is singular in its effect. In many cases, the OSRP goals and actions will accomplish multiple benefits. Implemented in concert they will complement and strengthen each other.

While the scope of an Open Space and Recreation Plan is restricted to the tools with which it evaluates and interacts within a given town, it is important to build awareness and alliances outside of that realm. Addressing all political and social opportunities (and impediments) to creating healthy and sustainable communities requires a community-scale effort and true participatory democracy. This is no small task, however, recent interest in the Water Street 40B proposal and response to the 2017 public survey indicate that some Pembroke citizens are seeking to participate in influencing the direction of the town's growth.

This document intends to inspire and support the efforts of Pembroke's citizens to organize around a common vision to protect the town's special character, resources, and quality of life. The following actions suggest ways to begin this effort. Ultimately it is up to the citizens of Pembroke to ensure such efforts are accomplished.

The following seven-year action plan seeks to achieve five ambitious goals. The plan also identifies potentially responsible parties and funding options for each action. This should be considered a working document, one which changes and adapts to the social, political, and economic climate of the town, and fundamentally reflects the will of Pembroke's citizens.

SEVEN-YEAR ACTION PLAN TABLE

ADA – Americans with Disabilities Act
 AGRI – Agricultural Commission
 BLDG – Building Inspector
 BOA – Board of Appeals
 BOH – Board of Health
 CIP – Capital Improvement Plan
 CONCOM – Conservation Commission
 CPA – Community Preservation Act
 DPW – Department of Public Works
 EAA – Economic Adjustments Assistance Act
 EDA – Economic Development Administration
 EEG – Environmental Education Grants

EOEEA – Executive Office of Energy and Environmental Affairs
 FG – Forest Stewardship Planning Grants or Urban and Community Forestry Challenge
 HIST – Historical Committee
 LAND – Local Acquisitions for Natural Diversity Grant Program
 LIP – Landowner Incentive Program
 LWCF – Land and Water Conservation Fund
 MADCR – Massachusetts Department of Conservation & Recreation
 MassWorks – MassWorks Infrastructure Program
 MET – Mass Environmental Trust
 MPPF – MA Preservation Projects Fund
 MVP – Municipal Vulnerability Preparedness – MA EOEEA

NEMBA – New England Mountain Biking Association
 OCS – Open Space Committee
 PARC – Parkland Acquisitions and Renovations for Communities Grant Program – MA DCR
 PB – Planning Board
 PWA – Pembroke Water Authority
 REC – Recreation Department
 SB – Select Board
 WATER – Water Department
 WT – Wildlands Trust

Goal
Objective
Strategy

GOAL 1. PEMBROKE'S ABUNDANT WATER RESOURCES ARE CLEAN, SUSTAINABLY MANAGED, AND PROTECTED.			
Action Item	Timeline	Responsible Party	Funding Opportunities
A: PROTECT THE TOWN'S GROUNDWATER AND AQUIFERS.			
1. Explore options to create a centralized sewage treatment facility for properties within wellhead protection zones.	Years 1 and 2	WATER, BOH, SB, PB.	Town Budget, MassWorks, EDA, EAA
2. Ensure sustainable withdrawal from the aquifer.	Years 1 through 7	CONCOM, SB, BOH	Drinking Water Supply Protection Grant Program, LWCF
a. Determine safe yield practices.	Years 1 and 2	WATER	Town Budget
b. Review and update the agreements with Brockton, Abington, and Rockland to ensure withdrawal doesn't threaten hydrologic systems.	Years 1 through 3	PEMBROKE, BROCKTON,	Town Budget

		ABINGTON, ROCKLAND	
c. Monitor drawdown of the aquifer, especially in periods of drought	Years 1 through 7	WATER	Town Budget
3. Promote water conservation efforts	Years 1 through 7	WATER, NSRWA, PWA	Town Budget
a. Detect and repair leaks in the town's water infrastructure	Years 1 through 7	WATER	Town Budget
b. Ban lawn watering during prolonged drought	Years 1 through 7	WATER	Town Budget
c. Further educate residents about water-saving measures	Years 1 through 7	WATER, PB, BOH, CONCOM	Town Budget
4. Support the acquisition of land that will increase drinking water supply protection.	Years 1 through 7	CONCOM, SB, WATER, PB	LWCF, Drinking Water Supply Protection Grant Program, CPA
Objective B: PROTECT THE TOWN'S SURFACE WATERS.			
1. Continue to monitor septic systems for leaks and failures.	Years 1 through 7	BOH, PWA, WATER	Town Budget
a. Require proof of Title 5 septic compliance as part of obtaining a building permit for any work on an existing non-conforming building or lot within the wellhead protection zones.	Years 1 through 7	ZBA, BOH, BLDG	Town Budget
b. Identify any clusters of failing systems and explore possibilities to establish a neighborhood treatment system.	Years 1 through 3	BOH, PB, CONCOM	Town Budget.
2. Reduce erosion, sedimentation, and other sources of contamination and eutrophication from surface runoff into water bodies	Years 1 through 7	CONCOM, PB	Town Budget
a. Continue to reduce the impact of stormwater on local water bodies via the NPDES General Permit for MS4s and the Stormwater Permitting Authority	Years 1 through 7	CONCOM, PB, BOH	Town Budget
b. Implement erosion and sedimentation bylaws	Years 1 and 2	PB, CONCOM, SB	Town Budget
c. Educate residents regarding organic lawn care practices with an emphasis on wellhead protection zones.	Years 1 through 7	CONCOM, PB, WATER, BOH	Town Budget, MVP Grant
d. Advocate for organic land care practices on all town-owned properties, including recreation and sports fields, focusing emphasis on wellhead protection zones.	Years 1 through 7	CONCOM, BOH, SB, WATER, REC, DPW	Town Budget
e. Identify streambanks that show evidence of erosion and sedimentation and seek restoration design and construction.	Years 1 through 7	CONCOM, DPW	Town Budget

3. Prioritize protecting undeveloped lands along rivers, streams, ponds, and wetlands through acquisitions, conservation restrictions, and vernal pool certification.	Years 1 through 7	CONCOM, PB, SB	Town Budget
Objective C. SUPPORT THE ACQUISITION OF LAND THAT WILL PROVIDE FOR WATER-BASED RECREATIONAL FACILITIES.			
1. Prioritize protecting undeveloped lands along rivers, streams, and ponds through acquisition or conservation easements to provide for water-based recreation.	Years 1 through 7	OSC, CONCOM, SB	Town Budget

GOAL 2. FUTURE DEVELOPMENT IS CONSISTENT WITH AND PROTECTS PEMBROKE'S ENVIRONMENTAL, HISTORIC, AND CULTURAL RESOURCES.			
Action Item	Timeline	Responsible Party	Funding Opportunities
Objective A: PRIORITIZE AREAS OF ENVIRONMENTAL, HISTORIC, AND CULTURAL SIGNIFICANCE FOR PROTECTION.			
1. Adopt a hierarchy for prioritizing parcels for protection	Years 1 through 7	CONCOM, SB, PB.	Town Budget
2. Employ various methods of open space protection including acquisition, conservation restrictions, Chapter 61 enrollment, and vernal pool certification.	Years 1 through 7	CONCOM, SB, PB	Town Budget
Objective B. EXPLORE SMART GROWTH STRATEGIES TO FOCUS GROWTH IN DEVELOPED AREAS AND AWAY FROM SENSITIVE RESOURCES.			
1. Create a subcommittee to research and identify appropriate smart growth strategies for Pembroke	Years 1 and 2	OCPC, TOWN PLANNER, DPW, CONCOM	Town Budget
a. Incorporate public input into the process to ensure strategies support the community's needs.	Years 1 through 7	PB, SB, CONCOM	Town Budget
b. Explore the possibility of providing a dog park to meet the needs of dog owners while reducing the negative impact of dog use in other open spaces.	Years 1 through 4	PB, CONCOM, OSC	Town Budget
c. Preserve the rural character of Pembroke by implementing thoughtful development strategies including providing more affordable housing options in town per the Housing Production Plan.	Years 1 through 7	PB, CONCOM	Town Budget
Objective C. INCREASE PUBLIC AWARENESS OF EXISTING HISTORIC RESOURCES AND THE THREATS THERETO.			
1. Collaborate with the Historic Society to offer regular guided historic tours through Pembroke	Years 1 through 7	OSC, HIST	Town Budget
2. Increase signs and marketing of historical sites.	Years 1 and 2	HIST	Town Budget
3. Protect clusters of unprotected historic sites vulnerable to development in the northeast, northwest, and Bryantville areas.	Years 1 through 7	HIST, PB	Town Budget

Goal 3. AN INTERCONNECTED NETWORK OF FOREST, RIPARIAN, AND WILDLIFE HABITATS ENHANCE PEMBROKE'S ECOLOGICAL INTEGRITY AND SUSTAIN A RESILIENT LANDSCAPE.			
Action Item	Timeline	Responsible Party	Funding Opportunities
Objective A: PROTECT AND IMPROVE PEMBROKE'S THREATENED HABITATS AND WILDLIFE CORRIDORS.			
1. Assess wildlife movement where roadways and infrastructure intersect waterbodies and corridors.	Years 1 and 2	CONCOM, PB, DPW	Town Budget, Mass Audubon
a. Identify impediments to wildlife corridors	Years 1 through 3	CONCOM, PB, DPW	Town Budget
b. Conduct culvert assessments to determine compatibility with MA Stream Crossing Standards	Years 1 and 2	CONCOM, DPW	Town Budget
c. Improve species migration through culverts by updating crossing to MA Stream Crossing Standards	Years 3 and 4	CONCOM, DPW	Town Budget
d. Evaluate the impacts on water quality from runoff.	Years 1 through 7	DPW, PB, CONCOM, BOH	Town Budget
2. Prioritize and protect key habitats areas as designated by BioMap2	Years 1 and 2	CONCOM, PB	Town Budget
a. Collaborate with neighboring communities to connect protected open space areas between towns, specifically Duxbury to the east and Hanover to the north.	Years 1 through 7	CONCOM, PB	Town Budget
3. Support the certification of potential vernal pools identified by the Natural Heritage and Endangered Species Act.	Years 1 through 7	CONCOM	Town Budget
a. Adopt local bylaws to increase the protection of certified vernal pools.	Years 1 and 2	CONCOM, PB, SB	Town Budget
b. Adopt local wetlands bylaw	Years 1 through 3	CONCOM, PB, SB	Town Budget
4. Restore cranberry bogs to their natural forms	Years 1 through 3	CONCOM	Town Budget
c. Explore funding and restoration partnerships with various organizations	Years 1 through 7	CONCOM	Town Budget
Objective B: EXTEND AND CONNECT PROTECTED AREAS TO CREATE CONTINUOUS CORRIDORS.			
1. Identify gaps between protected habitat areas.	Years 1 and 2	CONCOM	Town Budget
a. Prioritize those lands that close the gaps between existing protected lands	Years 1 through 3	CONCOM	Town Budget
b. Prioritize those lands that extend the boundaries of existing protected lands.	Years 1 through 3	CONCOM	Town Budget.
Objective C. EDUCATE THE PUBLIC ABOUT THE VALUE OF HEALTHY ECOSYSTEMS AND THE SERVICES THEY PROVIDE TO NATURAL AND HUMAN COMMUNITIES.			
1. Collaborate with local and regional organizations to facilitate public awareness of ecological functions.	Years 1 through 7	PWA, WT, NSRWA	Town Budget
a. Lead guided walks through diverse habitats.	Years 1 through 7	CONCOM, OSC	Town Budget

b. Explore joint protection efforts with multiple partners.	Years 1 through 7	CONCOM, SB	Town Budget
c. Post maps on the town website of key wildlife areas.	Years 1 and 2	CONCOM	Town Budget
2. Collaborate with the local school system to incorporate local ecological studies into the curriculum	Years 1 through 7	CONCOM, OSC	Town Budget
a. Identify diverse natural communities suitable for field studies.	Years 1 through 3	CONCOM, OSC	Town Budget
b. Research and develop strategies for the preservation and use of open space and recreation areas.	Years 1 through 3	CPC, CONCOM, Rec	DCR Land and Town Budget, PARC Grant programs.
c. Increase community appreciation of the Town’s natural resources through education and outreach.	Years 1 through 7	CONCOM, AGRI, CPA	Watershed Protection, CPA
Objective D. MONITOR AND MANAGE INVASIVE SPECIES IN ECOLOGICALLY SUPPORTIVE WAYS.			
1. Assess the effectiveness of past management practices.	Years 1 and 2	CONCOM, PB	Town Budget
2. Develop management plans for specific invasive species that account for their sources and dispersal methods.	Years 3 and 4	CONCOM	Town Budget
3. Disseminate information about current invasive species and their threats.	Years 3 and 4	CONCOM	Town Budget
4. Disseminate information about native alternatives for popularly planted invasive species.	Years 3 and 4	CONCOM	Town Budget
a. Monitor and explore treatment options for invasive plants and pests when they threaten sensitive or important resources.	Years 2 and 3	CONCOM, OSC, DPW	Town Budget
b. Explore alternative invasive species management practices instead of persistent pesticide application and deep excavation	Years 2 and 3	CONCOM, PB, DPW	Town Budget

Goal 4. THE CITIZENS OF PEMBROKE ENJOY BETTER ACCESS AND INCREASED RECREATIONAL USE OF TOWN OPEN SPACE.			
Action Item	Timeline	Responsible Party	Funding Opportunities
Objective A: INCREASE ACCESS AND USABILITY OF RECREATIONAL FACILITIES AND TRAILS FOR USERS WITH MOBILITY, SIGHT, HEARING, AND OTHER IMPAIRMENTS, IN COMPLIANCE WITH ADA STANDARDS AND FOLLOWING THE LEAD OF OTHER ORGANIZATIONS SUCH AS MASS AUDUBON AND TRUSTEES OF THE RESERVATIONS, AND NEARBY COMMUNITIES THAT HAVE IMPLEMENTED SIMILAR INITIATIVES.			
1. Assess inadequate parking, right-of-way, trailhead maintenance, and other barriers to public access.	Years 1 and 2	CONCOM, OSC, DPW	Town Budget, Mass Audubon
2. Develop an implementation plan to improve access to various areas, prioritizing "low-hanging fruit" areas that require the least cost or effort to improve access.	Years 1 through 3	CONCOM, OSC, DPW	Town Budget
3. Analyze the need and ability of the Town to support additional active recreation facilities.	Years 1 through 7	SB, OSC, PB	Town Budget
4. Explore ways to better provide recreational services to populations that are underserved, especially teens and those over 50 years of age.	Years 1 through 7	SB, OSC, PB	Town Budget
Objective B. EDUCATE THE PUBLIC ABOUT THE EXISTENCE, IMPORTANCE, AND POSSIBLE USES OF TOWN OPEN SPACE.			
1. Create a Pembroke open space webpage with open space and recreation information (benefits, history, locations, etc.), trail maps, and progress of the OSRP.	Years 1 through 7	SB, OSC, PB	Town Budget
2. Incorporate individual site trail maps into a comprehensive trail system map.	Years 1 through 3	OSC, CONCOM	Town Budget
3. Make printed maps of the town's open space resources more widely available	Years 1 and 2	CONCOM, OSC	Town Budget
a. Explore incorporating open space and recreation areas into the Town of Pembroke map which is widely available throughout Pembroke.	Years 1 through 3	OSC, CONCOM, PB	Town Budget
b. Seek ways to distribute trail maps and other open space-related information to the public through kiosks, social media, apps, websites, and local media outlets.	Years 1 through 7	CONCOM, OSC, SB	Town Budget
4. Increase signs at trailheads and on roads leading to trailheads	Rec, Con Com, OSC	REC, CONCOM, OSC	Town Budget
Objective C: IMPROVE MAINTENANCE OF THE TOWN'S RECREATION AREAS.			
1. Create property management manuals for all individual conservation and recreation areas requiring ongoing maintenance.	Years 1 through 4	REC, OSC, CONCOM	Town Budget
a. Identifying one-time improvements as well as ongoing maintenance needs of each area	Years 1 and 2	OSC, CONCOM	Town Budget
b. Example: repair the kiosk and gate at the entrance of Tubb's Meadow	Years 1 and 2	DPW, CONCOM	Town Budget.

2. Organize trail adoption program for ongoing maintenance (possible partnerships: scouts, sports teams, businesses, neighborhood associations, faith groups).	Years 1 through 7	OSC, CONCOM	Town Budget
a. Organize regular volunteer trail maintenance days	Years 1 through 7	REC, OSC, DPW	Town Budget
b. Explore options for enforcing trail user compliance, particularly regarding illegal trail cutting and dog walking.	Years 1 through 3	REC, OSC, CON COM	Town Budget
c. Create “Friends of” groups for parks, playgrounds, and natural areas to help with management and to keep the town informed of specific needs.	Years 1 through 7	REC, OSC, DPW	Town Budget
d. Continue regular maintenance of the Town’s recreation fields.	Years 1 through 7	REC, DPW	Town Budget
e. Continue to restore field edges, maintain stonewalls along field edges, and retain meadow habitat and scenic views.	Years 1 through 7	REC, OSC	Town Budget
3. Promote the acquisition and development of neighborhood parks where none currently exist.	Years 1 through 7	PB, SB, OSC	Town Budget
4. Develop amenities supported by neighborhood parks, such as playgrounds, off-leash dog parks, and community gardens.	Years 1 through 7	PB, CON COM, OSC	Town Budget
Objective D. CONNECT EXISTING TRAIL SYSTEMS FOR ENHANCED RECREATIONAL USE.			
1. Connect trails from behind the high school to the community center to Herring Run.	Years 1 through 7	SB, OSC	Town Budget
2. Connect Tubb’s Meadow trail to Veteran Memorial Forest	Years 1 through 7	SB, OSC	Town Budget
3. Support a traffic and sidewalk plan that provides and improves sidewalks and bike paths that connect to recreational facilities, schools, the Town Center, public transportation, and conservation trails.	Years 1 through 7	PB, CON COM, BOA	Town Budget
a. Establish visible trailhead areas.	Years 1 through 7	CONCOM, OSC	Town Budget
b. Identify other gaps in the trial systems to prioritize areas for protection.	Years 1 through 7	SB, OSC, CONCOM	Town Budget
c. Ensure that any existing or new trails are fully accessible to people with disabilities.	Years 1 through 7	CONCOM, SB, OSC	Town Budget
d. Support the acquisition of land and development t of new open spaces that can provide a trail network.	Years 1 through 7	CPC, CONCOM, OSC	Town Budget

Goal 5. PLANNING AND MANAGEMENT FOR PEMBROKE'S EXTENSIVE OPEN SPACE AND RECREATION LANDS ARE MORE EFFICIENT AND COORDINATED WITH AN ACCESSIBLE DATABASE.			
Action Item	Timeline	Responsible Party	Funding Opportunities
Objective A: CREATE AN ACCESSIBLE ELECTRONIC DATA REPOSITORY FOR PEMBROKE'S OPEN SPACES AND RECREATION LANDS.			
1. Archive and digitize existing documents related to open space and recreation within and around Pembroke, including protected, semi-protected, and threatened resource parcels.	Years 1 through 7	CONCOM, PB, DPW	Town Budget, Mass Audubon
2. Collect and record data related to open space and recreation lands, including:	Years 1 through 7	CONCOM, OSC, BOA	Town Budget
a. Newly acquired lands	Years 1 through 7	CONCOM, OSC, BOA	Town Budget
b. Parcels of conservation concern and their ownership status	Years 1 through 7	CONCOM, OSC, BOA	Town Budget
c. Continue to survey and mark conservation land property boundaries.	Years 1 through 7	CONCOM, OSC, BOA	Town Budget
d. Continue to identify and resolve encroachments on conservation land.	Years 1 through 7	CONCOM, OSC, BOA, PB	Town Budget
3. Work with owners on preservation options: Host educational workshops, understand owners' objectives, and develop a plan for responding to Chapter 61 conversions.	Years 1 through 7	AGRI, CONCOM, PB	Land Trust Organizations
4. Update the list of farmlands – Chapter 61 list.	Years 1 through 7	AGRI, BOA	GIS, Town Budget
Objective B. MONITOR AND EVALUATE CONDITIONS AND MANAGEMENT PRACTICES OF EXISTING OPEN SPACES IN PEMBROKE.			
1. Monitor and evaluate conditions and management practices of existing open spaces in Pembroke.	Years 1 through 7	OSC, SB, CONCOM	GIS, Town Budget
2. Compile standardized management practices (SMPs) for open space properties	Years 1 through 7	OSC, CONCOM	GIS, Town Budget
Objective C: PROVIDE ADEQUATE STAFFING FOR THE PLANNING AND MANAGEMENT OF OPEN SPACE AND RECREATION FUNDS.			
1. Seek town funding for creating a land steward position to monitor and support OSRP actions.	Years 2 and 3	CONCOM, SB, OSC	Town Meeting Vote
2. Designate a staff member from each town department or board that would communicate with the Open Space Committee	Years 1 and 2	SB	Town Budget
Objective D. IMPROVE INTER-DEPARTMENTAL AND INTER-TOWN COMMUNICATION AND COORDINATION REGARDING COMMON GOALS FOR OPEN SPACE ISSUES AND IMPLEMENTATION STRATEGIES.			
1. Hold biennial meetings with representatives from all departments and boards that discuss current open space issues and implementation strategies.	Year 1	SB	Town Budget
2. Host an Open Spaces and Recreation Summit with participation from the Conservation Commission, Recreation Commission, Planning Board, Select Board, associated staff, and others as deemed appropriate to coordinate projects.	Years 1 and 2	SB	Town Budget

<p>3. Develop a program with the Board of Assessors and Conservation Commission to promote Chapter lands for eligible property owners.</p>	<p>Years 1 through 7</p>	<p>BOA, CONCOM</p>	<p>Town Budget</p>
<p>4. Contact neighboring open space committee representatives to form alliances around connected resources (like habitat and water). This inter-town committee would meet twice annually.</p>	<p>Years 1 through 7</p>	<p>SB</p>	<p>Town Budget</p>



Potential Funding Sources

POTENTIAL FUNDING SOURCES

Land and Water Conservation Fund.

The Land and Water Conservation Fund (LWCF) was authorized by the federal Land and Water Act in 1965 to preserve, protect, and assuring the availability of close-to-home outdoor recreation areas and conservation land for all current and future citizens of the United States. By establishing a steady source of funding through offshore oil and gas receipts, Congress ensured continued state and federal investment in outdoor recreation. Congress distributes the funds to the states on an annual basis. The LWCF program has two components, the federal program, and the statewide program. The LWCF funds the acquisition of land and water conservation areas by federal agencies, such as the National Park Service (NPS), the Forest Service, and the Fish and Wildlife Service. The funds are directly appropriated to these agencies by Congress. The stateside program funding is awarded to each state and territory by formula. States award grants through a competitive process to communities or state agencies for the acquisition of land, the development of

new parks, renovations to existing parks, and the development of trails. The LWCF grant program requires a 50 percent contribution from the awardee. To remain eligible for these funds, each state must complete a Statewide Comprehensive Outdoor Recreation Plan (SCORP) every five years.

The Executive Office of Energy and Environmental Affairs (EEA) Division of Conservation Services (DCS) administers the LWCF program on behalf of the NPS for the Commonwealth of Massachusetts. The Secretary of EEA is appointed by the Governor to act as the State Liaison Officer for the grant program and the Director of EEA's DCS is the Alternate State Liaison Officer. Liaison officers are authorized to represent and act for the state to the Director of NPS on all LWCF matters. Accepting and administering funds from the NPS on approved LWCF projects is also under their purview. Any municipality in the Commonwealth with an up-to-date Open Space and Recreation Plan is eligible to apply for LWCF grants. The Departments of Fish and Game and Conservation and Recreation are also eligible applicants. Massachusetts' two federally recognized tribes, the Mashpee Wampanoags, and the Wampanoag Tribe of Gay Head – Aquinnah may also apply for LWCF grants.

Parkland Acquisitions and Renovations for Communities (PARC) Grant Program.

The PARC Grant Program was established in 1977. It is a municipal grant program that funds the acquisition of parkland, the renovation of existing parks, and the development of new parks. Grants are awarded through an annual competitive grant round. The grant reimburses anywhere between 52 and 70 percent of the total project cost up to that year's grant award maximum, which has been \$400,000 for the past number of years. Land funded through this program must be open to all residents for active recreation and remains protected in perpetuity.

Local Acquisitions for Natural Diversity (LAND) Grant Program.

The LAND Grant Program was established in 1961. It is a municipal grant program for conservation commissions to acquire conservation land. Grants are awarded through an annual competitive grant round. The grant reimburses anywhere between 52 and 70 percent of the total project cost up to that year's grant award maximum, which has been \$400,000 for the past number of years. Land funded through this program must be open to all residents for appropriate passive recreational use and remains protected in perpetuity.

Gateway City Parks Grant Program.

The Gateway City Parks Grant Program funds the creation or restoration of significant urban parks and trails in the 26 Gateway Cities, often projects that would otherwise be difficult

to build. Gateway Cities are midsize urban centers that anchor regional economies around the state. Priority is given to projects that support broader urban revitalization efforts; are ineligible for other funding sources; address critical park infrastructure needs; have strong support from city leaders; engage local businesses, neighbors, and others in park financing, programming, and stewardship; or are accessible to Environmental Justice populations.

Landscape Partnership Grant Program.

The Landscape Partnership Grant Program protects large blocks of conservation land. Local, state, and/or federal agencies partner with non-profit groups on projects that will protect at least 500 acres of land. A 50 percent match is required from the grantees. Land acquired through this grant program must allow for appropriate public access for passive recreation. The land is protected in perpetuity.

Conservation Partnership Grant Program.

The Conservation Partnership Grant Program is for non-profit organizations to acquire land for conservation or recreation use. The grant can be used to acquire the fee interest in land or a conservation restriction, as well as to help fund the due diligence associated with a gift of land. The grantee must award a permanent conservation restriction to a state or local government agency or another land trust. Appropriate public access must be provided.

Drinking Water Supply Protection (DWSP) Grant Program.

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 the protection of existing public drinking water supplies and the protection of planned future public drinking water supplies. The grants are awarded on an annual basis and reimburse 50% of the total project cost, up to that year's grant award maximum. Protection is permanent and appropriate public access must be provided.

Economic Adjustment Assistance Act

The US Economic Development Administration's (EDA) Economic Adjustment Assistance (EAA) program invests \$500 million in American Rescue Plan funding to help plan, build, innovate, and put people into quality jobs. The EAA program is EDA's most flexible program, evidenced by the wide range of investments the program supports. Through the EAA program, critical infrastructure and broadband-related projects are being implemented in underserved communities to develop equitable economic development strategies that will uplift historically underserved communities.

Environmental Education Grants

Under the Environmental Education Grants Program, EPA seeks grant applications from eligible applicants to support environmental education projects that promote environmental awareness and stewardship and help provide people with the skills to take responsible actions to protect the environment. This grant program provides financial support for projects that design, demonstrate, and/or

disseminate environmental education practices, methods, or techniques.

Forest Stewardship Planning Grants

The purpose of this grant program is to encourage landowners to practice long-term guardianship through the development of a management plan for their woodlands. It is designed to improve wildlife habitat and forest aesthetics, protect soil and water resources, and increase the potential for high-quality wood products. There is no minimum acreage needed to apply for a grant, except that properties of less than 10 acres are not eligible for Forest Stewardship Plan preparation cost-sharing. Participating landowners may own a maximum of 1,000 acres (or up to 5,000 acres with a special waiver).

Landowner Incentive Program

The LIP program is administered through the MA Division of Fisheries and Wildlife as a partnership that provides private landowners interested in developing and maintaining wildlife habitats on their property with financial and technical assistance.

Massachusetts Environmental Trust

MET supports a variety of environmental protection and conservation projects and has awarded grants to many deserving Massachusetts communities.

Massachusetts Preservation Projects Fund

The Massachusetts Preservation Projects Fund (MPPF) is a state-funded 50 percent reimbursable matching grant

a program that was established in 1984 to support the preservation of properties, landscapes, and sites (cultural resources) listed in the State Register of Historic Places. Applicants must be a municipality or nonprofit organization.

MassWorks Infrastructure Program

The MassWorks Infrastructure Program is a competitive grant program that provides the largest and most flexible source of capital funds to municipalities and other eligible

public entities primarily for public infrastructure projects that support and accelerate housing production, spur private development, and create jobs throughout the Commonwealth. The MassWorks program is now part of the One Stop for Growth, a single application portal and collaborative review process of community and economic development grant programs that make targeted investments based on a Development Continuum.

Appendix A. MAPS



Regional Context

Regional Context



-  Interstate/State Highways
-  Major Routes
-  Buzzards Bay Watershed
-  South Coastal Watershed
-  Taunton River Watershed
-  Weir River Watershed
-  Town of Pembroke



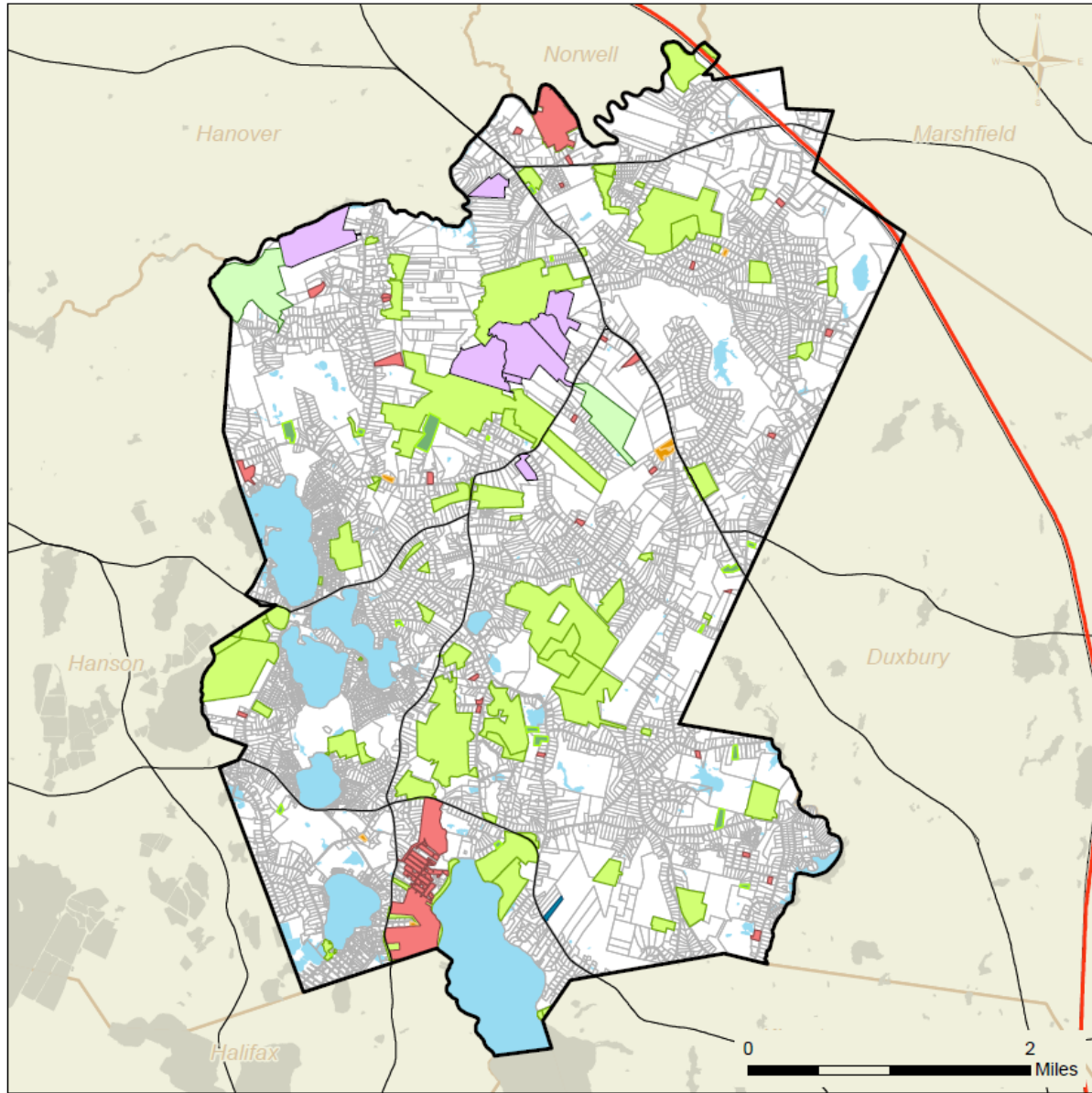
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70 School Street, Brockton, MA 02301

www.ocpcrpa.org
Created July 2022

GIS Data Sources:
MA Department of Transportation (MassDOT),
Office of Geographic Information (MassGIS),
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Open Space Inventory

Protected & Recreational Open Space



- Chapter 61A Agricultural Production Lands
- Chapter 61B Recreation Lands
- Chapter 61 Forest Lands
- Charitable Organizations Conservation Restrictions
- Natural Resources Conservation Service Restrictions
- Wildlands Trust Conservation Restrictions
- Town-Owned Open Space



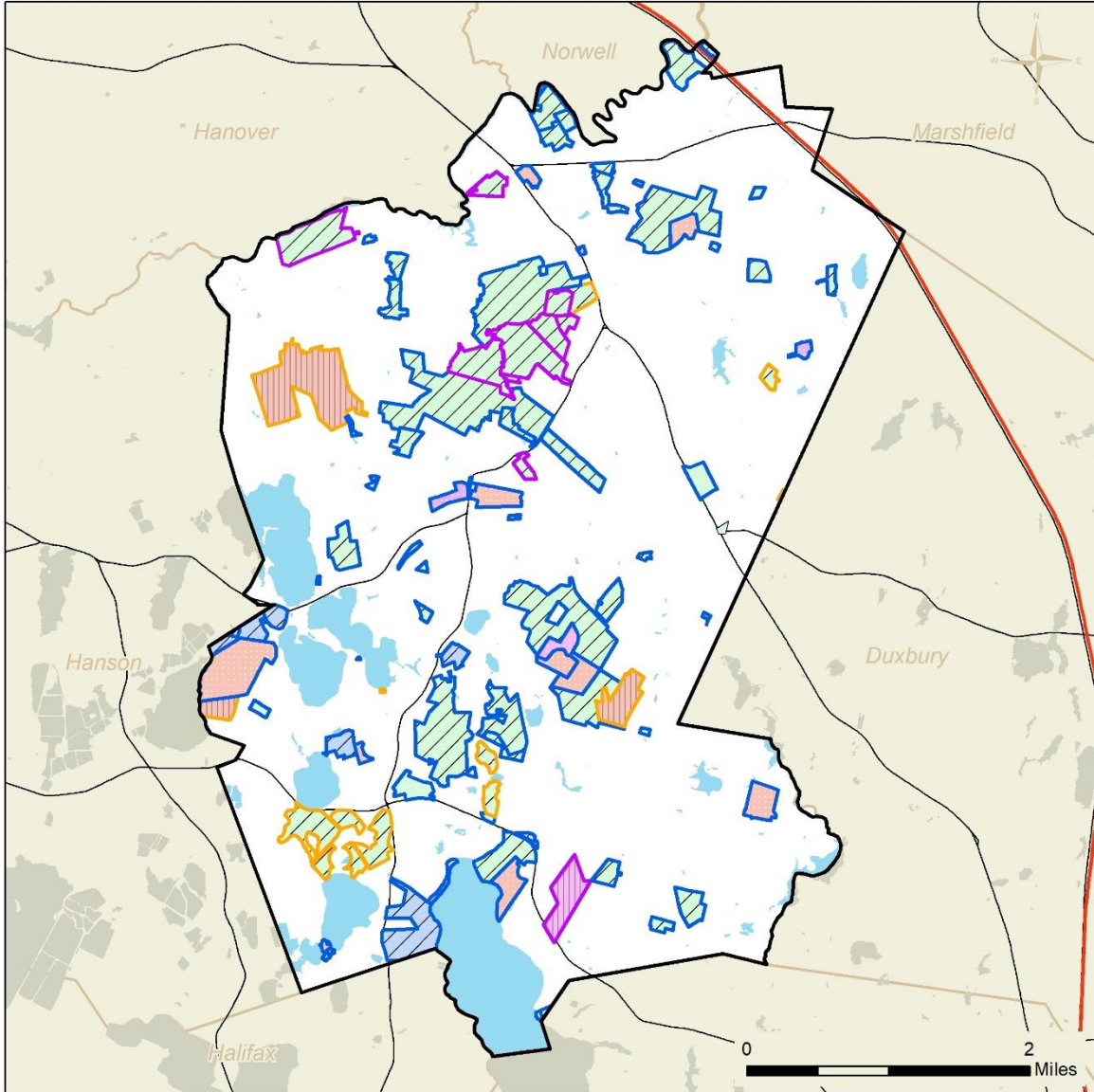
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Old Colony Planning Council

Protected Municipal Land by Purpose

Protected & Recreational Open Space



Owner Type

- Municipal
- Private Non-Profit
- Privately Owned

Level of Protection

- Limited
- None
- In Perpetuity

Primary Purpose

- Conservation
- Historic/Cultural
- Recreational
- Water Supply Protection
- Other or Unknown



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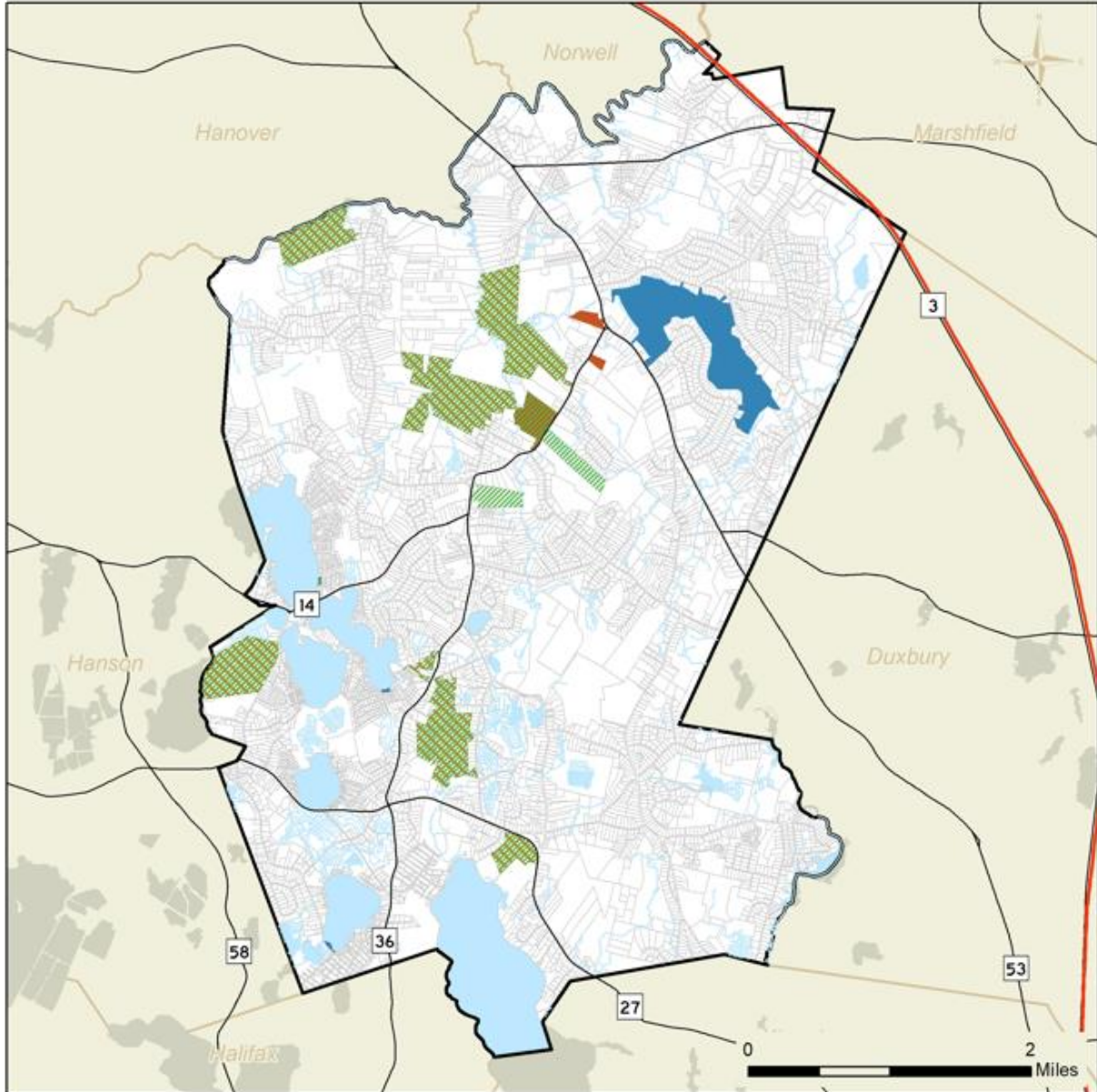
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Action Plan

Action Plan



-  Goal 1: Protect water resources
-  Goal 2: Preserve enviromental, historic & cultural resources
-  Goal 3: Maintain and improve connectivity in wildlife habitats and corridors
-  Goal 4: Improve access to and features of recreational facilities



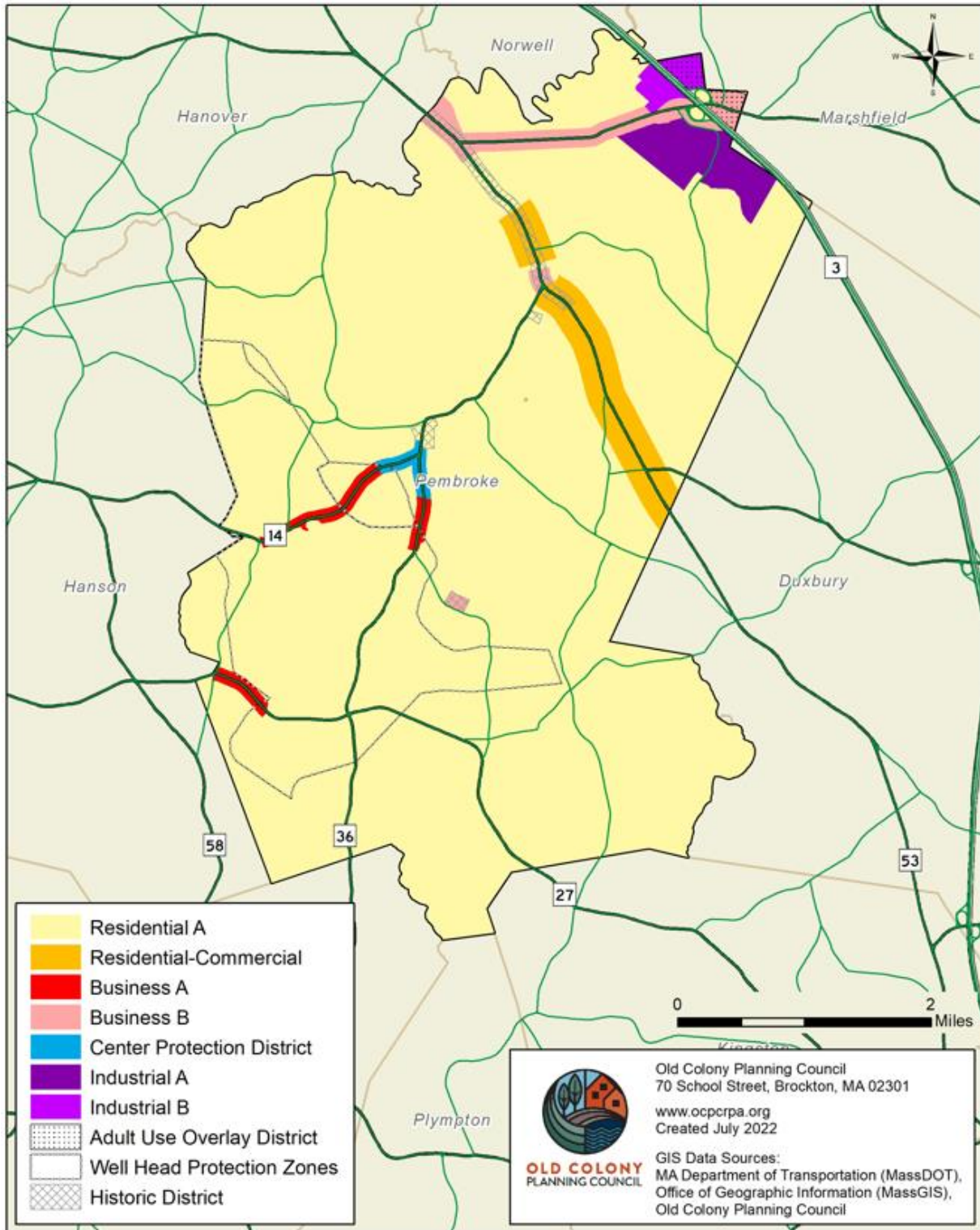
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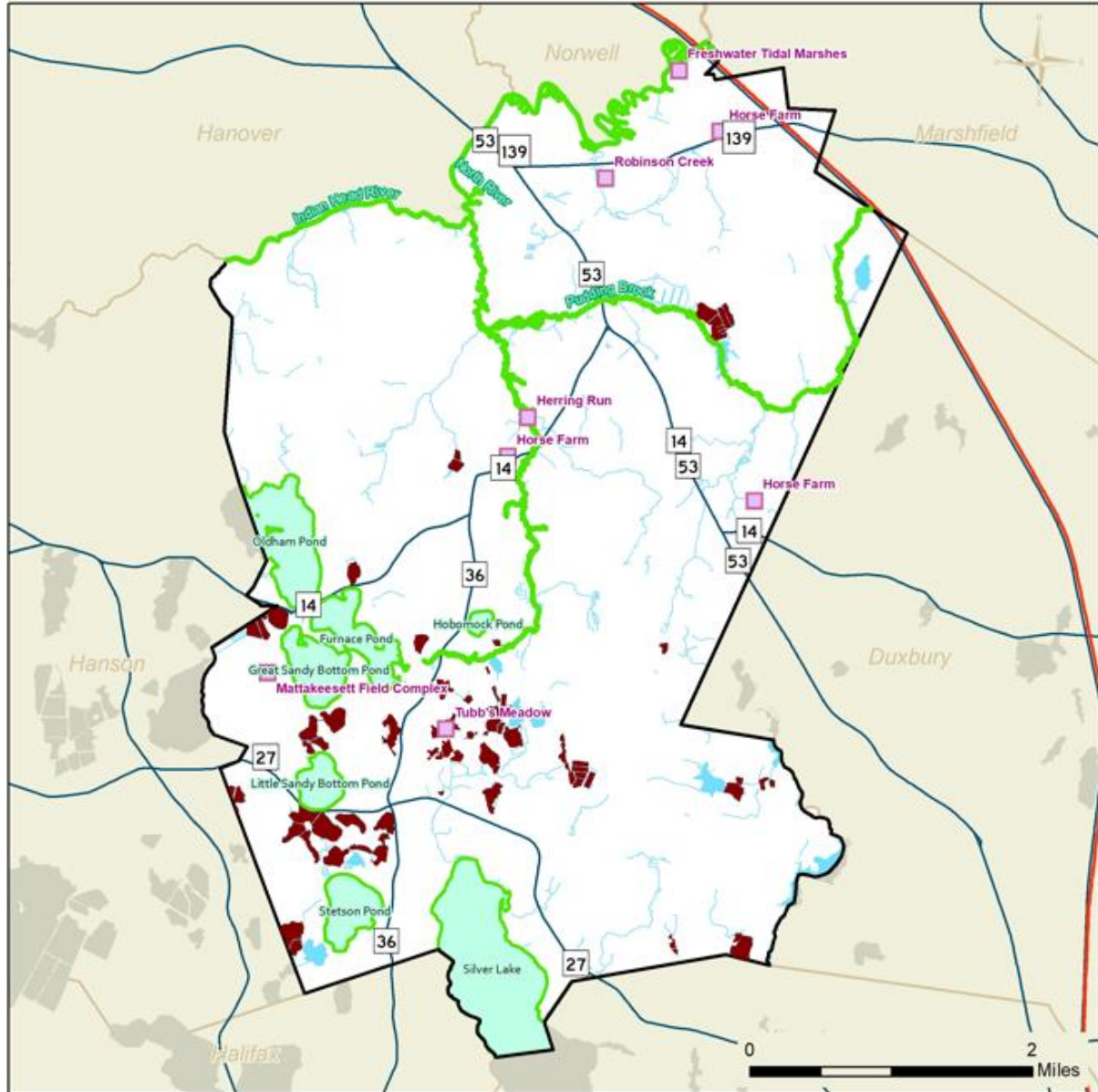
Zoning

Zoning



Scenic Resources and Unique Environments

Scenic Resources and Unique Environments



- Scenic Resources
- Scenic Resources
- Lakes and Ponds
- Cranberry Bogs



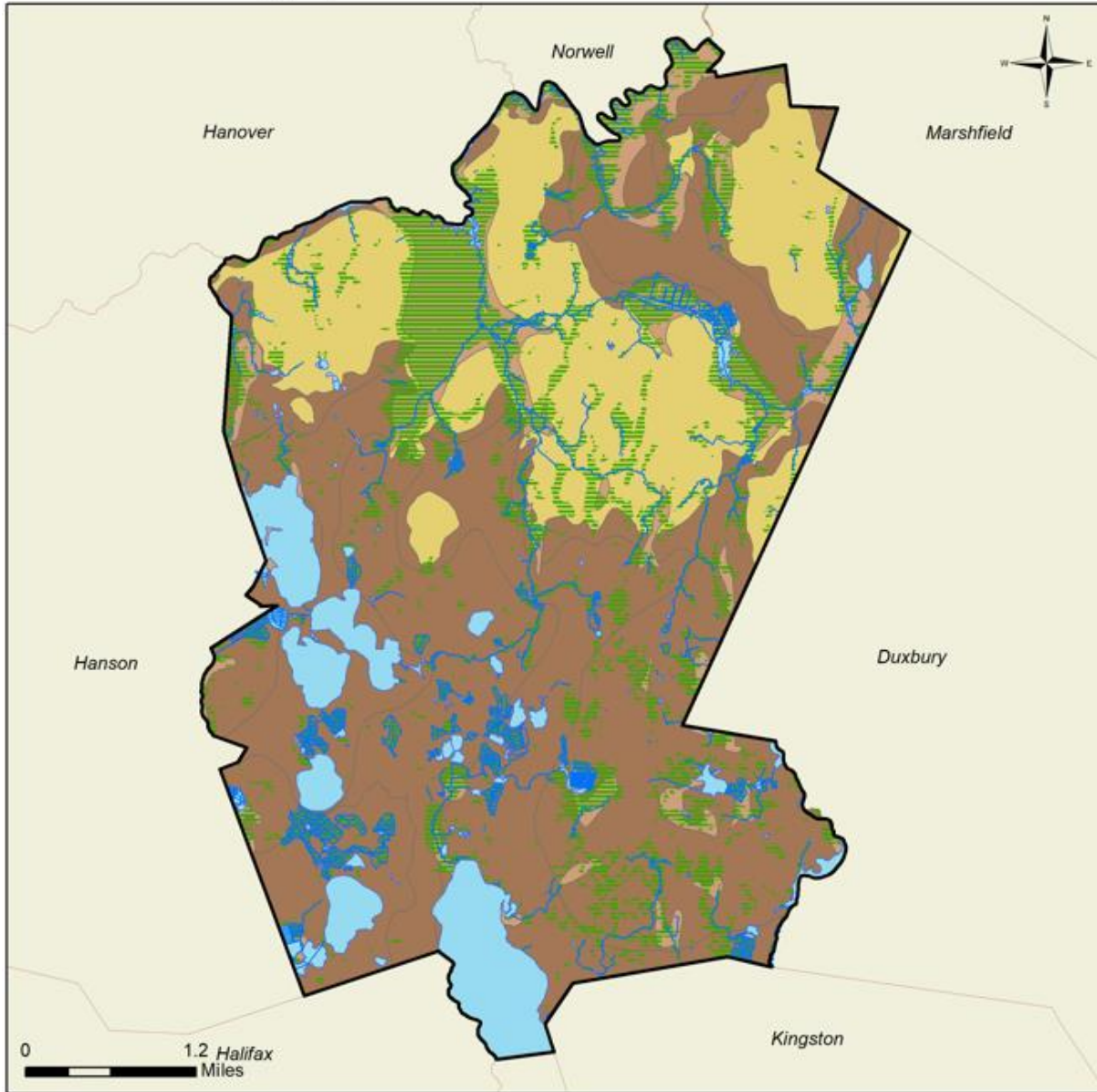
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Soils and Geographic Features

Soils and Geographic Features



-  Lakes and Ponds
-  Wetlands
- Surficial Geology**
-  Sand and Gravel
-  Till or Bedrock
-  Fine-Grained Deposit
-  Floodplain Alluvium



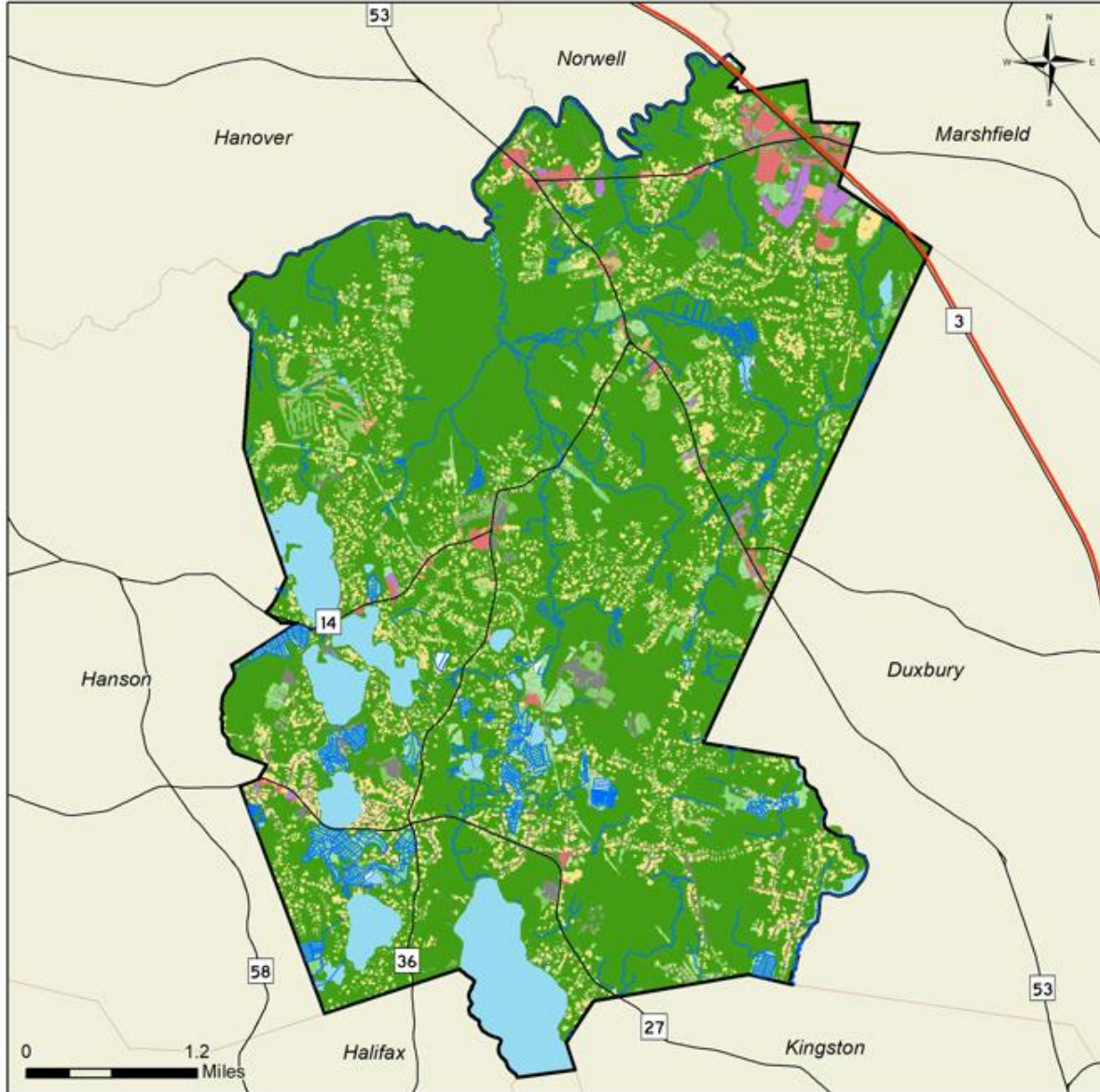
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Water Resources

Current Land Use



-  Residential
-  Commercial
-  Industrial
-  Mixed Use
-  Impervious Surfaces and Rights-of-Way
-  Agriculture
-  Forest and Wetland
-  Developed Open Space
-  Other Open Space



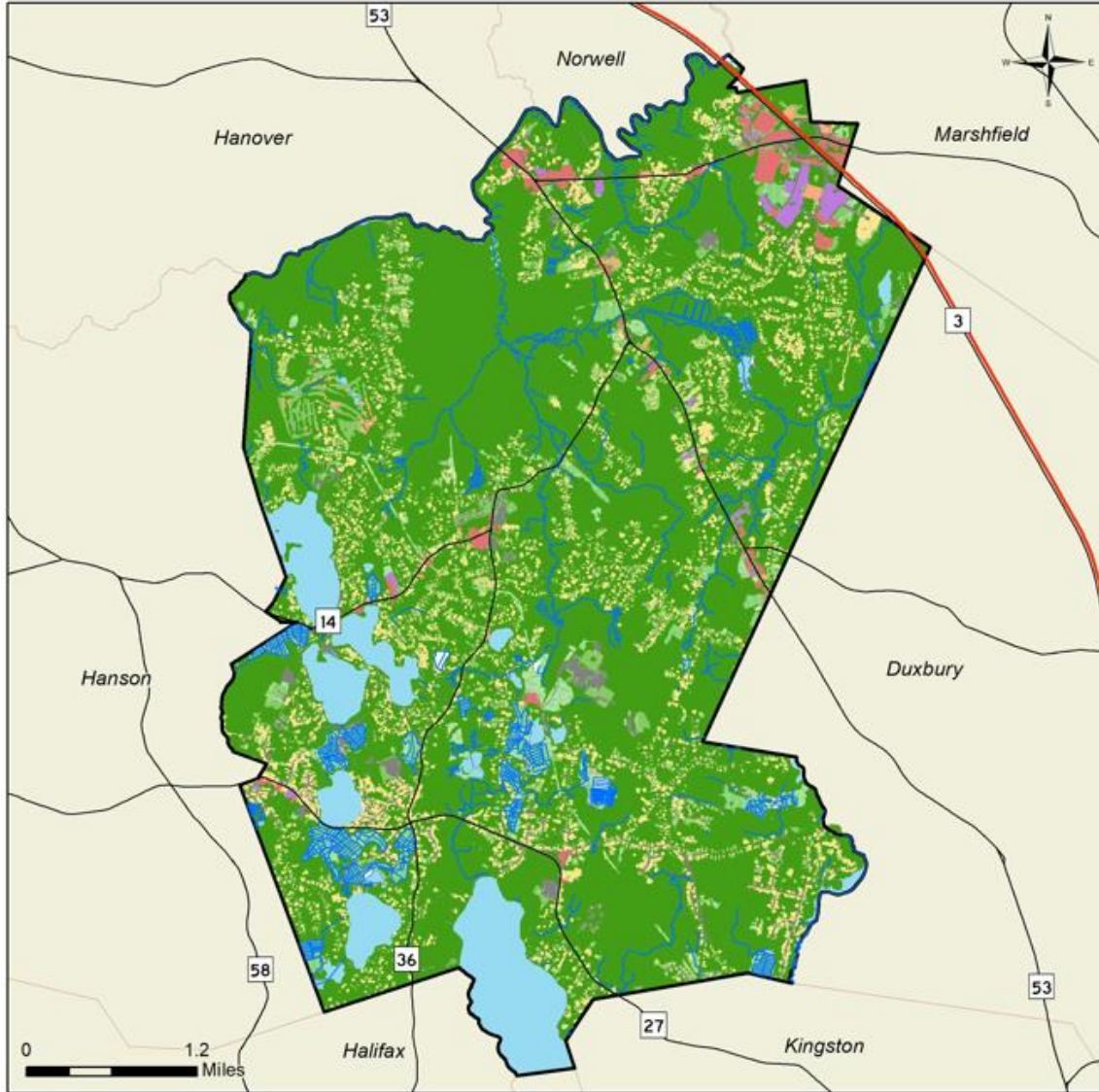
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Current Land Use

Current Land Use



-  Residential
-  Commercial
-  Industrial
-  Mixed Use
-  Impervious Surfaces and Rights-of-Way
-  Agriculture
-  Forest and Wetland
-  Developed Open Space
-  Other Open Space

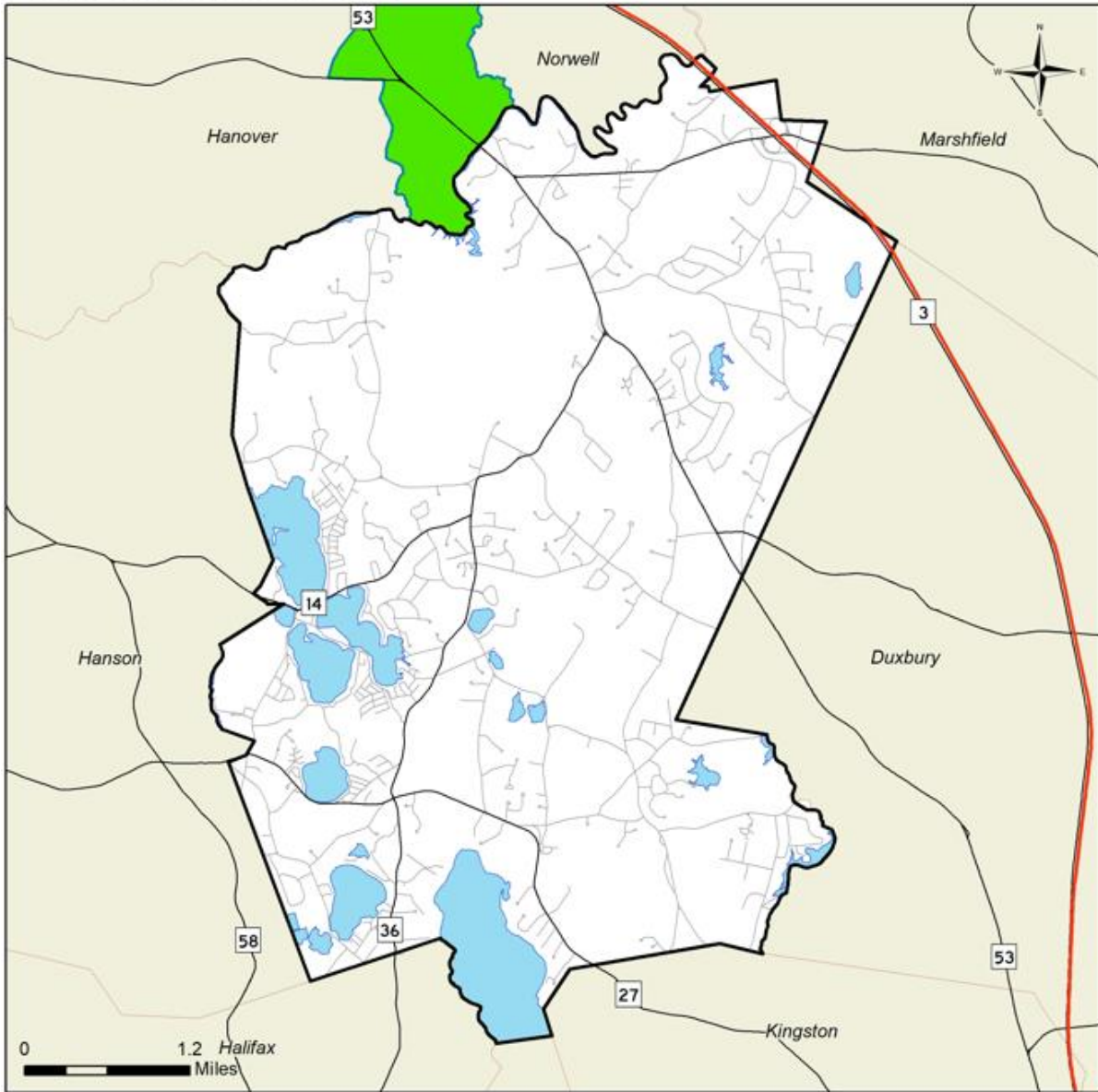


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



GIS Data Sources:
Office of Geographic Information (MassGIS),
Old Colony Planning Council

Environmental Justice

Environmental Justice



Environmental Justice Criteria

-  English isolation
-  Income
-  Minority
-  Minority and English isolation
-  Minority and income
-  Minority, income and English isolation



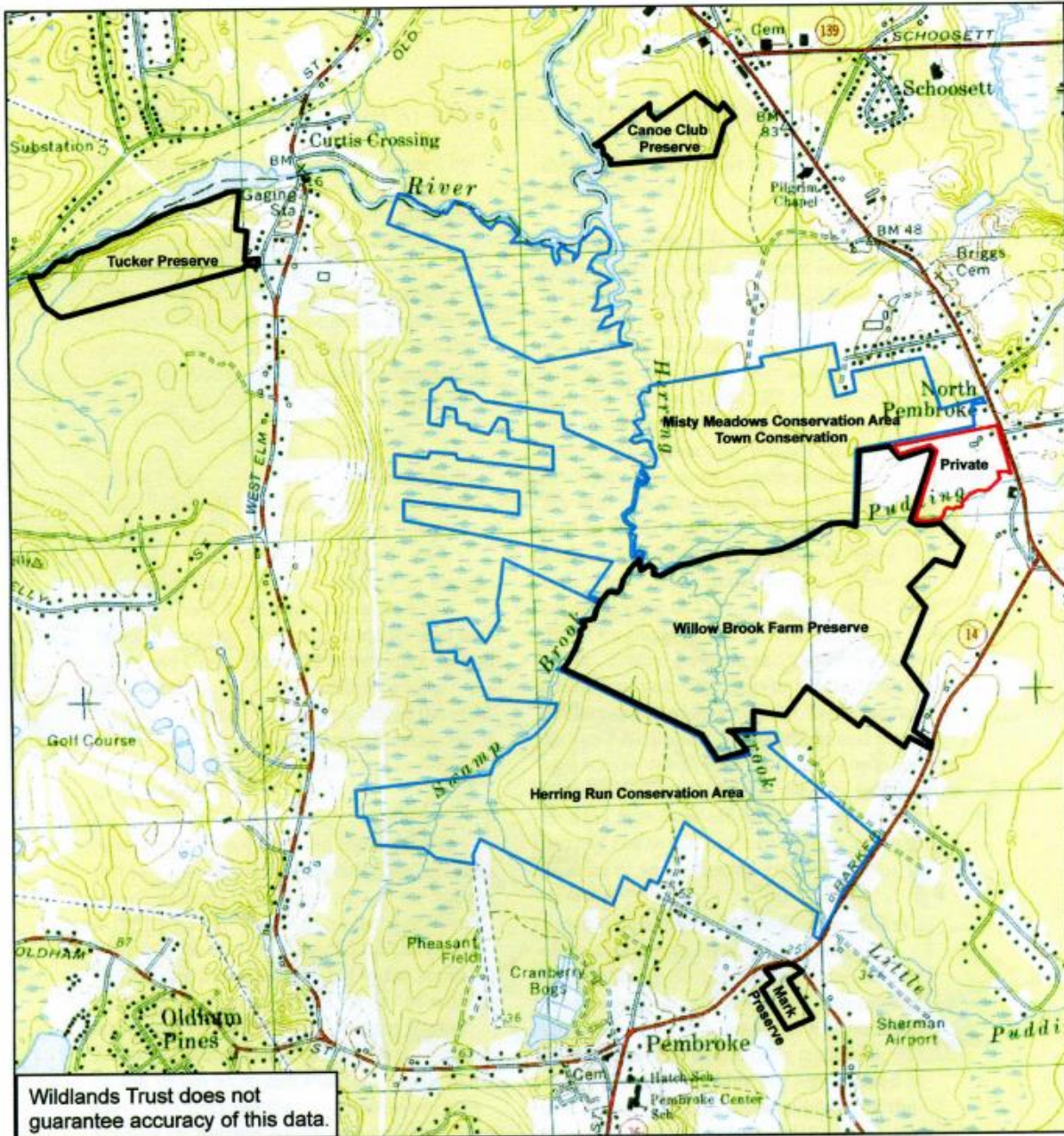
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Herring Brook Valley Open Space

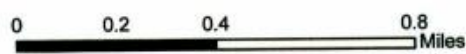


Wildlands Trust does not guarantee accuracy of this data.

**Herring Brook Valley Open Space
Pembroke, MA**

Legend

- Wildlands Trust
- Pembroke Open Space
- Private Property



Pembroke Hiking Trails

Pembroke Hiking Trails

Trail Head Parking Locations for each trail map listed on the Town website at www.pembroke-ma.gov.
71,012 views
Published on June 28
[SHARE](#)

Nine Pembroke Hiking Trails

- 34 Ingham Way Misty Meadow Conservation A...
- 80 Learning Ln PHS Trail
- 81 Learning Ln Hobomock Trail
- Off Washington St Canoe Club
- Old West Elm Tucker Preserve
- Willow Brook Farm
- JJ Shepherd Memorial Forest
- Tubbs Meadow
- Veterans Commemorative Forest

Made with Google My Maps



Appendix B. OSRP SURVEY

Open Space & Recreation Plan Survey

Pembroke is in the process of updating the Open Space and Recreation Plan. We have received conditional approval from the state and in order to get final approval, we need your participation.

Section One - Demographics

Please answer based on your current household.

1. Number of people in household?

2. Number of people under the age of 18?

3. Number of people aged 18-50?

4. Number of people 50+?

5. How many years have you lived in Pembroke?

6. Are you a registered voter?

Mark only one oval.

Yes

No

7. Do you attend Town Meetings?

Mark only one oval.

Always

Sometimes

Never

Skip to question 8

Section Two - Open Space

8. 1. How do you use town-owned Open Space and Recreation Land? (check all that apply)

Check all that apply.

- walking
- motor boating
- biking
- picnics
- organized sports
- jogging
- hiking
- photography
- hunting
- pickup games
- swimming
- x-country skiing
- nature appreciation
- horseback riding
- canoeing/kayaking
- birdwatching
- fishing
- children's programs

Other: _____

9. 2. Would you use Open Space more if we had the following? (check all that apply)

Check all that apply.

- more marked trails
- improved access/parking
- improved canoe/kayak access
- bicycle paths
- detailed trail maps
- handicap access
- benches
- dog park

Other: _____

10. 3. Should Pembroke actively try to acquire and protect more Open Space?

Mark only one oval.

yes

no

11. 4. What are your favorite Open Space or Recreation locations in Pembroke?

12. 5. What are your priorities for new or improved Open Space & Recreation locations?

Check all that apply.

	5 (high priority)	4	3	2	1 (low priority)
parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
handicap access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
boating access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
playgrounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
athletic fields/courts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bike trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. 6. What factors should guide the protection of Open Space in Pembroke?

Check all that apply.

	5 (high priority)	4	3	2	1 (low priority)
passive recreation potential (hiking, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
creation of continuous trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
outdoor education near schools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
active recreation potential (ballfields, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of drinking water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of scenic vistas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of forests & woodlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of ponds & shorelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of stream corridors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of wetland & wildlife habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of farmland, meadows, open fields	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of cranberry bogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
protection of historical locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. 7. Are there specific properties in Pembroke that should be protected?

15. 8. Please list any additional activities of interest you would like to see included in an Open Space or Recreation facility in Pembroke: (crafts, pickleball, shuffleboard, community gardens, educational opportunities, etc.)

16. 9. Would you be interested in getting involved in further planning for Open Space and Recreational activities in Pembroke? (workshops, planning meetings, trail stewardship opportunities, community garden plots, committees, etc.)

Mark only one oval.

- Yes
- No
- Maybe

17. **OPTIONAL CONTACT INFORMATION:** (please provide if you answered yes to Question #9)

please enter your full name and email address (not required)

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Google Forms

Open Space & Recreation Plan Survey

65 responses

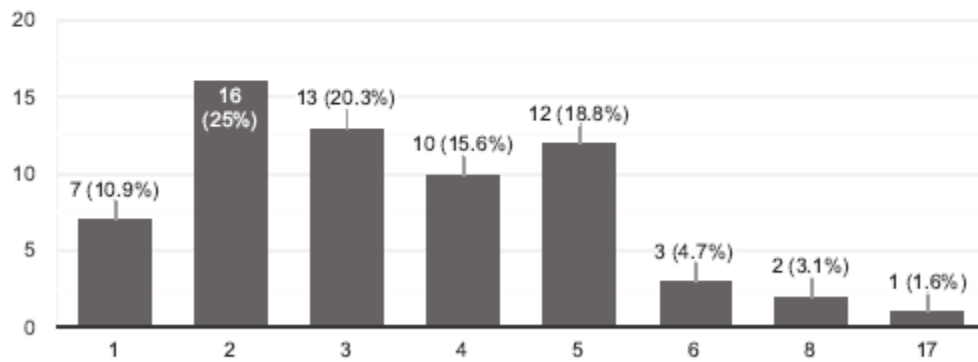
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Section One - Demographics

Number of people in household?

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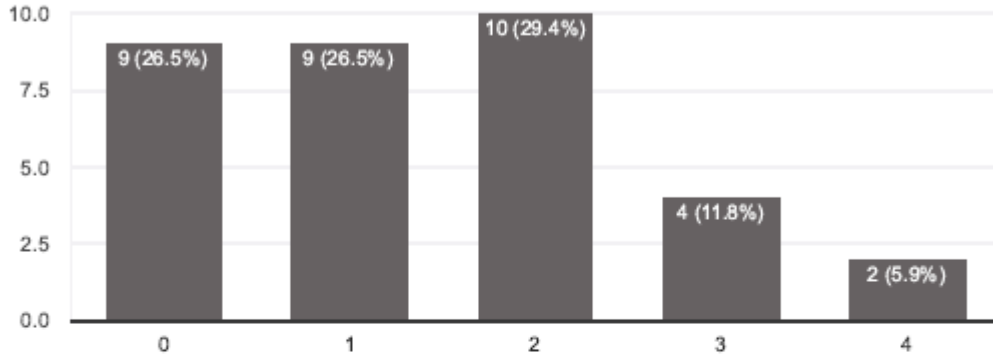
64 responses



Number of people under the age of 18?

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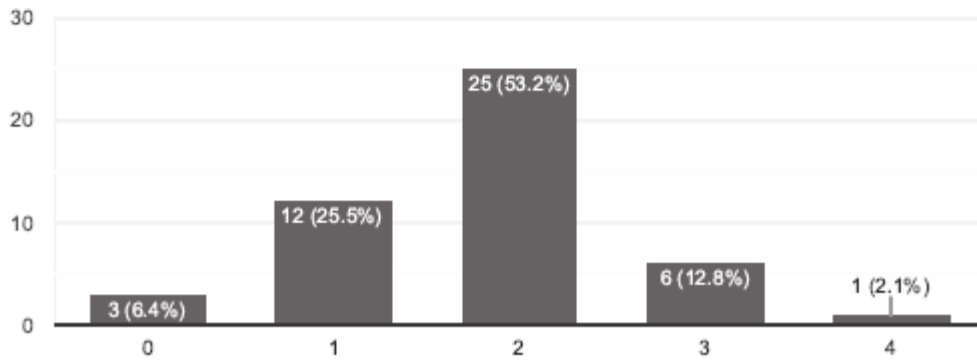
34 responses



Number of people aged 18-50?

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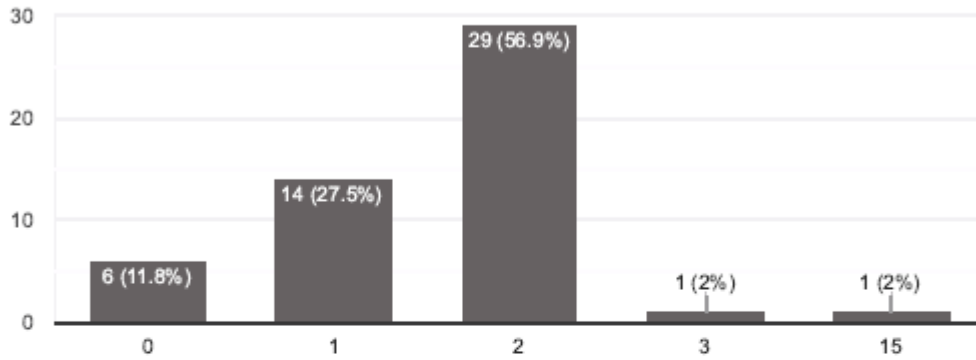
47 responses



Number of people 50+?

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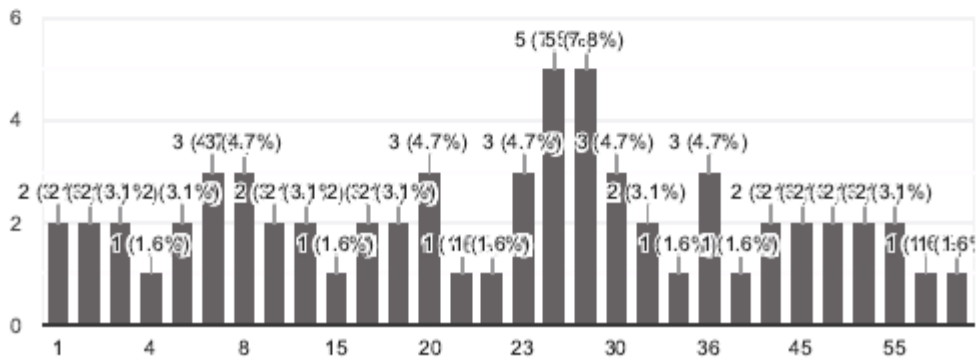
51 responses



How many years have you lived in Pembroke?

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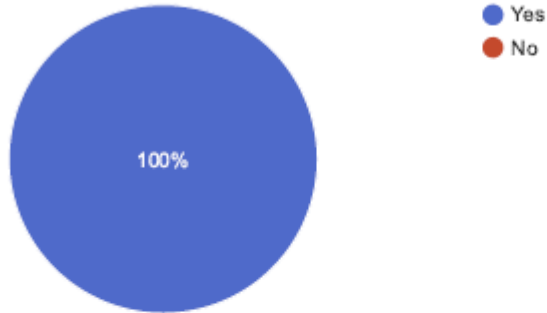
64 responses



Are you a registered voter?

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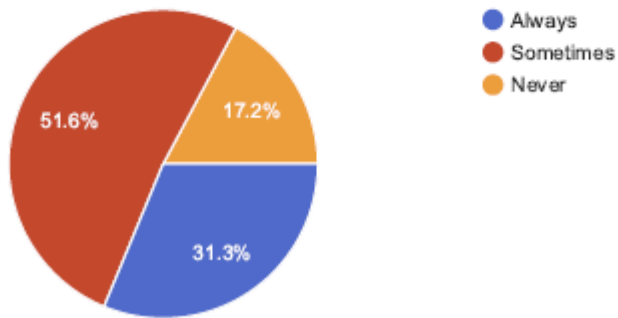
64 responses



Do you attend Town Meetings?

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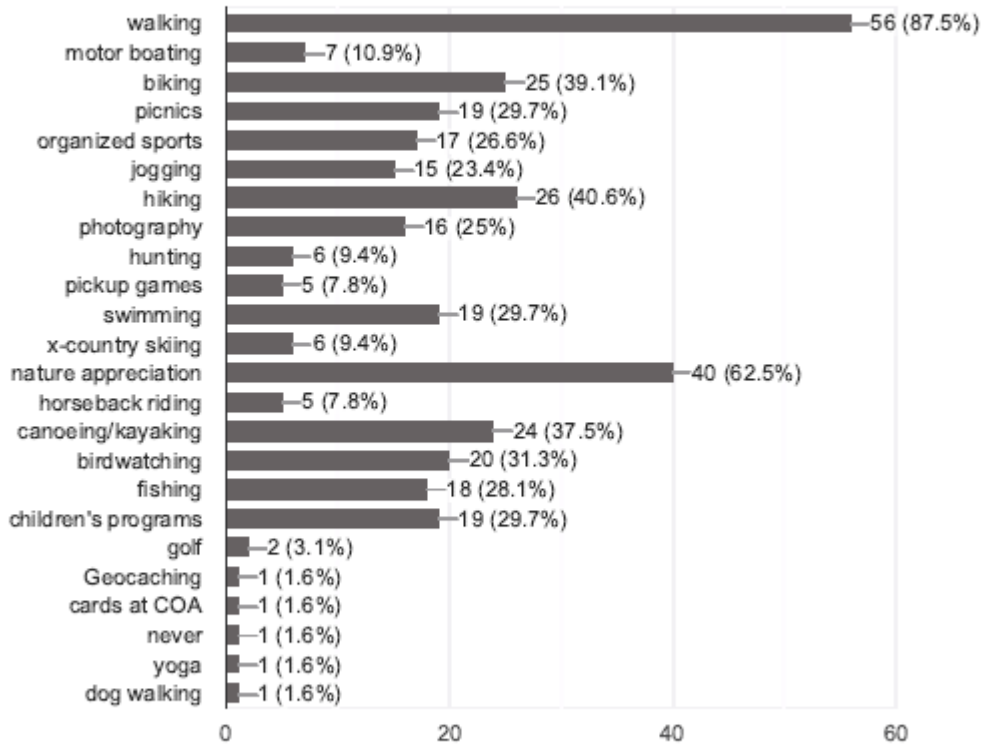
64 responses



1. How do you use town-owned Open Space and Recreation Land?
(check all that apply)



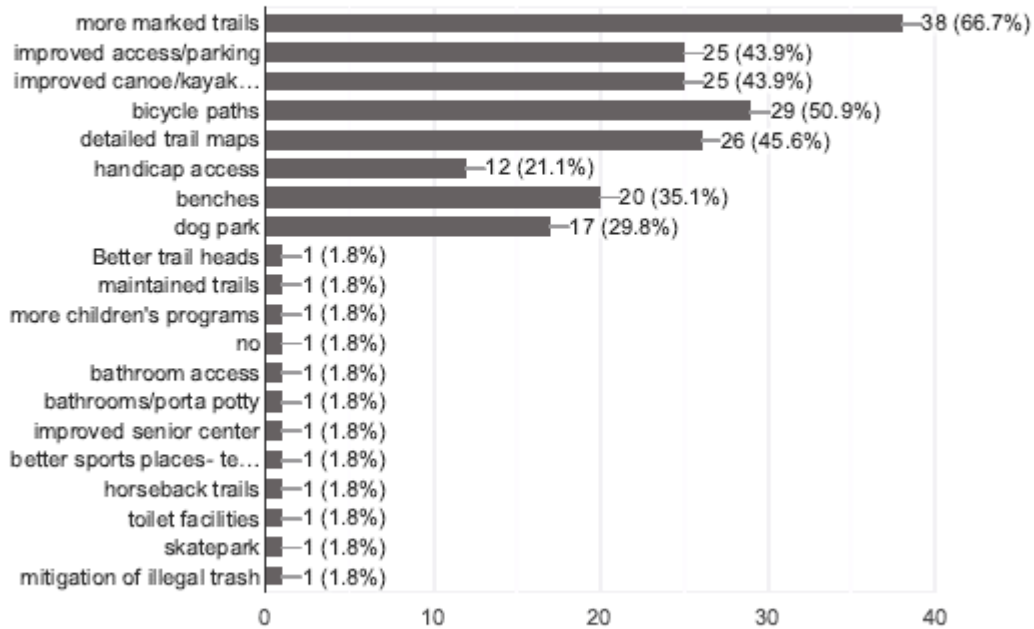
64 responses



2. Would you use Open Space more if we had the following? (check all that apply)

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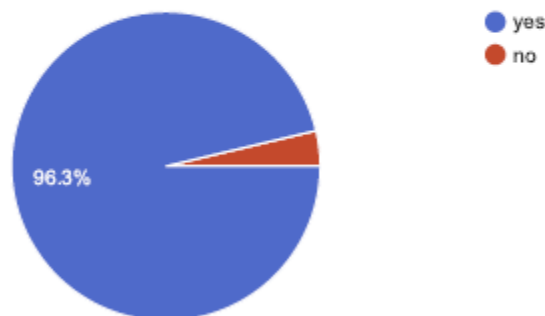
57 responses



3. Should Pembroke actively try to acquire and protect more Open Space?

 Copy

54 responses



4. What are your favorite Open Space or Recreation locations in Pembroke?

47 responses

Tubbs Meadow

Herring Run

Tubbs Meadow

Willow Brook

Herring Run

Tuckers Preserve

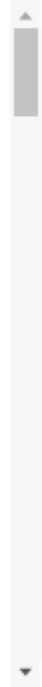
Birch Street Playground

beach

Herring Run

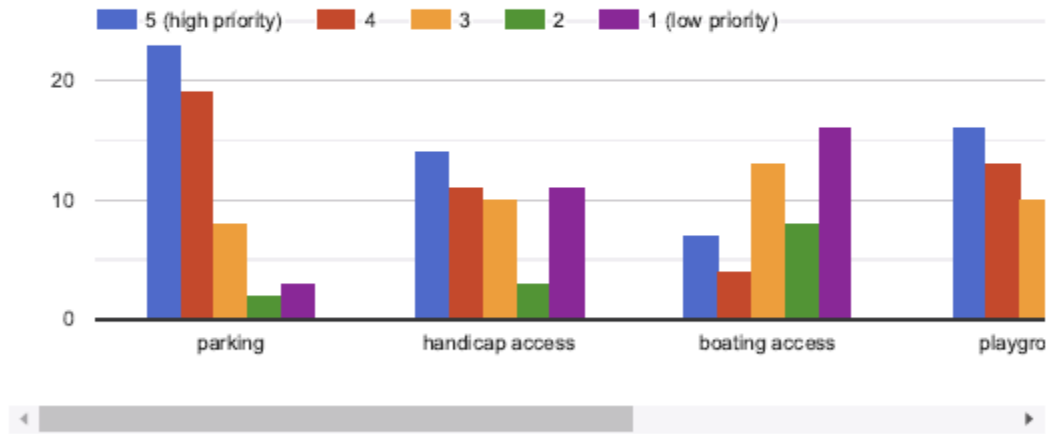
Luddham's Ford

Barker Street



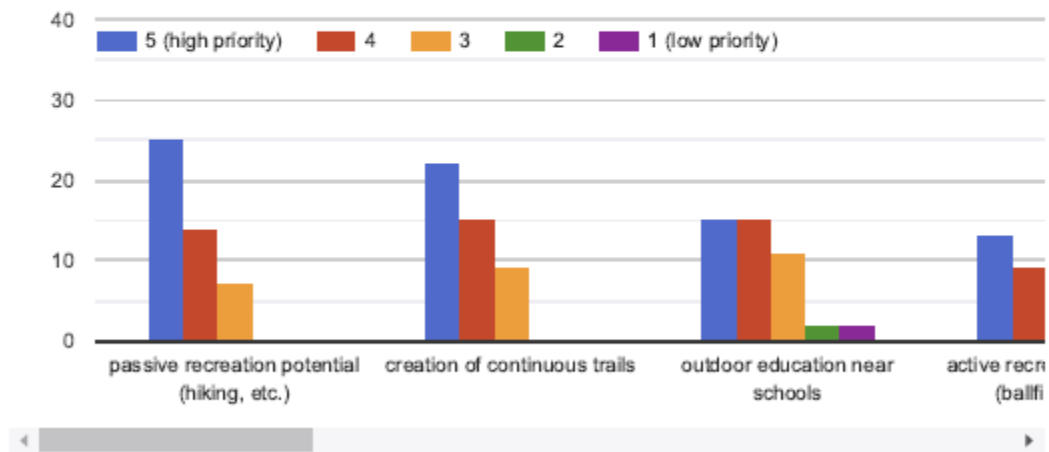
5. What are your priorities for new or improved Open Space & Recreation locations?

 Copy



6. What factors should guide the protection of Open Space in Pembroke?

 Copy



7. Are there specific properties in Pembroke that should be protected?

17 responses

North River

Nature Preserve Inc.
Water Street 40b parcel

old properties on Barker

across the street from Herring Run
any wetlands in town

Misty Meadow

all banks of North River
210 Barker Street airfield

North River
Sherman Airfield
all large land zoned agriculture & rec if sold



8. Please list any additional activities of interest you would like to see included in an Open Space or Recreation facility in Pembroke: (crafts, pickleball, shuffleboard, community gardens, educational opportunities, etc.)

23 responses

community gardens

Educational Gardens

Boyscout camp area

Ninja Gym

Outdoor Gym

Better Playgrounds / parks for Handicapped

community garden, pickle ball

classes & workshops

community gardens

educational opportunities

crafts

pickleball

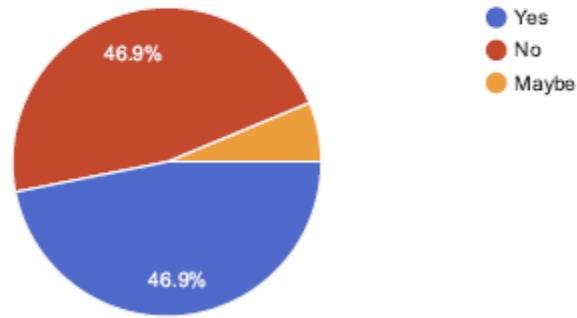
community gardens

...

9. Would you be interested in getting involved in further planning for Open Space and Recreational activities in Pembroke? (workshops, planning meetings, trail stewardship opportunities, community garden plots, committees, etc.)

 Copy

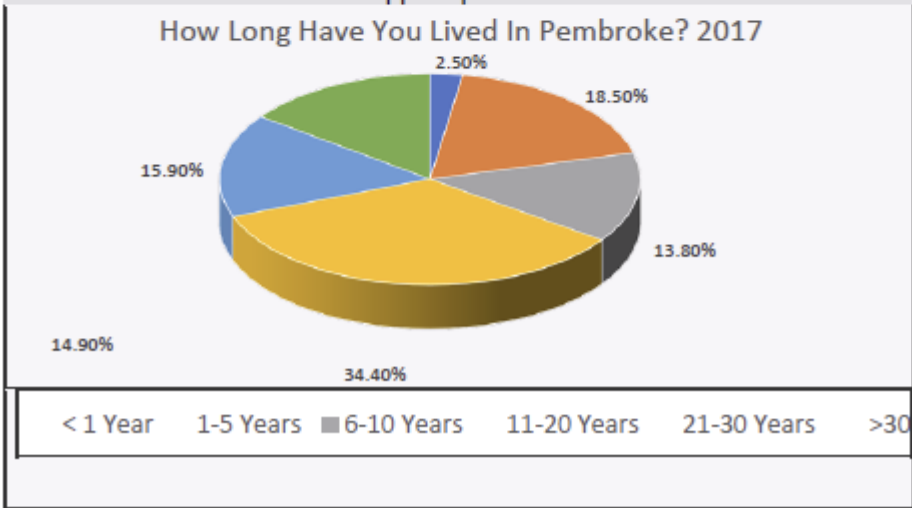
32 responses



2017 Pembroke Open Space Survey Responses

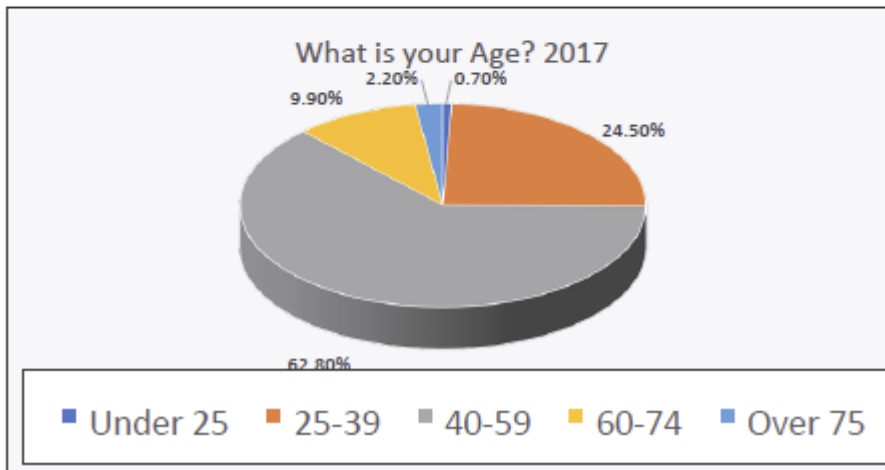
Question 1

How long have you lived in Pembroke?		
Answer Options	Response Percent	Response Count
Less Than a Year	2.5%	7
One to Five Years	18.5%	51
Six to Ten Years	13.8%	38
Eleven to Twenty	34.4%	95
Twenty One to Thirty	15.9%	44
More Than Thirty	14.9%	41
answered question		276
skipped question		1



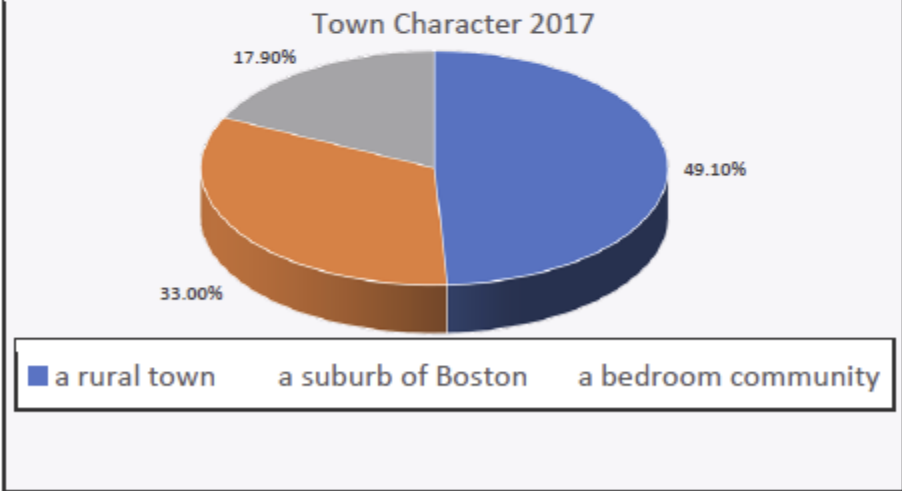
Question 2

What is your age?		
Answer Options	Response Percent	Response Count
Under 25	0.7%	2
25-39	24.5%	67
40-59	62.8%	172
60-74	9.9%	27
Over 75	2.2%	6
answered question		274
skipped question		3



Question 3

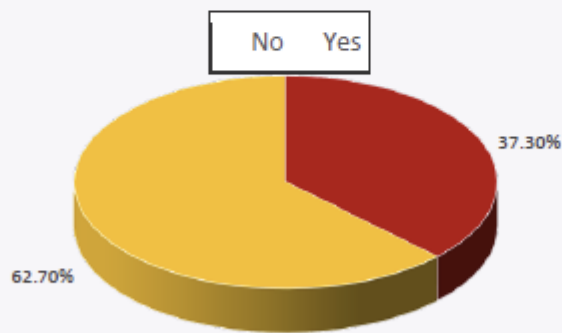
Do you consider Pembroke to be... ?		
Answer Options	Response Percent	Response Count
a rural town	49.1%	134
a suburb of Boston	33.0%	90
a bedroom community	17.9%	49
answered question		273
skipped question		4

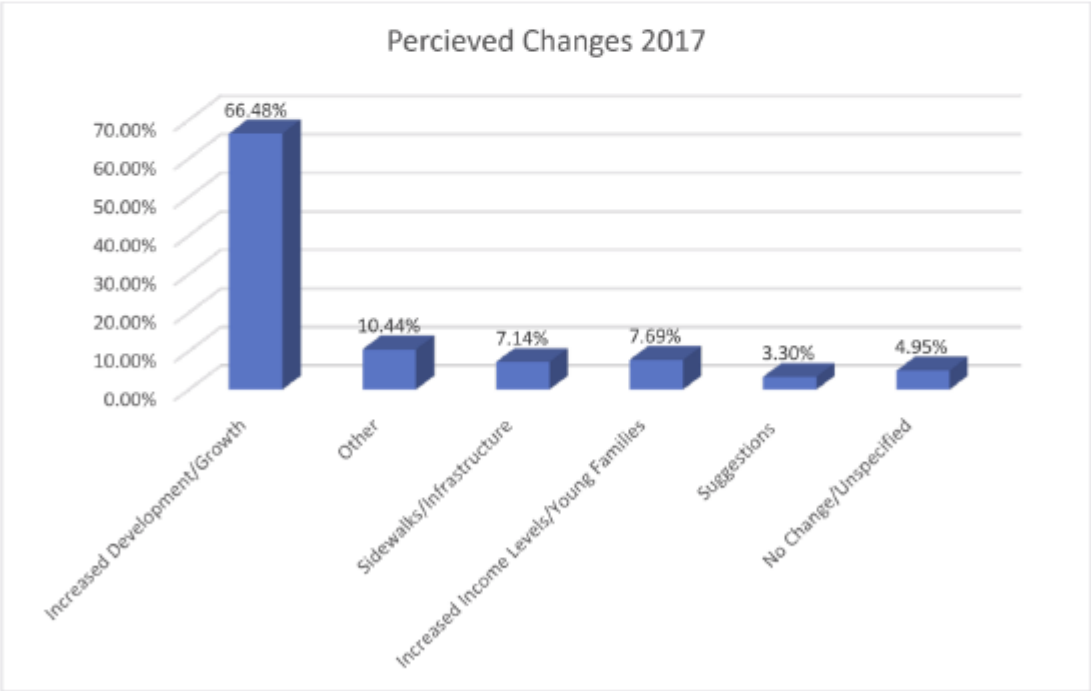
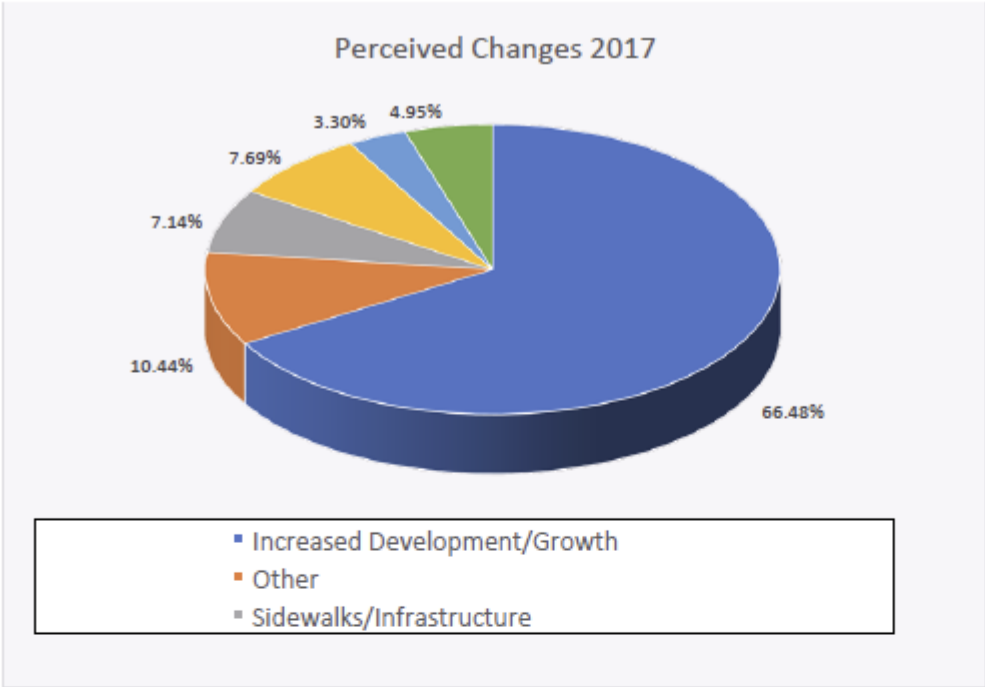


Question 4

Do you consider Pembroke to be a Town in Transition		
Answer Options	Response Percent	Response Count
No	37.3%	100
Yes	62.7%	168
If Yes, please describe the changes you perceive		159
answered question		268
skipped question		9

Do you consider Pembroke to be in Transition? 2017





Open Responses:

Increased Development/Growth
 More (too much) housing and commercial added every year.

Older folks retiring, selling. New generation moving in, buying.
The town has gone through a major growth spurt since I have moved here.
Population growing too much development growth
Many new homes being built;
More school age children so larger class sizes
More retail
Influx of new residential & commercial development
Over crowding
Homes being built in the last 15 years are substantial. Homes are not being built for under 500k. More family oriented.
Growing larger
Over. Development
When we moved here it was more rural. Have noticed more and more commercial construction- which worries me as we moved here to get away from that.
Too much new housing going in too fast
Too many new homes
More developments (housing)
Growing from a small town to a big/small town more commercial building, more housing, Industry, multifamily housing
Concern about the recent increase congregate type housing replacing so much of the woodlands. I fear that there will be more of this, which will change the rural town still has some rural qualities, but losing them
Since we moved here 45 years ago Pembroke has changed from definitely rural to not quite suburbia. New businesses and more traffic.
Growing along with surrounding areas
It is rapidly losing vegetation and free land to more and more buildings. I used to love to take drives through the town to look at the forested land and now there is really no where I need Pembroke to do this.
Too many condos and corporate building
There looks to be a bunch of construction happening on Oak Street,...and I seem to be more and more interested in how the town works.
Population growth causing increased staffing of emergency services.
New housing
An emphasis on acquiring open space yet developing commercial businesses on Rtes 53 and 139.
Not good changes...too much building.
The town is growing.
More business has come into Pembroke. Too many apartment/condo complexes. Increased population being developed quickly
Becoming more modern/city-like. Building
Growth a little too much development and condos. Nice to keep woods and farm land
A growing population that requires changes to be able to accommodate them.
First time home buyers moving in...
Traffic/vehicle speed are becoming issues. Concerned about appearance of center/community building/area beginning to look tacky.
22 years ago when I moved here, Pembroke was a rural town. As Boston has grown and spread, Pembroke has as well. Lots of development

Increased traffic: major road repairs, increased need for traffic planning/lights/routing. Changing from farms & bogs to more densely populated. Changing from rural to suburban Too much development.

Too much development, Modernizing, developing.

More development forcing a larger infrastructure over-development and loss of trees and nature

Increased development! Our own high school, increased traffic

More modern dining and shopping

A lot of building

I grew up on the Pembroke line in Hanover. Since that time, and since moving here, it seems Pembroke has been building...a lot. Roads are congested, the town has its own high school now (yes, some time, but still evidence of change) and larger developments. More neighborhoods being built.

Too many new buildings/houses. I like the small town feel. Unfortunately new developments are ruining the town.

More people moving into Pembroke

Growing and developing

Too many housing developments being built

Becoming overgrown

Getting bigger and requiring action to keep it from becoming overdeveloped. The

Building of houses between existing houses. It's sad.

Yes I see more fast food places, more stores, condos going up since we moved here.

Population growth, like mad.

There's a lot more traffic than he used to be in a lot more houses than they used to be on the streets cannot carry that load can't carry that load.

More developments

Too many houses being built, not enough business to support the needed tax structure; too much natural habitat being destroyed.

I see higher density development,

Building up

Getting to populated

More condos, More stores going in. A

lot of new building, especially condos.

Too many multi dwellings going in business districts too big taxes rising and services insufficient

A lot of building and changes going on. We picked Pembroke because it was a more open spaced rural town.

It's been in transition for 40 yrs! Too many condos, need to slow down.

From a small town to a medium town

Population growth yet fewer children and growing senior population.

Growing from a rural community to suburb

New construction or tear downs to rebuild is growing.

It's getting busy in this town since I've moved here.

Less rural and more suburban.

People moving in.

It's unfortunately transitioning from a rural community to a much more congested place to live. The traffic is terrible, and all the old farms have been

bought and built into sub developments. Happy the selectmen put a moratorium on multi-unit structures, wish it was longer than a year.
More building though I wish they wouldn't like it quiet
Too much construction
Younger, More, wealthy people in town.
Changing demographics and increasing commercial areas
young families... up and coming place to live a lot of
construction happening now from a rural town to a more
suburban feel
Growing town, desirable community. More affordable than some surrounding towns
New sidewalks and over development
It is getting built up more and more and losing the country charm it once had.

Suggestions

Move to develop a more family friendly town
Fix community center

We need a town manager, a DPW commissioner that cares about our roads and town commissioners that care about the community. There are too many neighborhoods being subjected to constant construction traffic. Would like more for kids and families and more fitness trails, etc

It has potential if we expand industrial park, connect Oak Street directly to the 14/53 intersection and use that land for more retail/office and industrial. It also eliminates the need for a light at Pleasant St/Rt 53. That would give much easier access from Rt 3 to downtown Pembroke and open up more commerce in the downtown area.

I hope to see more improvements in the center. Recreation Building especially.

No Change/Unspecified

There is no transition (the town is stuck in the 1950s)

No

It seems it is
ever evolving

A transition to what?

ALL OF SOUTH SHORE IS IN TRANSITION

It would be nice if it were though.

I hope it becomes a more desirable town to live in.

With the reduced availability of land, and limited amount of commercial property, the Town is faced with some major decisions regarding the future path of re-development to try and keep taxes down but invest in infrastructure and schools more effectively.

Sidewalks/Infrastructure

The sidewalks near the town center. And info I've heard about recent developments prior to moving here

Needing upgrades to town facilities and slowly getting them. Sidewalks more sidewalks and better access to schools and town buildings

Well they are redoing sidewalks, and hopefully dredging the ponds for longevity sake. So it's improving.

With the recent renovation of town center and the addition of sidewalks. The town is slowly turning from a rural town to connected community.

services need to be updated to meet the needs of our growing population
sidewalks, more street lights The sidewalks are being put in and
affluence coming in

More young families moving in. Creating a need for more family oriented space
It was a sleepy town with lots of summer housing; now more families are moving
in.

Updating PD & FD to support the growth of the town. The need for more traffic
control

Other

Less like New Braintree and more like Hanson/Abington.

I worry that it could become a town in transition if we are not very careful with our
development.

The school system has developed over the years

I believe the town is very up and coming with a bright future.

I don't like the increase in overdoses and I don't like the increase of crime due
to lower class citizens.

Sidewalks necessary due to loss of safety in doing pedestrian/biking activities.

No need for sidewalks at the expense of trees

Updating roadways and utilities, dredging ponds as needed

I appreciate the improvements our Town is always striving to make, thus making
us a town in transition.

Balancing the changing demographics and related demands. Basic needs versus
extras.

School system needs development

People are moving down here thinking it's a big town when in reality it's a small
town in the woods

We hope it's a town in transition. The roads are in terrible condition and the
town buildings are lacking in renovations and curb appeal. The long-time
residents of Pembroke seem to really be resistant to change and making the
appropriate steps to beautify the town. In comparison to the surrounding
towns Pembroke really falls behind. My husband and I are considering a
move unless the appropriate changes are put in place soon. Mixed ethnicity.

Increased Income Levels/Young Families

I would say the average home income is going up.

Much more name recognition. There has been a huge influx of white collar
families that have moved here since we bought our home in 1997. Traffic has
increased substantial along Route 139. Desirable businesses have opened their
doors here and done well.

I feel it's an up and coming town. 5 years ago homes were cheaper in
Pembroke, it's getting expensive now. I believe it will be a town that's hard to get
into for less than \$400 soon enough.

As in the general population there is an obvious economic disparity between the
wealthy and the lower middle class that I see growing here as well.

Higher priced homes and young families moving here that want a progressive
town and a better sense of community

More young families moving in

I believe the school system is improving according to statistics and that there is an increase in younger upper middle class families. More young families are moving in. More upscale neighborhoods

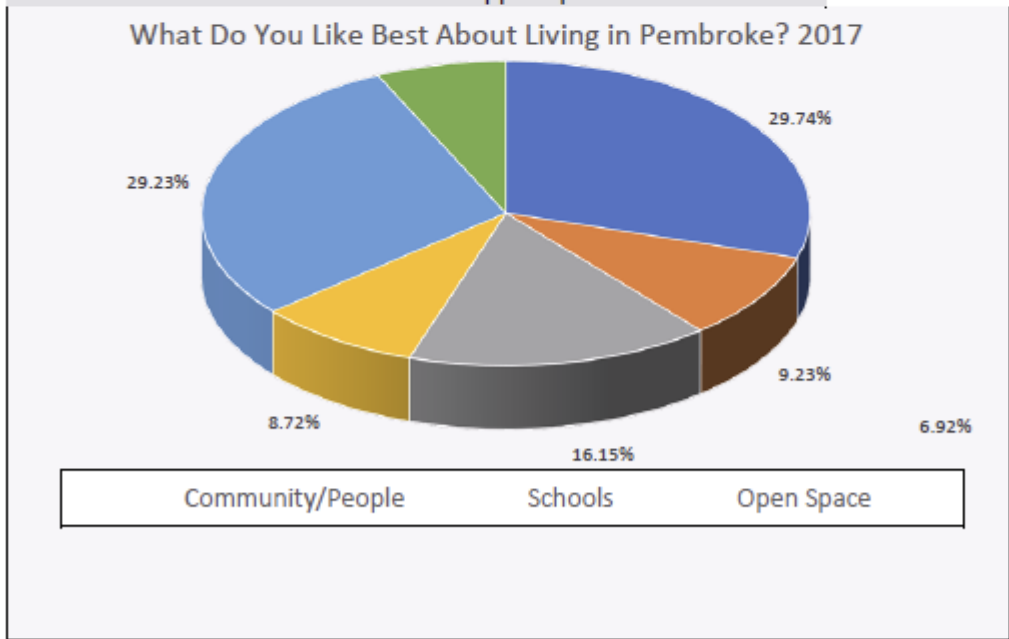
I think the population is growing with a lot of younger people.

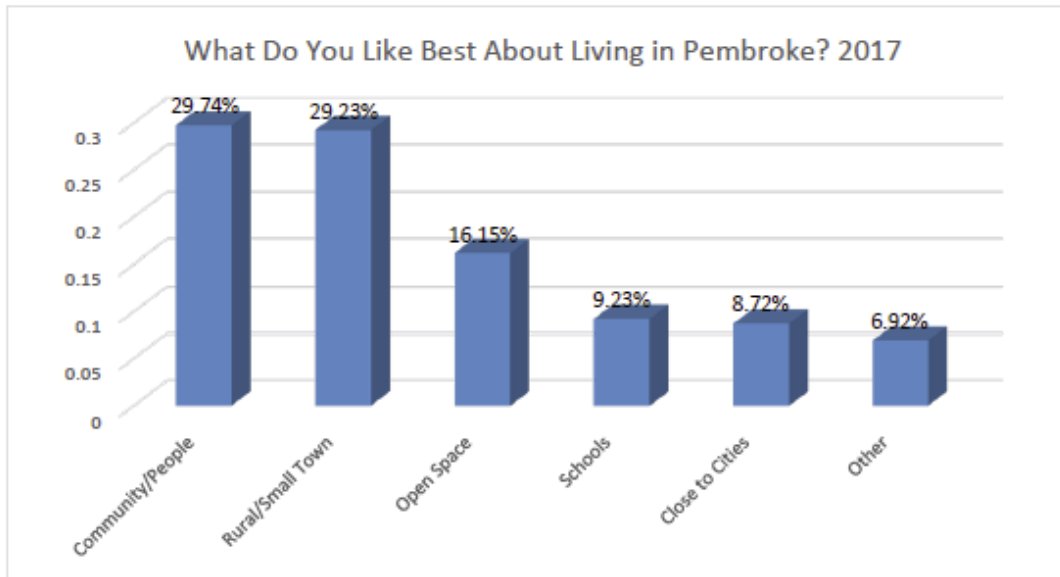
Young families are taking the place of the presiding elderly community.

It is changing with the recent growth 10-15 yrs and number of new families

Question 5

What do you like best about living in Pembroke?	
Answer Options	Response Count
	258
answered question	258
skipped question	19





Open Responses:

Community/People sense of community; people

helping others in need

The people! Very committed to helping the community

The people.

Nice people.

Community spirit.

The people.

Have had good experiences with helpful fire and police as well.

Small community

The events the town puts on in the town center. Very family friendly community friends.

It's a comfortable, low crime, friendly town. I especially appreciate the consideration and support provided to our senior residents

The people

Sense of community;

The families.

Even with all the growth this town has had, the people for the most part are very caring and kind.

I like the people, most.

In general people are friendly, there are still some locally-owned businesses able to do well.

The people.

Community activities on the green & elsewhere . . . People . . . Wonderful neighbors and friends

Nice mix of people

The people

Pembroke is a small and tight knit community.

Also great communication from the town via Facebook, website, etc.

I like the close knit community
It has a great small town community. We love the town events like the fish fry and the trunk or treat.
Nice community.
Low crime nice
people.
Economic diversity, nice people, My neighborhood. I love my neighbors. Not snobby despite
median household income is 95k, lots of volunteers and I feel at home here The kind
community.
It's (mostly) quiet. There's also a sense of community, which I value.
Wonderful people.
That's it's not all rich people and a diverse community and
solid police dept.
People
The sense of community
Safe, quiet Family
oriented
community
Community
I like our neighborhood because he's quiet and very safe compare to a big city.
Strong community aspect
Nice community with everything we need
Small, friendly and safe. Great location & the people
community spirit and pride in high school sports and clubs
friends we have made
People. Great sense of pride and willing to help anyway possible.
Can be quiet at times.
The people.
Relatively quiet, laid back, low crime
That it has a diverse range of people.
The friendly people, and the relaxed lifestyle
It's pretty quiet,
Diversity of residents, my own neighborhood
Quiet nature of the town.
Some nice people we've met.
The people
It's a middle class community. Crime rate is low.
The community
Strong sense of community dark and quiet
at night. Good neighbors. It is quiet and safe
and people are generally friendly and caring.
Other Residents/youth sports programs
The town comes together in times of need. People are outgoing and will help a neighbor in need.
Involved community
The feeling of community. It's a blessing and a curse.
The people
Quiet community with lots of wooded areas
Great community of people, involved families.
My neighborhood.
It's peaceful, beautiful and friendly.
The community, the activities and ways to stay involved.
Community and people, specifically young families joining town.

find arts program. good schools... Good schools The schools, school system the excellent school system
great schools and good schools.

schools great

schools

Good schools

I like all of the teachers I've met. The school systems small class
sizes for my kids Great schools. great schools, Schools good
schools like that I can send my kids to the same school I went to
as a kid.

good schools. The

school system

good schools

Prox. To Boston/Cities Close to highways, and
Boston. but still proximate to Boston, beaches, cape,

Plymouth proximity to my job

distance between Boston and the Cape

Close to Boston and Cape Cod access

to Boston.

It's proximity to other places.

Distance to Boston & cape cod and

it's just close enough to Boston.

The commuter rail to Boston

the proximity to Boston, the Cape and beaches and

convenient location. but access to Boston or Cape

Cod isn't too far away.

You can commute to Boston, Plymouth, Brockton, Taunton, or the Cape for work, Location

to Boston and cape.

close to Boston and Cape Cod.

proximity to the ocean.

yet close to Boston

It's in the middle of everything, beaches, plymouth, weymouth etc.

proximity to ocean, boston, cape near highways. near ocean

I like that there are many public transportation opportunities into Boston and like that it is close to the ocean

Location to Boston and Cape, proximity to Boston pluses of being able to work and play in the beautiful city

of Boston easy commute to boston proximity to Boston & beaches

Proximity to Cape and City Close

to the beach and Boston.

Close to lots of places beaches & Boston

still accessible to the city..boston f2f close

to highway and Boston

Location - relatively close to Boston & the Cape, close to the ocean.

Open Space

clean air, quiet, trails open spaces still exist. there is still

some room for wildlife.

Open space, hiking trails, large swaths of undeveloped land

Ponds

Trails and ponds are beautiful

Walking trails and open land;

Open space

Walking trails, swimming in ponds ponds,
woods, bogs, (walking trails) ponds;
Open space.

The places to walk.

Open spaces for walking

I think it is equally important we have walking trails lots
of trees, nature, beauty

I enjoy the open space and pray it does not change. Great
library Great sports fields Town Landing/Boat area The
conservation areas!

in nature but close to highways

The rural open spaces like Willowbrook and Herring Run

Green space, nature preserves

Woods and water

The ponds

By the beach, Walking
paths plenty of outdoor
areas.

The nature, hiking trails, and proximity to cool spots including the beach

Quiet, open spaces, the cranberry bogs (almost all gone, now),

great parks and walking trails and beaches at the ponds.

to be able to walk my dog on its many open spaces. Also love to take my kids swimming at the ponds

Several conservation areas.

The ponds

The lakes and forest areas.

and there is some fantastic open space

Open space and that we have places to walk/hike that are not a mowed grass field like s town park would be. great
wildlife and natural ponds and rivers with protected wetlands.

Its open spaces

I moved to Pembroke because of the Wildlife. I deliberately chose my home down on the North River for that very reason

Farms, open space.

open spaces

I like the open spaces and amount of trees.

Being near the ponds and water and open

spaces great open space The lakes and

forests beauty of the land Trees and farms.

Also love all the ponds and water

I love all the trees and space between houses

like to take walks in the nature trails the trees

and nature all around amount of open space.

Open space and walking trails

places to hike, bike and walk. beautiful ponds. scenic horse farms. peace and quiet

Open space remaining open space. Ponds. Land conservation.

conservation areas the

good outdoors.

The trails

Open spaces, ponds, open

space

Rural Quality/Small Town lots

of country feel

Small town feel,

Small town with activities for kids, safe
It was the quiet, rural area but this atmosphere is rapidly disappearing.
10 Being quiet & all the tree 2/16/2017 7:59 PM
It's not an over-developed town like nearby towns such as Hanover which have virtually removed every piece of . . .
Small town feel
Was rural
Quiet and peaceful. Enjoy the areas/places available to walk. Happy that the center was renovated
small town feel
Rural feel
Quiet living but close to everything
and small town feel quiet,
quiet
Small town feel but
still a small town
The rural feel to the town
Being away from the city, all the trees
Farming community
1 acre lot regulation
The farms, the space, the feeling of being more rural but having shopping conveniences so close
It's a fairly quiet town, with a lot of family oriented activities, and everything is really close. Small
town, and how quite it is.
The quiet rural feeling yet close to most amenities.
I liked the ruralness, but that's gone. the trees and the historic preservation
aspect of town buildings and spaces
I love the small town feel. Typical acre lot size. Town "center" (minus the ugly monstrous CVS)
The pseudo-country lifestyle. Small town feel involved families, small town feel. There is not a
lot of traffic except in a few main areas.
I like the feeling of a tranquil setting, quiet back roads and farms
Small Town Living
I love that it isn't overdeveloped. It keeps the small town charm country
town
It's scenic, peaceful and quiet,
It's a great little town
Quaint features
Everything i need close by. Overall town atmosphere
The small town atmosphere
I love what remains of the rural characteristics.
The small town atmosphere charm still exists but sometimes feels like it's fading Quiet.
Private. Lots of space to have my mini farm!
The quiet and the small town feel, activities on town green etc
Feels rural but close to everything. and small town feel.
beautiful surroundings, , quiet atmosphere
Small town feel
It's a quiet little town
Small town feel The
small town feel.
It's quiet and away from the city
Far enough away from suburban Boston to keep the small town appeal.
Small town feel.
The undeveloped tracts of land that gives it a country feel.
Small town feel
It's a quiet town. However there is a lot of activities around town and in neighboring towns.

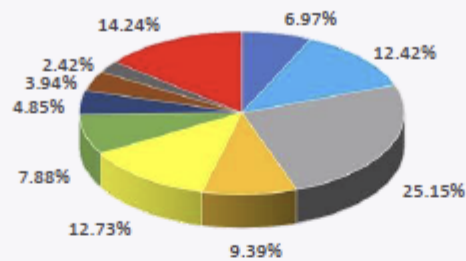
Large yards/houses
Small town feel
semi-rural
Country feel but still near highways.
Small town, affordable,
Ruralness
The small town
Very accessible, historic and scenic
Small town for now
I like the small town feel.
My neighborhood has rural charm,
I like the combination of rural and residential, blue-collar and white-collar I
like small town feeling where community is key.
Quiet rural neighborhood
The history and small community feel Rural
nature. Larger lots.
That it feels like the country yet has amenities of the city.
The small town atmosphere where u can still shoot a firearm on ur property
Small town feel
Small, affordable Be a
small quaint town rural
nature large, 1 acre lots,
or more.
Quiet small town.
I like the rural feel to it without it being in the middle of nowhere small town feel
The 'rural' feel - lots of space in a rural community yet close to many amenities
and conveniences. Small town feel.
the "small town" feel
it's low key Small
town feel, quiet,
wooded small town
feel
Rural feel,
The quaintness of the town and the country feel. still
has a small town feel.
Rural, but with easy access to stores and transportation.
I love the small town feel,
I love the natural, country environment and the prevalence of historic/antique properties and structures
The small town feel with many conveniences small-town feel, quaint
small town feel, still close to everything I
like the rural atmosphere.
Has a nice small town feel
It's quiet and it feels like a small town.
It's small town feel
The small town feel
Rural character, small town feel. Quiet, feels safe.
The rural feel
It's country
Farmland, woods, scenery, small town feel, small
town feel
Safe, quiet
Quiet town.

other
 Christmas tree lighting.
 stores
 It's History, Homey friendly town.
 Too many condos
 My yard. The library
 It gives me the enjoyments of life without going anywhere. Balancing
 this are good restaurants and convenience to shopping The
 familiarity.
 More land for price.
 Everything you need is close.
 Cost of living.
 but with plenty of shops and amenities in close proximity I like
 that's it not cookie cutter neighborhoods or subdivisions.
 Quiet but accessible.
 Proximity to everything.
 Lack of traffic lights.
 It's convenient, Location -
 close to everything and
 location Plus the closeness
 to Rt 3.
 youth sports leagues pyh pyb pyc IT'S
 MY HOME
 The wildlife.
 It's location.
 Cost of housing size of lots space Proximity
 old historical homes

Question 6

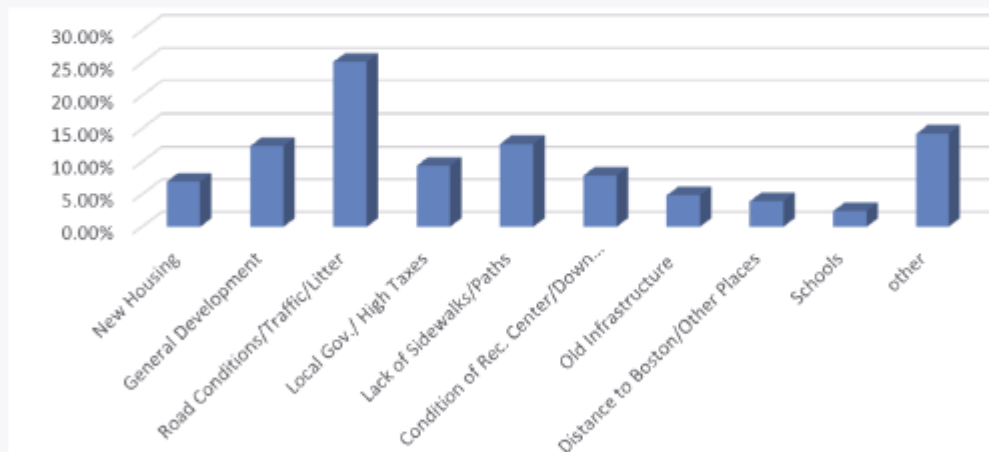
What do you like least about living in Pembroke?	
Answer Options	Response
	Count
	249
answered question	249
skipped question	28

What Do You Like Least About Pembroke? 2017



- New Housing
- Road Conditions/Traffic/Litter
- Lack of Sidewalks/Paths
- Old Infrastructure
- Schools
- General Development
- Local Gov./ High Taxes
- Condition of Rec. Center/Down Town
- Distance to Boston/Other Places
- other

What Do You Like Least About Pembroke? 2017



Open Responses:

New Housing New
residential development

too much expensive housing happening too fast
Too many condos being built

all of the new apartment and condo complexes being built, too many neighborhoods going up
Apartment buildings. Large developments. Lack of affordable housing (specifically rentals),
affordable housing complexes
Too many housing projects popping up.
The condo/apartment buildings going up everywhere. The tree cutting everywhere
More residential building.
The houses being built. The fact that a builder is tearing down acres and acres of forest and ruining
neighbors lawns
Too many McMansions being built, too many condos going in
Over populating the town
Influx of condo/apartment buildings
Too much population growth in too short a time.
Not liking changes and build ups of condos and lower income housing
Proposed 40B project on Water Street
The construction and town houses being built everywhere expansion/population
growth is infringing on the niceties
The constant knocking down of woods for more houses
I am worried about all of the open space that is being developed with the chapter 40b loophole. The
news condo developments seeming to pop up everywhere. They are too congested and tax the
infrastructure.
Too many new condo developments.

New Gen Devel.
building up to be like every other town in the us
New developments
I think the Center looks awful.
Unrestricted growth along Rt. 53, tacky signs history of the
town is being tore down. Nothing modern is nice.
The growth and development. We have enough.
It's becoming built up, losing the rural feel we moved here for The
development The number of trees being cut down.
Growth and overbuilding.
the amount of building that is happening.
Building Boom
The development of all the land
We don't like that it seems that builders are building on any and ALL open land.
Too much development
Some areas are underdeveloped and a little trashy.
ugly developments,
near stop and shop/Lowes neighborhoods around the ponds are over developed The
clearing of trees for new buildings.
The over development of the town.
Building up
How it's building up too fast.
The way it is being built out.
Construction and the fact it's growing
All the development always a push to
build something.
Recent over development
Our area is being over run by developement developments are popping up all over
the place ruining the rural quiet feel of the town.

The threat of overdeveloping and having rt 53 turn into Hanovers rte 53- crowded, abandoned businesses
The fact that there is so much construction off condos, and businesses

Over development in areas

Lack of major industry (local jobs)

That we are losing our charm with more and more condos, office space and becoming less and less family friendly.
and loosely regulated construction of buildings constant development

The constant construction and new builds.

It's getting too built up, everywhere you drive there are new developments going in. Slow down!

Pembroke is being built up, we are losing the open spaces where wildlife live and our families can enjoy.

Starting to lose small town feel due to development Getting

too big, every available space is being built up.

All the new retail

Road Conditions/Traffic/Litter

The road conditions year round are poor

Roads are terrible The roads!

The roads are awful to drive on.*] The
roads!

The roads are in bad shape!!

The condition of the roads

The roads in general could use some repairs poor
roads

Widening roads Ahh

the road work...

horribly paved roads

Terrible condition of the roads.

crumbling roads

The roads at the moment.

The roads!!!!

the horrible road surfaces street

conditions

The deplorable condition of Cross Street

Road conditions and the roads. They
are horrible. Roads in bad shape, the
roads need repaired

The roads are pretty rough

Some of the main roads are frankly in awful condition at the moment The
few access roads are all congested and in terrible condition.

The roads are in such horrible shape, all over town.

Traffic lights and road conditions

The potholes-DPW refusing to fix the road, I do not know why????

The crappy roads. Roads/infrastructure the roads are terrible
roads.....poorly plowed,not maintained well

Roads,

The potholes

The road itself is almost undrivable now with the uneven asphalt
badly maintained roads the roads.

The roads are poorly kept with high taxes.

The current condition of Centre Street

The roads are horrible. The roads on rt.

14.

The terrible roads
Road conditions, fast
traffic, rude drivers
speed of vehicles on roadways, especially Rt. 14. Dangerous
Traffic in center
How fast people drive Traffic
in center.
pick-up trucks with loud exhaust, lack of vehicle speed enforcement
the new rotary, more traffic how fast people drive
People speeding in my neighborhood and dumping trash along the roads. people
coming up Mattakesett from the center zoom on when they don't have the ROW All the
new traffic lights
The left on 53 needs a street light. I see a lot of accidents there
Increased traffic,
I dislike the traffic lights in the center. I dislike the lack of a traffic light at 53 and Elm.
drivers tailgating traffic near where I live
How fast people drive on my street.
The traffic at the center,
Increasing traffic
The busy roads
Traffic
Population growth is causing unmanageable traffic problems on all the main roads.
Traffic is worsening. No light at Pleasant Street and Rt. 53.
Traffic has been getting worse
Additional traffic during peak hours
New construction of needless projects and greedy builders who want to destroy this town's ambiance
traffic along 139, and the new traffic lights in the center, and planned for Pleasant street.
Also the lights downtown could be the worst I have seen anywhere with 3 lights within feet of each other
Route 14 is getting so busy on the weekends and "rush hour", especially through the center of town.
traffic has become quite an issue
Pembroke seems to need some safety issues addressed with traffic
Traffic in the center of town route 3 traffic going in and out of
boston traffic
The speeding traffic on all our roads. speeding
traffic
people littering on the lawns
I hate the litter problem
Issues with trash/litter/large items getting disposed of on side roads

Local Government/High Taxes Shortsighted
leadership
Ineffective government.
Sometimes I feel that our town planning is short sighted. They see a quick monetary gain and loose the
interest of the towns long term goals
corrupt selectman and corrupt town officials and useless police. higher taxes than Duxbury How
slowly it takes for the town to make changes for the better.
Feel as though the people who run this town are for themselves only. They are crooked.
No money in town for schools, traffic lights, sidewalks, police or fire dept.
Town hall politics
Needs to be run more professional.
I hate how the DPW does not clean the streets I don't like how the Board of Selectman turns a blind eye
to the problem

The waste in town government
small mindedness when it comes to zoning and preservation
The poor decisions being made by the zoning board managed
by town leadership.
The workers at the town hall
A lot of conflicting priorities for budget resources: fire station, police station, school turf project, community
center
I don't like that the town bought the parcel of land on the corner of 14&53 and didn't tell the residents it was
for the future fire station
It's need for an improved style of government
Lack of transparency among leadership (rarely share details of decision making) entrenched board of
selectmen
The taxes are very high. Almost \$4000.00 for a 1000 square foot house with no basement
Taxes and fees
High taxes
High Taxes High taxes high taxes
high taxes. tax rate that's gone up
5\$ per 1000 High taxes
i think the taxes are high rates comparable to Duxbury without comparable standards of scenery,
historic preservation of town buildings/center school system -taxes are high for what you get (or
don't get)

Sidewalks/Paths

Lack of sidewalks
Not enough walking, running paths Not
enough sidewalks.
nice if there were more sidewalks
Not enough sidewalks.. No
sidewalks lack of sidewalks, Not
very walkable
Not enough side walks
Lack of sidewalks,
Sidewalks are being put on a street where there are no schools Lack
of sidewalks in town.
not having sidewalks that go from the schools to main roads.
Lack of sidewalks, especially joining our schools to neighborhoods...
I am concerned about safety when out walking.
Lack of sidewalks. I can't let my kids walk or ride their bikes to friends' houses
Currently, route 14 and the fact that we were promised sidewalks 11 years ago and they've still not been
put in.
the lack of sidewalks in and around the schools,
Lack of sidewalks
No sidewalks near NPES/Oak St No
sidewalks or strong town center.
wish there will more sidewalks a more of a "town center".
Lack of sidewalks.
Lack of a real downtown area and limited sidewalks or paved trails. 2/6 and
the lack of sidewalks.
Not enough sidewalks near recreation areas, such as playgrounds
lack of sidewalks The lack of sidewalks.
No sidewalks!
No sidewalks!

No sidewalks, hard to get around without a car, pretty sleepy
Lack of sidewalks around the middle school and high school for kids that want to walk or ride bikes to school. sidewalks Lack of sidewalks!
No sidewalks.
I also do not understand the construction for sidewalks on Rt 14
lack of sidewalks, sidewalks
Limited sidewalks
Lack of sidewalks. Ability to walk without taking your life in your hands
No sidewalks to enjoy a stroll lack of sidewalks

Rec. Center/Town Center

rec building/community center in town is horribly run down
Com. Center is in dire need of an upgrade and is a waste of potentially useful public space.
Old Recreation Center/
The Rec center is disgusting and should be torn down,
The dilapidated Recreation Center building the Rec
Center.
the community center building.
Rec center building is an eyesore in need of major overhaul
the biggest eye sore is the Community Center community
center all in rough shap Too many lights in the center.
I think the buildings on main street could use some repairs
Town Hall needs updating-they are great spaces with so much potential.
The center of town is a nightmare, needs to be fixed. If you want to buy open space, buy the building
housing dunkin donuts and make it open space
The center has such potential but the buildings are lacking in curb
No real town center,
The center of town needs to be modernized, incl police department.
It has an aging downtown with the community center but has a tremendous opportunity to define the town center
The center of town needs some revitalization, The fields at some of the schools are terrible and town needs
some beautification.
Doesn't have a good community center.
The senior center needs to be updated to be accommodating like the other towns.
The run down buildings in town center
Lack of a great downtown area - would love to have a downtown like Plymouth or Cohasset It's
lack of a true town center.
lack of visual cohesiveness of PemCenter and
the lack of a really vibrant town center.

Old Infrastructure

The lack of modern facilities.
general infrastructure updates needed.
The outdated Public buildings (library - excepted) The volume of trash on the side of roads
Need more street lights
Older town infrastructure
I live on a pond and have a tight tank and would LOVE to have sewer septic
systems
Town is growing but infrastructure is not keeping up
Limited transit
I don't like how run down our town looks No
investment in town improvement.

infrastructure generally Lack
of transportation
and limited infrastructure (wide roads, sidewalks (not just 14
Litter, crumbling municipal buildings,
Lack of amenities and services

Schools

The schools cannot absorb the high number of students
Schools- middle & high. NPES is the best, if the rest of the system was as good as this school we would
be all set
high school is not great I'm
unsure of the schools
Inconsistency amongst elementary schools. Feel schools are disjointed and could do better job sharing
best practices
No vocational school
A lot of different school district
The schools seem further behind the time than they should be

Distance to Boston/Highways

How long it takes to get to the highways.
To try and go anywhere out of town is so difficult and time consuming.
far from Boston
Long commute to Boston for work ??
Long commute to work
Commute to work on RT3 north in the morning
It's farther from Boston and not very convenient or affordable to get downtown. But I knew that, moving
here...
The distance from Boston
Not coastal.
The commute to Boston is difficult. Driving is terrible and the commuter rail doesn't run a frequently as
I'd like it to.
the commute into boston It's a
good drive to get anywhere
Distance from highways.

Other

The people
I find the drug/opiate issues to be a major concern in the south shore
The drug problem.,
The next door neighbor,
Resistance to change
Would like to see more recreation programs
Losing the home town feel Only Comcast
for cable. not sure
Not a lot of diversity
There is not a whole lot to do for teenagers
lack of diversity, and lack of a willingness to change with the growing
The degeneration of our ponds. Huge recreational, aesthetic, natural resources...turning into smelly
swamps all the drunk drivers and drug users. every street is full of liquor bottles in the street.
not enough for kids besides sports

The increase in lower income Makes me want to move to snobby areas. Maybe they were right.
 Dirt bikes and the sense of divide that occurs once past the Center heading towards Halifax.
 Would like to see lands up for sale bought by the town in order to stop this for more parks
 Not much to do
 Lack of neighborhood unity
 Mentality that this is still a town that has 10k residents and is a small town.
 People who do not want our town to progress lack of programs I see in surrounding towns. no open and safe space for ATVs/dirt bikes
 That there isn't a skate park or street hockey area for the kids neighbors in the Wampatuck area, it looks like the ghetto it's disgusting, it needs to be fixed up or segregated by fences.
 beautiful town but the litter makes it look like a ghetto (ghettos are actually LESS littered). I
 I was surprised that so many residence have a distrust and lack of sympathy for people who don't look like them.
 The lack of diversity (racial, religious, socio-economic)
 I do wish we had stronger community pride.
 People think it's better to live in a more upscale local town. That bugs me I don't want us to be viewed that way.
 Still an expensive south shore community.
 I dislike all the political signs
 the idea that it's "hick-ville" and the people and "low budget"
 Losing small town charm
 Would like more for kids, skate park, pool, clean ponds, more facilities at ponds, parking, bathrooms etc.
 Comcast exclusive TV so no price competition from Verizon
 The fact that once the town puts land into Conservation status it neglects is
 Lack of racial diversity
 Taking away more open space and limiting that open space to its use. lack of down town stores
 I would like to see more small shops.
 Needs more restaurants Not enough restaurants.
 lack of restaurants
 the lack of actual GOOD restaurants Lack of restaurants and things to do.

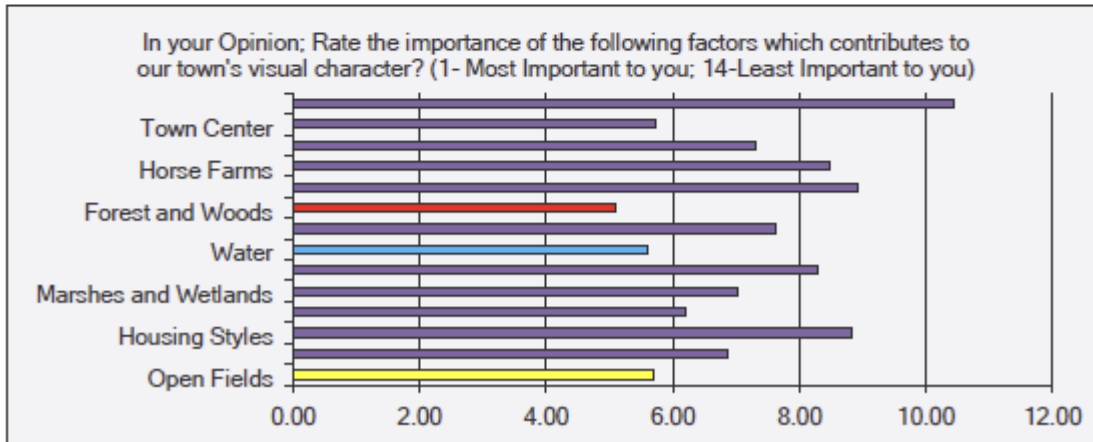
Question 7

In your Opinion: Rate the importance of the following factors which contributes to our town's visual character? (1- Most Important to you; 14-Least Important to you)

Answer	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Options														

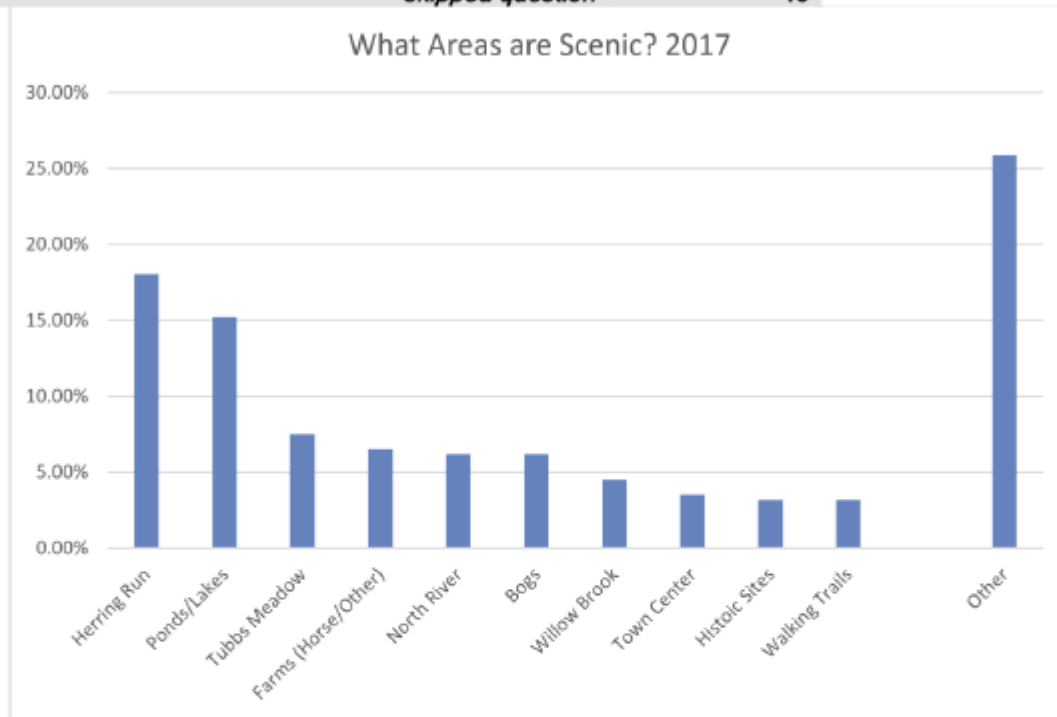
															Ca	g	u	e	nt
Open Fields	27	21	23	26	33	17	16	18	10	8	10	11	3	6	5	-	2	2	9
Farmland	15	16	22	21	17	21	25	17	12	16	12	15	14	7	8	7	8	2	3
Housing Styles	10	14	18	7	8	15	17	13	17	16	11	15	30	40	-	2	3	1	8
Treed Streets	16	23	19	24	17	22	19	24	19	12	5	11	5	5	-	2	2	1	0
Marshes and Wetlands	18	16	16	17	20	17	20	14	15	18	19	13	15	6	-	2	2	4	0
Cranberry Bogs	3	6	14	16	20	18	18	15	23	18	24	21	18	11	-	2	2	5	9
Water	33	33	17	20	16	22	15	8	14	16	10	9	9	1	5	9	7	2	3
Views	9	10	19	12	17	18	19	26	22	21	13	16	13	10	-	2	2	5	6
Forest and Woods	33	40	29	23	15	18	17	13	12	9	3	6	7	6	5	2	3	1	0
Stone Walls	1	7	9	13	16	12	18	20	21	27	31	19	25	14	8	2	3	3	9

	4	11	17	17	12	13	18	21	20		21	18	29	20	18	8	2
Horse Farms																4	3
																7	9
																7	
Historic Sites	7	14	27	20	23	20	10	18	15		25	20	19	12	7	3	2
																1	3
																5	7
Town Center	67	26	17	18	12	10	14	8	10		12	19	12	14	12	7	2
																3	5
																1	1
																0	2
Cemetaries	7	11	6	10	12	5	10	11	11		11	15	24	35	85	4	5
																4	3
																4	
answered question																	2
answered question																	6
answered question																	6
answered question																	8
answered question																	8
skipped question																	9



Question 8

What areas around town do You consider to be scenic?	
Answer Options	Response Count
	237
<i>answered question</i>	237
<i>skipped question</i>	40



Open Responses:

Ponds/Lakes

75

(Cranberry) Bogs

37 North River
 37 Horse Farms
 39 Herring Run
 108 Town Green
 8

Willow Brook

27

Tubbs Meadow

45 Town Center
 21 Rivers

		-
Other Towns		
	1 Rt. 14 Parks and Forests/Barker St.	
	15 Open Fields	
	7 Walking Trails	
		19
Cedar Swamp		1
Farms		
	15 Indian Head River	
		8
Woodlands		
	11 Wetlands	
		7
Town Landing		
	4 Historic Areas	
	19 Center Cemetery	
		5
South and West		1
O.S. on West Elm		
	9 Ball Fields	
		3
Windswept (?) Bogs		
	1 Elm Street	
	2 Center Street	
		3
High Street		
	10 Oldham Street	
	1 Taylor Street	
		3
Community Center		1
North Pembroke		
	2 Furniture Store on 53	
		1
Parks/Preserves		
	9 Tree Lined Streets	
	2 Dwelley St.	
		1

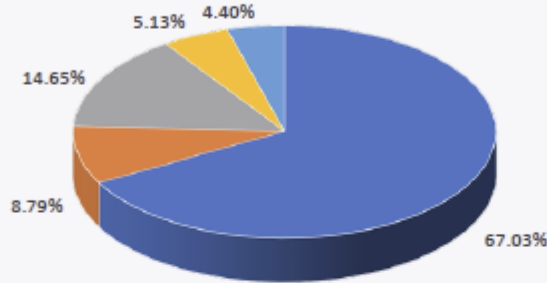
Bird Tower	1
Elm and Monroe St.	2
River Run	1
Back Streets	1
Luddham's Ford	6 Village
	1
Mattakeeset Rd	3
Chandler Preserve	1
Streams	1
Misty Meadows	1
Wood (Wild)lands Trust Conser.	4
Tucker Preserve	4
Meadows	1
Church In Town Square	2
Meadow Brook	1
Halifax Side	1
Kenny Lane	1

Question 9

What do you perceive to be currently threatening Pembroke's Natural Resources and visual character?

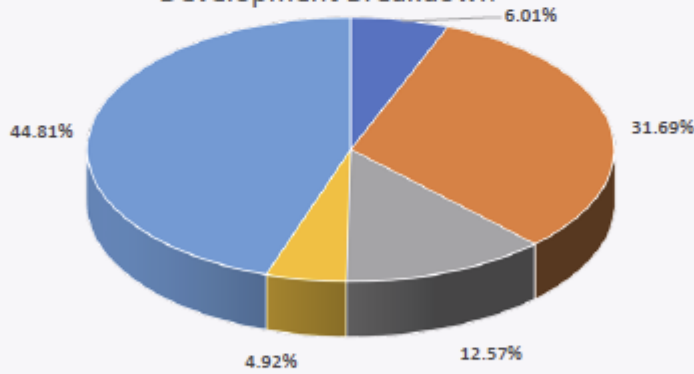
Answer Options	Response Count
	231
answered question	231
skipped question	46

Threats to Natural Resources and Visual Character 2017



- Development
- Water Degradation/Going to Brocton
- Litter/Upkeep/Road Conditions

Development Breakdown



- New Development in Wetlands
- New Housing
- 40B
- Commercial Development
- General Development

Open Responses:

New Housing

New housing developments; removal of trees along streets
the density of housing around ponds
Loss of historic homes, residential developments
Too many multi-unit complexes too many
houses being built
The rapid growth of condo developments condos
Housing
Too much building and condos
Housing! Housing!
I do not think this town needs any more condo type developments.
Also, way too many apartment and condo complexes going up.
Please no large apartment complexes!!!!
Too many condos,
Building. Tons of land is being cleared to throw up cookie cutter neighborhoods It
would be great if we could stop building private cul de sacs.
The many condos, apartments, commercial areas are threatening to turn Pembroke into Hanson
Condos, apartments,
Residential developments
The overwhelming growth of condos
Growth without proper planning to handle the extra people moving in
Housing developments
Building houses. Clearing of land. Stripping our forests.
New housing
Influx of condos and apartments
Condo developments and people that don't take care of their properties :(
Too much residential building. 2/
Cheap housing
Condos
I think developments with single family colonials take down too many trees
Too many housing developments
Over development of town houses and condos
housing development Water and condos
Townhouses!
Residential build out developers building housing developments on the little
open space we have left.
Housing Apartments
Unfortunately our lakes have need strangled by houses. We need more natural shore lines with walking
trails
Over development of condos
The condos and ugly buildings going up all over town. Making it feel less small town and more like
a city.
There seem to be many condo developments going in.
Too many developments are going in. We really don't need anymore townhouse developments.
Building more houses apartment & condo complexes too much building, condos, construction
packing a lot of houses into small lots.
Too much new home construction.
Residential development and financial resources to maintain open space
Condos
The town approving too many homes too close together
Apartments condos and McMansion
All the darn condos
Condo developments

Condos and town house structures. The roundabout!
Apartment complexes and condo villages

40B

40B development.

Over building 40 b housing (not needed when there are so many affordable older homes)

We certainly do not need 60 housing units near the North River

Inappropriate Chapter 40B building

Proposed development on Water Street

Low income housing that can build on natural reserve.

Condo project off of Water St

Low income housing developments like Pembroke Woods

Housing 40B on Water Street

40 b proposed housing on Water St would be no better example of both.

The river marsh 40b project as the builder is using the 8 units for 40b to destroy the environment 40 b projects

40B development proposed off of Water Street Extension adjacent to the North River

40B for certain!!! We need to get an affordable housing plan done and approved by the state,

40B projects being potentially pushed into areas that they should not go

And now the 200 Center project!)

Adding of 40b projects along the north river. It hurts the view, the environment AND peoples homes

Oversized affordable housing developments on wetlands or parcels of land that do not support the required

40b housing that bypasses local restriction.

Large condo and/or 40B developments.

Lack of government planning. 40B.

Rotary addition and low income housing.

Housing development. To many 40b being built on wetlands and not enough nologable people of the damage being

Commercial Development

Industrial park Box

stores

tattoo parlors and pot dispensaries

Cutting down all the natural land to build, especially retail establishments

Too much corporate building

I do not want to see a taco bell or wendys in the town center

The commercial buildings and the center of town

Big box chain stores and fast food restaurants

Expanding commercial areas and excessive parking lots

General Development too

much building

Too much development/urban feel

Uncontrolled building (commercial & residential).

New streets , taking of open land

We should be using vacant properties before allowing the destruction of virgin lands

development excess growth

Development

Over Commercialization town

center is too commercial

Over construction
Just modernization in general
Commercial and residential development
Constant building projects, the new roundabout ??
Over building construction Too much building.
Overbuilding. Where will it end? People who do not live here developing every possible square inch
Too many multi-unit housing areas, expansion of commercial area in the center
Overpopulation and the need to "modernize" everthing areas will be too dense and we will definitely lose the small town feel.
New construction.
Building Boom Don't over develop!
building on untouched land
Over building
OVER DEVELOPMENT
Development onstruction.
developments new
developments Over development stupid
development over development
New construction and building
Too much building
The growth of the town itself
Development
Building developers.
Over development
Development
Allowing development anywhere there is land to build on.
Over development both residential and commercial
Any new building project building projects Over building
Development
New housing developments
Construction
New developments for housing and businesses.
Buildings and townhouses
I'd be concerned about further development of open space that has managed to remain open since colonial times.
Increased building Reckless over development We are being over developed.
Too much new construction 2/6
Overbuilding
Too much new development
commercial and residential development, especially when it replaces open space and historic buildings
Overpopulation, development condo and commercial development
Development
Lots of new construction going on right now in all different parts of town.

Overdevelopment
Construction overbuilding
Development Growth
Overbuilding.
Too much building
Too much development
Construction
Construction on valley st
Development Overbuilding
Development
New Construction
Continuing building
Development - condos & commercial construction
Development

Road Conditions

inconsistent signage along main thoroughfares,
Roads in disrepair road condition
Lack of maintenance to roads and trees/bushes on side of roads
the disrepair of the roads, repairs,
Streets in need of repair,
The condition of The roads
town roads are terrible
Unnecessary roundabouts roads - every street is full of potholes - every street over grown - 0
maintenance street programs.

Water Degradation

Ponds are becoming low that won't allow for outdoor activities soon
Motor boats on pond the weeds that are choking some ponds
(fanwart?) did repair of the pond areas water quality of Ponds
THE PONDS
Mud filling up ponds. Ponds are Pembroke.
Furnace Pond needs to be dredged before it becomes a swamp.
dirty/polluted ponds
Water supply needs improvement - the water is terrible, the ponds are gross and
scummy!!! The whole town needs sewerage.
Bogs that have gone to pot. They look like giant weed growths.
Polluted ponds. water pollution
the ponds low water levels and problems with the ponds
Get rid of the aquatic invasive species that threaten our ponds (milfoil) so that we can use them more
Water pollution,

Water Going To Other Towns

Brockton using our pond water.
depletion/destruction of Silver Lake by Brockton water use....why isn't town taking action against
Brockton
A huge threat is drought and the use of our water resources by other towns
Brockton's unsustainable water withdrawals from Monponsett Pond
Brockton Water and Abington/Rockland. Water diverting to much water from the ponds ocktons
use of silver lake
Silver Lake worries me because it is so drained...

Tree Removal

Large cleared land on Oak street where all the trees were cut down and large rusted containers left on the property

Whatever is going to happen on Route 36 where all these trees are wrapped up...not sure if they are coming down or

All of the trees that they took down in pembroke industrial park.

Removing trees to widen roads and sidewalks.

Oak street deforestation cutting down trees

for parking lots, apartments

and the eye sore with all the cleared land across from Tomassi's by the oak street

Taking down trees along the street - corporate park cutting down trees.

The destruction of woodlands and building of large condo units or developments are perceived to be threatening the

The destruction of trees and open spaces is horrific all the trees that were cut down off 53 To many homes and cutting down trees.

the cutting down of trees near industrial park n Pembroke

Litter/Upkeep

litter

trash that gets thrown on the side of the roads

Drunks breaking glass at beaches Other littering

Litter Littering.

Litter/vandalism,

Trash Chemicals from roads

Trash & litter

Litter

The lack of maintenance surrounding them.

unfortunate litter that seems like a growing problem. people

throwing trash out their windows onto streets and rivers. Trash,

littering

old buildings in disrepair

Run down/out dated houses

Lack of homeowner pride- clean yards/maintained houses etc Citizens

who do not take care of it

older buildings in need of renovations, drug paraphernalia in/near public beach areas Low

income homes falling apart, makes the town feel like a dump.

Lack of maintenance and investment in natural resources

Dilapidated homes with trash and junk in the yards, ramshackle cottages on the shores of the ponds,

Deferred maintenance on several dwellings, junk/trash in yards. Would love to see more lighted roads (street lamps), lack of funding for upkeep, lack of citizen engagement

add a "Pembroke Pride Day" to create a town-wide effort to work together

Run down homes community center

Trash, small lots sizes, multi unit dwellings, loss of public access to trails and pathways because public properties are

Cleanliness inconsistent signage along main thoroughfares,

Roads in disrepair road

condition

Lack of maintenance to roads and trees/bushes on side of roads

the disrepair of the roads Roads repairs,

Streets in need of repair, The

condition of The roads town

roads are terrible

The roads

Unnecessary roundabouts roads - every street is full of potholes - every street over grown - 0 maintenance street programs.

Other

lack of landscaping in the Center

Overgrown cranberry bogs lack of rain,

Not concerned

Well, we are still in a drought. It would be great if people gave more consideration to water bans. the town officials poorly using our money.

People

Humans.

Town government does not seem to be making good decisions.

The town center

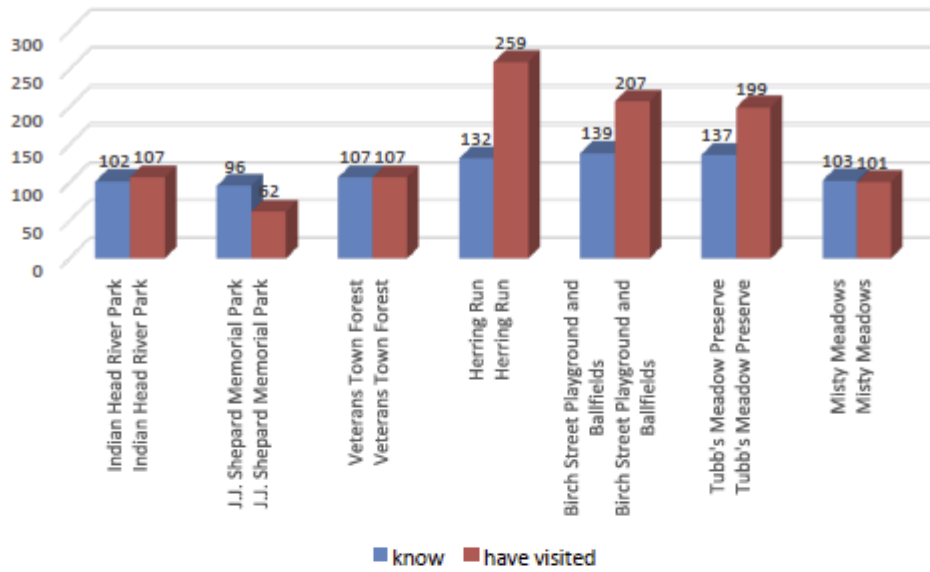
The fact that so many of the cranberry bogs are not being worked anymore. climate change and a lack of education or our watersheds

Question 10

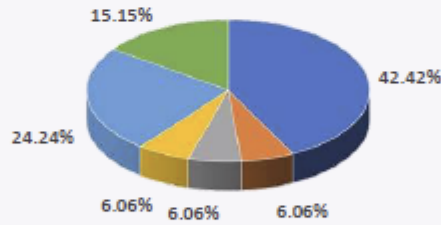
Please check which of the following Open Space Areas you are aware of and which you have visited?

Answer Options	know about it	have visited	Response Count
Indian Head River Park	102	107	163
J.J. Shepard Memorial Park	96	62	135
Veterans Town Forest	107	107	171
Herring Run	132	259	272
Birch Street Playground and Ballfields	139	207	250
Tubb's Meadow Preserve	137	199	245
Misty Meadows	103	101	167
Other (please specify)			23
	answered question		274
	skipped question		3

Open Spaces You Know/ Have Visited 2017

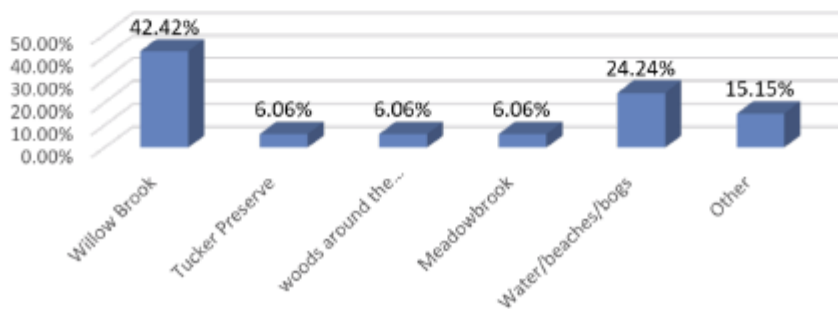


Open Spaces Known/Visited (Other) 2017



■ Willow Brook ■ Tucker Preserve

Open Spaces Known/Visited (Other) 2017



Open Responses:

Willow Brook Willow

Brook Preserve

willow brook Willowbrook
Willow Brook Farm Preserve
Willow Brook Farm willowbrook
farm (wildlands trust)
Willow Brook
Willowbrook Preserve
Willow Brook
Willow Brook
Willowbrook
Willowbrook preserve
Willow brook farm
Willowbrook Preserve

Tucker Preserve Tucker
Preserve
Old West Elm Tucker Preserve.

woods around the High School woods
around the High School
open space/forest around schools off Learning Lane
Trails behind High School

Meadowbrook
Meadowbrook Farm
Meadowbrook preserve

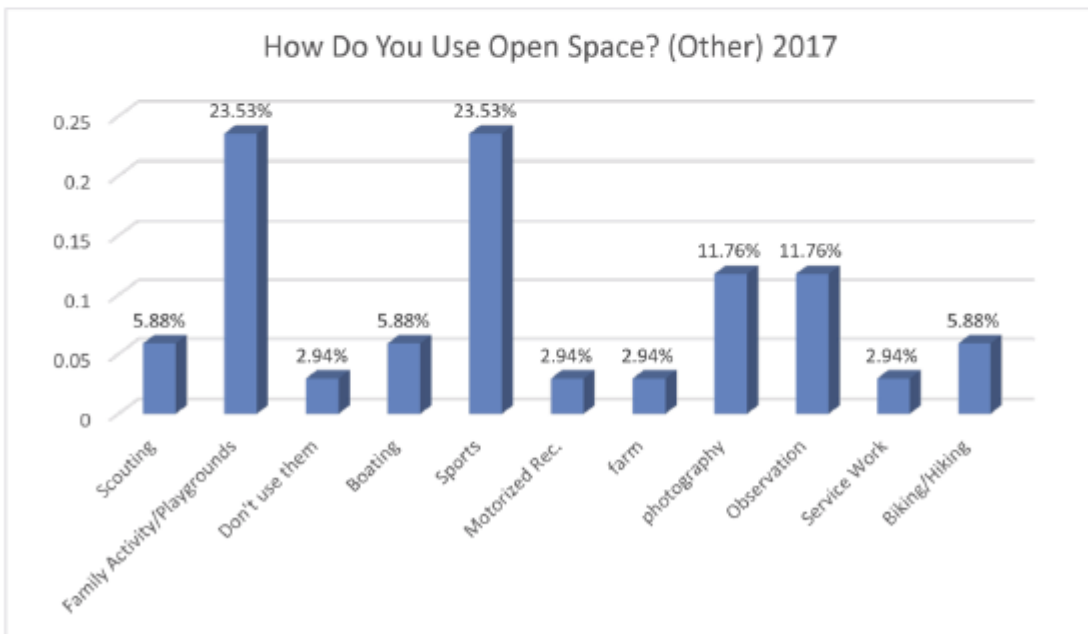
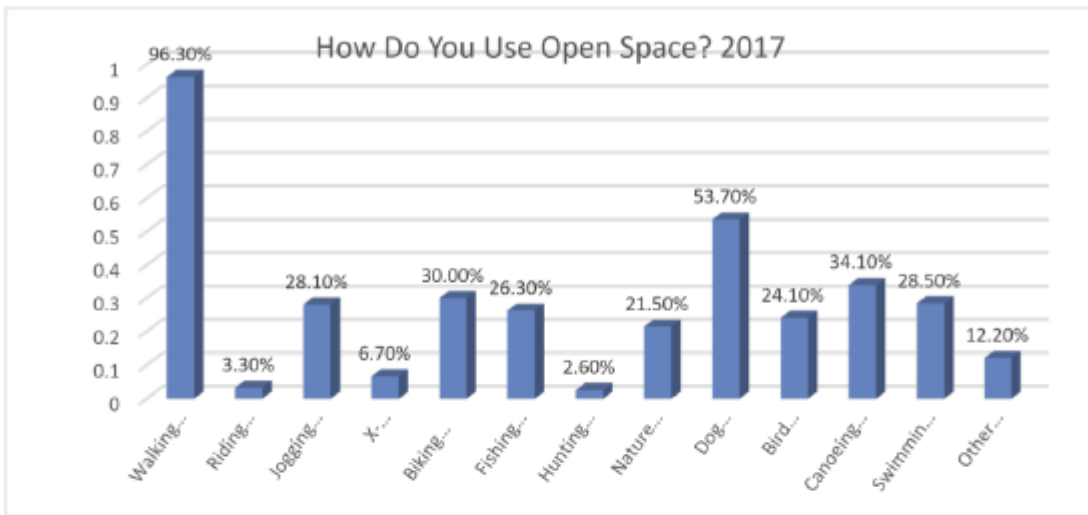
Water/beaches/bogs
Oldham Pond,
. Maquan Street Bogs, .
Town landing
. stump pond on pleasant st.
North River marshlands
Luddham's ford The ponds and beaches love to go down quiet
back streets and canoe on ponds and n. river

Other
the un-named Town Forest behind my house
Washington St. behind former Animal Protection League building
Ballfields on mattakeesett, playground at community centr
I've been to the walking trails but not sure of the names of them...they could be listed above

Question 11

How do You use Open Space in Pembroke? Please check all that apply:

Answer Options	Response Percent	Response Count
Walking	96.3%	260
Riding Horses	3.3%	9
Jogging	28.1%	76
X-Country Skiing	6.7%	18
Biking	30.0%	81
Fishing	26.3%	71
Hunting	2.6%	7
Nature Study	21.5%	58
Dog Walking	53.7%	145
Bird Watching	24.1%	65
Canoeing / Kayaking	34.1%	92
Swimming	28.5%	77
Other (please specify)	12.2%	33
		992
	answered question	270
	skipped question	7



Open Responses:

Scouting

Scouting in Pembroke

Girl/Boy Scout activities

Family Activity/Playgrounds Family play walking with my kids, playgrounds, getting them outside and active.

Playgrounds

Picnic Kids

play

playground

play!

family/friend gatherings

Don't use them

Don't use them

Boating

motor boat, paddle boat

Sailing

Sports

Sports Golf

skating/sledding

watching my son's sports.

Hobomock Fields for soccer, PHS trails for running

Hiking and snowshoeing

Hiking

Ice skating

Motorized Rec.

would like to be able to snowmobile and dirt bike.

farm

have 12 acre farm on a pond and that's enough

photography

photography Photograph

photography

Photography

Observation

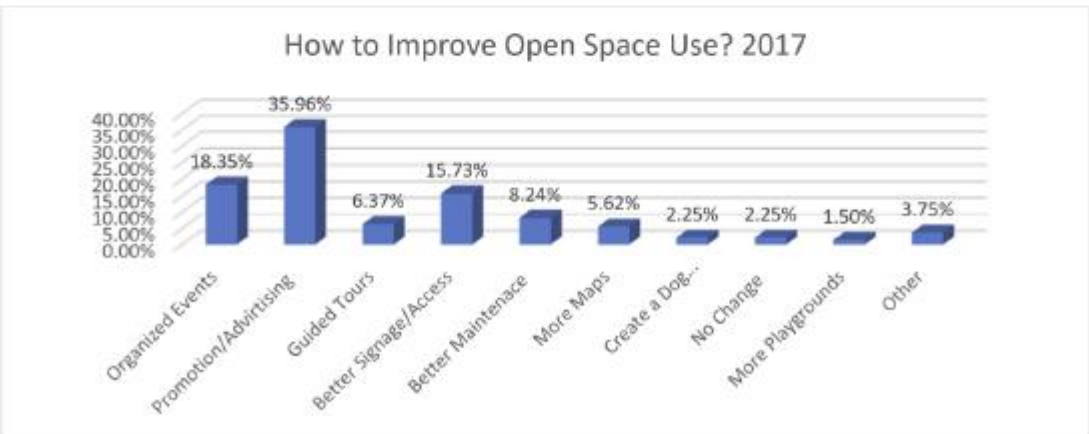
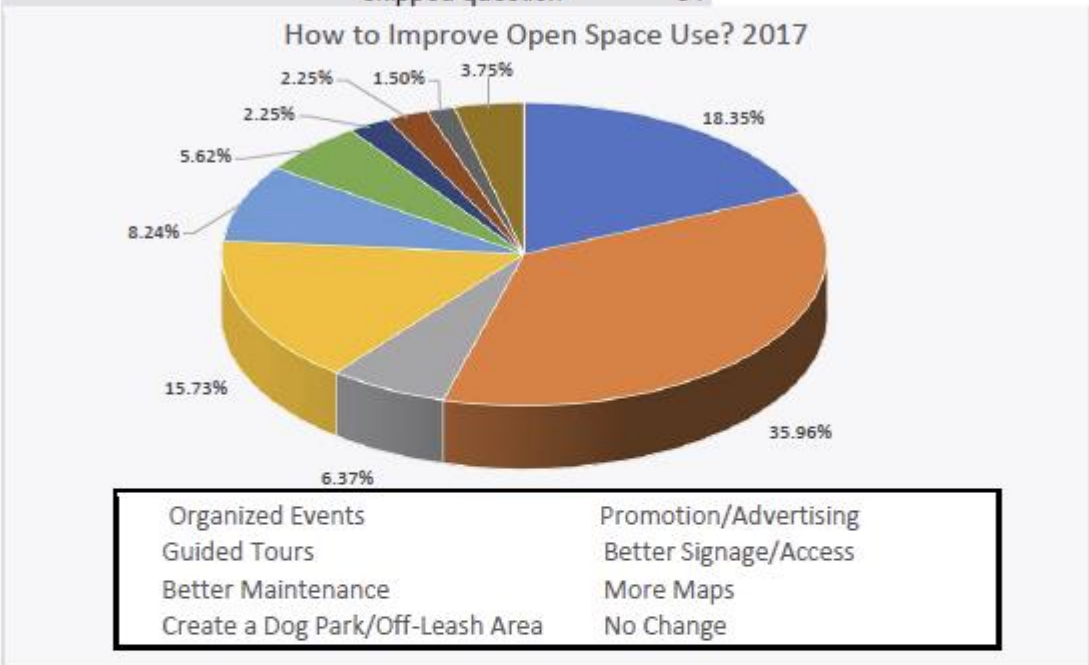
Just sit and enjoy the sights

Just enjoying having trees around instead of housing tracts where all the trees have been removed.

I use Pembroke open space between 3-7 times/week Enjoying the views and nature.

In your Opinion what could be done to get the Towns People to use the current Open Space areas more frequently?

Answer Options	Response Count
	193
answered question	193
skipped question	84



Open Responses:

Hold Events more events for families, and the elderly and disabled, would encourage people to check them out

Town-sponsored events, .. volunteer litter pick up, pet friendly events.
 community clean up day Hold
 different events there.
 events,
 Conduct more town events at them
 Have events at them. Family days. Games, trivia, or scavenger hunts.
 Recreational programs using the open spaces.
 Some town sponsored events to make more people aware of what's around have
 more events at the areas
 , events,
 Hold events at those locations-family friendly and low cost
 Town events nearby the open space areas hold events at
 them, clean-up days
 Events,
 Having community things like the herring run fish fry.
 Events events
 hold public events there
 Hold events at open spaces
 Have organized activities; special activities for different age groups Activities
 Host events there. Offer
 programs at the areas have
 a nature day,
 'Town Clean Up Days' that are sponsored by the town, not by concerned citizens
 Maybe host events at these areas
 More creative uses of open space in terms of events, enrichment for children, festivals/celebrations
 utilize the Pembroke Recreation Department to schedule events host walking events.
 Rec programs at different locations More outdoor space community activities start more
 traditions such as the fish fry - teach people about our history and it's importance.
 Hold community events in open spaces
 Communication and fun events
 Events
 More fun family friendly activities like the fish fry.
 More activities like family days, 5ks through these spaces, etc community
 opt-outside day with info and activities
 Town sponsored Events introducing people to parks and their appropriate use (including trash pickup and dog clean
 Hold events at different areas. Activities or shows at the open spaces events.
 Have more events at them like the Fish Fry at Herring Run, etc.
 Walking clubs
 An option to walk with a group.
 Walking clubs/bird watching

Promotional Material
 Increase awareness, promote wellness.
 and marketing publicity
 More advertising of these treasures
 Publish where the spaces are, directions to get there, what they offer and parking availability.
 Multimedia/Socialmedia showcases
 More community outreach through Social Media, PACTV and newspaper - outlining the benefits, show photos, etc.
 Facebook and website posts Pembroke connects is very popular
 Design a website highlighting these Open Spaces. The link could be sent to everyone via broadcast emails publicity
 Advertising
 Create ads about them on the PACTV, create flyers for the library.

Advertise:

Publicize their existence

make a list and post it or give it out at the Fish Fry....make it family friendly...low impact exercise, chance to see Inform residents of the location and existence of these sites advertise them. I had no idea half of them exist. I tend to go towards Plymouth and Hingham for nature walks.

Make everyone more aware of them, and what you can do at each place. Also, have like an open house at each one

Use of Town email to feature them.

Make people more aware of the options.

Develop a web site including directions to all areas including trail maps and history of the areas.

. School field trips. If only we had a decent newspaper for articles ... advertise

by putting pics and articles in paper.

Informing the public that these spaces exist for their use and enjoyment I

think additional advertisement could help?

Advertising/putting up areas to sit and picnic.

Put more information about the different area. Maybe feature one of them once a week on the Facebook page, make people more aware of them

and make people aware they exist and what is available to do in each space Marketing,

post on a website for when people are searching for "things to do",

Advertise the less used, less familiar areas Social media!

Advertisement/more signs. Tell the kids in the elementary schools/cub and/or girl scouts.

Advertise more make people aware of them. ive never heard of the unchecked places.

Post information about them on the town website

Advertise

Advertise

photos on Pembroke connect, articles and photos in newspapers

More publicity about what it out there more publicity

More advertisement of it

More info. I saw this on Facebook and didn't know a couple places. Use social media more.

Refresher communication to let people know what's available

Social media Advertise!

Facebook marketing

Post on social media where they are featuring a different one every week. Ask residents to submit photos and stories

Raise awareness (I don't know where most of #10 is).

Awareness

Spread the word,

Promote on Facebook pages

Advertise them better. I have lived here 12 years and still don't know about all the spaces.

More publicity

Raise awareness of the great spaces we have

Let people know

Better advertisements of where they are located Publicity.

social media so people are aware of what's out there.

coordinate with Wildlands Trust to promote various areas more broadly

put notices in the town paper to remind people of these open spaces for use - put on social media sites some photos

People knowing and understanding what and where they are.

create a flier, put on face book

More information about the open space areas. Info added to the pembroke town website

popularize it. Have something that would cause people to go to the area. Make people aware.

Better publicized. The one playground in town was hard enough to find thanks to a random Facebook page.

Advertise more Advertisement,

Send information home with school kids in their backpacks so parents will know about these areas. More

information about them. Should direct fundraisers like fun run etc through them to raise awareness Mail

out an informational pamphlet in the spring. list all open spaces on dog registration, get information on all public spaces out to families through school Education. I didn't even know about a couple you listed above.

More information on them...

Advertise it more,

have more information online about how to get

More Info

Advertise the local beaches

More notice as to where they are. Maybe posted at the Library (one of my favorite buildings)

Publicize them more, better

Advertising

Public awareness

Better advertisement

Have kids do service projects and publicize. Take a few minutes at town meeting to highlight an area and what is

Awareness of all of them Promote. Make it appealing.

Community publications. Notices on Facebook

open up other town held properties for passive recreation. Don't keep them secret

Possibly highlight a different area on social media every week or month

Information easily accessed on website remind them that it is there

Most of the above mentioned places I have never heard of and I don't know where they are.

I didn't know about areas mentioned above. Now that I know about them I will check them out.

Guided Information Walks

I think that we need to do a better job in organizing walks and guided walks as to what people can see or do within

historic tours Run tours informational activity

Maybe hold guided tours a few times a year.

Walking tours. Guided Tours

give history, offer walking tours Guided Walks love the idea of

the historic trolley and river tours that happened perhaps offer

guided tours

Perhaps have someone to lead nature walks

Promote walking tours, led by volunteers from various local civic organizations Interpretive

guides to introduce them.

Host tours

Guided walks and naturalist walks

Guided walks

Better Signage/Access Parking

more parking & better condition of parking area

improved access.

Sidewalks to get to these places, it's hard for a mom to pack kids/ dogs into the car for a 5 second ride,

A trail system that connects all the areas around town.

better parking More

parking!

Easy access

Maybe put signs out front that designate uses. For example: "This path is good for biking, walking, and baby strollers"

actual signs along roads to lead people to places

Make more accessible by bike

Better parking, better

access to ponds

Better signs

More sidewalks and a better town center would go a long way

Pave a walking trail, moms want to use them too and can't due to inability to use strollers.
Better parking availability, more well marked signage. Communication, signs posted
Make better parking lots for the parks; better signage. more location awareness and open invitation to use it, my guess is that some people are unaware of the offerings we have.
signage, welcoming entrances,
Have trail markers and historical signs
Add sidewalks to allow people to walk/bike to/from these open spaces
Perhaps better signage Adding benches
Make them more accessible by building sidewalks leading up to them Paved
biking trails, sidewalks around town to get to these areas. have benches,
have good parking facilities and/or safe sidewalks to get there
Better signage
Have parking. Lights
Make more defined walking trails.
better signage
better and bigger signs. clear, designated parking areas. designate spots on well traveled roads for pedestrian/bike
Paved trails would be great for biking and jogging.
Have more signage
Also, better signage to indicate trails and regulation of traffic in areas
Better signs and markings Parking.
Access by way of walking
Better signage, maintained parking areas
Improve design them for use as an outing activity, tarred bike and walking paths. Making them family friendly. People who want to use them, use them and Plowing parking areas in winter would help for sure.
better signage

Better Maintenance maintained
trails

The walking trails have trash....need to be kept clean keep
spaces clean
Keep the trails and paths groomed
I also think the one entry point to the pond on mattakeeset street could use a little more attention Keep
them more clean!!!!!!!,
Clean up the needles everywhere, pick up the other garbage (put more trash barrels in these spaces)
Maintain paths provide trash barrels get the ponds cleaner
Maintain is all better Tubs Meadow is always a mess at the entrances, which makes it not very
appealing cleaning and grooming the trails. Cleaned up and redesigned cleaning up the litter.
I'm afraid of ticks and that hogweed fix up the ponds and water spaces put some capital into it and make it more
appealing. A little dirt path through woods is not going to attract more people more investment to make more useful
Have garbage and recycling receptacles and empty them on a regular basis upkeep.
Clean the ponds
Make them clean, safe, drug paraphernalia free and protected
If the paths were kept clear. I stopped going to the Elmer Street bogs because the paths are overgrow .

Maps

Map of open spaces
online book with maps;
trail maps
Maps in the library
Trail maps? I nature
trail maps available

maps. Provide

maps.

Mail me map

Is there a map detailing the areas? They could be made available at the town hall for pick up

maps). maps of area maps

Easier to read maps trail

maps at trail heads.

Dog Park/Off Leash Areas

Start a dog walking club We

need a dog park!

Create one space designated for off leash dog exploring Dog

park!

It would be nice to assign one area as a dog park where dogs could run unleashed. If

there was a dog park

No change

Fine the way it is now...don't really want more people using open space. I don't want to step on any hypodermic needles

If they're interested, they'll be there and vice versa.

Not sure

I always see people on my walks. Maybe throw away their electronic devices? Haha. Jk. I don't know!

it is perfect the way it is ???

More Playgrounds

More seating. More playgrounds.

MOST IMPORTANT: A public playground to encourage young families to enjoy the wildlife that Pembroke has to offer!

would love to see a playground get put in at Indian head river

I think a playground at Indian Head River park would be great attraction

Other

Have it's become a profitable entity

enforce bans on motorized crafts on trails (that is very problematic in the paths near me). Build

more trails for mixed use including mountain biking.

stop building on the property

The town is lacking areas that draw people to just "hang out" (sit in a park with a book and a coffee, Make the town center a

Hide things there?

Bridge the gap between the new and old residents Outside

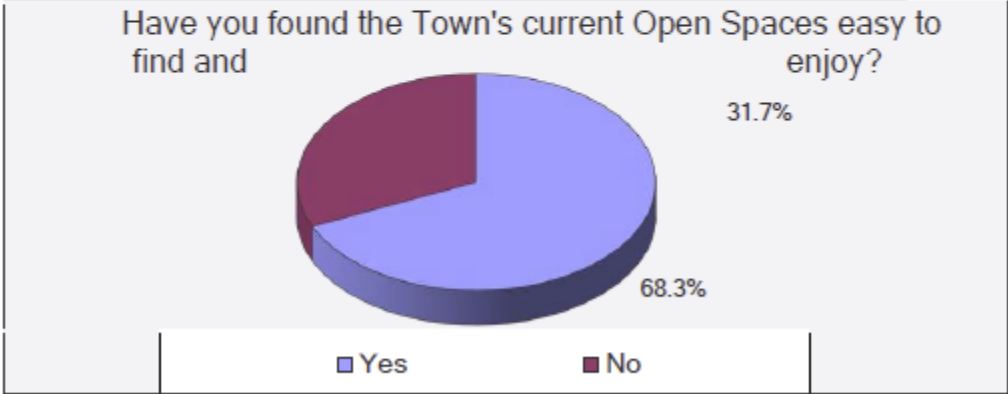
amenities like workout stations on trails.

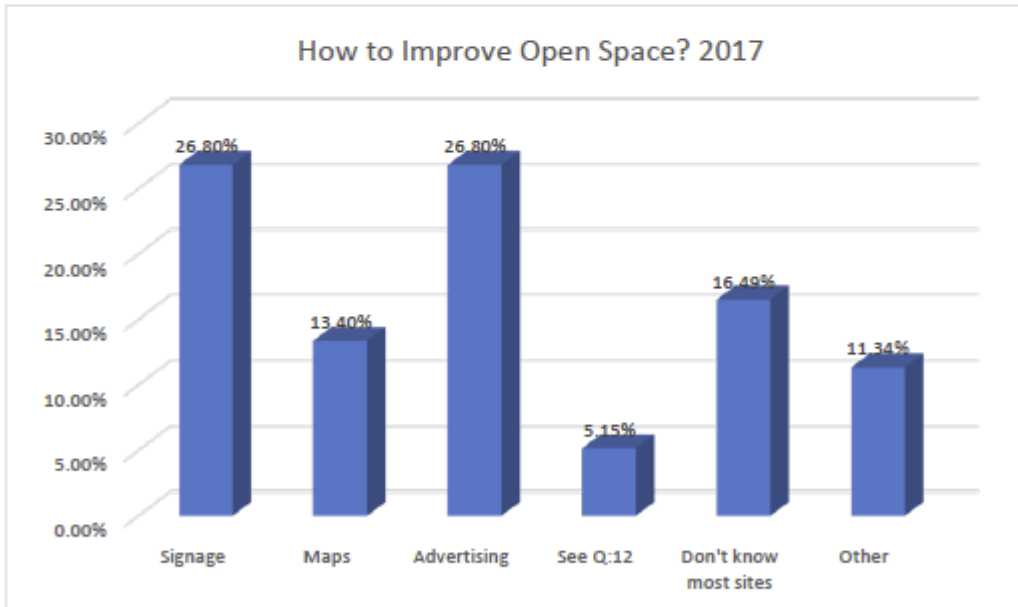
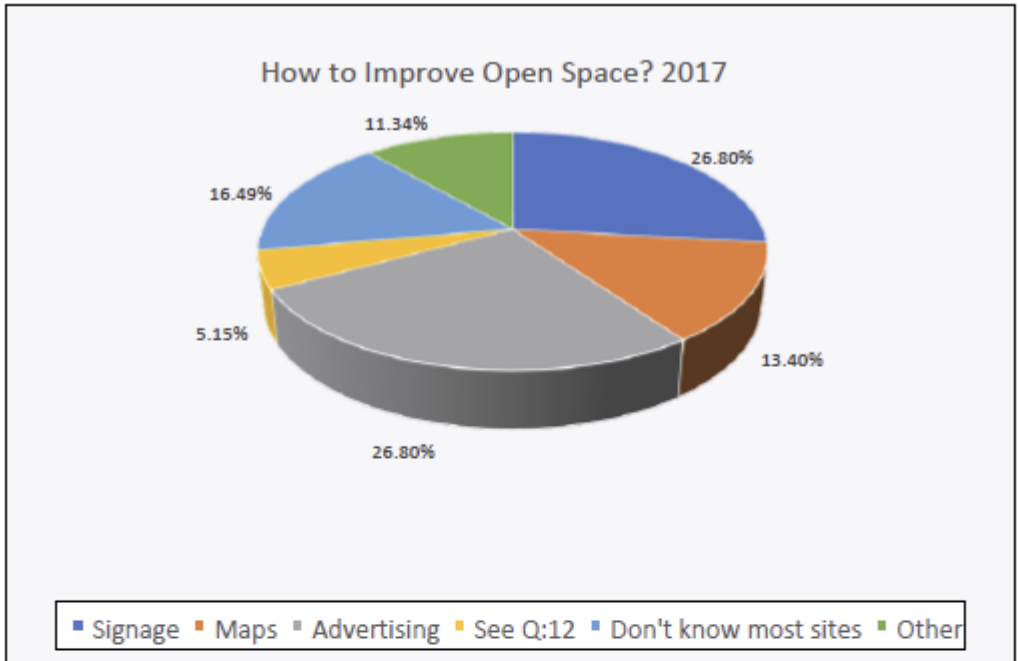
Put a public pool in

Continue to allow people to use the lands

Question 13

Have you found the Town's current Open Spaces easy to find and enjoy?		
Answer Options	Response Percent	Response Count
Yes	68.3%	166
No	31.7%	77
If No, Please explain how you think the Town could better identify these areas?		87
answered question		243
skipped question		34





Open Responses:

Better Signage more prominent signage.

Clearly posted signs throughout the town would help.

How about an outdoor sign of all parks? Place it at entrance of all parks

Signage needs to be much better. I only know about most of the areas because I have actively sought them out.

Signage, newsletter drive by some but don't see where to park; I have looked in the past and couldn't find useful information better signage see www.mbgraphics.biz

Only the ones visible from the street I have used. Maybe clearer signs

I only know of the ones I pass and are clearly visible and marked

Signs. And what is allowed or not allowed in those areas. Bike paths would be fantastic!

Willow brook could use a better sign better signage more signage

Signage and parking improvements

Signage

More signs

Better signage; more welcoming

better signage more signs and

parking

I've been here a long time so I know the spaces, but signage could be better

Add Signage and easier access with sidewalks

Signage

Not well marked

More signs

Need to improve signage. It's a big secret at this time.

Better signage

Accesible Maps

Maps, mailed, at library, and online More maps.

or maps at the town hall?

Maps

A clear map of trails

Mass mailing a map to residents

Easily accessible maps and location details on town website

Where do you get maps and find where these spaces are Maps.

Mail me a map and tell me where to park we love new places

Signage and parking improvements maps, etc....

Publish a map to the community with the annual census

Better Communication/Advertising

lots more communication

newsletter

Is there some kind place that provides and promotes information and use of all of the open spaces in town?

Get the word out through schools, library, churches, etc.

More advertising

Advertisement. Small cost to the town for long term benefits.

Post on website

More advertising

Use social media. And let people know that you are on social media

Town Website, more events scheduled there

Awareness and events

Social media

Advertising Use social media! provide more information. Not well advertised
Not enough advertising More information on accessing marketing
Better representation on the town site. It can be difficult to navigate.
Send out emails about what each place has to offer.
More info about those places,
Put it on the town website
Need more exposure
List all and the directions on town website
Help new residents to know they exist

See Question 12

See #12

Question 12

See my previous response

Please see above. My husband grew up here and he didn't know where half of the parks are! See #12

Don't know most sites

We stumbled upon them.

Again, never was aware of them.

Haven't been aware of many of them

I have been to two that are nice but disnt know about others

I am not familiar with some of those listed above. Probably my fault for not being better informed.

I have never heard of most of the parks listed above and I enjoy visiting parks. I had to ask my neighbors and nature lovers Not sure where they are.

I didn't know about a few of them listed

Not really. We mostly happened upon many of them over the years. But there are several listed above I've never heard of It seems like you have to have local knowledge. I don't know what I don't know

I wouldn't have known about a lot of the areas if other people around town didn't tell me aobut them.

It might just be because I'm new to town...not that easy to figure out where they are/park

I didn't know we had as many as we do (thanks for question # 10!)

I didn't know of some of these listed here in the survey

No, when I first moved here the trail information was scattered across multiple organizations.

Other

We have enough - don't need to spend money on more.

Fairly easy. Can't make the rest of this survey work

I say this hesitantly. Easy to find, yes, not always easy to enjoy.

No, paved walking trails or trails with large roots eliminate young moms and their kids from enjoying the many I'm not sure

yes

I feel uneasy when I see so many people allow their dogs to run free without a leash.

sort of

Haven't heard much about them or there is little appeal. Yes

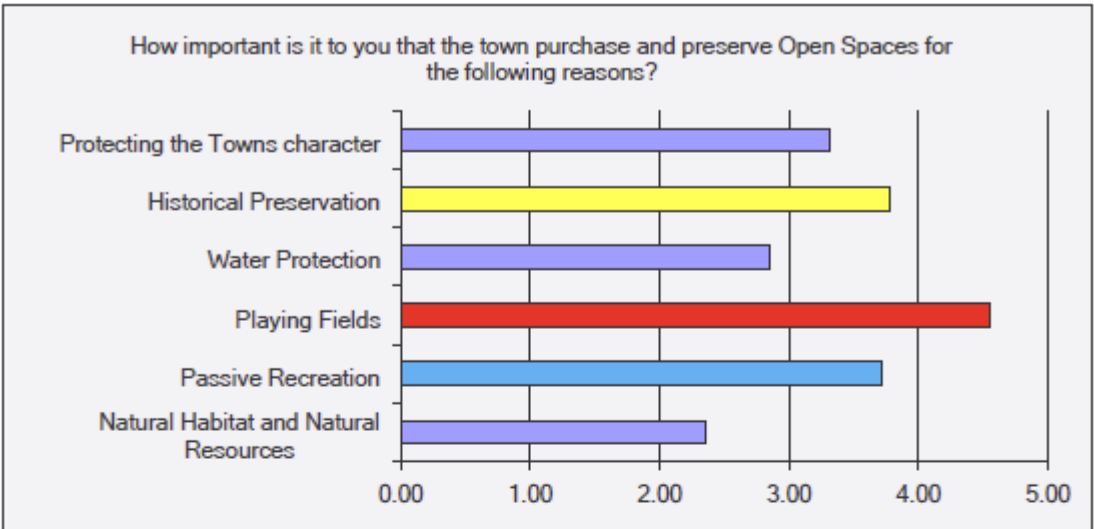
but only because I'm specifically looking for them

not cleaned, maintained or user friendly. Town Beach could be renovated. New snack bar, cleaner beach, new sand

Question 14

How important is it to you that the town purchase and preserve Open Spaces for the following reasons?

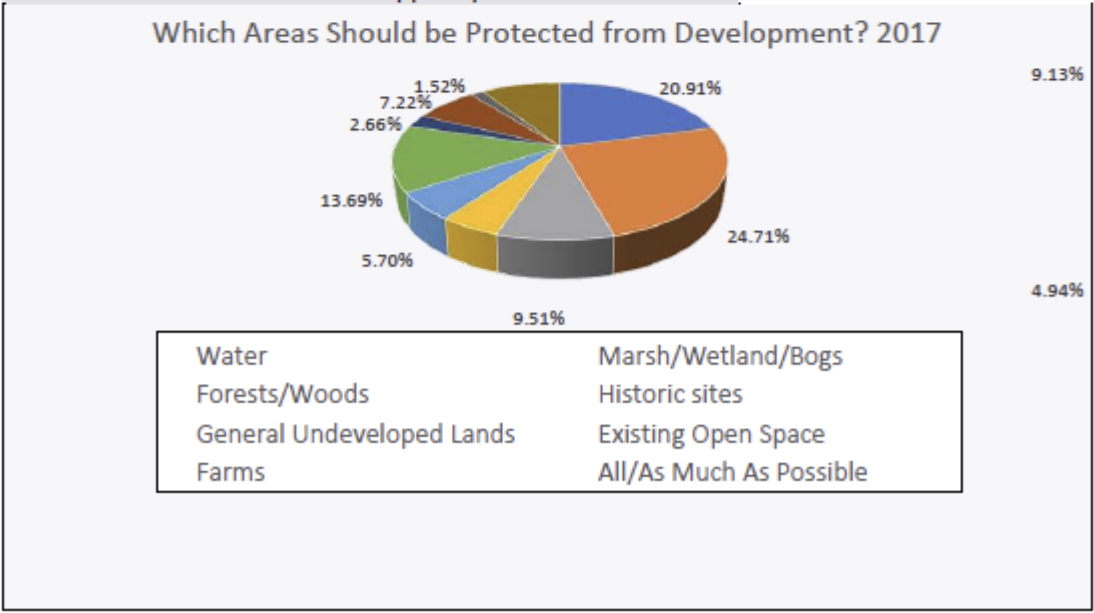
Answer Options	1	2	3	4	5	6	Rat ing Ave se rag Cou e nt	Res pon se rag Cou e nt		
Natural Habitat and Natural Resources	31	9	23	57	17	25	13	16	5	221
Passive Recreation	11	46	48	32	56	27	1	4.5	220	
Playing Fields	11	17	25	24	45	99	5	2.8	229	
Water Protection	6	52	46	33	24	16	5	3.7	227	
Historical	1	27	49	56	46	28	8	3.3	222	
Preservation	6	31	41	50	30	35	1		242	
Protecting the Towns character	5									

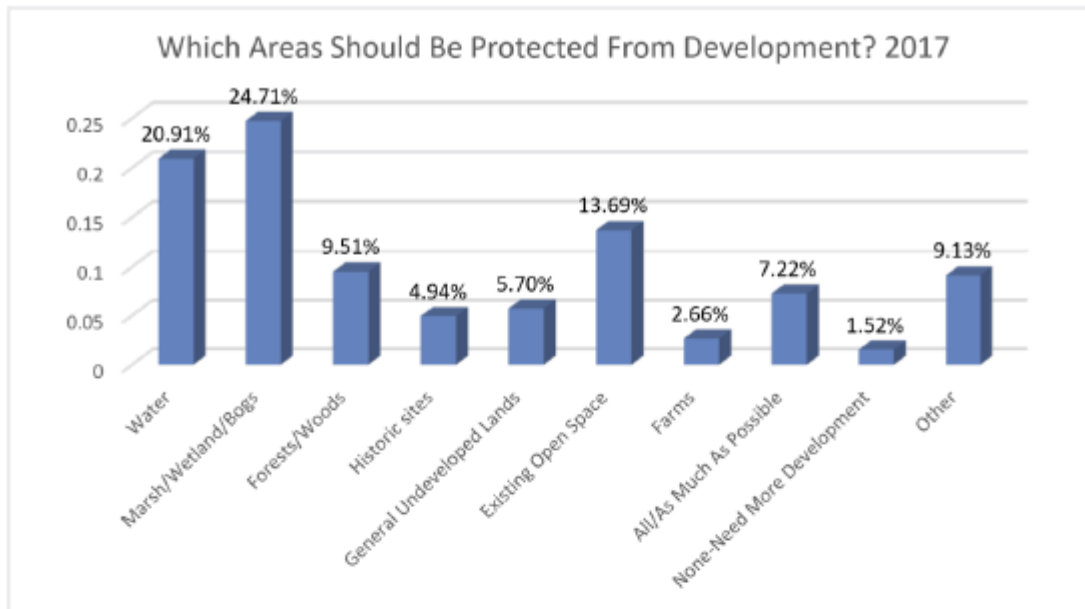


Question 15

What areas of Pembroke do you feel should be protected from development and why?

Answer Options	Response Count
	172
answered question	172
skipped question	105





Open Responses:

Water pond on

Hobomock

Any areas around our ponds

Water areas, need to keep animals safe water areas

Near north river,

Environmentally sensitive areas around watershed areas including the ponds.

places near ponds The ponds, ponds

Any land around rivers and streams need protection for wildlife and vegetation and ponds because it interferes with natural habitat

Water Street in North Pembroke. It's our only access to the North River with multiple acres of wetlands

and habitat to The North River area Water/rivers/ponds lakes because don't trust housing septic

systems and it seems that surrounding towns are taking all our water ponds (not to clean the ponds for the selectman who live on them)..

areas around North River north

river

Anywhere along water

Ponds,

The North River due to it being a water way and to protect wildlife.

Streams, rivers, ponds should be unobstructed and allowed to follow natural courses to protect habitats and water quality

Areas near the ponds Any

watershed areas.

Wetlands

North River area because of its sensitive environmental issues

Areas along the North River the ponds and river areas lakes

The north river is nearly unparalleled for its current relatively low level of development. It is a rare resource and crucial habitat

North River

The North River corridor,

I am partial to the North River area because that is where I live.

North River, lakes and ponds, streams and brooks, Herring fisheries and wildlife.

Land near north river

North river rivers,
and lakes. The river
the north river.

ponds

North River

The beautiful North River, we need to manage the type of development too.

Anything along the North River. More developments could ruin the scenic beauty.
along the lakes & rivers, north river.

Anything along a water way waterways.

The River because it's night sky and open for wild life habitats Along
rivers and ponds.

Public water areas.

Area along Indian Head and North River

The areas around the ponds

Anywhere near wetlands and waterways Major resource and part of our ecosystem you cant replace.
any wetlands and any water ways

Marsh/wetlands/Bogs

The marsh and pond on Hobomock near Four Winds Sensitive
terrain in and around wetland/marsh areas.

wetlands

The land is all wetlands and marshes

Wetlands-area near north river/ water street Wetland
areas, natural areas should be kept that way and
wetlands—

Any area near wetlands, or that would require the removal of healthy trees, should be preserved for the
health

Wetlands are essential to the well being of the environment wetlands,

Water Street in North Pembroke. It's our only access to the North River with multiple acres of wetlands
and habitat to Wetlands feel the water Street area that is currently facing 40b development and the
Tiny Brown Intersection are at risk right now

Wetlands

and any other wet areas because of the water protection

Marshland

Land abutting wetlands. Can't list the million reasons why.

The marsh and natural protected water pools for wild life.

Wetlands,

The wetlands are important for biodiversity

All marsh, wetland due to animal habitats and keeping the current houses safe

Wetlands - disturbing natural habitats and increasing classroom size due to affordable housing vernal
pools, wildlife, potential of damaging run off.
any wetlands

Proposed Housing 40B destroys the wetlands, natural habitat and historic neighborhood, increasing
noise and traffice All marsh wetland

I heard about the recent proposal of 40B development along Water St.

Any wetlands

Any conservation land..

marshes, wetlands Wetland areas.

Marshlands around north river.

conservation/wetlands areas wetlands,

Wetlands and sensitive habitats. We only have one Earth, these habitats are important to protect wetlands.

Wetlands--if they are drained and built on we damage habitat, water table health and biodiversity Wetlands. Conservation land

Open space with wetlands to protect our water supply Wetlands mostly for animals wetlands because they are precious and you can't always put the wildlife back once wetlands to ensure the health and safety of the people and animals living here.

Definitely the bogs and marshes because they are what make Pembroke wetlands

Marshes/wetlands, to protect environment and wetlands

Any environmentally sensitive areas (wetlands etc)

Anywhere near wetlands and waterways Major resource and part of our ecosystem you cant replace.

any wetlands and any water ways

The bogs, because they are unique to the area and part of our heritage

any of the old bogs should stay open space of some sort. bogs.

cranberry bogs.

The bogs on Monroe street.

And, while many bogs have reverted to overgrowth, I was surprised to see that most aren't filled in bogs

Bogs and other natural resources

I feel some cranberry bogs that aren't currently being used could be built upon. It seems like valuable land/space

Nature trails in old bogs are such a great resource for people who don't want to have to travel to other town

cranberry bogs

Bogs

Bogs.

bogs bogs.

Forests/Woods

The woods around the bogs also should be saved All

forests

any current woodlands

Rest of Oak street - protect the trees and habitats Woodlands

along West Elm & Barker St...

The space off of Oak Street that was just cleared is a horrible eyesore.

Wooded areas

Forests

More of the forests!! The poor deer and even the turkeys are literally wandering around the town. So sad

forest. forests are why a lot of people live this far away from the city

Wooded areas, like Taylor st forests

Trees and forests..because we need them!!

forests

don't like housing developments that encroach close to natural forests

Any land that is currently wooded

The woods along Pelham Street are lovely

Woodlands off the 53 and 14

Wooded areas, the woods.

Lush wooded areas forests.

Forest, woods

Forests. Cutting down is causing wildlife to roam into residential areas, hazard to them/us and

Historic sites

Luddams Ford area given its ties to American history natural

AND historical resource.

Pembroke center

Any historical site

The herring run and other historical areas

Mattakeset St due to historical significance. Taylor St for same reason

historical sites/homes. areas deemed "historical" because it's unlawful to build on those areas.

historic neighborhood, and any

areas that are historical

Historic sites for obvious reasons. Also areas that will negatively affect traffic or our natural resources to preserve our place in history we should protect historical locations and open spaces that bear significance

Barker street ,west elm street plain and valley street, center street. All old original stagecoach routes!

Herring Run

The Herring run, obviously.

Herring run, herring run

The herring run and other historical areas

Herring run Herring

Run, herring run.

Herring run- I love walking there

General Undeveloped Lands

All of the land that is currently not developed should stay that way

anything that is undeveloped should be protected, because once developed we can NEVER get back the natural resources

All of the remaining green spaces should be protected. We have already lost too much in my opinion. any hikeable land.

or has significant amount of area that is still natural, IE undeveloped

Environmentally sensitive areas.

Town has grown too fast over 30 years I've been here. Has ruined character of town. Need a plan!!!!

Are there areas of Pembroke that haven't been developed?

like to have land that isn't developed on every free inch. that's what keep our town quaint and country.

NO MORE TOWN HOUSES! Real houses for family's not townhouses. All these townhouses make it feel like the city or Brocton

I think the town needs to halt development period. Current development is haphazard and not well thought out.

I think progress is important but development for development sake makes no sense.

40 b have enough condo's no need for more We have enough development now!

All areas towns is being built out

Existing Open Space open spaces that have

already been purchased current open spaces

provided already.

Question 15

What kind of development would you like to see in Pembroke?		
Answer Options	Response Percent	Response Count
Clustered Development	15.3%	34
Mixed Use Development	34.7%	77



Appendix C. LETTERS OF SUPPORT



OLD COLONY
PLANNING COUNCIL

Valerie Massard, President | Mary Waldron, Executive Director

(508) 583-1833

70 School Street, Brockton, MA 02301

www.ocpcrpa.org

August 22, 2022

Melissa Cryan

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

RE: Town of Pembroke Open Space and Recreation Plan Update, August 2022

Dear Ms. Cryan,

On behalf of the Old Colony Planning Council, I am pleased to provide this letter of support for the recently completed Town of Pembroke Open Space and Recreation Plan, August 2022. The Town and its Open Space and Recreation Plan Committee are to be commended for their diligent work in completing this Plan.

The Town and the Open Space Working Group have done a very thorough job, and the final document appears to meet the standards for such plans as promulgated by your office. This plan highlights the need to balance new development with the need to protect open space and natural resources, as well as enhance recreational opportunities. This Plan articulates a need for enhanced protection and upkeep of critical town-owned open spaces; improved trail systems and trail links on town-owned open spaces, promotion of the Town's open space and recreation opportunities, and equitable access to the Town's open space and recreation facilities. This Plan provides the Town with specific guidance and action steps needed to accomplish its goals and objectives. This Plan also recognizes the need for partnerships with public and private entities to make its goals and objectives a reality.

Please consider this letter to be a demonstration of OCPC's support for the Plan and the process used to develop it. We find Pembroke's Plan to be fully consistent with the Massachusetts Statewide Comprehensive Outdoor Recreation Plan.

Sincerely,

Mary Waldron



**TOWN OF PEMBROKE
OFFICE OF THE TOWN MANAGER**

100 Center Street, Pembroke, MA 02359
781-293-3844 Fax: 781-293-4650

January 25, 2021

Town of Pembroke
Open Space Committee
Michael McDonough, Chair
100 Center Street
Pembroke, MA 02359

RE: Vote of Support: Open Space and Recreation Plan

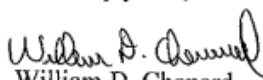
Dear Mr. McDonough:

At their meeting of August 6, 2019, the Pembroke Board of Selectmen unanimously voted to support the Open Space and Recreation Plan to be submitted to the Division of Conservation and Recreation (DCR) for adoption by the town.

“Mr. Trabucco moved to support the Town of Pembroke’s Open Space and Recreational Plan and Ms. Rushing seconded the motion. The vote was unanimously in favor.”

Thank you for your attention in this matter. We look forward to the confirmation of the Plan’s filing with DCR.

Sincerely yours,


William D. Chenard
Town Manager



**OFFICE OF THE PLANNING BOARD
TOWN OF PEMBROKE**

TEL: 781-709-1433

100 CENTER STREET
PEMBROKE, MA 02359

September 30, 2019

Edwin Thorne, Town Manager
Town of Pembroke, MA

Dear Mr. Thorne:

The Planning Board of the Town of Pembroke has reviewed the final draft of the 2019 Open Space and Recreation Plan. The board believes this plan is representative of the ongoing goals and objectives the town identified for open space and recreation in earlier versions of the Open Space and Recreation Plan.

On September 30, 2019, with a quorum of the board present, the Planning Board voted to support this final draft of the 2019 Open Space and Recreation Plan.

Sincerely,

Rebecca Coletta
Chairman, Planning Board



Appendix D. PUBLIC LISTENING SESSION



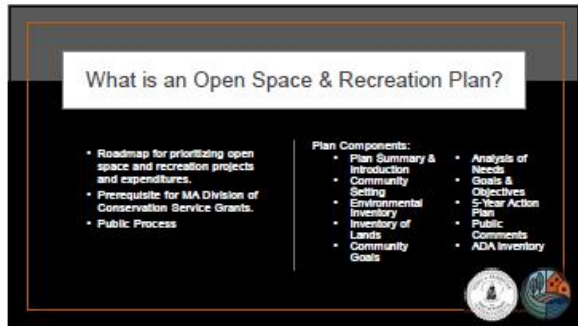
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2



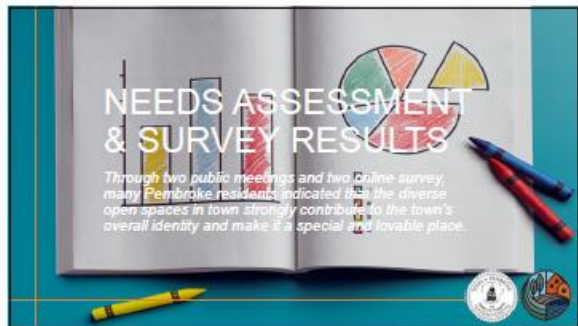
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4





5



6

SURVEY RESULTS

When asked in 2017 which specific areas are important contributors to the visual character of the town, the top three included:

- The Historic Town Center 
- The Ample Water Resources 
- The Abundant Forested Areas 




7

SURVEY RESULTS



63%
stated they consider Pembroke to be a town in transition



8

SURVEY RESULTS



67%

- Reported that continuing development was the most imminent threat to the many special natural, historic, and cultural resources throughout the town.
- Half of those respondents specified new housing developments as particularly dangerous to the town's character





9

SURVEY RESULTS


68%

- Say the current open space areas within the town are easy to find and enjoy
 - However, many reported Pembroke has several open spaces not currently used
- Most common suggestion to increase usage was to increase awareness through advertising and promotion


10

SURVEY RESULTS



93%

- Reported walking as their principal activity
- There is a need for improvements in signs, maintenance, and access
- The biggest concerns voiced was the lack of proper access to many of the open space areas



11

GOALS & OBJECTIVES

The following goals and objectives were developed through an analysis of growth and development, natural resources, various forms of community input, and consideration of the goals from the 2005 OSRP.




12



PEMBROKE'S ABUNDANT WATER RESOURCES ARE CLEAN, SUSTAINABLY MANAGED, & PROTECTED

- Protect the town's groundwater and aquifers
- Protect the town's surface waters
- Support the acquisition of land that will provide for water-based recreational facilities



13

FUTURE DEVELOPMENT IS CONSISTENT WITH AND PROTECTS PEMBROKE'S ENVIRONMENTAL, HISTORIC, & CULTURAL RESOURCES

- Prioritize areas of environmental, historic, and cultural significance for protection
- Explore smart growth strategies to focus growth in developed areas and away from sensitive resources
- Increase public awareness of existing historic resources and the threat thereof



14



AN INTERCONNECTED NETWORK OF FOREST, RIPARIAN, AND WILDLIFE HABITATS ENHANCE PEMBROKE'S ECOLOGICAL INTEGRITY AND SUSTAIN A RESILIENT LANDSCAPE.

- Protect and improve Pembroke's threatened habitats and wildlife corridors
- Expand and connect protected areas to create continuous corridors
- Educate the public about the value of healthy ecosystems and services they provide to natural and human communities.
- Monitor and manage invasive species in ecologically supportive ways



15



THE CITIZENS OF PEMBROKE ENJOY BETTER ACCESS AND INCREASED RECREATIONAL USE OF TOWN OPEN SPACE.

- Increase access and usability of recreational facilities and trails for users with mobility, sight, hearing, and other impairments, in compliance with ADA standards and following the lead of other organizations.
- Educate the public about the existence, importance, and possible uses of town open space.
- Improve maintenance of the town's recreation areas.
- Connect existing trail systems for enhanced recreational use.



16

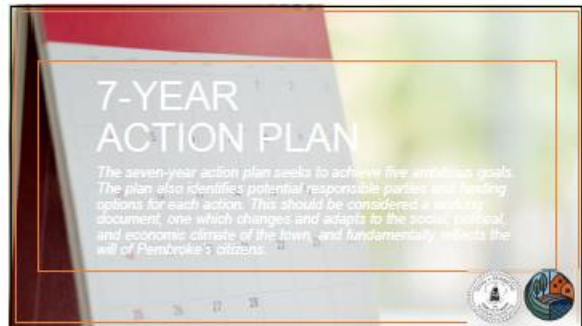


PLANNING AND MANAGEMENT FOR PEMBROKE'S EXTENSIVE OPEN SPACE AND RECREATION LANDS IS MORE EFFICIENT AND COORDINATED WITH AN ACCESSIBLE DATABASE.

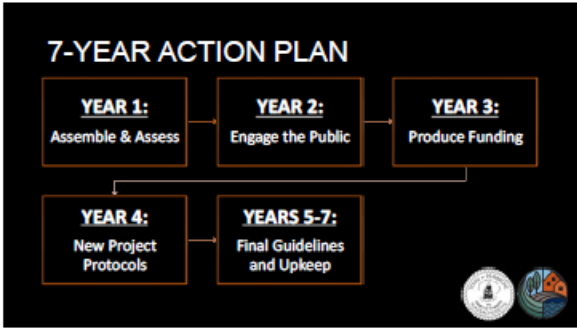
- Create an accessible electronic data repository for Pembroke's open spaces and recreation lands
- Monitor and evaluate conditions and management practices of existing open spaces in Pembroke
- Provide adequate staffing for the planning and management of open space and recreation funds
- Improve inter-departmental and inter-town communication and coordination regarding common goals for open space issues and implementation strategies.



17



18



19

THANK YOU!

Contact us for more information
Email Laune Muncy at Lmuncy@OCPCrpa.org
www.ocpcrpa.org

20

Appendix E. SHADE TREES



**SAMPLE SHADE TREE
REGULATIONS FOR
CONSIDERATION BY THE TOWN
OF PEMBROKE**

SECTION I: PURPOSE

1. The Town recognizes that trees are an asset to the community, as they provide a more healthful and beautiful environment. Trees and other vegetation provide oxygen; shade; protection from wind, glare, and noise; view barriers; wildlife habitats; aesthetics; and a priceless psychological counterpoint to the man-made urban setting.
2. The Town further recognizes that landscaping is economically beneficial in attracting new residents, visitors, and industry. When grown in the proper place and of proper varieties, landscaping enhances the value and marketability of the property and promotes the stability of desirable neighborhoods and commercial areas.
3. The town intends that the Shade Tree Regulations shall govern the alteration, removal, and replanting of any non-hazardous public shade trees by an individual, utility organization, corporation, or agency other than the city. Removals and replanting shall only be performed by the city or a qualified tree removal contractor, insured and approved by the town.

SECTION II: DEFINITIONS

As used herein, the following words and phrases shall be construed as follows:

- *Public Property* includes public parks, and other lands owned, controlled, or leased by the town, except conservation lands.
- A *public shade tree* is any tree existing, whether volunteer or planted, within a public way or on the boundaries thereof. Public shade trees shall include those planted with public funds in public ways or, if deemed appropriate by the Tree Warden, upon adjoining land at not more than 20 feet as per MGL Ch. 87 § 7
- A *shrub* is any woody plant, normally having multiple stems and bearing foliage from the ground up.
- The *Town* is the Town of Pembroke and its departments and/or employees.
- A *tree* is any woody plant greater than or equal to 1 ½" in diameter, measured 4 ½' from the ground.

- A *tree removal contractor* is any individual, firm, association, or other organization qualified in the removal of trees and approved by the Tree Warden as to qualifications, experience, and equipment. Said contractors shall provide certificates of insurance in the following amounts: \$100,000 workmen's compensation, as required by law; between \$1,000,000 and \$3,000,000 bodily injury; and between \$1,000,000 and \$3,000,000 property damage.
- The *Tree Warden* is the individual appointed by the Selectboard as such, qualified by MGL Ch. 87. To the extent appropriated and where delegated, the responsibilities and powers of the Tree Warden shall extend to the Deputy Tree Warden.

SECTION III: QUALIFICATIONS, RESPONSIBILITIES, AND AUTHORITY OF THE TREE WARDEN

1. **Qualifications:** As per MGL Ch. 41 and 87, the Town of Pembroke is required to appoint a Tree Warden. The position of Tree Warden is held by the _____. The Tree Warden shall carry out the provisions hereof.
2. **Responsibilities:** The Tree Warden shall be responsible for the periodic inspection of public shade trees to ensure that (a) they are free from disease and/or other conditions that may endanger tree health and (b) they do not present a clear and immediate safety hazard to the public. The Tree Warden shall make every effort to repair and maintain shade trees before their removal.

The Tree Warden shall further be responsible for the marking of all public shade trees on scenic roads before the issuance of any driveway and/or building permit to prevent the inadvertent removal of damage to public shade trees on said roads. He/she shall mark any public shade tree if requested by any citizen.

The Tree Warden shall keep accurate records on the conditions of public shade trees and work completed on them, including attempts at restoration or treatment of same before their removal.

3. **Authority:** Under MGL Ch. 87, the Tree Warden is hereby given authority, control, and supervision of all trees which now or which may hereafter exist upon any public property (except conservation land), street, or highway belonging to the Town if in such a hazardous condition as to immediately endanger the public health, safety, and welfare. Said power included, but is not limited to, the power to supervise, condition, and/or prohibit the alteration, removal, and planting of trees and shrubs up the right of way of any street, alley, sidewalk, park, or other public places in accordance herewith

and with MGL Ch. 87.

The Tree Warden has the authority to supervise all work done by permit as described herein and to affix reasonable conditions to the granting of any such permit.

SECTION IV: PERMITS FOR MAINTENANCE, REMOVAL, AND PLANTING

1. ***Application:*** Except on order of the Tree Warden, or a municipal department or utility acting in response to an emergency, or under the maintenance of an existing transmission line and/or pole no person shall alter, remove, or plant a tree or shrub in the public right of way, park areas or other public property, or cause such an act to be done by others, without a permit for said work from the Tree Warden. The said requirement applies to all persons, including those engaged in the business of cutting, removing, or planting trees or shrubs. A landowner whose property is within 100 feet of the public shade tree, or a municipal department or utility as not otherwise exempted by the language, may apply for, and obtain a permit, but all work must be accomplished or supervised by a tree removal contractor or the Shade Tree Department.

An application for a permit shall consist of a letter to the Tree Warden, and specifying the size, species, and variety of tree or shrub to be altered, removed, or planted. Following a request for a permit, the Tree Warden shall decide if the proposed work is necessary and in accord with the purposes hereof. The Tree Warden shall consider the public safety, health, and welfare and the location of utilities, public sidewalks, driveways, and streetlights. Concerning the planting of trees or shrubs, the Tree Warden shall determine the proper location(s) and distance(s) based on the mature size of the tree(s) or shrub(s) and other landscape variables; and evaluate the equity of requiring the applicant to provide a replacement tree to be planted elsewhere within the town.

2. ***Public hearing:***
 - a. *For All Public Shade Trees Located on Land Under the Control of the Recreation, Parks, and Forestry Dept.*

The Tree Warden is responsible for conducting public shade tree hearings located upon the land under the control of the Town by MGL Ch. 45 § 5. Upon the receipt of a request, the Tree Warden shall schedule and post notice of said hearing. Said notice shall be posted in two (2) or more public places in the Town and on the tree itself, if applicable, within seven (7) days of the hearing, and published in a newspaper of general circulation for two (2) successive weeks, the first publication is to occur no fewer than seven (7) days before the hearing. Said notice shall identify

the location of the tree and the hearing date.

3. **Expenses:** Where applicable, an applicant is responsible for the following expenses: (a) legal advertising; (b) the cost of cutting down the tree and grinding the stump 6" below grade, including the hauling away of debris and the filling of the hole with 6" of the screened loam or seeding; (c) the cost of police traffic details, if requires (d) compensation for the purchase of replacement trees as described in section VI hereof.
4. **Issuance:** Following a determination by the Tree Warden a permit should be issued to the applicant for removal. The Warden shall request (a) proof of insurance as required by Section II hereof and (b) any necessary bond for the work to be performed. The Pembroke Police Department shall be provided with a copy of the permit.
5. **Emergency alteration or removal:** In the event of an emergency, including but not limited to a hurricane, snow/ice storm, or other act of God, where immediate removal of downed trees or limbs is required, work necessary to restore safe conditions is allowed without a permit.
6. **Dangerous, obstruction, and/or infected trees:** Any public tree or part thereof that the Tree Warden shall find to be infected, immediately hazardous to endanger the public or other trees or shrubs, or significantly injurious to sewers, sidewalks, or other public improvements, may be removed by the Town by the procedures outlined in the MGL Ch. 87. Any public shade tree that has been removed, except those removed as visibility hazards, shall be replaced with one or more trees at a location and of a size and species to be determined by the Tree Warden.
7. **Records, expiration, and fees:** All work orders shall be logged by the Tree Warden on a standard form and includes the location and description of the work to be done.

SECTION V: PROHIBITED ACTS

1. **Damage:** No person shall, without the consent of the owners, in the case of a private tree or shrub, or without written permits from the Tree Warden, in case of a tree or shrub on public property, do or cause to be done by others any of the following acts:
 - a. Secure, fasten, or run rope, wire, sign, unprotected electrical installation, or other device or material to, around, or through a tree or shrub, except to secure leaning or newly planted trees.
 - b. Break, injure, mutilate, deface, kill, or destroy any tree or shrub.
 - c. Remove any guard, stake, or other device or material intended for the

protection of a public tree or shrub, or close to obstructing any open space above the base of a public tree or shrub designed to permit access to air, water, and fertilizer.

- d. Attach any sign, poster, notice, or other objects on any tree, or fasten any guy wire, cable, rope, nails, screws, or other devices to any tree, except that the Town may authorize tying temporary signs to trees if necessary; or
 - e. Cause or encourage any fire or burning near or around any public tree.
2. **Excavation:** All trees on any public property near the excavation or construction of any building, structure, or street, or in the vicinity of utility work, shall be sufficiently guarded and protected by those responsible for such work to prevent injury to said trees. No person shall excavate any ditches, tunnels, or trenches, or install pavement within a radius of ten (10) feet from any public tree without a permit from the Tree Warden.

SECTION VI: PENALTIES

1. **Fines:** Any person found in violation of any provision hereof, or who fails to comply with notices issued under provisions hereof, shall be subject to fines of up to \$300 for each separate offense. Any builder, contractor, or agent who intentionally assists in the commission of any such violation shall also be liable for each separate violation in addition to the liability hereunder of any other individual or entity. All violations which are continuing shall constitute a separate offense for each day of such continuance, and each tree removed shall constitute a separate offense. Determinations as to the length of continuing violations and the number of trees affected thereby shall be made by the Tree Warden. No violation shall be deemed to have ceased unless and until there is a public hearing in the same manner as outlined in Section IV (2) hereof and a determination or resolution of the offense is issued thereafter.
2. **Replacement:** Any tree removed for a private purpose, without compensation to the Town and/or in violation hereof, shall be replaced by the violator on an inch-by-inch basis. All replacement trees shall be at least 2" in diameter and of nursery-grown stock. Replacement trees shall be of a size and species specified by the Tree Warden and shall be planted on public property along with rights of way or within easements as permitted by MGL Ch. 87 § 7 and determined by the Tree

Warden.

Alternatively, the violator may pay a replacement fee equal to \$500 per 2" in diameter of the removed or to-be-removed tree.

1. **Legal Advertising:** In addition to fines and/or replacement costs or fees, any person found in violation hereof shall be responsible for the cost of advertising any public hearing required by Section IV hereof.
2. **Appeal:** Any person who receives an order from the Tree Warden hereunder and objects to all or any part thereof shall have the right to appeal such order. For Public Shade Trees located on Land under the Control of the Recreation, Parks, and Forestry Department then to the Recreation, Parks, and Forestry Department for all other Public Shade Trees to the Selectboard or the Recreation, Parks, and Forestry Department as the case may be, shall hear such appeal within 30 days of receipt of written notice thereof. The Selectboard or Recreation, Parks, and Forestry Dept. shall notify the party appealing the order of its decision by mail within ten (10) days after the hearing closes. A copy of the said decision shall be filed with the Town Clerk.

SECTION VII: SEVERABILITY

Should any part hereof or provision herein be determined by a court of law to be invalid, the same shall not affect the validity hereof as a whole or any part other than that found invalid

ARTICLE __ SHADE TREE

SECTION 1. INTENT AND PURPOSE.

a. This bylaw intends to sustain environmental health, enhance economic vitality, and maintain the quality of life for the citizens of the Town of Pembroke. Shade trees make an important contribution to the character and heritage of Pembroke's neighborhoods. This by-law established policies and guidelines for ensuring the health and longevity of the Town's community forest.

b. It is the policy of the Town of Pembroke to encourage new tree plantings on public as well as private property and to cultivate a healthy flourishing community forest.

c. It is also the intent of this by-law to mandate the creation and implementation of a community forest plan as part of the open space and recreation plan of the Town's Master Plan. A goal of this community forest plan will be to obtain and maintain eligibility for annual recertification as a recognized "Tree City, USA."

SECTION 2. DEFINITIONS.

Whenever the following words or terms are used in this by-law, they shall be construed to have the following meanings:

"Shade Tree" - All trees within a public way or on the boundaries thereof shall be public shade trees; and when in any proceeding in which the ownership or rights in a tree are material to the issue, that, from the length of time or otherwise, the boundaries of the highway cannot be made certain by records or monuments, and that for that reason it is doubtful whether the tree is within the highway, it shall be taken to be within the highway and to be public property until the contrary is shown. Public shade trees shall also include those planted with public funds in public ways or, if deemed expedient by the Tree Warden, upon adjoining land at a distance not exceeding 20 feet in accordance with MGL Chapter 87, Section 7.

"**Person**" - Any person, firm, association, or corporation.

"**Town**" - The Town of Pembroke and any of its departments and/or employees.

"**Tree Warden**" - The specific individual appointed by the Board of Selectmen to fill this position. Such a person shall be qualified by MGL Chapter 87.

"**Heritage Tree**" - A public shade tree specifically designated by the Department of Environmental Management, Urban Forestry Program, upon recommendation by the Town Tree Warden to be a heritage tree. Heritage trees may qualify for state funds for maintenance under this program. A tree may qualify as a heritage tree if it meets one or more of the following criteria:

a. Old Age - 100 years or greater; Size - 32 inches diameter or greater.

-
- b. Species rarity.
 - c. Association with a specific historical event or person.
 - d. Healthy abnormality e.g., shape, etc.
 - e. Scenic enhancement, e.g., trees around Pembroke.
 - f. Wildlife value.

"Public Areas" and **"Public Property"** - Includes all public parks and other lands owned, controlled, or leased by the Town except Conservation property.

"Public Nuisance" - Any tree or shrub or part thereof which because of its condition prohibits the use of any public areas is infected with plant disease, is infested with injurious insects or pests, significantly threatens existing public improvements, or immediately endangers the life, health, safety, or welfare of persons or property.

"Shrubs" - Any woody plant, normally having multiple stems and bearing foliage from the ground up.

"Tree" - Any woody plant greater than or equal to 1-1/2" diameter 12" from the ground.

"Topping" - The practice of cutting back large-diameter branches of a mature tree to stubs.

Topping is prohibited.

"Community Forest" - The sum of all trees and other vegetation growing within the boundaries of a community

"Community Forest Master Plan" - A document that describes the goals and objectives related to the management of a community forest.

"Green Industry" - All businesses associated with landscaping, arboriculture, etc. **"ANSI"** - American National Standards Institute.

"Major Alterations" - The following terms describe major alterations requiring a permit:

- Crown cleaning is the selective removal of one or more of the following items: dead, dying, or diseased branches, weak branches, and waterspouts.
- Crown thinning is the selective removal of branches to increase light penetration and air movement or reduce weight.
- Crown raising is the removal of the lower branches of a tree to provide clearance.
- Crown reduction, also called crown shaping, decreases the height and/or spread of a tree.
- Vista pruning is the selective trimming of framework limbs or specific areas of the crown to allow a view of an object from a predetermined point.
- Crown restoration pruning should improve the structure, form, and appearance of trees that have been severely topped, vandalized, or storm damaged.

SECTION 3. AUTHORIZATION AND ESTABLISHMENT OF THE PUBLIC SHADE TREE MANAGEMENT ADVISORY BOARD.

- a. There is hereby created a Public Shade Tree Management Advisory Board which shall serve in an advisory capacity to the Tree Warden on all matters about tree and landscape planning and maintenance of shade and other public trees in the Town of Pembroke. The Board shall review the Annual Work plan for tree maintenance, planting, and removal before its implementation. The Board shall consist of six members, appointed by the Board of Selectmen, to be composed of the following: the Tree Warden who shall be an ex-officio non-voting member, one member of the historical commission, two members of the "green industry"; i.e., landscaping, arborists, etc., and two members at large. Board members will serve 3-year terms with appointments to be staggered to ensure board continuity. Board actions shall be governed by Article ___, Section ___ of the Town Charter.
- b. Board members will be responsible for establishing rules and regulations required for the implementation of this by-law. The board shall meet periodically as determined by its membership.
- c. The Tree Warden is hereby tasked to develop an Annual Work Plan for tree maintenance and replacement and removal for each fiscal year. The plan shall include locations of work, designated work to be accomplished, and resources including funds required. Such a plan will be reviewed by the Advisory Board. Any public hearings required for the implementation of the Annual Work Plan will be conducted by MGL Chapter 87 (Shade Tree) and Chapter 40 (Scenic Road). The Annual Work Plan shall be submitted in time for the submission of the Annual Operating Budget and Capital Budget of the Town.
- d. The Advisory Board shall also be responsible for fostering educational programs regarding continued care of Shade Trees and their importance to the Town's Character and shall publicize and foster participation in grants and tree planting programs of the State and/or private corporations/foundations.
- e. The Advisory Board shall support and help stimulate interest in Arbor Day and Arbor Week programs in schools, conservation organizations, and private companies and families within the Town of Pembroke.

SECTION 4. AUTHORIZATION OF THE TREE WARDEN.

The Tree Warden and the Public Shade Tree Management Board shall carry out the provisions of this by-law. As per Massachusetts Law Chapter 87 and Chapter 41, the Town of Pembroke must appoint a Tree Warden. This individual shall be qualified by demonstrated training and experience in the field of arboriculture. It is recommended that this person be a Massachusetts-certified

arborist and possess a Massachusetts pesticide license. The Tree Warden shall be appointed by the Town Administrator with the approval of the Board of Selectmen as per the Town Charter.

SECTION 5. RESPONSIBILITIES AND AUTHORITY OF THE TREE WARDEN.

- a. The Tree Warden and the Shade Tree Management Advisory Board shall be responsible for the creation and implementation of a Community Forest Plan to be incorporated into the Town Open Space and Recreation Plan.
- b. tree health or are a clear and immediate safety hazard to the public. The Tree Warden shall make every effort to repair and maintain shade trees before their removal by NSI Standard A300 most current edition.
- c. The Tree Warden is responsible for conducting public shade tree hearings by MGL Chapter 87, Section 3. He shall conduct joint hearings with the Planning Board when required under the Scenic Roads Law, MGL Chapter 40, Section 15c.
- d. The Tree Warden shall be responsible for the location, selection, and identification of any trees which may qualify as "heritage trees" and shall promptly forward such recommendations to the Department of Environmental Management, Urban Forestry Program for consideration for future preservation. Any person may submit a petition recommending a tree that they believe qualifies as a heritage tree. Upon receipt of the petition, the Tree Warden will hold a duly advertised public hearing to acquire public input on the tree so recommended. Upon completion of the public hearing, the Tree Warden may, at his discretion, submit the tree to the Department of Environmental Management for recognition as a heritage tree. Heritage trees so designated shall be marked by the Tree Warden and located on engineering plans used by the Town.
- e. The Tree Warden shall be responsible for the marking of all public shade trees on scenic roads before the issuance of any driveway permit or building permit to prevent the inadvertent removal or damage to public shade trees on these roads. He shall mark any public shade tree so requested by any citizen.
- f. The Tree Warden shall review all proposed subdivision plans for tree locations and measures taken to protect existing trees during construction and shall recommend to the Planning Board conditions required as part of their approval process.
- g. The Tree Warden shall review all proposed subdivision plans and topography to ascertain the location of any recommended heritage trees. The location of the same shall be furnished to the Planning Board. The Planning Board is encouraged to grant waivers of current regulations for the preservation of any identified heritage trees towards required street trees on an inch-for-inch basis.
- h. The Tree Warden shall keep complete and accurate records on the condition of all public shade trees and all work completed on public shade trees to include all

attempts at restoration or treatment of same prior to their removal.

- i. The Tree Warden, by MGL Chapter 87, is hereby given authority, The Tree Warden shall be responsible for the periodic inspection of public shade trees to ensure they are free from disease or other conditions that may endanger control, and supervision of all trees which now or which may hereafter exist upon any public property, except Conservation Commission property, street, or highway belonging to the Town of Pembroke, and over all trees which exist upon any private property in the Town of Pembroke, when such trees are in such a hazardous condition as to immediately endanger the public health, safety, and welfare.
- j . This power includes but is not limited to, the power to enforce the rules, regulations, and specifications concerning the trimming, spraying, removal, planting, pruning, and protection of trees, shrubs, vines, hedges, and other plants upon the right of way of any street, alley, sidewalk, park, or other public places in the Town by this by-law and MGL Chapter 87.
- k . In addition, under MGL Chapter 87, Section 2, the Tree Warden has the additional right to make regulations for the care and preservation of public shade trees and establish fines and forfeitures of not more than that specified in MGL Chapter 87, Section 2 in any one case for violation thereof; which, when posted in one or more public places, and, in towns, when approved by the selectmen, shall have the effect of town by-laws.
- l . The Tree Warden has the authority to supervise all work done by permit as described in this by-law and to affix reasonable conditions to the granting of permits.

SECTION 6. PERMIT FOR MAINTENANCE AND REMOVAL OF TREES AND SHRUBS.

- a. **Permit Required** - No person, except on order of the Tree Warden, shall remove or do major alterations specified herein and as determined by the Tree Warden on a tree or shrub in the public right of way, park areas, and other town-owned lands, or cause such action to be done by others without a permit for such work from the Tree Warden as herein provided. This includes all persons engaged in the business of cutting or removing trees or shrubs. Any person may apply for and obtain a permit, but all work must be accomplished or supervised by a certified arborist. The hearing and notice process required by MGL Chapter 87; Section 3 must be complied with.
- b. **Permit Required and Conditions** - When a permit is requested, the Tree Warden must decide that the proposed work is necessary and in accord with the purposes of this chapter. The Tree Warden must consider safety, health, and welfare, as the location of utilities, public sidewalks, driveways, and streetlights.

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- c. **Exemption** - In cases of emergencies such as hurricanes, snow/ice storms, or other acts of God where immediate removal is required of downed trees or limbs, work necessary to restore safe conditions is allowed. No permit shall be required to cultivate, fertilize, or water trees and shrubs on Town property.
 - d. **Permit Form, Expiration, Inspection** - Permits shall be logged by the Tree Warden on a standard form and include a description of the work to be done and shall specify the location. Any work done under such a permit must be performed in strict accordance with this chapter and ANSI Standard A300 (most current edition). Permits issued under this section shall expire three months after the date of issuance. There is no charge for permits.
 - e. The applicant shall be required to pay any advertising fees for public hearings.

SECTION 7. PERMITS FOR PLANTING TREES AND SHRUBS.

- a. Planting - All trees and shrubs planted on all public property within the Town of Pembroke become the property of the Town of Pembroke.
 - (1) The planting of the following species is prohibited on any Town of Pembroke's property, except with the express written approval of the Tree Warden:
 - (a) Ailanthus species (Tree of Heaven)
 - (b) Populus species (Poplar)
 - (c) Salix species (Willows)
 - (d) Catalpa species (Catalpa)
 - (e) Acer negundo (Boxelder)
 - (f) Acer saccharinum (Silver Maple)
 - (g) Robinia pseudoacacia (Black Locust)
 - (h) Acer paltanoides (Norway Maple)
 - (2) There is no charge for the permit. The applicant shall be required to pay any advertising fees for public hearings. The permit will be on a standard form. Permits logged under this section shall expire 6 months after the date of issuance.
 - (3) No person shall plant any tree, shrub, or other vegetation in the public right-of-way, park areas, and other town-owned lands without first obtaining a permit for such work from the Tree Warden. The request for such a permit shall specify the

size, species, and variety of trees, shrubs, or other vegetation to be planted and shall be submitted to the Town Tree Warden for approval before planting. Approved tree and shrub lists as well as guidance on planting procedures are available at the Tree Warden office.

- (4) Planting locations and minimum distances will be based on the mature size and landscape variables of the plants. Proper distances and planting locations shall be determined by the Tree Warden based on the recommendation contained in the Community Forest Plan.
- b. No person shall plant on any public or private premises situated at the intersection of two or more streets or alleys in the Town, any hedge, tree, shrub, or another vegetation device that may obstruct the view of the operator of any motor vehicle or pedestrian approaching such intersection.
- c. Only small maturing trees or shrubs are authorized for planting under any overhead utility wires or cables. No trees should be planted over underground utility systems unless approved by the Tree Warden.
- d. In new subdivisions or when the development of commercial property occurs, the Tree Warden shall review landscaping plans and may suggest locations of street trees to be planted in any of the streets, and other public places henceforth developed. Tree species and sizes are to be recommended by the Tree Warden. Landscaping shall conform to the Pembroke subdivision regulations unless otherwise waived by the Planning Board.

SECTION 8. LICENSING.

All work performed on town-owned trees is to be done by or supervised by a Massachusetts-certified arborist or ISA-certified arborist.

SECTION 9. TRIMMING.

- a. To ensure high-quality shade trees, shaped for maximum aesthetic appreciation and to prevent interference with traffic and utility wires, all newly planted trees in public lands shall be trimmed and shaped as necessary for five years after planting.
- b. Trimming (pruning) of all trees in public areas shall be done according to current technical specifications of the American National Standard for Tree, Shrub, and Other Woody Plant Maintenance-Standard Practices (ANSI A300). The current safety specifications of the American National Standard for Tree Care Operations (ANSI Z133) apply. All specifications and procedures are available from the Tree Warden.
- c. Trimming of trees or bushes upon private property may be accomplished, upon order

of the Board of Selectmen, where the same obstructs, endangers, hinders, or incommodes persons traveling on streets or sidewalks.

- d. Trees shall not be topped.

SECTION 10. REMOVAL OF TREES AND STUMPS.

- a. **Dangerous, Obstructive, and Infected Trees** - Any dead public tree or part thereof that the Tree Warden shall find to be infected, immediately hazardous to endanger the public or other trees, plants, shrubs grown in the Town, or to be significantly injurious to sewers, sidewalks, or other public improvements may be removed by the Town by the procedures outlined in MGL Chapter 87. All wood must be removed from the street before the end of each working day, and all holes shall be filled to normal grade level with topsoil as soon as practical.
- b. Any public shade tree that has been removed, except those removed as a visibility hazard, shall be replaced with one or more trees at a location to be determined by the Tree Warden. Size and species shall also be determined by the Tree Warden.

SECTION 11. OBSTRUCTIONS.

- a. Trees and shrubs standing in or upon any Town-owned land or upon any private premises adjacent to any public right of way or public areas shall be kept trimmed so that the lowest branches projecting over the public street provide a clearance of not less than sixteen feet. The Tree Warden may waive the provision of this section for newly planted trees if determined that they do not interfere with public travel or endanger public safety. The Town shall have the right to trim any tree or shrub in the Town when it interferes with the safe use of streets or sidewalks or with the visibility of any traffic control and it is so ordered by the Board of Selectmen.
- b. Clearance from sidewalk to lower branches shall not be less than ten feet. All trees standing upon private property in the Town, the branches of which extend over the line of the street shall be trimmed (pruned) so that no branches shall grow or hang over the line of the sidewalk lower than ten feet above the level of the sidewalk.

SECTION 12. PROHIBITED ACTS.

- a. **Damage to Public Trees** - No person shall, without the consent of the owners in the case of a private tree or shrub or without written permits from the Tree Warden in case of Town-owned trees, do or cause to be done by others any of the following acts:
 - (1) Secure, fasten, or run any rope, wire, sign, unprotected electrical installation, or other devices or material to, around, or through a tree or shrub except to secure leaning or newly planted trees.

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- (2) Break, injure, mutilate deface, kill, or destroy any tree or shrub.
 - (3) Remove any guard, stake, or other device or material intended for the protection of a public tree or shrub, or close or obstruct any open space above the base of a public tree or shrub designed to permit access to air, water, and fertilizer.
 - (4) Attach any sign, poster, notice, or other objects on any tree, or fasten any guy wire, cable, rope, nails, screws, or other devices to any tree, except that the Town may authorize tying temporary signs to trees when necessary.
 - (5) Cause or encourage any fire or burning near or around any public tree.
- b. **Excavation** - All trees on any Town-owned land near excavation or construction of any building, structure, street, or utility work, shall be sufficiently guarded and protected by those responsible for such work as to prevent injury to said trees. No person shall excavate any ditches, tunnels, or trenches, or install pavement within a radius of ten feet from any public tree without a permit from the Tree Warden.

SECTION 13. REQUIREMENTS AND PENALTIES.

- a. Any person who violates any provision of this by-law or who fails to comply with notices issued under provisions of this by-law, shall be subject to fines of up to \$300 for each separate offense. Any builder, contractor, or agent who intentionally assisted in the commission of any such violation shall be liable for each separate violation. All such violations which are continuing shall constitute a separate offense for each day of such continuance, and each tree removed shall constitute a separate offense. Any tree removed in violation of this by-law shall also be replaced by the violator on an inch-for-inch basis.
- b. **Fines** shall be assessed and collected under MGL Chapter 21D adopted as a part of this by-law. The Tree Warden shall have the requisite police power established under MGL Chapter 21D.
- c. **Appeal** - Any person who receives an order under this by-law from the Tree Warden and objects to all or any part thereof shall have the right to appeal such order. The Board of Selectmen shall hear such appeal within 30 days of receipt of written notice of the appeal. The Board of Selectmen shall by letter notify the party appealing the order of its decision within ten days after the hearing closes and file a written decision with the Town Clerk.

SECTION 14. EVALUATION AND FUTURE UPDATE OF BY-LAW.

A successfully implemented management strategy must be monitored to ensure that progress is being made and standards are being met. Evaluation provides the feedback necessary to determine whether the management strategy is working. The periodic evaluation also provides an

opportunity to reassess the needs and goals of the community. The management strategy may need to be adjusted to reflect new or altered goals. By providing regular evaluation as part of the management process, the need for change can be identified before a crisis develops. Evaluation methods include surveys and record-keeping as well as public opinion heard through polls or hearings.

The Tree Warden and the Shade Tree Management Advisory Committee shall conduct periodic evaluations of this by-law and implement instructions and policies.

SECTION 15. SEVERABILITY.

Should any part or provision of this by-law be determined by a court of law to be invalid, the same shall not affect the validity of the by-law as a whole nor any part thereof other than the part found invalid.

TEMPLATED



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TEMPLATE

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Appendix G. ADA SELF-EVALUATION

SELF-EVALUATION OF TOWN RECREATIONAL PROGRAMS, AND PARKS

The Town of Pembroke has undertaken a Self-Evaluation of its recreational programs, practices, and recreational facilities to assess their compliance with Title II of the Americans with Disabilities Act (ADA) regulations. The objective of the Self-Evaluation is to identify and bring into reasonable compliance programs and practices that do not currently meet the requirements of the Act. The three major elements outlined below have been assessed for this evaluation. By evaluating these three elements, Pembroke will work to comply with ADA Self-Evaluation regulations.

1. Site Accessibility: is the site accessible to persons with disabilities?

2. Program and Service Accessibility: are the programs and services offered available to all persons, regardless of their disability?
3. Employment Practices: Are employment decisions made without discrimination based on disability? Are reasonable accommodations made for employees who may require them? Are employment notices in formats accessible to people with sight or hearing disabilities?

ADA COORDINATOR

The ADA requires public entities with 50 or more employees to designate at least one employee to coordinate its efforts to comply with Title II and investigate any complaints of ADA-related discrimination. The Board of Selectmen has designated Town Administrator, William Chenard, to act in this capacity.

PUBLIC NOTIFICATION

A public entity is required to inform applicants, participants, beneficiaries, and other interested parties of their rights and protections afforded by the ADA. A copy of the Public Notice of the Town of

Pembroke's Policy of Non-Discrimination based on Disability is placed on the back of this document.

GRIEVANCE PROCEDURE

Also required by ADA regulations is a formal grievance procedure by which complaints of ADA violations may be resolved. The Town of Pembroke's ADA Grievance Procedure is placed at the back of this document.

EMPLOYMENT PRACTICES

The Town of Pembroke's employment practices complies with the ADA regulations, especially regarding recruitment, personnel actions, leave administration, training, tests, medical exams/questionnaires, social and recreational programs, fringe benefits, collective bargaining agreements, and wage and salary administration. A signed statement from the Town's ADA Coordinator attesting to this can be found at the back of this document.

SITE ACCESSIBILITY

The following inventory describes the parks, playgrounds, and historic sites in the Town of Pembroke that are under the jurisdiction of the Town. The inventory includes a description of the facilities, accessibility needs, and recommendations for modifications, which would help to

OUR MISSION

Our mission is to promote equality and advocate for people with disabilities in the Town of Pembroke. We strive to comply

provide people with disabilities equal access to these resources. The specific recommendations for each site are summarized in a table, the ADA Transition Plan, at the end of this document. The standards by which the park facilities are judged are from the Massachusetts Division of Conservation Services and are based on state and federal guidelines.

PEMBROKE COMMISSION ON DISABILITIES

The Pembroke Commission on Disabilities is a group of volunteers appointed by the Select Board who serve 3-year terms. The seven (7) commission members work to advocate on disability-related issues. Members work on projects to improve access for persons with disabilities in the Town of Pembroke. This involves reviewing Pembroke's Self-Evaluation and Transition Plan written by staff from Weston & Sampson, an environmental and infrastructure consulting firm. Members may also make recommendations and provide technical knowledge on key topics to related town departments, businesses, and organizations.

with Title II of the Americans with Disabilities Act by reducing architectural, attitudinal, communication, and procedural barriers in addition to promoting equal access to housing, education, employment,

transportation, and civic activities. The Pembroke Commission on Disabilities strives to spread awareness and gain support within the community to provide resources, knowledge, understanding, and creative ideas for complicated problems.

COMMISSION GOALS

The Pembroke Commission on Disabilities advocates for the full inclusion, integration, and participation of people with disabilities in Town of Pembroke services and recreational activities, advises and assists town officials and employees in addressing barriers that people with disabilities face, advises architects, contractors, and builders at the beginning of the design process. This proactive approach is the key to avoiding having to be reactive to access barriers and code violations. Identify the needs, problems, and barriers that disabled Pembroke residents face today and determine the best possible solutions by performing research, analysis, participating in group discussions, and participating in disability-related training and informational programs at the local, regional, state, and federal levels. This allows us to stay up to

ADA COORDINATOR DESIGNATION FORM

ADA Coordinator Name: William Chenard
Name of Town Department the ADA Coordinator Works:
Selectboard/Administration
Job Title: Town Administrator
Phone: 781-293-3844
Address: 100 Center Street, Pembroke, MA 02359

date with ADA laws and regulations as they are modified or added, provides information, referrals, guidance, and technical assistance to individuals, public agencies, businesses, and organizations in matters about disability and ADA regulations, supports and advocate for training relevant to people with disabilities who reside or work in the Town of Pembroke.

Maintain a point of contact for people with disabilities in need of equipment, transportation, or other basic needs.

SERVICING THE COMMUNITY

PCOD currently provides a point of contact by staffing volunteer office hours twice weekly to assist people with disabilities in need of equipment, transportation, or other basic needs.

The Town of Pembroke Commission on Disabilities Guidebook can be downloaded here: https://www.pembroke-ma.gov/sites/g/files/vyhlf3666/f/uploads/commission_on_disabilities.pdf

Is this Appointment **PERMANENT** or Acting

Does this ADA Coordinator report directly to the appointing authority? **YES** or No

ADA SELF EVALUATION, TRANSITION, AND GRIEVANCE PLAN

TOWN OF PEMBROKE,
MASSACHUSETTS
ADA SELF EVALUATION, TRANSITION,
AND GRIEVANCE PLAN
Updated August 2018

The Town of Pembroke voted unanimously after holding a public hearing on June 30, 1997, to amend the Town's Community Action Statement Strategy to become compliant with the 1990 Americans with Disabilities Act. The ADA was amended in 2008 to include several changes that require towns to make additional modifications to improve accessibility to those with impairments that limit their ability to access governmental services. This self-evaluation and transition plan supersedes and replaces the Town of Pembroke's older plan.

This 2018 ADA Self-Evaluation consists of the following sections:

➤ Self-Evaluation

A Self-evaluation of the 6 town-owned buildings and 6 recreational sites to identify the following:

1. The primary use of the site.

2. A summary of ADA compliance in the Town of Pembroke and areas that require attention to become compliant. These issues were found by the Weston & Sampson team and outlined in the priorities listed in the *Checklist for Existing Facilities* from Adaptive Environments Center, Inc. for the National Institute on Disability and Rehabilitation Research, as provided by the Massachusetts Office on Disability.
3. Funding is needed to accomplish the goals outlined above.

➤ Transition Plan

A Transition Plan was established by Weston & Sampson to address the following:

1. Location and use of the 6 buildings and 6 recreational sites.
2. Condition of each of these sites and surrounding areas.
3. Site facility and access.
4. Long-term improvements to address access issues within each site.

➤ Grievance Plan

A suggested grievance plan for handling and resolving complaints regarding the ADA compliance of municipal buildings and programs.

The Town website has the ADA Transition Plan posted at <https://www.pembroke-ma.gov/commission->

[disabilities/pages/town-pembroke-ada-transition-plan](https://www.pembroke-ma.gov/commission-disabilities/pages/town-pembroke-ada-transition-plan)

Title II of the Americans with Disabilities Act

COMPLAINT FORM

Instructions: Please fill out this form completely, in black ink, or type. Sign and return to the address on page 3.

Complainant:

_____ Address:

City, State, and Zip Code:

_____ Telephone: Home:
Business: _____

Person Making the Complaint: (if other than the complainant)

_____ Address:
_____ City,
State, and Zip Code: _____

Telephone: Home: Business:

_____ Department/Agency
which you believe has discriminated:

Name:

Address:

County:

City:

State and Zip Code:

Telephone Number:

When did the event occur? Date:

Describe the event providing the name(s) where possible for the individuals who were involved (use space on page 3 if necessary):

Has the complaint been filed with the Michigan Department of Civil Rights or the Federal Department of Justice or any other Federal agency or court? Yes _____
No _____

If yes (Next page)

Agency or Court:

_____ Contact

Person: _____

Address: _____ City,

State, and Zip Code: _____

Telephone Number: _____ Date Filed: _____
_____ Do you

intend to file with another agency or court? Yes _____ No _____

Agency or Court:

_____ Contact

Person: _____

Address: _____ City,

State, and Zip Code: _____

Additional space for answers:

Signature: _____

Date: _____

Return to:

William Chenard, ADA Coordinator

100 Center Street

Pembroke, MA 02359

Phone: (781) 293-3844

*GRIEVANCE
PROCEDURE*

**Town of Pembroke Discrimination
Grievance Procedure**

Grievance Procedure under the Americans with Disabilities Act This Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act of 1990 ("ADA"). This may be used by anyone who wishes to file a complaint alleging discrimination based on disability in the provision of services, activities, programs, or benefits by the Town of Pembroke.

The Town of Pembroke's Personnel Policy governs employment-related complaints of disability discrimination. 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 his/her designee as soon as possible, but no later than 60 calendar days after the alleged violation to The Town Administrator, 100 Center Street, Pembroke, MA 02359.

Within 15 calendar days after receipt of the complaint, the Town Administrator or the Town Administrator's designee will meet with the complainant to discuss the complaint and the possible resolutions.

Within 15 calendar days of the meeting, the Town Administrator or the Town Administrator's designee will respond in writing, and where appropriate, in a format accessible to the complainant, such as large print, Braille, or audio tape. The response will explain the position of the Town of Pembroke and offer options for substantive resolution of the complaint.

If the response by the Town Administrator or the Town Administrator's designee does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision within 15 calendar days after the receipt of the response to the Selectboard or the Selectboard's designee.

Within 15 calendar days after receipt of the appeal, the Selectboard, or the Selectboard's designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the Selectboard or the Town Selectboard's 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 the Town Administrator or the Town Administrator's designee appeals to the Selectboard or the Selectboard's designee, and responses from these town offices will be retained by the Town of Pembroke for at least three years.

Town of Pembroke

**MINUTES OF THE SELECTMEN'S MEETING
SEPTEMBER 24, 2018**

PRESENT: Matthew J. Furlong (Chairman), Arthur P. Boyle, Jr. (Vice-Chairman), Willard J. Boulter, Jr. (Clerk), John G. Brown, Jr. (Selectman), Edwin J. Thorne (Town Administrator), Michael Buckley (Town Accountant), Catherine Salmon (Chief Assessor), Brandon Gulnick (Administrative Assistant), Robert Almy, Burt White, Rob Adams, Brooke Young, Sabrina Chilcott (Assistant to the Town Administrator) and others.
NOT PRESENT: Daniel W. Trabucco (Selectman)

At 7:00 pm, Mr. Furlong opened the meeting and advised that this meeting is being made available to the public through a live video and audio broadcast on Comcast Government Access Channel 15 and is also being recorded for airing on the channel at future dates. Comments made in open session will be recorded.

7:00 ROBERT ALMY, WESTON & SAMPSON: SELF EVALUATION, GRIEVANCE PLAN AND ADA TRANSITION PLAN

Brandon Gulnick of the Selectmen's office presented an overview of the Town Administrator's Self Evaluation Plan that was conducted in conjunction with Weston & Sampson's Americans with Disabilities Act (ADA) Transition Plan. Mr. Gulnick explained that the town undertook this Community Compact funded project to become eligible for state and federal grant funding to improve accessibility throughout the town's six public buildings and six of the parks and beaches. Mr. Gulnick stated that the review showed that the town, whose buildings were constructed prior to the adoption of the Act, is in general compliance with the 1991 mandates for parking, access and availability; however, the new standards adopted in 2010 have revealed opportunity for improvement. Robert Almy of Weston & Sampson defined the process of the review including the checklist used to evaluate the facilities, the approach and parking at each facility, the accessibility to the services offered, access to restrooms and access to emergency communications. Mr. Almy confirmed that the sites evaluated included the Town Hall, Police Station, Community Center, Library, center Fire Station, and Council on Aging; the recreational facilities included the Town Landing, Luddam's Ford, Stetson Beach, Little Sandy Beach, Tubb's Meadow, and Herring Run Park. Mr. Almy confirmed that the staff was very helpful and he worked closely with Mr. Gulnick as well as an architect for facilities and a landscape architect for recreational facilities. Mr. Almy advised that the Community center is not listed as the age and condition of the building is not currently amenable to compliance upgrades. Mr. Almy concluded by stating that by adopting the Self Evaluation Plan, the ADA Transition Plan and the Grievance Plan, the town is exercising good faith efforts to the state and cannot be challenged meaningfully for non-compliance while working towards solutions. Mr. Gulnick presented the Grievance Plan to the Board, explaining that a formal plan doesn't exist at this time, leaving a patron with an issue entering the building or using a service without an opportunity to raise their concerns; with this plan, they will have a process to bring their concerns to the Board of Selectmen. Mr. Gulnick explained the opportunities for funding through the Municipal Improvement Grant process once the plans are adopted; project grants are up to \$250,000 annually. Mr. Gulnick confirmed that some of the preliminary projects include Town Landing access ramps, border areas with ramps to the floating dock; Town Hal door handles, restroom automated door systems; Herring Run Park stone dust paths, and Council on Aging entry door changes. Mr. Boyle moved to adopt the ADA Transition Plan for the Town of Pembroke as presented; Mr. Brown seconded the motion. The vote was unanimously in favor. Mr. Boyle moved to adopt the Self Evaluation Plan and Grievance Plan for the Town of Pembroke as presented; Mr. Brown seconded the motion. The vote was unanimously in favor.

HERRING RUN PARK

Pembroke ADA Accessibility
Survey and Recommendations
Herring Run Park 211 Barker Street

Revised 30 August, 2018

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at the Herring Run Park in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 3.



2. Specific site

Herring Run Historical Park is small sparsely developed public area accessed from an at-grade gravel parking area on the northwest site of Route 14.

3. Name and location of site

- Size and ownership

Several parcels of conservation land comprise the Park and surrounding area. The Park occupies 49.57 acres on two parcels, both of which are owned by the Town of Pembroke. The site contains two branches of Herring Brook and lower Little Pudding Brook. Surrounding areas are owned by the Town and the Wildland Conservancy of Plymouth and include large undeveloped parcels containing marsh lands and wooded areas held for land conservation.

4. Existing condition of site

- Existing Conditions
 - Primary (developed) uses

Herring Run Park contains two historical displays, several picnic tables, a grill, an old mill site and two fish ladders. These areas are set-in grass with scattered trees. There is a small open lawn area to the north of the parking with two granite benches and a historical structure. The remaining section of the park is on the other side of two brooks that eventually converge into one running from the southeast corner to north of the parking area. Access from the parking area to the larger side of the park requires pedestrians to cross two brooks. Passage over the first brook is provide by either a flush concrete bridge with wood rails or a wood deck bridge with two step ups on either side. Both bridges lead to the grassy median between the two brooks. Access over the second brook is provided by another wood deck bridge with two step ups on either side or a gravel path leading over the culvert in the southeast corner of the park.



ii. Secondary (informal) uses

Informal uses are not formally identified but may include picnicking and observing herring in season.

b. Nature of development

Parking for Herring Run Park is provided in an at grade gravel lot of roughly 3,200 square feet and containing space for approximately 20 vehicles. No parking stalls are marked; a single handicapped space is indicated by a sign but with no surface markings. No restroom facilities are provided. No emergency telephone is provided.

c. Surrounding land uses (including linkages to other parks)

Willow Brook Farm Preserve sits to the north of Herring Run Park and Mark Preserve sits to the south. The remainder of the surrounding land consists of mixed residential and agricultural uses.

5. Conditions of site

a. Approach, parking and signage

The park is not well marked from the street. The parking area is not paved and contains no marking of parking spaces. A single sign indicating handicapped parking is in the western end of the parking area near the concrete decked bridge. The pathway to the bridge has a variable slope from 2 to 10 degrees and with a cross-slope of 2 to 5 degrees. The area accessed by the concrete bridge is grass and contains no developed pathway.

The concrete bridge is 10 feet long and is 98 inches wide. It has a slope of 3.5 degrees toward the grassy area and has no cross-slope. The bridge has wooden railings that are 48 inches high.

b. Entrance and access to primary uses

- i. Directional signage to primary uses NONE
- ii. Access to picnic tables, grill, and benches

There are no outdoor recreation access routes (ORAR) with in the entire site. In order for there to be access to the picnic tables, grill and benches, they need to be along a ORAR.



- c. Restroom facilities NONE
- d. Emergency communication equipment NONE
- 6. Barriers that limit access to existing uses
 - a. Description of each barrier and nature of limitation
 - i. Lack of accessible surfacing. In order for a pathway to be considered an ORAR, the surfacing has to be accessible. Acceptable surfacing material include, concrete, asphalt, crushed stone, packed soil and soil stabilizer. The only pathways are informal open lawn, which is not considered an accessible surface.
 - ii. Lack of accessible parking space

7. Short term site improvements

- a. There is currently a sign indicating a “designated accessible route”, but the route is not accessible. The town is required to make this an accessible route because it is designated as one. A short-term solution to this would be to add a stone dust pathway from the parking area to the concrete bridge and from the concrete bridge to the gravel path over the culvert. The stone dust path should extend to the grill area where there is an annual fish fry.
- b. An option for short term improvements to address the accessible parking space would include paving two spaces with room for an isle and add line striping indicating that handicap space. Access from the accessible isle to the ORAR is required.



Long term site improvements

- c. Long term options include extending the ORAR up to the Indian rock, along the woodland edge to meet the brook, then follow the brook past the house and back to the culvert to create a perimeter path that allows access to all amenities. Adding benches with companion seating along the brook/ loop path would enhance the amenities available to all users.



LITTLE SANDY BEACH

Pembroke ADA Accessibility
Survey and Recommendations
Little Sandy Park Woodbine Avenue

Revised 30 August, 2018

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at Little Sandy Park in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 2.



2. Specific site

Little Sandy Park is small public area providing access from Woodbine Avenue to a beach/swimming area on Little Sandy Pond.

3. Name and location of site
a. Size and ownership

The Park property comprises of a Town road right of way approximately 20 feet wide and 150 feet long at the intersection of Woodbine and Shepard Avenue. The Town of Pembroke owns no other property in this immediate area.

4. Existing condition of site
a. Existing uses
i. Primary (developed) uses

Little Sandy Park comprises of an unimproved sand strip, approximately 32' wide, connecting the paved portion of Woodbine Avenue to Little Sandy Pond. A single portable toilet is placed at the northeast side of the sandy area. A small equipment building is located approximately 20 feet from the paved portion of Woodbine Avenue. No on-street parking is indicated in the vicinity of the Park. Three picnic tables and two wooden benches are located on the northern side of the sandy area. The benches sit parallel with a black vinyl chain link fence that separates the sandy beach area from the adjacent neighbor's property. The distance from the paved street to the water is approximately 105'. There is a floating dock with a ramp connecting to the beach. The dock is 5' wide, parallel with the southern property line and extends approximately 50' out into the pond.



ii. Secondary (informal) uses

Informal uses may include swimming, fishing, picnicking and boating.

b. Nature of development

Parking for Little Sandy Park is on-street with spaces for perhaps 3 vehicles. No parking stalls are marked; no handicapped spaces are indicated. The restroom facility provided is not ADA compliant. No emergency telephone is provided.

c. Surrounding land uses (including linkages to other parks)

Little Sandy Pond runs along the Northwest edge of the property. The remainder of surrounding land consists of residential use.

5. Conditions of site

a. Approach, parking and signage

The park is well marked from the street. Parking is not well defined and the swimming area is accessed by steep unimproved paths.

b. Entrance and access to primary uses

- i. Directional signage from street to primary uses: NONE
- ii. Access to picnic tables and swimming area:

There are no outdoor recreation access routes (ORAR) with in the entire site. In order for there to be access to the picnic tables and swimming area, they need to be along a ORAR.

- c. Restroom facilities: portable toilet, not ADA compliant
- d. Emergency communication equipment NONE

6. Barriers that limit access to existing uses

a. Description of each barrier and nature of limitation

- i. Lack of accessible surfacing. In order for a pathway to be considered an ORAR, the surfacing has to be accessible. Acceptable surfacing material include a beach mat, concrete, asphalt, crushed stone, packed soil and soil stabilizer. The only available surfacing is sand, which is not considered an accessible surface.
- ii. There is no accessible parking. Space constraints on the street may preclude delineating ADA compliant parking.

7. Short term site improvements

- a. Short term site improvements for accessibility would include running a removable beach mat from the paved street to the normal recreation water level of the pond.
 - b. The current portable toilet on site is not ADA compliant. It is recommended to update this to an ADA compliant portable restroom and provide an ORAR, whether is it a mat or one of the other acceptable surfaces, to the compliant restroom.
 - c. An option for short term improvements to address the accessible parking space would include paving one space with room for an isle and add line striping indicating that handicap space. Access from the accessible isle to the ORAR is required.
-

Pembroke ADA Accessibility
Survey and Recommendations
Little Sandy Park Woodbine Avenue

Revised 30 August, 2018

8. Long term site improvements
 - a. Long term options include acquisition of property and providing a larger paved area for a designated parking lot, paving a path from the parking to the restroom facility and creating an ORAR along the northern perimeter where the tables can then be accessed from. Also, adding an accessible picnic table is recommended.

LUDDAM'S FORD PARK

Pembroke ADA Accessibility
Survey and Recommendations
Luddam's Ford Park West Elm Street

Revised 30 August, 2018

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at the Luddam's Ford Park in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 3.



2. Specific site

Luddam's Ford Park is small sparsely developed public area accessed from an at-grade gravel parking area on the west side of West Elm Street.

3. Name and location of site

- a. Size and ownership

Several parcels of undeveloped land comprise the Park and surrounding area. The Park property comprises of approximately 34.0 acres on two parcels, one of which is owned by the Town of Pembroke (33.59 acres) and the other is owned by Eastern Edison Co. (0.41 acres). The Park itself is along the south side of the Indian Head river. The Town of Hanover has a park of the same name along the north side of the river. The river is dammed and forms a pond between the two parks. The Town of Pembroke property on which the Park is located extends to the east side of Elm Street, but is not developed. The property to the west of the Park is owned by the Wildland Trust of Plymouth and is called the Tucker Preserve; it contains 78.58 acres of both marsh land and wooded areas. The Tucker Preserve is accessed by a trail though the western portion of Luddam's Ford Park.

4. Existing condition of site
 - a. Existing uses
 - i. Primary (developed) uses

Luddam's Ford Park contains several picnic tables, a trailhead, a dam site and pond. These features are set in a grass area with scattered trees that make up roughly a quarter of the Park property. The rest of the property is wooded. Access from the parking area to the grass portion of the park is through a line of large boulders placed roughly 40 inches apart. Access to the dam, pond, and trailhead is across the grassy area.



- ii. Secondary (informal) uses

Informal uses and not formally identified may include fishing in the pond and river and picnicking. Direct access to the pond at the right abutment of the dam is provided by a narrow dirt path.

- b. Nature of development

Parking for Luddam's Ford Park is provided along the access road and in an at grade gravel lot of roughly 10,500 square feet and containing space for approximately 30 vehicles. No parking stalls are marked; no handicapped spaces are indicated. No restroom facilities are provided. No emergency telephone is provided.

- c. Surrounding land uses (including linkages to other parks)

The town of Hanover sits north of the site on the other side of the Indian Head River Reservoir. Tucker Preserve is to the west and the remainder of the surrounding land consists of mixed residential and agricultural uses.

5. Conditions of site
 - a. Approach, parking and signage

The Park is not well marked from the street. The parking area is not paved and contains no marking of parking spaces. The grassy area is accessed through gaps in the line of boulders and contains no developed pathway.

- b. Entrance and access to primary uses
 - i. Directional signage to primary uses: NONE
 - ii. Access to picnic tables, trailhead, fishing

There are no outdoor recreation access routes (ORAR) with in the entire site. In order for there to be access to the picnic tables, trailhead and benches, they need to be along a ORAR.

- c. Restroom facilities NONE
 - d. Emergency communication equipment NONE
 6. Barriers that limit access to existing uses
 - a. Description of each barrier and nature of limitation
 - i. Lack of accessible surfacing. In order for a pathway to be considered an ORAR, the surfacing has to be accessible. Acceptable surfacing material include, concrete, asphalt, crushed stone, packed soil and soil stabilizer. The only pathways, aside from the trail surfacing, are informal open lawn, which is not considered an accessible surface.
 - ii. Lack of accessible parking spaces
 7. Short term site improvements
 - a. Provide a stone dust pathway from the parking area to the trail head. Move the one accessible picnic table on site to a location that is accessible from the stone dust pathway.
 - b. An option for short term improvements to address the accessible parking space would include paving two spaces with room for an isle and add line striping indicating that handicap space. Access from the accessible isle to the ORAR is required.
 8. Long term site improvements
 - a. Provide an ORAR from the stone dust path down to an accessible fishing/ viewing area.

STETSON PARK

Pembroke ADA Accessibility
Survey and Recommendations
Stetson Park Plymouth Street

Revised 30 August, 2018

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at Stetson Beach in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 2.



2. Specific site

Stetson Beach is a small sparsely developed public area accessed from an at-grade gravel parking area on the northeast side of Plymouth Street between the street and Stetson Pond.

3. Name and location of site

- Size and ownership

The property comprises a single undeveloped parcel of 1.26 acres owned by the Town of Pembroke. The Town of Pembroke also owns undeveloped property on the southwest side of Plymouth street between the street and Chaffin Reservoir.

4. Existing condition of site

- Existing uses
 - Primary (developed) uses

Stetson Park contains a dirt parking area, small float dock at the north side of the parking area and an unimproved boat ramp on the south side to the parking area. Except for the areas immediately adjacent to the float dock and the boat ramp, the shoreline is vegetated. A single portable toilet is placed at the north side of the parking area. Access from the parking area to the float is from a short steep dirt path. Access to the unimproved boat ramp is a graded dirt slope directly from the parking area. There is a public beach sign indicating hours of use and beach rules.



- Secondary (informal) uses

Informal uses may include fishing in the pond from the shore or the float dock. Swimming may occur in the immediate area of the float dock or the boat ramp.

b. Nature of development

Parking for Stetson Park is provided in an at grade gravel lot of roughly 20,000 square feet and containing space for approximately 30 vehicles. No parking stalls are marked; no handicapped spaces are indicated. The restroom facility (portable toilet) provided is not ADA compliant. No emergency telephone is provided.

c. Surrounding land uses (including linkages to other parks)

Chaffin Reservoir sit to the south east of the property and the remainder of surrounding land use is residential.

5. Conditions of site

a. Approach, parking and signage

The Park is not well marked from the street. The parking area is not paved and contains no marking of parking spaces. Both the float dock and the boat ramp are accessed by steep unimproved slopes.

b. Entrance and access to primary uses

i. Directional signage to primary uses: NONE

ii. Access to Float, swimming area, fishing and boat ramp: not Developed, not marked

c. Restroom facilities: portable toilet

d. Emergency communication equipment NONE

6. Barriers that limit access to existing uses

a. Description of each barrier and nature of limitation

i. Lack of accessible surfacing. In order for a pathway to be considered an ORAR, the surfacing has to be accessible. Acceptable surfacing material include, concrete, asphalt, crushed stone, packed soil and soil stabilizer. The only pathways are loose gravel or sand, which is not considered an accessible surface.

ii. Inaccessible float dock

iii. Lack of accessible parking spaces

7. Short term site improvements

a. Short term site improvements for accessibility would include defining the pathway from the parking to the beach with a minimum width of 60" and running a removable beach mat from the parking to either the float dock ramp or the normal recreation water level of the pond.

b. An option for short term improvements to address the accessible parking space would include paving two spaces with room for an isle and add line striping indicating that handicap space. Access from the accessible isle to the ORAR is required.

c. To address access to the float dock, a transition plate would have to be installed between the edge of the ramp and the removable beach mat leading to the ramp. This would eliminate the large vertical gap (exceeding ½") between the two surfaces.

Pembroke ADA Accessibility
Survey and Recommendations
Stetson Park Plymouth Street

Revised 30 August, 2018

8. Long term site improvements
 - a. A long term goal would include fine grading and compaction of the existing boat ramp to improve the eroding gravel and adding an accessible ORAR leading down to the boat ramp from the parking area.

TOWN LANDING BEACH

Pembroke ADA Accessibility
Survey and Recommendations
Town Landing Wampatuck Street

Revised 30 August, 2018

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at the Town Landing in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 3.



2. Specific site

Town Landing is a small developed public area on the east shore of Oldham Pond, accessed from a paved parking area or diagonal off street parking on the west side of Wampatuck Street.

3. Name and location of site

a. Size and ownership

One parcel land owned by the Town of Pembroke and occupying 0.75 acres comprises the Town Landing. The site is in a residential neighborhood with no undeveloped parcels nearby.

4. Existing condition of site

a. Existing Conditions

i. Primary (developed) uses

Town Landing contains paved parking, a small boat launch ramp and adjacent float dock, roughly 21,300 square feet of sandy area with two float docks for swimming, a children's' play area, 4 picnic tables and a restroom building. Access from the parking area to the sandy area is through a gate. Access to the play area and swimming floats is across approximately 100 feet of loose sand.



ii. Secondary (informal) uses

Informal uses are not formally identified but may include picnicking and fishing.

b. Nature of development

Parking for Town Landing is provided in an at grade paved lot containing marked spaces for 18 vehicles and one marked handicapper space. Off street parking along Wampatuck Street is provided in 19 marked diagonal spaces; access from Wampatuck Street is through a gate with a 4-inch curb. No sign indicates the handicapped space. A single restroom is provided in a storage building located in the northeast corner of the sandy area. The restroom is not accessible by wheelchair and contains no ADA compliant fixtures. No emergency telephone is provided.

c. Surrounding land uses (including linkages to other parks)

The surrounding land consists of residential uses.

5. Conditions of site

a. Approach, parking and signage

The park is visible, but not well marked from the street. The parking area is paved and contains marked parking spaces. One handicapped parking space is marked, but no signs indicate its location nor is the gate to the Sandy area indicated. The pathway to the gate is flat. The parking area slopes to the water at approximately 4 degrees. The sandy area is generally flat between the gate and the play area. The slope to the water is approximately 4 degrees and ends at a 4-inch wide concrete wall along the water. The top of the wall extends approximately 4 inches above the sand; the distance from the top of the wall to the water is approximately 18 inches. The water is approximately 3 inches deep at the base of the wall.

b. Entrance and access to primary uses

i. Directional signage to primary uses NONE

ii. Access to picnic tables, grill, playground and benches

There are no outdoor recreation access routes (ORAR) with in the entire site. In order for there to be access to the picnic tables, play area of swimming floats, they need to be along a ORAR. The boat ramp and adjacent float are along the paved surface of the parking are.



c. Restroom facilities

There is a single restroom in the concrete storage building. Access to the restroom is from the sandy area and involves a 4-inch step to a 14-inch wide apron along the side of the building.



d. Emergency communication equipment NONE

6. Barriers that limit access to existing uses

a. Description of each barrier and nature of limitation

- i. Lack of accessible surfacing. In order for a pathway to be considered an ORAR, the surfacing has to be accessible. Acceptable surfacing material include a beach mat, concrete, asphalt, crushed stone, packed soil and soil stabilizer. The only available surfacing is sand, which is not considered an accessible surface.
- ii. Inaccessible float docks. the float docks designated for swimming are currently inaccessible due to the top of the concrete wall being raised above the surface of the sand.

7. Short term site improvements

- a. A short-term improvement would include placement of a removable beach mat from the gate to the play area and placement of another mat perpendicular to the first mat that leads down to one of the float docks. Sand beneath the mat would need to be smoothed and should have a running slope no greater than 10% and a cross slope no greater than 5%. The running slope and cross slope is recommended, but not required for removable mats.
 - b. If the mat ran to the edge of the float, the transition between the mat and the float would need to be modified to assure that all height differences were 1 inch or less and that the float was modified to be ADA compliant. This includes adding detectable warning strips along the edges of the float dock, adding a transition plate from the sand to the top of wall/beginning of the ramp to the dock, adding a transition plate from the
-

ramp to the top of the floating dock and adding handrails on both sides of the ramps coming off the dock and into the water.



- c. The surface of the play area should receive additional mulch/wood chips to meet the fall height requirements of the play equipment and should extend to the edge of the play equipment safety zones (usually 6' from edge). It is recommended that a concrete curb be added around the limits of the play surfacing to contain the wood fiber mulch efficiently.
 - d. Provide additional bathroom facilities; for example, an ADA compliant porta-potty until modifications can be made to the existing facilities.
8. Long term site improvements
- a. Provide a paved ORAR from the entry gate to the playground and bathroom facility.
 - b. Update the bathroom facility to be ADA compliant
 - c. Install poured-in-place rubber safety surfacing at the play area in place of the wood fiber mulch.
-

1. Purpose and scope of this memorandum

This memorandum summarizes a site survey performed July 5, 2018 to evaluate the condition of ADA mandated access at Tubb's Meadow Preserve in Pembroke Massachusetts. After a description of the site and site uses, recommended improvements are provided in Section 7, beginning on page 2.



2. Specific site

Tubb's Meadow Preserve is a large undeveloped area with access from Monroe Street and Mill Street for hiking along dirt roads.

3. Name and location of site

a. Size and ownership

The Preserve property comprises of three parcels with an area of 137.53 acres, the largest of which occurs west of Monroe Street and East of Center Street. Two smaller parcels occur just northwest of the intersection of Center and Mill Streets. These parcels and 4 adjacent parcels to the southwest are owned by the Town of Pembroke.

4. Existing condition of site

a. Existing uses

i. Primary (developed) uses

Tubb's Meadow Preserve comprises of a pond, abandoned cranberry bogs, trails and woodland in the drainage of Tubb's Meadow Brook. The property is crisscrossed with dirt roads suitable for hiking. Two trailheads are marked with gates and kiosks. No information is posted at the kiosks.

ii. Secondary (informal) uses

Informal uses may include dog walking, mountain biking, fishing in the pond and bird watching.

b. Nature of development

Dirt parking areas at two access points provide parking for Tubb's Meadow Preserve. The parking area off Monroe Street is about 3,900 square feet and has space for approximately 20 cars. The parking area off Mill Street is about 1,400 square



Pembroke ADA Accessibility
Survey and Recommendations

Revised 30 August, 2018

Tubb's Meadow Preserve Access at Monroe Street and Mill Street

feet and has space for approximately 6 cars. No marked parking stalls or signage is present at either access; no handicapped spaces are indicated. The dirt road surface is compacted and its width is adequate for access.

- c. Surrounding land uses (including linkages to other parks)

The surrounding land use is a mix of residential, agricultural and natural wildlife.

5. Conditions of site

- a. Approach, parking and signage

The preserve is not well marked from the street. No trail signs were found. One trail was blocked by a log near the trailhead, and the alternative trail was not suitable for wheelchair access due to its slope.

- b. Entrance and access to primary uses
 - i. Directional signage street to primary uses: NONE
- c. Restroom facilities: NONE
- d. Emergency communication equipment NONE

6. Barriers that limit access to existing uses

- a. Description of each barrier and nature of limitation
 - i. There is a log across one of the pathways near the Monroe Street trailhead that exceeds the 2" maximum vertical height requirement.
 - ii. The slope on the other pathway that goes around the pathway with the log exceeds the 10% max slope requirement. The section of this pathway that slopes down to an old look out deck ranges in slopes between 8.7% - 10.6% with a distance of 60'. The section of the pathway that ascends up to the main path ranges in slopes between 10.3%-13.5% with a distance of 45'. The ADA requirement states that there must be a rest interval every 30' for slopes between 8.33%-10% and there must be rest intervals every 10' for slopes greater than 10%.

7. Short term site improvements

- a. Remove the log blocking the main pathway

8. Long term site improvements

- a. Slightly regrade the slopes on the second pathway to meet the ADA requirements.
-

Pembroke ADA Transition Plan

Table 34: Pembroke Open Space & Recreation ADA Interface

Pembroke ADA Transition Plan for the Pembroke Open Space and Recreation Plan													
Recreation Location/ Amenity Name	Description	Physical Obstacles	Type of Action to be Taken	Implementation Schedule	Responsible Party	Activity Applicable (Y/N)							
						Picnic Facilities	Play Areas	Swimming Facilities	Trails	Game Areas	Boat Docks	Fishing Facilities	Programs
40 Woodbine Avenue - Little Sandy Bottom Pond Beach	Small public area providing access from Woodbine Avenue to a beach and swimming area on Little Sandy Pond. Three picnic tables and two wooden benches are located on the northern side of the sandy area.	<p>Parking stalls are not marked, and no handicapped spaces are indicated. The restroom facility provided is not ADA-compliant. No emergency telephone is provided. The swimming area is accessed by steep unimproved paths. There are no outdoor recreation access routes (ORARs) within the entire site. No on-street parking is indicated in the vicinity of the park. The distance from the paved street to the water is approximately 105'.</p> <ul style="list-style-type: none"> Lack of accessible surfacing. 	<p>Short-term site improvements</p> <p>a. Short-term site improvements for accessibility would include running a removable beach mat from the paved street to the normal recreation water level of the pond.</p> <p>b. The current portable toilet on site is not ADA-compliant. It is recommended to update this to an ADA-compliant portable restroom and provide an ORAR, whether is it a mat or one of the other acceptable surfaces, to the compliant restroom.</p> <p>c. An option for short-term improvements to address the accessible parking space would include paving one space with room for an aisle and adding line striping indicating that handicapped space. Access from the access aisle to the ORAR is required.</p> <p>Long-term site improvements</p>	<p>Short-term</p> <p>Long-term</p>	Recreation Dept.	N	N	Y	N	N	N	N	N

		<ul style="list-style-type: none"> Lack of accessible parking. 	<p>a. Long-term options include the acquisition of property and providing a larger paved area for a designated parking lot, paving a path from the parking to the restroom facility, and creating an ORAR along the northern perimeter where the tables can then be accessed from. Also, adding an accessible picnic table is recommended.</p>										
<p>350 Plymouth Street - Stetson Pond Beach</p>	<p>Swimming, Boating Dock / Beach Access on Stetson Pond</p>	<p>The park is not well marked from the street. The parking area is not paved and contains no marking of parking spaces. Both the floating dock and the boat ramp are accessed by steep unimproved slopes.</p> <ul style="list-style-type: none"> Lack of accessible surfacing. Inaccessible floating dock. Lack of accessible parking spaces. 	<p>Short-term site improvements a. Short-term site improvements for accessibility would include defining the pathway from the parking to the beach with a minimum width of 60" and running a removable beach mat from the parking to either the float dock ramp or the normal recreation water level of the pond. b. An option for short-term improvements to address the accessible parking space would include paving two spaces with room for an aisle and adding line striping indicating that handicapped space. Access from the access aisle to the ORAR is required. c. To address access to the floating dock, a transition plate would have to be installed between the edge of the ramp and the removable beach mat leading to the ramp. This would eliminate the large vertical gap (exceeding 1/2") between the two surfaces.</p>	<p>Short-term Long-term</p>	<p>Recreation Dept.</p>	N	N	N	N	N	N	N	N

			<p>ramps coming off the dock and into the water.</p> <p>c. The surface of the play area should receive additional mulch/wood chips to meet the fall height requirements of the play equipment and should extend to the edge of the play equipment safety zones (usually 6' from the edge). It is recommended that a concrete curb be added around the limits of the play surfacing to contain the wood fiber mulch efficiently.</p> <p>d. Provide additional bathroom facilities; for example, an ADA-compliant porta-potty until modifications can be made to the existing facilities.</p> <p>Long-term site improvements</p> <p>a. Provide a paved ORAR from the entry gate to the playground and bathroom facility.</p> <p>b. Update the bathroom facility to be ADA-compliant</p> <p>c. Install poured-in-place rubber safety surfacing at the play area in place of the wood fiber mulch.</p>										
29 Furnace Pond Colony Drive - Furnace Pond Beach	Swimming Dock / Beach Access on Furnace Pond without picnic areas	The site lacks picnic areas.	Short-term Improvements – installation of ADA-compliant picnic tables with ORAR within the entire site.	Short-term Long-term	Recreation Dept.	N	N	N	N	N	N	N	N
128 Center Street - Howard	Community Center Lower Ball Fields					N	N	N	N	N	N	N	N

Table 35: ADA Interface - Recreation & Open Space Hiking Trails

Pembroke Recreation and Open Space Hiking and Nature Trails											
Open Space Location	Amenity Name	Description	Activity Applicable (Y)								Owner
			Picnic Facilities	Play Areas	Swimming Facilities	Trails	Game Areas	Boat Docks	Fishing Facilities	Programs	
455 Mattakeesett Street	JJ Shephard Memorial Forest	Nature Trails (Easy)	Y	Y	N	Y	N	N	N	N	Conservation Commission
School Street	Veterans Commemorative Town Forest	Nature Trails (Easy)	Y	Y	N	Y	N	N	N	N	Conservation Commission
Mill Street Access	Tubb's Meadow Conservation Area	Nature Trails (Easy)	N	N	N	Y	N	N	N	N	Conservation Commission
Monroe Street Access	Tubb's Meadow Conservation Area	Nature Trails (Easy)	N	N	N	Y	N	N	Y	N	Conservation Commission
Washington Street / Ingham Way	Misty Meadows Conservation Area	Nature Trails (Moderate / Unkept)	N	N	N	N	N	N	N	N	Conservation Commission
Barker Street	Willow Brook Preserve Wildlands Trust	Nature Trails (Moderate)	N	N	N	Y	N	N	N	N	Conservation Commission
West Elm Street	Tuckers Preserve Wildlands Trust	Nature Trails (Easy/Moderate)	Y	N	N	Y	N	N	N	N	Conservation Commission
Washington Street	Canoe Club Preserve Wildlands Trust	Nature Trails (Moderate)	N	N	N	Y	N	N	N	N	Conservation Commission
Brick Kiln Lane	North River Canoe Access	Bench and Clearing for Launching Canoe or Kayak	N	N	N	N	N	N	N	N	Conservation Commission
190 Barker Street	Lage Preserve	Nature Trails (Moderate / Unkept)	N	N	N	N	N	N	N	N	Conservation Commission
42 Maquan Street	Andruk Bog	Nature Trails (Unkept/)	N	N	N	N	N	N	N	N	Conservation Commission
Little's Avenue	Bicentennial Trail	Nature Trails (Unkept)	N	N	N	N	N	N	N	N	Conservation Commission

Table 36: ADA Interface – Historical Cemeteries

Pembroke Recreation and Open Space Interface										
Historical Cemetery	Amenity Name	Activity Applicable (Y)								Owner
		Picnic Facilities	Play Areas	Swimming Facilities	Trails	Game Areas	Boat Docks	Fishing Facilities	Programs	
191 Barker Street	Thomas Reading Historical Herring Run Park	Y	N	N	N	N	N	N	Y	Historical Society
52 Barker Street	Adah F. Hall House	N	N	N	N	N	N	N	N	Historical Society
70 Washington St	Quaker's Friends Meeting House	N	N	N	N	N	N	N	N	Historical Society
116 Center Street	Pembroke Historical Society Museum Bldg	N	N	N	N	N	N	N	Y	Historical Society
High Street	Lydia Drake Library	N	N	N	N	N	N	N	Y	Historical Society
Fairwood Drive	Peters Well Historical Site	N	N	N	N	N	N	N	N	Historical Society
70 Washington St	Friends Burying Ground	N	N	N	Y	N	N	N	N	Historical Society
High Street	Sachem Lodge Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Washington Street	Magoun Cemetery	N	N	N	Y	N	N	N	N	Historical Society
	Turner Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Center Street	Center Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Elm Street	Pine Grove Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Mattakeeset Street	Mount Pleasant Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Washington Street	Briggs Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Paul Magoun Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Luther Magoun Cemetery	N	N	N	Y	N	N	N	N	Historical Society
High Street	Brown Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street / Church Street	Two Mile Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Packet Landing Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Randall Lot Cemetery	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Silas Morton-Barstow Tomb	N	N	N	Y	N	N	N	N	Historical Society
Water Street	Seth Hatch Family Cemetery	N	N	N	Y	N	N	N	N	Historical Society

ADA Checklists

Facility Inventory **LOCATION: TOWNLANDING**

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths YES
		Access to Open Spaces YES
		Back and Arm Rests NO
	Grills	Adequate number YES
		Height of Cooking Surface N/A
	Trash Cans	Located adjacent to accessible paths YES
Picnic Shelters	Located adjacent to accessible paths N/A	
	Located near accessible water fountains, trash can, restroom, parking, etc. YES	
Trails	Surface material N/A	
	Dimensions	
	Rails	
	Signage (for visually impaired) N/A	
Swimming Facilities	Pools	Entrance N/A
		Location from accessible parking N/A
		Safety features i.e. warning for visually impaired N/A
	Beaches	Location from accessible path into water YES
		Handrails YES
		Location from accessible parking YES
Shade provided NO		
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all NO
	Access Routes	Located adjacent to accessible paths Enough space between equipment for wheelchair YES
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths N/A
		Berm cuts onto courts
	Equipment	Height
		Dimensions
Boat Docks	Access Routes	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Learn-to-Swim
		Guided Hikes N/A
		Interpretive Programs N/A
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	
	Process to request interpretive services (i.e. sign language interpreter) for meetings	

LOCATION *TOWN LANDS GR*

PARKING			
Total Spaces	Required Accessible Spaces		
Up to 25	1 space <i>YES</i>		
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance	✓		
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.	✓		
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle	✓		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.	✓		
Sign with international symbol of accessibility at each space or pair of spaces	✓		
Sign minimum 5 ft, maximum 8 ft to top of sign	✓		
Surface evenly paved or hard-packed (no cracks)	•	✓	
Surface slope less than 1:20, 5%	✓		
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present	✓		
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow	✓		
RAMPS			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			<i>N/A</i>
Minimum width 4 ft between handrails			↓
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION *TOWN LANDING*

SITE ACCESS, PATH OF TRAVEL, ENTRANCES				
Specification	Yes	No	Comments/Transition Notes	
Site Access				
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓			
Disembarking area at accessible entrance	✓			
Surface evenly paved or hard-packed	✓			
No ponding of water	✓			
Path of Travel				
Path does not require the use of stairs	✓			
Path is stable, firm and slip resistant	✓			
3 ft wide minimum	✓			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	✓			
Continuous common surface, no changes in level greater than 1/4 inch	✓			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane	•		N/A	
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			↓	
Curb on the pathway must have curb cuts at drives, parking and drop-offs	✓			
Entrances				
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance	✓		N/A	
Level space extending 5 ft. from the door, interior and exterior of entrance doors			↓	
Minimum 32" clear width opening (i.e. 36" door with standard hinge)				
At least 18" clear floor area on latch, pull side of door				
Door handle no higher than 48" and operable with a closed fist				
Vestibule is 4 ft plus the width of the door swinging into the space				
Entrance(s) on a level that makes elevators accessible				
Door mats less than 1/2" thick are securely fastened				
Door mats more than 1/2" thick are recessed				
Grates in path of travel have openings of 1/2" maximum				
Signs at non-accessible entrance(s) indicate direction to accessible entrance				
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted				✓

NOTES

LOCATION TOWN LANDING

STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			N/A
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening	✓		
At least 18" clear floor space on pull side of door	✓		
Closing speed minimum 3 seconds to within 3" of the latch	✓		
Maximum pressure 5 pounds interior doors	✓		
Threshold maximum 1/2" high, beveled on both sides		✓	
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)	✓		
Hardware minimum 36", maximum 48" above the floor	✓		
Clear, level floor space extends out 5 ft from both sides of the door	✓		
Door adjacent to revolving door is accessible and unlocked	✓		
Doors opening into hazardous area have hardware that is knurled or roughened	.	✓	

NOTES

LOCATION TOWN LANDING			
RESTROOMS – also see Doors and Vestibules			
Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

TOWN LANDING

FLOORS, DRINKING FOUNTAINS, TELEPHONES			
Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION TOWN LANDING

SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area			
Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A ↓ N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handhold features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION

PICNICKING			
Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access		✓	
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.		✓	
Top of table no higher than 32" above ground	✓		
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions	✓		
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter		✓	N/A

Town Landing Lifeguard Building and Bathrooms



Parking Lot Lifeguard and Storage Entrances



Park Side Restroom Entrances

Town Landing Parking



Handicap Marking and Location



Finish Paving still remaining?

Town Landing Beach Access



Rollout mat or Paved path needed to picnic area



Rollout mat to Swim access and Beach



Close up of Swim Access and dock

Town Landing



Rollout mat or Paved path needed to access picnic area



Playground



Picnic Tables

Facility Inventory **LOCATION:** STEBON TOWN BEACH

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths
		Access to Open Spaces
	Grills	Back and Arm Rests
		Adequate number
	Trash Cans	Height of Cooking Surface
Picnic Shelters	Located adjacent to accessible paths	
	Located adjacent to accessible paths	
Trails		Located adjacent to accessible paths
		Located adjacent to accessible paths
		Located near accessible water fountains, trash can, restroom, parking, etc.
		Surface material
Swimming Facilities	Pools	Dimensions
		Rails
		Signage (for visually impaired)
	Beaches	Entrance
		Location from accessible parking
		Safety features i.e. warning for visually impaired
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Location from accessible path into water
	Access Routes	Handrails
Game Areas: *ballfield *basketball *tennis	Access Routes	Location from accessible parking
		Enough space between equipment for wheelchair
	Equipment	Shade provided
Boat Docks	Access Routes	Same experience provided to all
		Located adjacent to accessible paths
Fishing Facilities	Access Routes	Berm cuts onto courts
		Handrails
	Equipment	Height
		Dimensions
Programming	Are special programs at your facilities accessible?	Spectator Seating
		Learn-to-Swim
		Guided Hikes
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	Interpretive Programs
		Process to request interpretive services (i.e. sign language interpreter) for meetings

LOCATION STETSON TOWN BEACH

PARKING		Required Accessible Spaces		
Total Spaces		1 space	N/A	
Up to 25		2 spaces	↓	
26-50		3 spaces		
51-75		4 spaces		
76-100		5 spaces		
101-150		6 spaces		
151-200		7 spaces		
201-300		8 spaces		
301-400		9 spaces		
401-500				
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes	
Accessible space located closest to accessible entrance			N/A	
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			↓	
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle				
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.				
Sign with international symbol of accessibility at each space or pair of spaces				
Sign minimum 5 ft, maximum 8 ft to top of sign				
Surface evenly paved or hard-packed (no cracks)				
Surface slope less than 1:20, 5%				
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present				
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow				
RAMPS				
Specification	Yes	No		Comments/Transition Notes
Slope Maximum 1:12				↓
Minimum width 4 ft between handrails				
Handrails on both sides if ramp is longer than 6 ft				
Handrails at 34" and 19" from ramp surface				
Handrails extend 12" beyond top and bottom				
Handgrip oval or round				
Handgrip smooth surface				
Handgrip diameter between 1 1/4" and 2"				
Clearance of 1 1/2" between wall and wall rail				
Non-slip surface				
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction				

LOCATION **STEVEN-TOWN BEACH**

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			N/A
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			✓

NOTES

LOCATION STETSON TOWN BOACH

STAIRS and DOORS				
Specification	Yes	No	Comments/Transition Notes	
Stairs				
No open risers			N/A	
Nosings not projecting				
Treads no less than 11" wide				
Handrails on both sides				
Handrails 34"-38" above tread				
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)				
Handgrip oval or round				
Handgrip has a smooth surface				
Handgrip diameter between 1 1/4" and 1 1/2"				
1 1/2" clearance between wall and handrail				
Doors				
Minimum 32" clear opening				✓
At least 18" clear floor space on pull side of door				
Closing speed minimum 3 seconds to within 3" of the latch				
Maximum pressure 5 pounds interior doors				
Threshold maximum 1/2" high, beveled on both sides				
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)				
Hardware minimum 36", maximum 48" above the floor				
Clear, level floor space extends out 5 ft from both sides of the door				
Door adjacent to revolving door is accessible and unlocked				
Doors opening into hazardous area have hardware that is knurled or roughened				

NOTES

LOCATION STETSON TOWN BEACH			
RESTROOMS - also see Doors and Vestibules			
Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			N/A ↓ ✓ 2
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION			
FLOORS, DRINKING FOUNTAINS, TELEPHONES			
Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			N/A
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			✓
Within 18" of door jamb or recessed			
Letters and numbers at least 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

LOCATION STETSON TOWN BEACH

SWIMMING POOLS - accessibility can be via ramp, lifting device, or transfer area			
Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handhold features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION

PICNICKING			
Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access			
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.			
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions			
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter			✓

Little Sandy Town Beach



View from Street Entrance



Facility Inventory **LOCATION: LITTLE SANDY, TOWN BEACH**

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths
		Access to Open Spaces
		Back and Arm Rests
	Grills	Adequate number
		Height of Cooking Surface
	Trash Cans	Located adjacent to accessible paths
		Located adjacent to accessible paths
Picnic Shelters	Located adjacent to accessible paths	
	Located near accessible water fountains, trash can, restroom, parking, etc.	
Trails		Surface material
		Dimensions
		Rails
		Signage (for visually impaired)
Swimming Facilities	Pools	Entrance
		Location from accessible parking
		Safety features i.e. warning for visually impaired
	Beaches	Location from accessible path into water
		Handrails
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all
	Access Routes	Located adjacent to accessible paths
		Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths
		Berm cuts onto courts
	Equipment	Height
		Dimensions
		Spectator Seating
Boat Docks	Access Routes	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Fish Cleaning Tables
		Learn-to-Swim
		Guided Hikes
Services and Technical Assistance		Interpretive Programs
		Information available in alternative formats i.e. for visually impaired
		Process to request interpretive services (i.e. sign language interpreter) for meetings

LOCATION *LITTLE SANDY, TOWN BEACH*

PARKING		Required Accessible Spaces	
Total Spaces			
Up to 25		1 space	<i>NO</i>
26-50		2 spaces	
51-75		3 spaces	
76-100		4 spaces	
101-150		5 spaces	
151-200		6 spaces	
201-300		7 spaces	
301-400		8 spaces	
401-500		9 spaces	<i>✓</i>
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			<i>N/A</i>
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbside to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbside is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMP			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			<i>✓</i>

LOCATION LITTLE SANDY TOWN BEACH

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance		X	
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			✓

NOTES

TOWN PUBLIC BEACH, BUT NO PARKING AVAILABLE

LOCATION *LETTIE SANDY TOWN BEACH*

STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			N/A
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			✓

NOTES

LOCATION LITTLE SANDY TOWN BEACH

RESTROOMS – also see Doors and Vestibules				
Specification	Yes	No	Comments	Transition Notes
5 ft turning space measured 12" from the floor				N/A
At least one Sink:				
Clear floor space of 30" by 48" to allow a forward approach				
Mounted without pedestal or legs, height 34" to top of rim				
Extends at least 22" from the wall				
Open knee space a minimum 19" deep, 30" width, and 27" high				
Cover exposed pipes with insulation				
Faucets operable with closed fist (lever or spring activated handle)				
At least one Stall:				
Accessible to person using wheelchair at 60" wide by 72" deep				
Stall door is 36" wide				
Stall door swings out				
Stall door is self closing				
Stall door has a pull latch				
Lock on stall door is operable with a closed fist, and 32" above the floor				
Coat hook is 54" high				
Toilet				
18" from center to nearest side wall				
42" minimum clear space from center to farthest wall or fixture				
Top of seat 17"-19" above the floor				
Grab Bars				
On back and side wall closest to toilet				
1 1/4" diameter				
1 1/2" clearance to wall				
Located 30" above and parallel to the floor				
Acid-etched or roughened surface				
42" long				
Fixtures				
Toilet paper dispenser is 24" above floor				
One mirror set a maximum 38" to bottom (if tilted, 42")				
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor				✓ ₂

NOTES

LOCATION LITTLE SANDY TOWN BEACH

FLOORS, DRINKING FOUNTAINS, TELEPHONES				
Specification	Yes	No	Comments/Transition Notes	
Floors				
Non-slip surface			N/A	
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored				
Corridor width minimum is 3 ft				
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor				
Drinking Fountains				
Spouts no higher than 36" from floor to outlet				
Hand operated push button or level controls				
Spouts located near front with stream of water as parallel to front as possible				
If recessed, recess a minimum 30" width, and no deeper than depth of fountain				
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach				
Telephones				
Highest operating part a maximum 54" above the floor				
Access within 12" of phone, 30" high by 30" wide				
Adjustable volume control on headset so identified				
SIGNS, SIGNALS, AND SWITCHES				
Specification	Yes	No	Comments/Transition Notes	
Switches, Controls and Signs				
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach				
Electrical outlets centered no lower than 18" above the floor				
Warning signals must be visual as well as audible				
Signs				
Mounting height must be 60" to centerline of the sign				
Within 18" of door jamb or recessed			✓	
Letters and numbers at least 1/4" high				
Letters and numbers raised .03"				
Letters and numbers contrast with the background color				

NOTES

LOCATION *LITTLE SANDY TOWN BEACH*

SWIMMING POOLS – accessibility can be via ramp, lifting device, or transfer area			
Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			<i>n/a</i>
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handhold features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			✓

LOCATION

PICNICKING			
Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access		✓	
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.		✓	
Top of table no higher than 32" above ground			
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions		✓	
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter		✓	

Luddams Ford Park



Shady Picnic Area



Closeup Shady Picnic Area



Sunny Picnic Area

LOCATION: LUDDAMS FORED PARK / TUCKERS PROSCAVE

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths YES
		Access to Open Spaces YES
		Back and Arm Rests NO
		Adequate number YES
	Grills	Height of Cooking Surface N/A
	Trash Cans	Located adjacent to accessible paths YES
		Located adjacent to accessible paths N/A
Picnic Shelters	Located near accessible water fountains, trash can, restroom, parking, etc. N/A	
Trails		Surface material PACKED DIRT / GRASS
		Dimensions 10' WIDE
		Rails NO
		Signage (for visually impaired) NO
Swimming Facilities	Pools	Entrance N/A
		Location from accessible parking
		Safety features i.e. warning for visually impaired
	Beaches	Location from accessible path into water
		Handrails
		Location from accessible parking
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all
	Access Routes	Located adjacent to accessible paths Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths Berm cuts onto courts
	Equipment	Height
		Dimensions
		Spectator Seating
Boat Docks	Access Routes	Located adjacent to accessible paths Handrails
Fishing Facilities	Access Routes	Located adjacent to accessible paths Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
		Fish Cleaning Tables
Programming	Are special programs at your facilities accessible?	Learn-to-Swim ✓
		Guided Hikes
		Interpretive Programs
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	
	Process to request interpretive services (i.e. sign language interpreter) for meetings	

LOCATION **LUDDAMS FORD PARK**

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓		
Disembarking area at accessible entrance	✓		
Surface evenly paved or hard-packed	✓		
No ponding of water	✓		
Path of Travel			
Path does not require the use of stairs	✓		
Path is stable, firm and slip resistant	✓		
3 ft wide minimum	✓		
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	✓		
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			N/A
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			↓
Curb on the pathway must have curb cuts at drives, parking and drop-offs			↓
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance	✓		N/A
Level space extending 5 ft. from the door, interior and exterior of entrance doors			↓
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			↓
At least 18" clear floor area on latch, pull side of door			↓
Door handle no higher than 48" and operable with a closed fist			↓
Vestibule is 4 ft plus the width of the door swinging into the space			↓
Entrance(s) on a level that makes elevators accessible			↓
Door mats less than 1/2" thick are securely fastened			↓
Door mats more than 1/2" thick are recessed			↓
Grates in path of travel have openings of 1/2" maximum			↓
Signs at non-accessible entrance(s) indicate direction to accessible entrance			↓
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			✓

NOTES

LOCATION **LUDDAM'S FARM PARK**

STAIRS and DOORS				
Specification	Yes	No	Comments/Transition Notes	
Stairs				
No open risers			N/A	
Nosings not projecting				
Treads no less than 11" wide				
Handrails on both sides				
Handrails 34"-38" above tread				
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)				
Handgrip oval or round				
Handgrip has a smooth surface				
Handgrip diameter between 1 1/4" and 1 1/2"				
1 1/2" clearance between wall and handrail				
Doors				
Minimum 32" clear opening				✓
At least 18" clear floor space on pull side of door				
Closing speed minimum 3 seconds to within 3" of the latch				
Maximum pressure 5 pounds interior doors				
Threshold maximum 1/2" high, beveled on both sides				
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)				
Hardware minimum 36", maximum 48" above the floor				
Clear, level floor space extends out 5 ft from both sides of the door				
Door adjacent to revolving door is accessible and unlocked				
Doors opening into hazardous area have hardware that is knurled or roughened				

NOTES

LOCATION LUDDAMS FORD PARK

RESTROOMS – also see Doors and Vestibules			
Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			N/A ↓
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION LUDDAMS FORD PARK				
FLOORS, DRINKING FOUNTAINS, TELEPHONES				
Specification	Yes	No	Comments/	Transition Notes
Floors				
			N/A	
Non-slip surface				
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored				
Corridor width minimum is 3 ft				
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor				
Drinking Fountains				
Spouts no higher than 36" from floor to outlet				
Hand operated push button or level controls				
Spouts located near front with stream of water as parallel to front as possible				
If recessed, recess a minimum 30" width, and no deeper than depth of fountain				
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach				
Telephones				
Highest operating part a maximum 54" above the floor				
Access within 12" of phone, 30" high by 30" wide				
Adjustable volume control on headset so identified				
SIGNS, SIGNALS, AND SWITCHES				
Specification	Yes	No	Comments/	Transition Notes
Switches, Controls and Signs				
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach				
Electrical outlets centered no lower than 18" above the floor				
Warning signals must be visual as well as audible				
Signs				
Mounting height must be 60" to centerline of the sign				
Within 18" of door jamb or recessed				
Letters and numbers at least 1/4" high				
Letters and numbers raised .03"				
Letters and numbers contrast with the background color				✓

NOTES

LOCATION LUTDDAMS FORD PARK

SWIMMING POOLS – accessibility can be via ramp, lifting device, or transfer area			
Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			✓ A
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handhold features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			

LOCATION

PICNICKING			
Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access	✓		
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.	✓		
Top of table no higher than 32" above ground	✓		
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions	✓		
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter	✓		

Herring Run Park



**Need Crushed stone paths
to connect amenities**



LOCATION HERRING RUN PARK

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓		
Disembarking area at accessible entrance	✓		
Surface evenly paved or hard-packed	✓		
No ponding of water	✓		
Path of Travel			
Path does not require the use of stairs	✓		
Path is stable, firm and slip resistant	✓		
3 ft wide minimum	✓		
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	✓		
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			N/A
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			↓
Curb on the pathway must have curb cuts at drives, parking and drop-offs			✓/N/A
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			N/A
Level space extending 5 ft. from the door, interior and exterior of entrance doors			↓
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			↓
At least 18" clear floor area on latch, pull side of door			↓
Door handle no higher than 48" and operable with a closed fist			↓
Vestibule is 4 ft plus the width of the door swinging into the space			↓
Entrance(s) on a level that makes elevators accessible			↓
Door mats less than 1/2" thick are securely fastened			↓
Door mats more than 1/2" thick are recessed			↓
Grates in path of travel have openings of 1/2" maximum			↓
Signs at non-accessible entrance(s) indicate direction to accessible entrance			↓
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			✓/N/A

NOTES HERRING RUN PARK IS AN OUTDOOR SITE.

Facility Inventory		LOCATION: HERON & RUN PARK
ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths NO
		Access to Open Spaces
		Back and Arm Rests YES
	Grills	Adequate number YES
		Height of Cooking Surface 30"
	Trash Cans	Located adjacent to accessible paths NO
		Located adjacent to accessible paths NO
Picnic Shelters	Located adjacent to accessible paths N/A	
	Located near accessible water fountains, trash can, restroom, parking, etc. N/A	
Trails	Surface material CRUSHED STONE	
	Dimensions 5' WIDE	
	Rails N/A	
	Signage (for visually impaired) N/A	
Swimming Facilities	Pools	Entrance N/A
		Location from accessible parking
	Beaches	Safety features i.e. warning for visually impaired
		Location from accessible path into water
		Handrails
		Location from accessible parking
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all
	Access Routes	Located adjacent to accessible paths
		Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths
		Berm cuts onto courts
	Equipment	Height
		Dimensions
Boat Docks	Access Routes	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Fish Cleaning Tables
		Learn-to-Swim ↓
		Guided Hikes
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	Interpretive Programs
		Process to request interpretive services (i.e. sign language interpreter) for meetings

LOCATION HEERUN G. RUN PARK			
PARKING			
Total Spaces	Required Accessible Spaces		
Up to 25	1 space YES		
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance	✓		
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			N/A
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle	✓		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.	✓		
Sign with international symbol of accessibility at each space or pair of spaces	✓		
Sign minimum 5 ft, maximum 8 ft to top of sign	✓		
Surface evenly paved or hard-packed (no cracks)	✓		
Surface slope less than 1:20, 5%	✓		
Curbside to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present	✓		
Curbside is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow	✓		
RAMPS			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12	✓		.
Minimum width 4 ft between handrails	✓		
Handrails on both sides if ramp is longer than 6 ft	✓		
Handrails at 34" and 19" from ramp surface	✓		
Handrails extend 12" beyond top and bottom	✓		
Handgrip oval or round	✓		
Handgrip smooth surface	✓		
Handgrip diameter between 1 1/4" and 2"	✓		
Clearance of 1 1/2" between wall and wall rail	✓		
Non-slip surface	✓		.
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction	✓		

LOCATION **HERRING RUN PARK**

STAIRS and DOORS				
Specification	Yes	No	Comments/Transition Notes	
Stairs				
No open risers			N/A	
Nosings not projecting				
Treads no less than 11" wide				
Handrails on both sides				
Handrails 34"-38" above tread				
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)				
Handgrip oval or round				
Handgrip has a smooth surface				
Handgrip diameter between 1 1/4" and 1 1/2"				
1 1/2" clearance between wall and handrail				
Doors				
Minimum 32" clear opening				↓
At least 18" clear floor space on pull side of door				
Closing speed minimum 3 seconds to within 3" of the latch				
Maximum pressure 5 pounds interior doors				
Threshold maximum 1/2" high, beveled on both sides				
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)				
Hardware minimum 36", maximum 48" above the floor				
Clear, level floor space extends out 5 ft from both sides of the door				
Door adjacent to revolving door is accessible and unlocked				
Doors opening into hazardous area have hardware that is knurled or roughened				

NOTES **HISTORIC HERRING RUN PARK IS AN OUT DOOR SITE.**

LOCATION HERRING RUN PARK

RESTROOMS – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			N/A
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			✓

NOTES

LOCATION HERRING RUN PARK			
FLOORS, DRINKING FOUNTAINS, TELEPHONES			
Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			N/A
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			✓

NOTES

LOCATION HERRING RUN PARK

SWIMMING POOLS – accessibility can be via ramp, lifting device, or transfer area			
Specification	Yes	No	Comments/Transition Notes
Ramp at least 34" wide with a non-slip surface extending into the shallow end, slope not exceeding 1:6 with handrails on both sides			N/A
Lifting device			
Transfer area 18" above the path of travel and a minimum of 18" wide			
Unobstructed path of travel not less than 48" wide around pool			
Non-slip surface			

LOCATION

SHOWER ROOMS - Showers must accommodate both wheel-in and transfer use			
Specification	Yes	No	Comments/Transition Notes
Stalls 36" by 60" minimum, with a 36" door opening			
Floors are pitched to drain the stall at the corner farthest from entrance			
Floors are non-slip surface			
Controls operate by a single lever with a pressure balance mixing valve			
Controls are located on the center wall adjacent to the hinged seat			
Shower heads attached to a flexible metal hose			
Shower heads attached to wall mounting adjustable from 42" to 72" above the floor			
Seat is hinged and padded and at least 16" deep, folds upward, securely attached to side wall, height is 18" to the top of the seat, and at least 24" long			
Soap trays without handhold features unless they can support 250 pounds			
2 grab bars are provided, one 30" and one 48" long, or one continuous L shaped bar			
Grab bars are placed horizontally at 36" above the floor line			✓

LOCATION

PICNICKING			
Specification	Yes	No	Comments/Transition Notes
A minimum of 5% of the total tables must be accessible with clear space under the table top not less than 30" wide and 19" deep per seating space and not less than 27" clear from the ground to the underside of the table. An additional 29" clear space (totaling 48") must extend beyond the 19" clear space under the table to provide access	✓		
For tables without toe clearance, the knee space under the table must be at least 28" high, 30" wide and 24" deep.	✓		
Top of table no higher than 32" above ground	✓		
Surface of the clear ground space under and around the table must be stable, firm and slip-resistant, and evenly graded with a maximum slope of 2% in all directions	✓		
Accessible tables, grills and fire rings must have clear ground space of at least 36" around the perimeter	✓		