Town of Rochester
2019 Update of the
Open Space & Recreation Plan

Town of Rochester
2021 Update of the
Open Space and Recreation Plan

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Section 1. Plan Summary/Philosophy

As you drive through Rochester and admire the countryside views, it is hard to imagine that we are so close to Boston and Providence. It could be a world away. So valuable is the quantity and quality of water that the surrounding cities and towns have located their drinking water supplies in Rochester. Vast forests here draw hunters and naturalists from the region, and who can pass by the beautiful farm fields, cranberry bogs, and Eastover Farm without pausing to admire? This is Rochester.

The town looks the way it does not quite by chance but by design and the good intentions of its citizenry. The Selectmen, Planning Board and the Conservation Commission have all been vigilant to guard against uncontrolled growth and to protect resources. Rochester has enacted protective town bylaws and has 60,000 square foot zoning. Furthermore, landowners have typically shied away from breaking up large parcels of property for their financial enrichment. In Rochester, there is a collective mindset toward conservation. This is clearly expressed in the survey section of this plan.

Still, it is these very features that make this town so attractive for development. We have come to understand that large-lot zoning doesn't always have the desired effect of slowing growth and can instead result in land-consumptive parceling up of open space. We know now that a temporary conservation easement does not provide permanent protection and that an option to purchase is meaningless without the money to purchase. We also have a clear understanding that the goals outlined in this plan are only one part of a larger vision. Creating that larger vision will require the concerted effort of the entire community.

The goals identified in this plan seek to protect the quality of life in Rochester by continuing stewardship of surface and ground water, maintaining large tracts of privately owned open space, preserving farm and forest views and ensuring wildlife habitat. Protected open space in large enough blocks keeps the fabric of natural systems intact, providing a clean environment including water, air and soil which support healthy human and wildlife populations. Equally important are the goals of providing outdoor recreational opportunities to the more than 5,700 residents of the town. To provide for the dynamic process of balancing growth and protection, this plan also includes goals that will establish a procedure to monitor change, review and update goals and maximize use of all the protective tools.

Section 2. Introduction

A. Statement of Purpose

This Open Space & Recreation Plan (OSRP) is Rochester's sixth update since 1977. The purpose of this plan is to provide a landscape guide for Rochester into the future. It bridges over forty years of planning, protecting and building by the town, and identifies the unique resources that need to be protected while at the same time meeting the recreational needs of Rochester

residents at all stages of their lives. In the guiding words of noted land use planner Robert Lemiere, "Save what needs to be saved, and build what needs to be built."

Highlights of Rochester's 2021 OSRP include:

- An inventory of Rochester's open spaces & recreation facilities
- A 7-year action plan based on 5 overarching goals
- Background on Rochester's natural resources and conservation history
- An evaluation of how Rochester's open spaces and recreation facilities serve people with disabilities

Accomplishments Since 2009 OSRP Update

Since approval of the last OSRP update in 2009, the Town of Rochester through its Board of Selectmen, Planning Board, Conservation Commission, Park Commission, Highway Department, Facilities Manager, and Herring Inspector has accomplished the following open space and recreation projects since 2009:

- Conservation Acquisitions/Donations
  - Doggetts Brook Property Acquisition (2011)– 29.6-acres
  - Accepted a gift of Snipatuit Road Logging Swamp Property (Melink Donation 2016) 100-acres
  - RMS Wildlife Area- Eastern Box Turtle Mitigation (2011)-8.84 acres

- Mattapoisett River Valley Watershed
  - Former Rentumis Property (2011) north of New Bedford Road – Town of Marion -54 acres
  - Branch Brook Property Acquisition (2017) – Town of Marion–153 acres
  - Wolf Island Road Watershed Land Acquisition (2011)– 7.79 acres

- Recreation Areas
  - Dexter Lane Recreational Area
    - Added fencing for lacrosse/soccer field
    - Added batting cages
    - Improved parking area, handicapped accessible restroom
    - Opened Doggett Brook trailhead to 1.5-mile loop trails to the east on properties owned by the Town and Wildlands Trust (2014)

  - Raynor Gifford Park
    - Added Handicapped accessible restroom
    - Improved Snack Shack/Pavilion

- Country Fair property
  - Fairgrounds created in 2011 including:
    Interior roadways, parking, event areas, ticket booths, exhibit building

- Rochester Memorial School Playground, Multi-purpose field
  - Renovated fields
  - Renovated playground

- Leonard's Pond Canoe/Cartop Boat Access
  - Fencing, new parking, kiosk, access to pond – 2014

❖ Recreation Activity
- Explored alternative funding sources through grants, donations, gifts, and partnerships (targeted to recreation).
- Identified and planned for the acquisition of open spaces which are of value and importance for active or passive recreation.

❖ Other
- Released revised second edition of the *Explore Rochester Trail Guide* in 2014 which contains maps and information on 15 properties and many miles of public trails within Rochester. The trail guide is posted on line on the town website and presents information about great opportunities for nature walking, hiking, birding, fishing, cross country skiing, and horseback riding.

- Adopted Right to Farm Bylaw - 2012

- Route 105 Designated as a Scenic Highway

- Rochester designated Tree City USA

- Appointed an Agricultural Commission

- Fishway improvements to Mattapoisett River & Sippican Rivers – Alaskan Steeppass ladder at Leonard's Pond added on Sippican River led by Rochester Herring Inspector, donated by Doug Beaton - 2014

- Developed and maintained walking trails on town owned land with help of Rochester Land Trust

B. Planning Process and Public Participation

This 2021 update encompasses the work of several prior recreation plans, with the last plan being accepted by the Massachusetts Division of Conservation Services (DCS) in 2009. The public outreach portion of the 2021 update process was principally conducted by the Open Space & Recreation (OSRP) Committee with the assistance of Bill Napolitano, Environmental Planner at the Southeast Regional Economic Development District (SRPEDD). The OSRP Committee included the following members: Bendrix Bailey (Planning Board), Richard Cutler (Board of Appeals), Jeffrey Eldridge (Highway Surveyor) Laurene Gerrior (Conservation Commission, Historic Commission), David Hughes (Park Commission, Constable), and Rosemary Smith (Conservation Commission).

The OSRP Committee worked for 4 years with the public, Town staff and various related committees to gather input as they prepared the OSRP. The Town of Rochester applied for and received a municipal technical assistance grant from its local regional planning agency the Southeast Regional Economic Development District (SRPEDD) to assist with the ADA Self Evaluation (included as Appendix A), demographics and public outreach components of the plan. Several outreach strategies, including a scientific survey and visioning sessions, were utilized to determine what the residents of Rochester value, and issues or problems that need to be addressed to improve their use and enjoyment of open space resources in the community.

Survey Methodology

The OSRP Committee voted to conduct a scientific survey of selected residents to gain a more realistic response, as opposed to a mass mailing to the entire town as done in the past. A limited number of Rochester residents (360) were randomly selected to participate in the Open Space & Recreation survey in 2015. (Respondents could participate via Survey Monkey or hardcopy by mail). The complete population of Rochester households was determined to be 2,066 based on population data from the database provided by the Rochester Town Clerk. A confidence level of 95% was desired, with a confidence interval of 0.05 with upper bounds of 0.55 and lower bounds of 0.45 were selected. The above desired parameter yields a standard error of 0.02551 and a relative standard error of 5.1. A survey sample was created using Excel Data Analysis tools. From the 2015 record numbers in the database, 360 were selected randomly by the data analysis tool. The record numbers of the 360 selected records corresponded to record numbers in the total population database. Surveys were sent to those persons. Calculations are based on National Statistical Service or Australia sample size calculator.

In order to reach residents who could not attend meetings, an Open Space and Recreation Plan webpage was hosted on the Conservation Commission website. The Department also welcomed comments in writing, by phone or through email.

An Open Space & Recreation forum and visioning session was held on October 5, 2015 at 7:00 p.m. at the Rochester Memorial School to gather input for the plan. SRPEDD facilitated the session which included over forty residents of Rochester. The following is a summary of the results of the forum:

ROCHESTER OPEN SPACE/ACTION PLAN FORUM 10/5/15

What is the most important thing that we have done to meet our Conservation, Recreation, and Open Space needs since our last Open Space Plan?

- Create the Open Space Plan Implementation Committee to move the 2009 OSRP Action Plan
- Create an Agricultural Commission and adopt a corresponding Right-to-Farm Bylaw
- Worked collaboratively with the Rochester Land Trust and other regional land trusts to permanently protect properties in the Mattapoisett River Valley

What would we like to do as part of the Action Agenda for our new Open Space Plan?

- Develop bike path/biking opportunities
- Develop a paved walking path/track at Dexter field
- Implement the Mary's Pond Beach development plan
- Provide recreational opportunities that promote life-long activities that serve populations of all ages and abilities
- Develop and install more way finding and educational signage to promote conservation lands and trails awareness/opportunities to the general public
- Pursue public-private and non-profit partnerships, where and when feasible, in order to help meet the town's conservation, recreation, and open space needs (Rochester Land Trust, Buzzards Bay Coalition)

Who are we planning for?

- A majority of the population is aged 45+ (55%)
- Since 1990, the population aged 24 has remained virtually the same;
- The population aged 25-34 has decreased by 69%;
- The population aged 35-44 has decreased by 42% (the 25-44 age group makes up only 14% of the current population whereas in 1990, it made up 36% of the population);
- The population aged 45-54 has remained virtually the same;
- The population aged 55-64 has increased by 450% (this age group represents 25% of Rochester's current population);
- The population aged 65-74 has remained virtually the same;
- The population aged 75-84 has increased by 72%;

- The population aged 85+ has increased by 419%
- Since 1990, the median age has increased from 34.9 years to 43.3 years in 2010; the median age in the state is 39.1 years

What are our community assets?

- Conservation lands
- Open Space
- Agricultural lands
- Small town character/feel

What are our Recreation needs?

- More, and more diverse summer recreational programs
- Nature/hiking trails
- Bike Path
- Picnic Areas
- Beach Access
- Paved walking track

What are our Conservation /Preservation Priorities?

- Groundwater protection
- Open Space/Conservation land
- Rural Character
- Surface water protection
- Agricultural land/working farms (agricultural retention)

How should we preserve these areas?

- Enact Zoning measures/provide incentives to developers to set aside Open Space
- Use Town funds

What do we have to work with (land profile)?

- 23,062 acres (36 square miles)
- 4,713 acres protected (as of 2013)
- 3,411 acres developed (as of 2013)
- 17,269 acres of natural land (as of 2013)
- 2,362 acres of open land (as of 2013)

In order to address our Recreation needs we should . . .

Fields and Trails

- Have better signage at various locations (way finding)
- Make online recreational information easier to find/more accessible
- Make parking improvements/paved walking path at Dexter Field
- Maintain the recreational facilities that we have at a high quality
- Grow a volunteer base to help address facility needs; find/appoint a Volunteer Coordinator

Bike Paths/Routes

- Form a Bike Study Committee to look at safe bike routes (town wide)
- Look at sites appropriate for trail biking
- Explore potential regional connections with Marion/Mattapoisett/others
- Look at areas appropriate to employ "Share the Road" signs
- Way finding signs for off-road trail opportunities

Beach Access

- Explore ways in which to implement the Mary's Pond Beach Plan (look at insurance, liability, construction, etc.)
- Make Rochester citizens more aware of the fact that they can use/access Buzzards Bay beaches in Marion and Mattapoisett (do a better job of promoting this opportunity)

Summer Recreation Programs

- There are opportunities for school age kids at the "Y"
- Opportunities for adults/adult programs at the Marion "Y"
- Making people aware of "all ages" summer recreation programs/opportunities presents a possibility to develop a new website/link
- In order to maximize/take advantage of these opportunities we need to improve tri-town communication

Picnic Areas

- This is another website listing opportunity
- Need for way finding signs

How can we achieve our Conservation/Open Space/Recreation Goals?

Zoning

- Flexible Zoning (cluster) doesn't work the way it should

- Transfer of Development Rights (TDR) – non-starter
- Low Impact Development (LID) measures – non-starter; too expensive to maintain
- Community Preservation Act (CPA) – non-starter; has been defeated twice
- Town needs a "Cost of Community Services" study/analysis, like the one that the American Farmland Trust did for Middleborough

Town Funding

- **"**Town Meeting has always risen to the occasion when called upon to fund critical open space purchases"
- The local Land Trust and partners such as the Buzzards Bay Coalition have also partnered to acquire open space
- The town has very limited industrial/commercial/retail development opportunity to help shift the tax burden/generate other sources of revenue from the residential sector
- The residential tax burden is increasingly falling upon the older population, aged 55+, as the population aged 25-44 has decreased drastically in the past twenty-five years; a significant portion of the 55+ population may also be on fixed income in their retirement years (?)
- The loss of population aged 25-44 may also indicate something about the overall affordability/cost of living/housing in Rochester (?)
- Is going to Town Meeting to ask tax payers to foot the cost going to be a sustainable option in light of the demographic trend?

Section 3. Community Setting

A. Regional Context

(See Map 1: Regional Context; following pages)

The town of Rochester is located in southeastern Massachusetts in Plymouth County, and is bordered by Lakeville and Middleborough on the north, Wareham and Marion on the east, Mattapoisett on the south, and Acushnet and Freetown on the west. Rochester is 36 square miles in size and is located approximately 19 miles northeast of New Bedford, 49 miles east of Providence, Rhode Island, and 50 miles south of Boston. The town has retained its agricultural character with winding roads, scenic pastures, open meadows, woodlands, and cranberry bogs. Rochester is a semi-rural town and bedroom-community which participates in the three town Old Rochester Regional School District. Because the town has no sewer system and only partial municipal water through it, there is limited potential for commercial growth, or for light and heavy industrial development.

Rochester is the caretaker of the region's water supply. The communities of Marion, Mattapoisett, Fairhaven and New Bedford, all draw water from Rochester's plentiful aquifers. The well-dispersed single family residences in the town have private wells for their domestic source, except for some dwellings connected to the municipal water supplies of Marion or Wareham. The Rochester Town Master Plan in 2009 recommended renegotiation with neighboring communities on inter-municipal water agreements in order to protect its own interests and future potential needs.

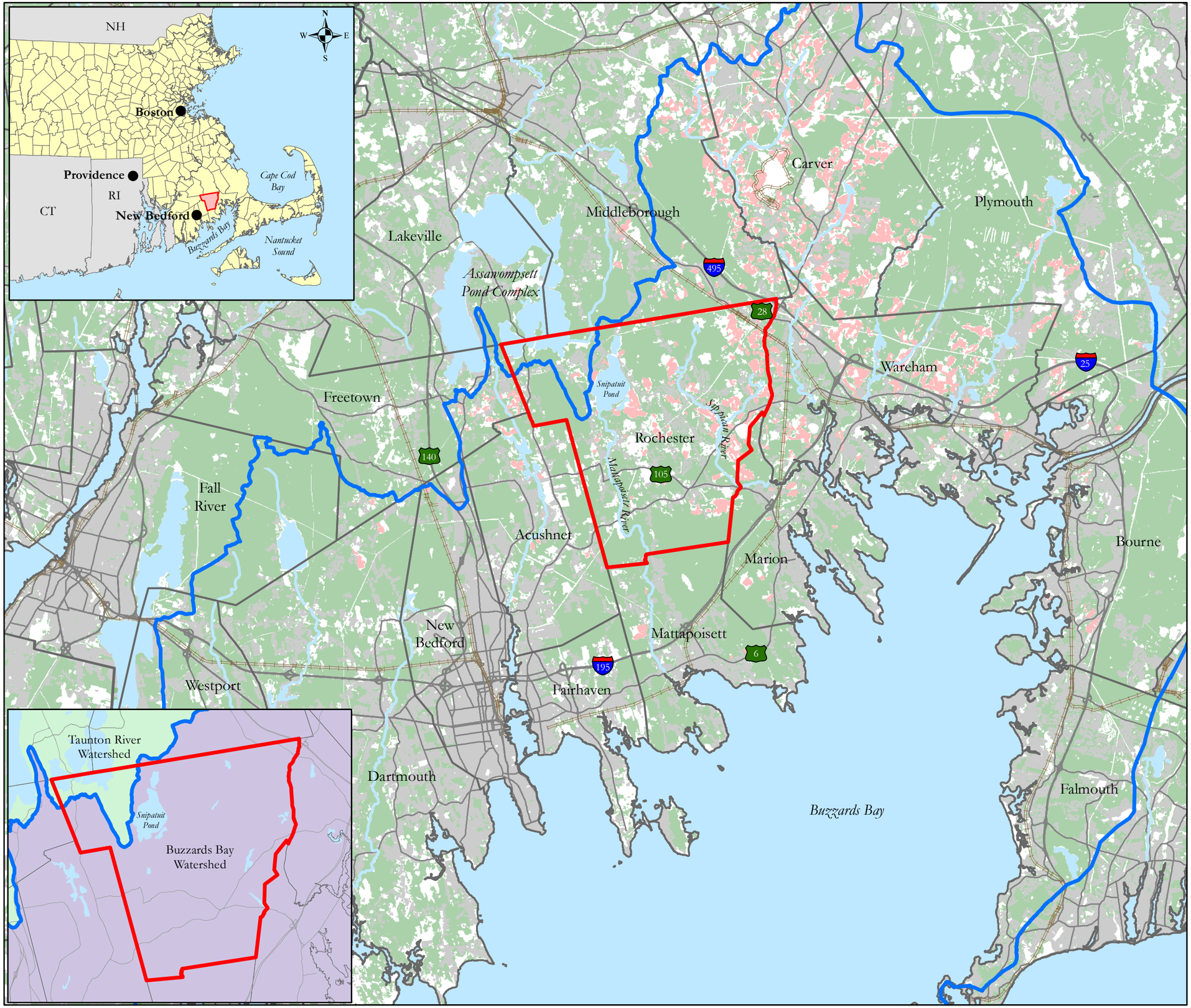
A quarter-mile stretch of Interstate 495 passes through the northeast corner of Rochester and terminates along the town line at Route 28. Route 105 (a scenic highway) travels through town, passing through the town center. The town can be accessed via Exit 19B along Interstate 195. A regional bus service, Southeastern Regional Transit Authority (SRTA) is headquartered in nearby New Bedford. The area is also served by two major airports, T. F. Green Airport in Rhode Island, and Logan International Airport in Boston, and a small regional airport in New Bedford.

Rochester has a small defined "town center" at the intersection of several main roads which includes the Rochester Green where the First Meeting House, the Town Hall, First Congregational Church and vestry, Joseph Plumb Library, post office and a small retail plaza which caters to the community. Rochester has three wildlife management areas, the Haskell Swamp Wildlife Management Area, Rochester Wildlife Management Area, and the Church Wildlife Management Area. There is a small canoe/cartop boat access recreation area off Perry's Lane at Mary's Pond, and two parks near the town center. There are a number of riding stables throughout the town, as well as an 18-hole public golf course. The town is also the site of the Sippican Rod & Gun Club, and the scenically spectacular East Over Reservation which sports 75 acres of woodland, fields, trails, and over two miles of double-faced stone walls built in the mid-1800s. Over 40 acres of field at East Over are dedicated as habitat for grassland species of birds.

Town of Rochester

Map 1
Regional Context

2021



- Town of Rochester
- Buzzards Bay Watershed Boundary
- Waterbodies
- Major Rivers/Streams
- Railroads
- Major Roads
- Developed Areas
- Cranberry Bogs
- Forests/Forested Wetlands

Inset Map - Major Watersheds

- Buzzards Bay Watershed
- Taunton River Watershed

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

0 2 4 8 Miles

Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

B. History of Rochester

The area originally called *Sippican* (a name of the local Wampanoag tribe), was renamed by the settlers in 1639 and named Rochester for their hometown of Rochester (Kent), England. The town was incorporated in 1686, and originally included the western shore of Buzzards Bay, when the coastal land area was separated to become the waterfront communities of Marion, Mattapoisett and Wareham. At that time, Buzzards Bay had a bustling coastal trade from its harbors until the mid-1850s. The result, was Rochester found its future in farming and logging. Rochester reserved rights on the seashores of the adjacent towns so residents of Rochester today enjoy rights for shellfishing and beach use in neighboring coastal communities.

Below are excerpts from A Brief History of the Town of Rochester by Judith J. Gurney, Town Historian (written for the Tercentennial Celebration 1986)

The settlers in Plymouth and Sandwich began at a very early time to come to Rochester for timber, grazing and fishing. Indians who owned the land called it by several names: Agawam was part of what we call Wareham, Sippican was of course Marion, and Mattapoisett was the entire western area from the shore all the way to Quitticas Pond. The central plains, where the Indians had their farms were called Menchoisett, meaning "much food."

The Indians tolerated the settlers and their leaders until 1675, when "King Philip," as the chief Metacomet was known, declared war on the whites and burned every shelter they had erected, and chased them back to the security of Plymouth. There they resided under very crowded conditions until their soldiers under the leadership of Captain Church had killed King Philip and most of his warriors, captured their women and children and sold them as slaves to Bermuda.

The way was now clear for real settlement, so 30 men petitioned the court at Plymouth, now owners of the land by conquest, for rights to purchase grants to the land. The court agreed. Two lots were set aside for the church and minister. One lot was set-aside for a stubborn Indian by the name of Will Connett, who refused to give up his claim to the land. These original "Proprietors" included names that are still present today in Rochester: Winslow, Clark, Briggs, Burgess, Dexter, White, Barlow, Hammond, Davis, Foster, Ellis, Dunham and Bradford. The date they founded the town was July 22, 1679.

In 1686, the Town filed for incorporation, and chose the name "Rochester" because the shore at Sippican and Mattapoisett reminded them of the shore at Rochester, Kent County, England.

Wareham was the first area to separate from the mother town. In 1739, Plymouth gave up a large piece of land on the east side of the Wankiko River and Rochester gave up a chunk on the west side, and these formed the new town. Again in 1864, another part of Rochester was annexed to Wareham. The last change in the bounds of Rochester occurred on June 12, 1939 at which time part of Rochester became West Wareham. In 1852, without any noise and

apparently without hard feelings, Sippican became a separate town of its own, named after the Revolutionary War Hero Francis Marion. The bounds were officially established in 1853.

Mattapoisett, after battling with Rochester about life styles and the location of the "meeting house" finally, with hard feelings and quarrels, became a separate town in 1857. Rochester, the mother town, was left without a seacoast; however, agreements had been drawn up that allowed Rochester to have shellfish rights in both towns. The northern section of Rochester threatened to become a separate town also. The section known as Snipatuit Quarter, or Pond Village, would have become Clarion if the separation had been completed.
Mrs. Gurney also notes that "... during the Revolution, a greater portion of men went into the service from Rochester, than any other town of its population in Massachusetts."

Once the boundaries were firmly established, Rochester continued to develop as an agricultural community. Population grew slowly compared to the neighboring towns. Neighboring Wareham became a mercantile and later a manufacturing center, as did Middleboro. Mattapoisett and Marion grew to become towns, both with harbors that were then as now boating centers. The City of New Bedford became a major whaling, shipping and fishing port as well as a textile-manufacturing city. These gathering populations were supported with the food provided by Rochester farms and materials provided by the forests.

At the turn of the century, cows in Rochester easily out-numbered the residents. Through the 1950's, farming remained the predominant livelihood. Following World War II, a booming and mobile population began a building cycle that consumed over a thousand acres of pastureland from 1951 to 1971. The economics of farming began a downward trend in the 1950's that continues today in most crops. During that same period of time, housing lots in Rochester climbed in value.

Colonial Mill Sites in Rochester

Lumber mills, farming and boat building sustained colonial Rochester. Inventive Rochester Yankees built hydro-powered mills on almost every moving stream. The dams and resulting millponds are an important part of Rochester's hydrological profile. Much of the surface water used in cranberry cultivation today is the result of colonial millponds maintained into the twentieth century by cranberry growers.

Several mill sites are shown on the "Historic Resources in Rochester" map on the following page and should be preserved for their historic value. Locations 1 through 8 have visible foundation stone work in place in various conditions. These are historically valuable sites with mill layout in evidence. Locations 9 through 13 are dam sites of historic mills, with no remaining structures.

Rochester Historic Mill Sites

(See Map 2: Historic Resources; following page)

1. Stillwater Mill
2. Leonard's Pond Mill
3. Obeddiah Gifford Mill
4. Hartley/Winslow Mill
5. Rounseville's Mill
6. Church's Falls Mill
7. Sturtevant Mill
8. Haskell Mill
9. Sippican Branch 1
10. Sippican Branch 2
11. Makepeace Dam site
12. Hathaway Mill
13. Branch Brook Dam site

Rochester Today

Today Rochester is a blend of its historic past and newer, upscale residential neighborhoods. Old family names adorn the mailboxes, side-by-side with newer ones. Picturesque barns still dot the landscape, often viewed from curb-cut drives. What remains unchanged is the deep reverence new and old residents have for their hometown.

Today the Town of Rochester consists of open fields and cranberry bogs, residential, small businesses, and significant undeveloped forests. The town operates under a Selectmen town meeting form of government. In the past few years, a number of solar projects have been developed which are screened from view by earthen berms, landscape plantings and fencing. The Town recently approved establishment of a designated area in the northeast portion of the town off Route 28 (Cranberry Highway Smart Growth Overlay District) allowing for a Chapter 40R affordable housing development. The town also adopted the Stretch Building Code and zoning provisions towards becoming a Green Community, which was formally applied for in October 2019.

Although the town zoning includes some industrial and general commercial, more than 95% of the town is zoned agriculture/residential. The town still retains some of the farms that began in town over 300 years ago. Rochester's agricultural characteristics, winding roads and open space are evident as one travels throughout the town and views pastures, meadows, woodland, ponds, and cranberry bogs. To preserve Rochester's agricultural character, the town adopted a "Right-to-Farm" bylaw in 2012 which "encourages the pursuit of agriculture, promotes agriculture-based economic opportunities, and protects farmlands within the town by allowing agricultural uses and related activities".

Town of Rochester

Map 2
Historic Resources

2021

MA Heritage Landscape Inventory Sites

- A Town Center
- B Cowens Corner
- C Vaughn Hill Agricultural Area
- D Snipatuit Causeway
- E Bisbees Corner
- F Old Parish Cemetery

Historic Mill Sites

- 1 Stillwater Mill
- 2 Leonard's Pond Mill
- 3 Obeddiah Gifford Mill
- 4 Hartley's/Winslow Mill
- 5 Rounseville's Mill
- 6 Church's Falls Mill
- 7 Sturtevant Mill
- 8 Haskell Mill
- 9 Sippican Branch 1
- 10 Sippican Branch 2
- 11 Makepeace Dam site
- 12 Hathaway Mill
- 13 Branch Brook Dam site

Historic District

Waterbodies

MajorRivers/Streams

Assessors' Parcels

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

Miles
0 0.5 1 2

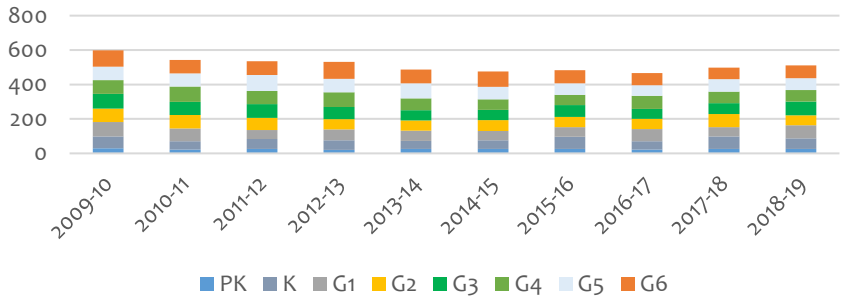
Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

B. Population Characteristics

Rochester participates in a three-town school district, Old Rochester Regional. Each town has one or more elementary schools, and all students transfer to fully regionalized schools beginning with seventh grade. In Rochester, students in grades K-6 attend Rochester Memorial School on Pine Street. In 2011, the Town completed a $26 million modernization and expansion project at Rochester Memorial, bringing the school to a design capacity of 680 pupils. The Massachusetts School Building Authority (MSBA) reimbursed the Town 57.9 percent of the total project cost.[1] Over the past ten years, total enrollment at Rochester Memorial has ranged from a high of 599 (2009-2010) to a low of 466 (2016-2017). Nevertheless, enrollment has increased in the past two years to the current-year enrollment of 509 students. Today, Rochester has the largest elementary school population of the three towns. The schools in Mattapoisett currently have 411 students combined, and at Marion's Sippican School, the PK-6 enrollment is 477.

Once the smallest of the three towns in the Old Rochester district, Rochester has gradually become the second most populated overall and the largest in terms of the population under 18 years. The average number of school-age children per household in Rochester is approximately 0.71.

(Source: Mass. Department of Elementary and Secondary Education, and Barrett Planning Group LLC)

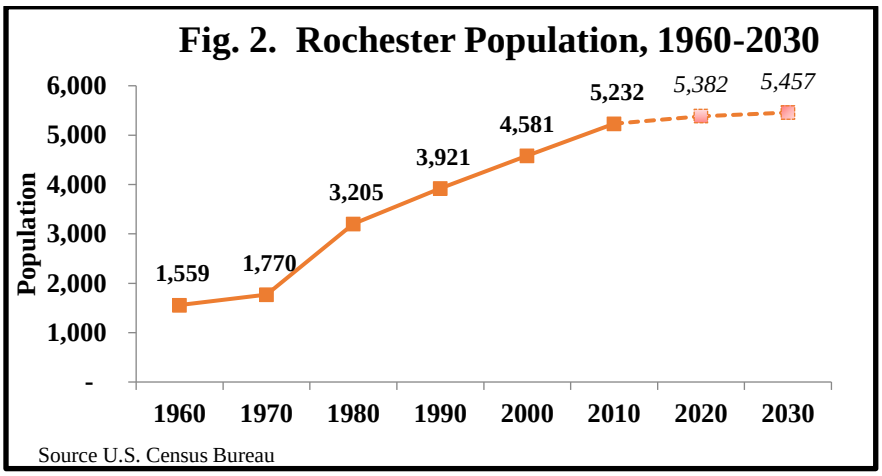


Population Growth, 1960-2030

Rochester's current population of 5,700 people (rounded) represents an 8% increase since the last official census in 2010. Rochester has grown quite a bit over the last 15-20 years. Between 2000 and 2010, Rochester's population increased over 14 percent and its total number of households increased 15 percent. Since 2010, the rate of growth has mellowed in Rochester, as it has in most Massachusetts towns, but meanwhile, household sizes have gradually crept

upward as families moving to Rochester a decade ago have had more children. It is no surprise to find that Rochester's largest households are families that moved to Rochester between 2000 and 2009. Families that chose Rochester between 2010 and 2014, buying new homes in developments like the 115-lot Connet Woods, also tend to be a remarkably low 116 people per square mile.

The population of the town of Rochester from 1960 to 2010, and the projected future counts for 2020 and 2030 are shown in Fig. 2.



Soon after World War II, the population of Rochester increased rapidly, as observed in the last 50 years (Fig.2). Persons and families who selectively preferred and sought agricultural and farming opportunities in a rural setting were presumably the main source of population influx into the town.

Population Density, 1960-2010

Along with population increase is the rise in population density, i.e., the number of persons residing within a square mile, which has great impact on the town's character. Table 1 reveals Rochester's population density and how it compares with its neighboring communities in half a decade or from 1960 to 2010.

Table 1. 50-Year Change in Population Density Compared

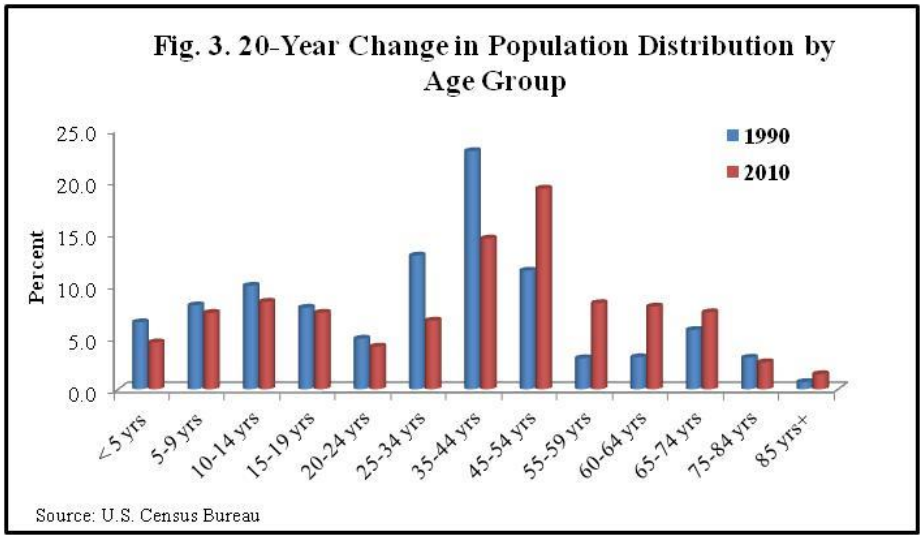
	Persons per Square Mile		
	1960	***2010***	***Percent Change, 1960-2010***
Rochester	18	155	761
Acushnet	119	559	370
Marion	75	336	348
Mattapoisett	72	366	408
Middleborough	61	333	446
Wareham	96	584	508

Source: Woods Hole Research Center, U.S. Census Bureau

Very low population density defines a rural area, and the data in Table 1 confirms that Rochester typifies this type of community when compared to neighboring towns as of 2010. Although Rochester's population density rose rapidly in half a decade's time, it is still one of the lowest by far in comparison to its neighbors.

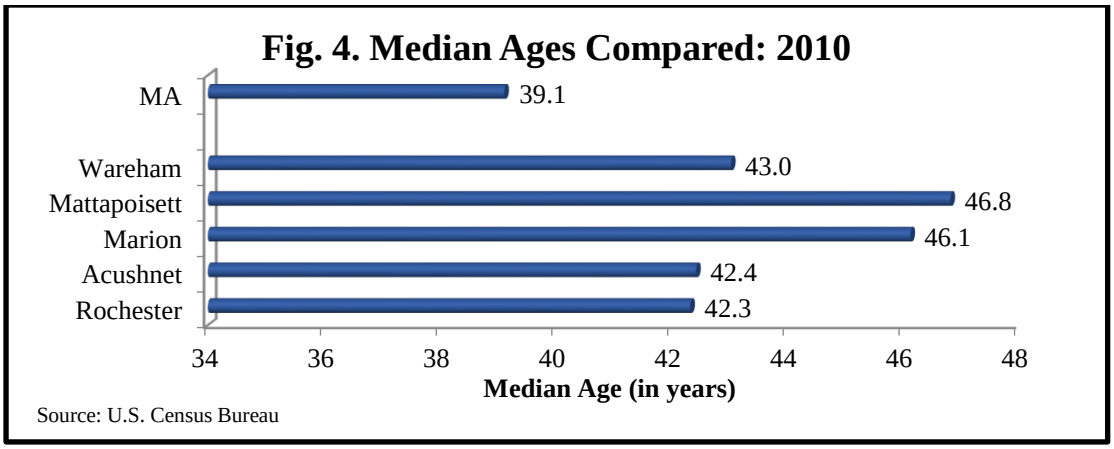
Population Distribution by Age Group, 1990 and 2010

The profile of the Rochester population by age group in 1990 and in 2010 can be seen in Fig. 3.



The apparent decrease in the percent of Rochester's population under 44 years, along with the significant rise of the age groups 45+ years between 1990 and 2010 is evident in Fig. 3. Moreover, the data indicates the decrease in the percent of young children (under age 19 years) and younger labor force (25-44 years old) in the town, and the increase among the older workforce (45+ years) as well as the oldest age groups (65+) during the 20-year interval.

A closer examination of Rochester's age profile compared to the neighboring towns, as determined by median ages, is featured in Fig.4.



Rochester, and all of the towns surrounding Rochester, had older population than the state's average age in 2010. Surprisingly, as of 2010, Rochester had the youngest population among these towns (Fig. 4).

Racial and Ethnic Composition, 1990-2010

Rochester's population profile by race and ethnicity from 1990 and 2010 is shown in Table 2.

Table 2. Race and Ethnic Profile, 1990-2010

	Total	White	Black or African American	Asian	Some other race	Hispanic or Latino
1990	3,921	3,842	38	5	36	23
2010	4,581	4,427	29	16	109	17
%Chg., 1990-2010	**16.8**	**15.2**	**-23.7**	**2.2**	**202.8**	**-26.1**

Source: U.S. Census Bureau

Rochester's racial population over the last two decades has been comprised overwhelmingly of White residents, with a small Black population, which had decreased considerably by 2010. While the Mixed or Other races sharply increased in the town, Hispanics decreased in Rochester over the 1990- 2010 period although they increased everywhere else in the country.

Households, 1990-2010

The numbers and types of households in Rochester and the percent at which they occurred from 1990 to 2010, are presented in Table 3.

Table 3. Household Types: Rochester, 1990-2010			
Household Types	**1990**	**2010**	***% Change, 1990-2010***
Total households	**1,288**	**1,813**	*40.8*
Family households	1,088	1,476	*35.7*
Non-family households*	200	337	*68.5*
Householder living alone	159	271	*70.4*
Householder 65+ yrs. living alone	73	116	*58.9*
Household size	**3.04**	**2.88**	**-5.3**
*One or more unrelated adults sharing a household. Source: U.S. Census Bureau			

As the data in Table 3 suggests, the total households in Rochester rose by 41% in a span of 20 years. A great increase occurred among non-family types of households. The latter type consists of householders living alone, which also rose significantly from 1990 to 2010, as did the elderly (65+ years old), who lived alone.

True to what is happening throughout the state, the number of persons living in each household has decreased in recent decades. Rochester's declining household size, as revealed in Table 3, meant that the town was no exception to the prevailing trend of the last two decades (1990 –2010).

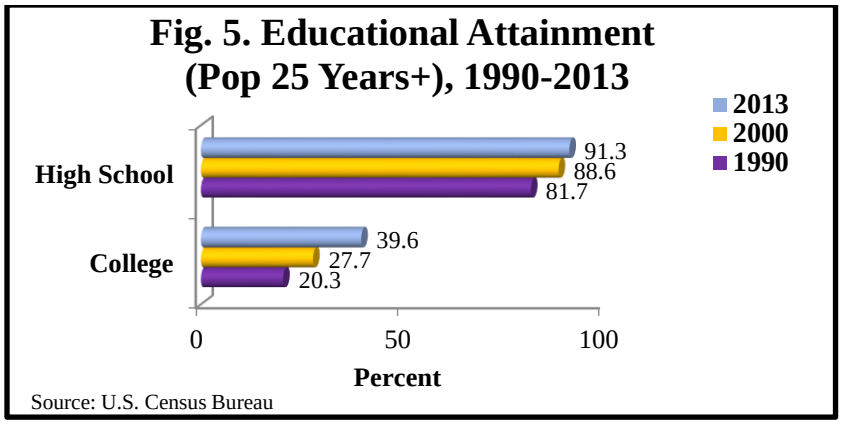
A comprehensive and insightful Open Space and Recreation Plan for Rochester has to consider the town's overall population growth, its density, its age distribution, racial composition, and household profile, over time. Such familiarity with the background of the plan's beneficiaries will enrich the plan and ultimately benefit the town significantly.

Socio-Economic Characteristics

In this section, the educational, income and poverty status profiles of Rochester residents are summarized.

Educational Attainment, 1990-2013

The educational attainment of Rochester's adult population (25 years+) for 1990, 2000 and 2013 is displayed in Fig. 5.



The data clearly indicate that high school completion among Rochester's adult population rose consistently from 1990 to 2013. Likewise, the big strides achieved in college completion between 2000 and 2013, were most noteworthy (Fig. 5).

The educational achievement of Rochester adults compared with those of the rest of the state is illustrated in Fig. 6.

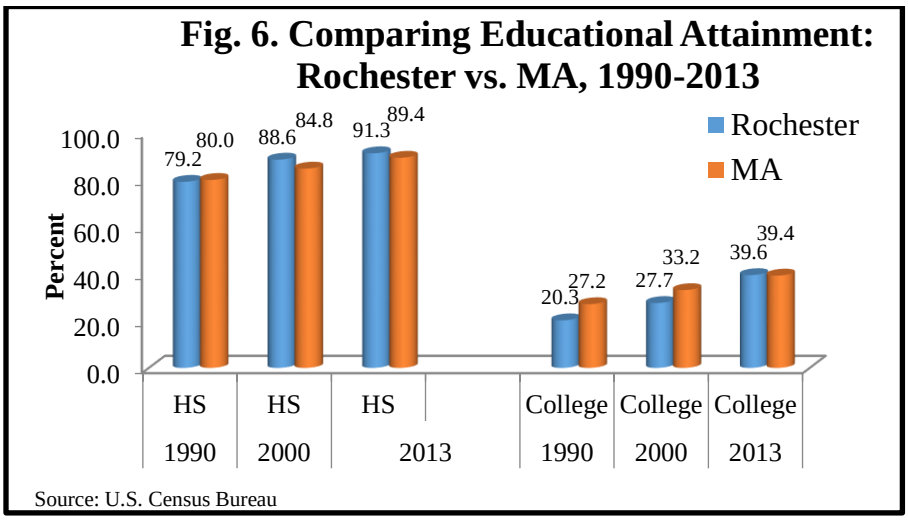


Fig. 6 shows that Rochester's high school completion started off lower than statewide level in 1990 but surpassed the latter soon in 2000, and in 2013. College degree attainment rates among Rochester adults also started with deficits in 1990 and 2000, but then topped statewide levels by 2013.

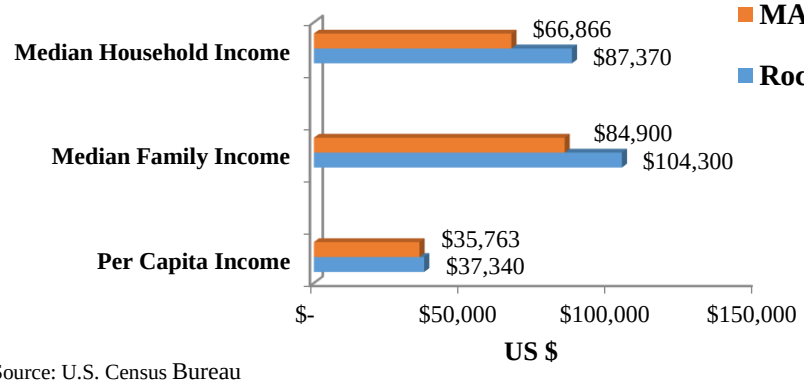
Indeed, the town of Rochester achieved greater leaps in educational attainment compared to statewide educational attainment levels over the past two decades.

Income, 2013

In this section, three dimensions of income are examined: median household income, median family income, and per capita income. Median household income provides a good reference to the buying power and saving capacity of households to support themselves in comparison to other areas or the nation. Median family income helps set the maximum and minimum limits of the criteria for families of varied sizes to qualify for housing and other federal initiatives. Moreover, per capita income reflects the capability of individual members in a community to support themselves with basic needs thereby serves as an index of a community's economic well-being.

In Fig. 7, Rochester's income levels in 2013 are compared with statewide averages.

Fig. 7. Income Levels: Rochester vs. Massachusetts, 2013



Source: U.S. Census Bureau

The income data (Fig. 7) clearly established that Rochester residents were more prosperous, and were better off economically than the residents of the Commonwealth in general in 2013.

Table 4 compares Rochester's income levels with its neighboring communities in 2013.

Table 4. Comparison of Incomes: Rochester vs. Neighboring Towns, 2013

	Rochester	*Acushnet*	*Marion*	*Matta-poisett*	*Middle-borough*	*Wareham*
Median Household Income	$87,370	$77,367	$80,456	$78,864	$77,607	$59,186
Median Family Income	$104,300	$82,775	$92,258	$93,235	$86,524	$74,960
Per Capita Income	$37,340	$31,477	$45,269	$35,941	$31,719	$29,740

Source: U. S. Census Bureau

Rochester was more affluent than its five neighboring towns when median household and family income levels were examined in 2013, as illustrated in Table 4. However, Marion had the highest per capita income of all the six communities examined during that year.

Poverty Status

Given Rochester's apparent economic advantage over its neighboring communities, Table 5 shows whether this prosperity is true for all its residents in the past 13 years when poverty status data for the town are looked at.

Table 5. Poverty Status: Rochester, 2000-2013

	Rochester	
Poverty Status	**2000**	**2013**
% Families with incomes below poverty level	**2.4**	**2.6**
% Families w/ children < 18 years and incomes below poverty level	**3.8**	**2.4**
% of all individuals with incomes below poverty level	**3.1**	**5.1**

Source: U.S. Census Bureau

Indeed, only a negligible percent of Rochester fell below the nationally-set poverty level from 2000 to 2013, as the data in Table 5 verified, thereby affirming the affluence of the town.

The issue of Environmental Justice is not applicable to Rochester per most recent US Census data. None of its three block groups met the two criteria, namely: 25% minority population, and 65% of the state's median household income.

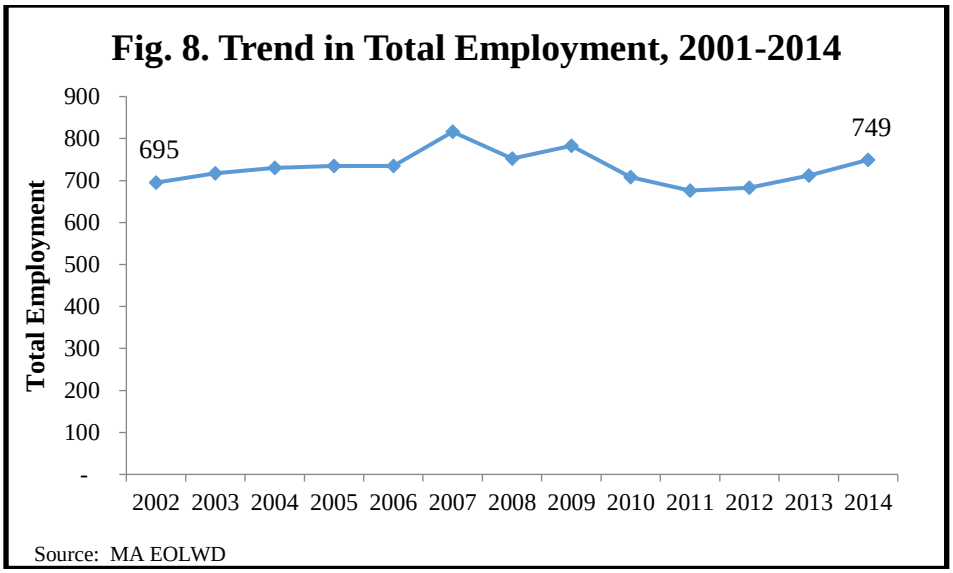
A detailed grasp of the socio-economic background of Rochester residents is helpful in determining the suitable design or kind of Open Space and Recreation Plan for the town in the future.

Economic Profile

The status of employment, the types of industry that are in Rochester, and the town's unemployment trends are explored in this section.

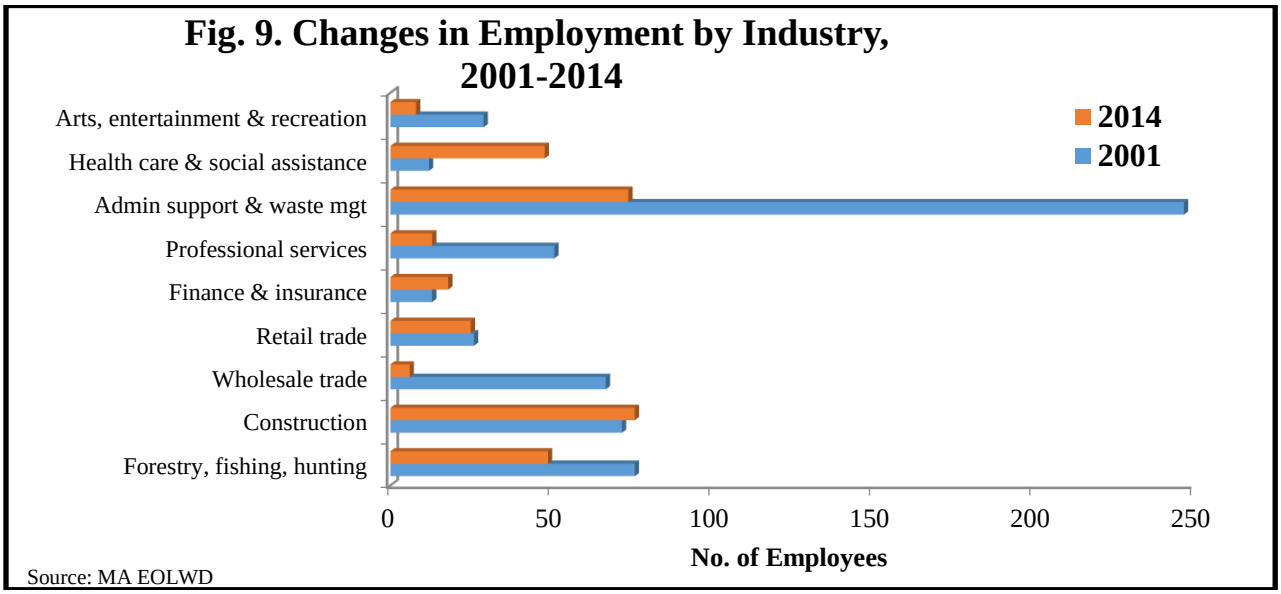
Employment, 2001-2014

The trend in total employment in Rochester between 2001 and 2014 is traceable in Fig. 8.



It is conspicuous that the total employment levels in Rochester remained stable and had not changed drastically in over a decade, notwithstanding the ups and downs of the nation's economic situation from 2000 to 2013 (Fig. 8).

Rochester's reported average number of employees by industry in 2001 and again in 2013 using NAICS categories are demonstrated in Fig. 9.



It is very obvious from Fig. 9 that Rochester's major industry employment, Administrative Support & Waste Management Services, decreased dramatically between 2001 and 2014. Rochester is the location of a major waste combustion facility (Covanta-SEMASS) which handles 25% of the state's waste stream, along with water treatment and storm water detention facilities in the region. Therefore, the decreased employment could have meant that the

establishment's clientele minimized their usage of the facility resulting in lesser number of employees by 2014.

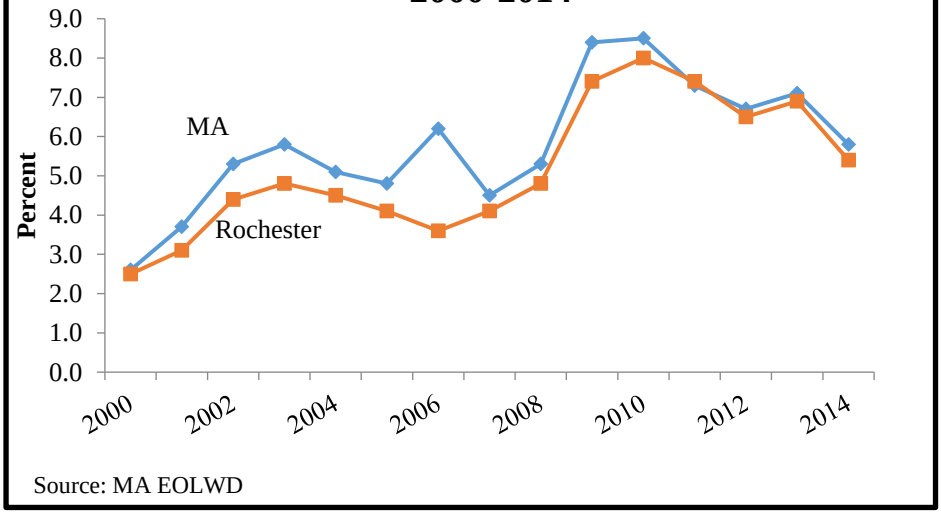
It is also clear from the data that Wholesale Trade as well as Professional Services employment in Rochester declined dramatically from 2001 to 2014. Given that the recession started in 2008, the economic situation in Rochester may still be undergoing recovery in 2014.

Inversely, the data disclosed that employment in Health Care and Social Assistance, likewise in Retail Trade had increased in the town by 2014.

Trends in Unemployment Rates, 2000-2014

Unemployment rates for Rochester and Massachusetts from 2000 to 2014 are shown in Fig. 10.

Fig. 10. Trends in Unemployment Rates, 2000-2014



Source: MA EOLWD

The marked upturn in statewide unemployment rates in 2006 (Fig. 10), prior to the economic recession in the late 2000s, was not shared by Rochester. In general, the town's rates of unemployment had remained lower than the state's during the last 14 years.

Overall, the economic conditions of Rochester covering relevant periods of time are of great significance to Open Space and Recreation planning. Whether or not the town can respond to the needs of the workers in particular industries, or for the unemployed, depends on how the planned programs are geared to them.

Housing Characteristics

The analysis of housing in Rochester from 1990 to 2010, prior to and during the housing bubble and economic recession which started around 2008, is examined in this section. These elements include the town's housing stock, the issuance of new residential building permits, and the sales and costs of single residential units in the town from 2000 to 2014.

Prior to the 2007-2009 recession, Rochester issued approximately 50 building permits per year, and almost all were for detached single family homes. According to building permit databases maintained by the state, Rochester has issued building permits for over 110 new homes since 2010. The town is desirable and relatively affordable, and it offers fairly good access to the regional highway system. This can be seen in the wide dispersal of Rochester's labor force throughout the South Coast and South Shore, for only 11 percent of Rochester's employed residents actually work in Rochester. The rest commute to New Bedford and the region's larger towns – Wareham, Middleborough, Dartmouth, Fairhaven, and Plymouth – and northward from Plymouth along Route 3.

Rochester has available land, and all of its recent housing growth consists of new single-family dwellings that have sold on the higher end the regional market. There is another factor that distinguishes Rochester from its neighbors: its inland location. Unlike Mattapoisett and Marion, Rochester has only a handful of seasonal homes. When a house sells in Rochester, its sells to a family that plans to live in Rochester year-round. Virtually every new home built in Rochester brings revenue growth, growth in demands on town and school services, and growth in household income. That is not always the case in Old Rochester's other member towns.

Rochester's housing stock spanning two decades can be seen in Table 6.

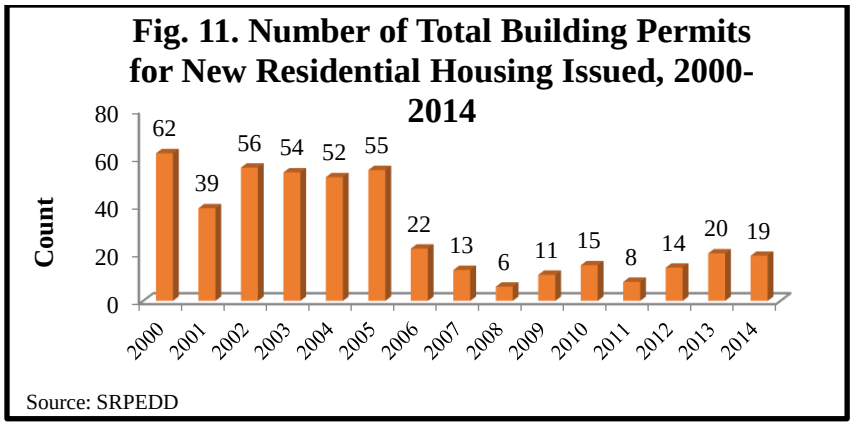
Table 6. Rochester Housing Units, 1990-2010

	Total housing units	Occupied	Renter-Occupied	Vacant (Percent of Total)
1990	1,341	1,288	96	4.0
2000	1,634	1,575	111	3.6
2010	1,885	1,813	130	3.8

Source: U.S. Census Bureau

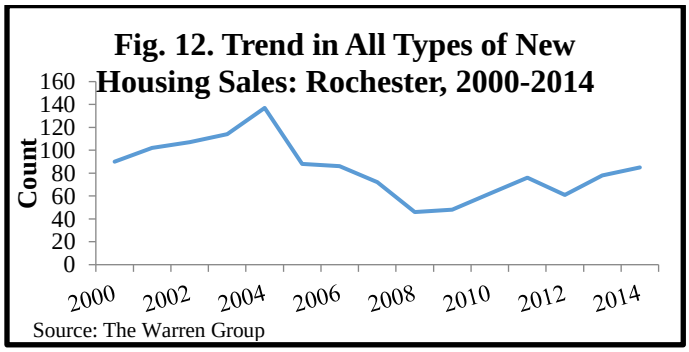
From 1990 to 2010, the number of housing units in Rochester had consistently increased, with proportionate rise of those occupied by renters (Table 6). Furthermore, the percent of housing vacancy had remained unchanged over the 20-year period.

Fig. 11 presents the total number of building permits for new residential housing units issued by the town of Rochester from 2000 to 2014.

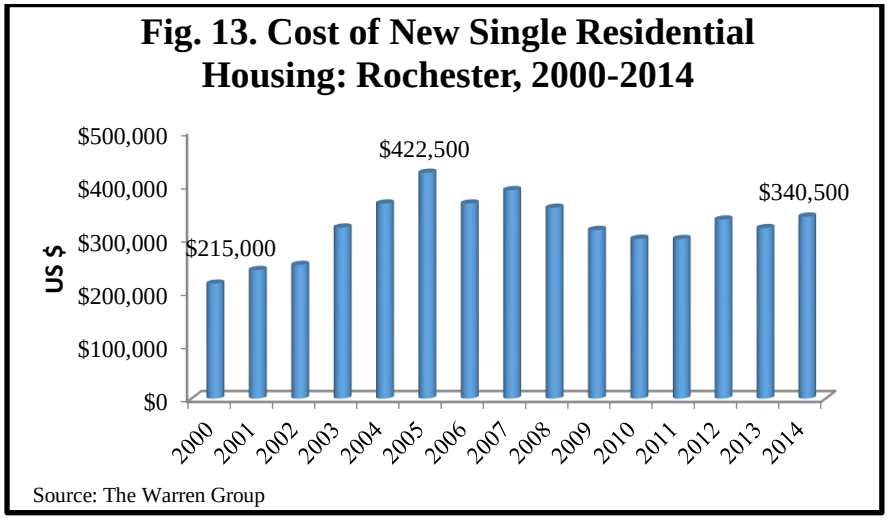


The data reflect the year when the housing downturn commenced, i.e. 2008, and Rochester reacted by issuing the lowest number of new residential building permits (Fig.11) through 2014. The town had since gradually allowed new housing in a very restrained manner compared to the town's practice in the early 2000s.

Fig. 12 shows the trend in new housing sales in Rochester from 2000 to 2014.

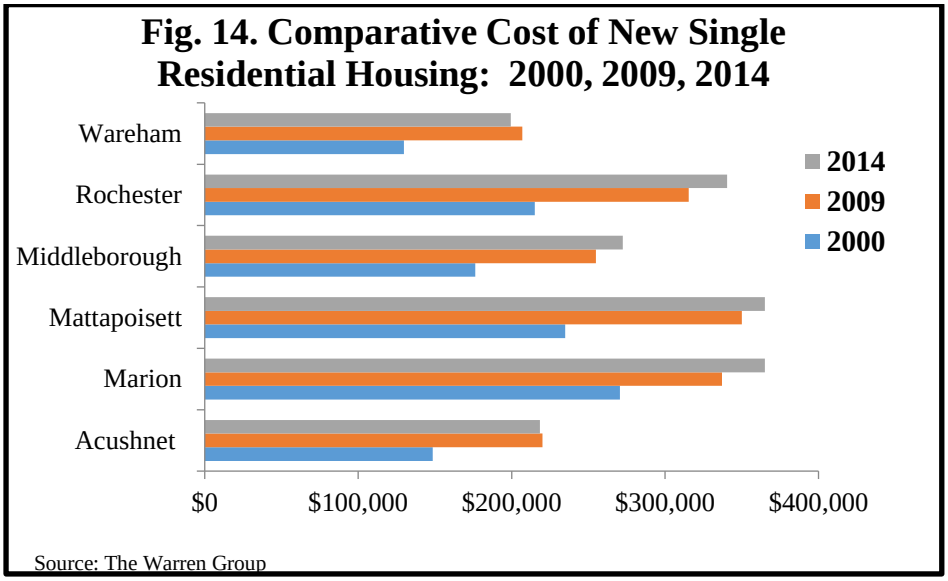


The cost of new single family residential housing units in Rochester in the last 14 years can be found in Fig. 13.



Apparently the housing downturn took a while to have some effect in Rochester, and when it did, the impact registered lower housing prices occurring at the end of the decade (Fig 13). Nevertheless, the more recent prices show a hint of an uptake.

For a comparative perspective of how the costs of housing in Rochester fare among the neighboring communities, Fig. 14 demonstrates the prices of housing at three points in time for the town and nearby area.



As noted earlier, 2008 was the year when the housing debacle and economic recession occurred and became widespread. In Fig. 14 it can be observed that the housing prices in Rochester and its neighboring towns had risen consistently until 2014, seemingly oblivious to the housing downturn going on everywhere. Only in Acushnet had the costs of single family residential houses remained stable even while they declined in Wareham between 2009 and 2014.

A good understanding if Rochester's housing trends and needs is essential for the Open Space and Recreation Plan as it will help focus where programs and facilities can be directed most efficiently.

Environmental Justice Populations

(See Map 3: Environmental Justice Populations; following page)

According to the 2010 U.S. Census, there are a number of block groups that qualify as having environmental justice populations that meet one, two and three of the state's criteria. Rochester does not meet the criteria for having environmental justice populations.

H. Growth and Development Patterns

Patterns and Trends

The Massachusetts Audubon Society's (MAS) Losing Ground: Planning for Resilience report (2014), contains a statistical profile of land use trends in all 351 cities and towns in Massachusetts between 2005 and 2013. In the context of the Audubon report, natural land is defined as forest, wetland, and water; open land is defined as agricultural areas, bare soil, or low vegetation, and; developed land includes low density residential and commercial/industrial/high density residential development. Most of this recent development has occurred throughout town, with proposed solar field development becoming more prominent in recent years. The 122 acres developed between 2005-2013 represented a decrease in comparison to the amount of land consumed by development during the previous MAS reporting period (241 acres in 2005).

Presently, about 15% of the land in Rochester (3,411 acres) has been developed for residential, commercial, agricultural, or other purposes. Forest, wetlands, and open space presently account for about 85% of the land in Rochester (19,631 acres). Of Rochester's total of 23,062 acres, 4,713 acres (20%) are protected.

The decline in the amount of active agricultural land in Rochester and communities throughout southeastern Massachusetts, reflects the region's aging farming population and the trends in the lifestyle choices of their heirs. Many older farmers are retiring and their farms are not being retained for agricultural purposes by their heirs. For those who do continue to farm the land, diversification, value-added products, and specialty crops have made agriculture an economically viable pursuit. The Town, through significant local, regional and partnership efforts (Mattapoisett River Valley, Buzzards Bay Coalition, Rochester Land Trust, and others), has been working creatively to preserve these areas, if and when they become available. These efforts have enabled Rochester's municipal departments, along with regional conservation partners, to protect, in perpetuity, an additional 2,179 acres between 2005 and 2013, according to the Losing Ground, data (the tenth highest amount of land protection in the Commonwealth for the reporting period).

Infrastructure

a) Transportation

Local, state, and interstate transportation routes and systems that either traverse or skirt Rochester include: State Routes 105 (running north-south) and 28 (running north-south); Interstate Routes 195 (running east-west, also with an interchange located at Route 105), and 495 (running south-north at the eastern edge of town). These routes all make Rochester very accessible to motorists throughout the region. The Rochester Highway Department maintains approximately 66.13 miles of local roads.

The MBTA, since the mid 1990's, has engaged in a very long, studied, and at times, controversial planning process to restore commuter rail service between Fall River, New Bedford, and South Station in Boston. This process took shape in the form of the South Coast Rail Corridor Plan (2009). The route alignment plan has been vetted publicly through two extensive federal, state, and local review processes. The preferred alignment would bring the rail from Boston, through Stoughton, Easton, and Taunton before splitting off to New Bedford and continuing on to Fall River. Some preparation work for the proposed rail expansion has been done in New Bedford and Fall River, at the ends of the line, but the entire project may not be realized until 2021 or later.

The Southeastern Regional Transit Authority, SRTA, headquartered in neighboring New Bedford, is the local transit agency, and provides direct service to the Route 6 corridor (there is a connection at North Street in Marion). SRTA also provides pick-up/demand ride services based upon eligibility.

Bicycle and pedestrian connections and improvements have long been discussed in Rochester, in conjunction with corridor studies (Route 6 in Marion, Mattapoisett), as well as part of the South Coast Bikeway planning efforts. Because of its rural character, including narrow local roads and densely forested areas, safety issues present a major hurdle to development of sidewalks and pathways/bike lanes.

b) Water

All of Rochester's drinking water is supplied by individual wells, except for a few dozen services provided by the Mattapoisett River Valley Water District (MRVWD, of which Fairhaven, Mattapoisett, Marion, and Rochester are members) to residences located along its trunk line in Rochester. The MRVWD system consists of eight (8) groundwater wells, that pump directly to the MRVWD Treatment Facility in Mattapoisett. A large portion of the MRVWD water supply/water supply protection area lies within Rochester.

The Mattapoisett River Valley Aquifer Water Supply Protection Committee, working in conjunction with federal, state, local, and regional partners (the Buzzards Bay Coalition, in particular), have protected 1,468 acres of land (57% of which is within Rochester) critical to water supply protection in the Mattapoisett River Valley, since 2001. This figure translates to approximately 17% of the Valley, including 28% of the Zone II (state approved wellhead protection area) for the wells.

c) Sewer

Rochester depends on on-site wastewater disposal systems throughout town.

Long-Term Development Patterns

a) Zoning

Rochester is zoned primarily Residential/Agricultural. In 2001, the Town passed a flexible development bylaw to attempt to balance its desire to conserve its natural, cultural, and historical assets with development.

In July of 2009, and again in July of 2014, Rochester passed amendments to its Floodplain Districts in order to comply with the new Federal Emergency Management Agency (FEMA) Draft (2009) and Final (2014) Flood Insurance Rate Maps (FIRM) for the town **(see Section 10, Maps, Zoning and Land Use Maps).** The adaptation of supplemental language relevant to the updated maps and reconfigured flood zones provides an additional planning tool for flood prone/at risk areas as well as keeps local homeowners eligible for the state and federal flood insurance programs.

b) Priority Protection/Priority Development Areas

Another effort undertaken by the Town, in conjunction with the South Coast Rail Project, and tied to local zoning and planning protocol, is the designation and mapping of Priority Development (PDA) and Priority Protection Areas (PPA) within the community. This community driven planning exercise was originally conducted in 2008 by the three regional planning agencies serving the thirty-one (31) communities addressed in the South Coast Rail Corridor Plan. In 2013, the regional planning agencies, including SRPEDD, revisited the original process and choices as part of a five-year update process.

PDAs are areas that are appropriate for increased development or redevelopment due to several factors, including: good transportation access; available infrastructure (primarily sewer and water); an absence of environmental constraints, and; local support. PDAs can range from a single parcel to many acres, and can include small scale infill, commercial, industrial, mixed-use, transit facilities, or other such projects.

PPAs are areas that are important to protect due to the presence of significant natural or cultural resources, including, but not limited to: rare and endangered species habitats; areas critical to water supply; historic areas; scenic vistas, and; agricultural areas. PPAs can also vary greatly in size, from small species dependent areas, to large expanses of intact habitat. These sites may be candidates for protection through acquisition, conservation restriction, or other means.

A community's Priority Area designations can guide municipal decisions about zoning revisions, infrastructure investments, and conservation efforts. In addition, these Community Priority Area designations are used as the foundation for developing Regional and State Priority Area designations. Finally, in the fall of 2010, the Patrick Administration issued Executive Order 525 (E.O. 525) providing for the implementation of the South Coast Rail Corridor Plan and Corridor

Map (including PPAs and PDAs) through state agency actions and investments. These state actions have the potential to help leverage local and private investments in the priority areas.

Town of Rochester

Map 3
2010 U.S. Census Environmental Justice Populations

2021

- Town of Rochester
- Minority
- Income
- English Isolation
- Minority and Income
- Minority and English Isolation
- Minority, Income and English Isolation
- Waterbodies
- Major Rivers/Streams
- Major Roads

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

Miles
0 2 4 8

Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

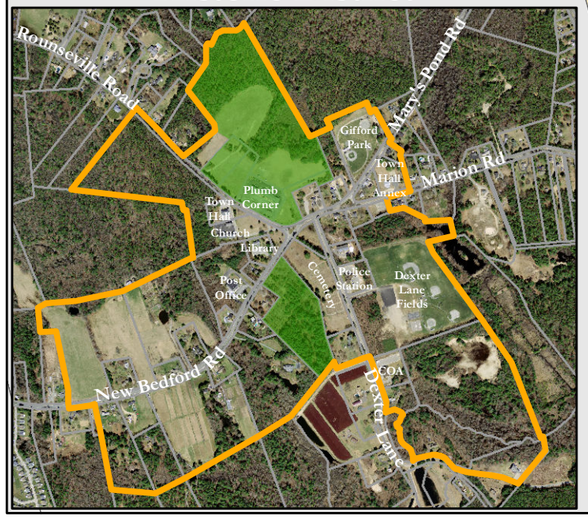
Town of Rochester

Map 4
Zoning Map

2021

- Agricultural/Residential
- Limited Commercial
- General Commercial
- Industrial
- Groundwater Protection District
- Historic District
- Waterbodies
- MajorRivers/Streams

Historic District



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Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

Miles
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Map prepared by:
Buzzards Bay National Estuary Program
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www.buzzardsbay.org

Open Space and Recreation Trends

The Town of Rochester offers a number of both active and passive recreational facilities for the benefit of the community, including two parks 1. Raynor Gifford Park located off Mary's Pond Road and, 2. Dexter Lane Recreational Facility located off Dexter Lane. Both facilities have trailheads with extensive loop walking trails on adjacent parcels owned by the Wildlands Trust and the Town of Rochester respectively.

According to the Rochester Park Commission, the town is experiencing a shrinking supply of playing fields in comparison to demands for field based sports teams. The Dexter Lane Recreational Facility is utilized every day for games and practices by Rochester-Marion-Mattapoisett baseball leagues, Girls Softball, the Ponderosa Sportsman's Club, and Tavares Girls Softball of New Bedford. The park meets Massachusetts Little League Association requirements and is certified for tournaments. The playing fields are also used for soccer and lacrosse, and the facility is also rented for picnics in the spring, summer and fall. The facility also has a basketball court, two ADA accessible restrooms, two playground areas, and a skateboard park. There is a Babe Ruth Field, Softball field, and two dual purpose fields (one with lights) with portable mounds that can be used for either Little League or softball. There is an open field between the Babe Ruth field and softball field that is used for soccer by younger children, as well as a portable batting cage that is rolled to available areas when needed.

The Rochester Park Department leases Raynor Gifford Park to Rochester Youth Baseball, which includes two Little League fields, a T-ball field, and batting cage. There is an ADA accessible restroom at the snack shack.

The Rochester Golf Course is a family-owned and operated 18-hole public facility serving the town and neighboring communities. In addition, the town has a number of hiking trails to observe nature. Rochester residents enjoy shellfishing and beach rights in the neighboring communities of Marion, Mattapoisett and Wareham.

To meet local and regional needs, and to protect and sustain Rochester's open space and recreation resources, it is imperative that Rochester continue to invest in the expansion, improvements, maintenance, and ongoing management that will allow these critical local resources to be sustainable and to endure into the future. Fiberglass bleachers are needed for both the Dexter Lane and Raynor Gifford facilities.

Section 4. Environmental Inventory and Analysis

A. Geology, Soils and Topography

(See Map 4: Soils and Geologic Features Map; following pages)

Rochester's landscape consists of level coastal lowlands punctuated by stony hills. This relief is a direct result of events occurring during the Pleistocene Period (Ice Age). As the front of the glacier melted back, sediments carried within the ice were deposited as glacial till, a dense assortment of sand, silt, gravel and stone. Glacial activity frequently reformed these deposits into streamlined features known as drumlins. Characteristically, these hills are oriented southeast and reach heights of 100 feet. There are at least six drumlins in the western part of Rochester, including Perry Hill, Vaughn Hill, Braley Hill, west of Cushman Road, along Snipatuit Road and a long finger of upland in the middle of the Cedar Swamp. The highest point in Rochester is the top of Braley Hill, at about 140 feet above sea level.

During the glacial melting process, large chunks of ice were left behind and debris piled up around these melting blocks, creating knobby hills and kettle holes. In most of Rochester, bedrock underlies 50 to 100 feet of glacial till, pocked with this knob and kettle terrain. Meltwater streams carried and deposited sorted sand particles in channel beds and glacial cracks, forming the southwest trending ridges known as eskers. Eskers are mined for sand and gravel, a valuable mineral resource in Rochester.

Glacial meltwater dammed in shallow lakes collected silt and clay, as lakes do today. Eventually, these lakes and ponds drained and dried away, leaving behind a flat, poorly drained surface seated with clay that today supports the perched water table of cranberry bogs and fresh wetlands. Typical of this topography, Rochester has broad swamps linked by series of wandering brooks and intermittent streams. Examples of these features are Logging Swamp in the northwest; Cedar Swamp in the north; Forbes Swamp in the northeast; Towsers Swamp and Haskell's Swamp in the south and Bear Swamp to the southeast.

Soils

There are five major soil associations found in Rochester usually discussed in terms of limitations. Approximately 40% of the soils in Rochester pose severe limitations for onsite sewage disposal. The Peat –Scarboro-Sanded Muck-Brockton Association consists of poorly drained organic and mineral soils usually associated with swamps. This association accounts for 30% of the soils. The other severely limited soil is predominately mineral, the Essex-Gloucester firm substratum- Scituate Association (hardpan), which makes up 10% of the soils. The Hinckley- Carver-Merrimac-Windsor Association (35%) poses only slight limitations for development. The Gloucester Association (12%) is gravelly and stony and poses only moderate

limitations for development. However, these last two classes have rapid permeability providing minimum resistance against seepage of pollutants into the ground water below.

In soil associations with slight to moderate limitations to development, care must be exercised to prevent groundwater contamination. The Hollis-Charlton-Scituate Association (4%) is shallow to bedrock in some areas with deep well-drained pockets in other areas. This soil association can be limited by its proximity to bedrock. The remaining 9% is covered with water. Rochester soil is notably fertile farmland composed of sand, gravel and stone, characteristic of glacial till. The most limiting factors for agricultural use have been the boniness of soils and their tendency for drought.

Climate

Rochester receives an annual precipitation of 47 inches distributed evenly throughout the year. Storm systems are the principle source of precipitation. In the winter, this comes in the form of freezing rain and wet snow. Rochester's winters average 30 to 60 inches of snow over an average of 30 snowy days. The usual period of continuous snow cover is 14 days. Prevailing winds are west north west (WNW) in the winter and south west (SW) in the summer. Storm winds are usually southeast (SE) or northeast (NE). Hazardous conditions from hurricanes, coastal storms and blizzards occur periodically.

Town of Rochester

Map 5
Soils and Geologic Features

2021

- Prime Agricultural Soils
- Soils of Statewide Importance
- Soils with Severe Development Limitations
- Houses/Buildings
- MajorRivers/Streams
- Waterbodies
- Assessors' Parcels

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

Miles
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Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

B. Landscape Character

(See Map 6: Unique Features Map; following pages)

Southeastern Massachusetts' landscape, described as the Bristol Lowlands Ecoregion on the Massachusetts BioMap, has been shaped by the advance and retreat of glaciers across the region, grinding down ancient mountains and filling valleys to form a wide coastal plain pocked with kettle holes, kettle ponds, ridged with drumlins and eskers laid down over the ribs of the buried mountains. In some places, these mountain ridges are exposed as rocky ledges. Everywhere is evidence of the glaciers' influence: large erratic boulders sit hidden in the woods or stand at road corners, sand and gravel laid in water braided patterns. Almost everywhere are rocks of all sizes, providing raw material for some of New England's signature land marks: stone walls. Where the glacial meltwater deposited layers of silt and clay, the resulting large, relatively flat, poorly drained areas became wooded swamps and wet meadows. Sand and gravel deposits were mined, a process that has augmented the building of cranberry bogs and reshaped contours of eskers and drumlins with canals and reservoirs.

Just inland from the coast of Buzzards Bay, Rochester is a town that enjoyed a very slow rate of growth until the 1970s. Forests and wetlands covered much of the town. Cranberry bogs were carved out of the poorly drained areas and farms occupied the higher, easily accessible land. Large wetlands and land too rocky to be farmed were left as woodlots, providing lumber and firewood for sale locally and regionally. These activities have shaped the character of the landscape of today.

From the crest of Vaughn Hill, forestland interspersed with houses can be seen west to Braley Hill, the highest elevation in Rochester at a modest 140 plus feet above mean sea level. To the north, trees hide everything to the bluffs at the edge of the great ponds of Lakeville and Middleboro. Eastward across the fields of Cervelli's Farm, the view sweeps over several miles of treetops. All along its roadways Rochester has a multitude of scenic views. Cervelli's corn fields, Eastover Farm with its carefully built and maintained stone walls and yellow houses and barns, the center of town as seen entering from the east, Snipatuit Pond from the Neck Road causeway and from across Pierce Farm, the Christmas Tree Farm, all these and many more together define this town.

Rochester's landscape and its place in the changing local economy have shaped the town's identity in the past. It is open space that defines the scenic character of Rochester: roadways lined with forest land, old barns and farm buildings viewed across fields bounded by stonewalls, corn standing tall in the hot summer sun, cranberry bogs turned bright red by autumn harvest next to their blue reservoir ponds. These are things that are disappearing everywhere in the

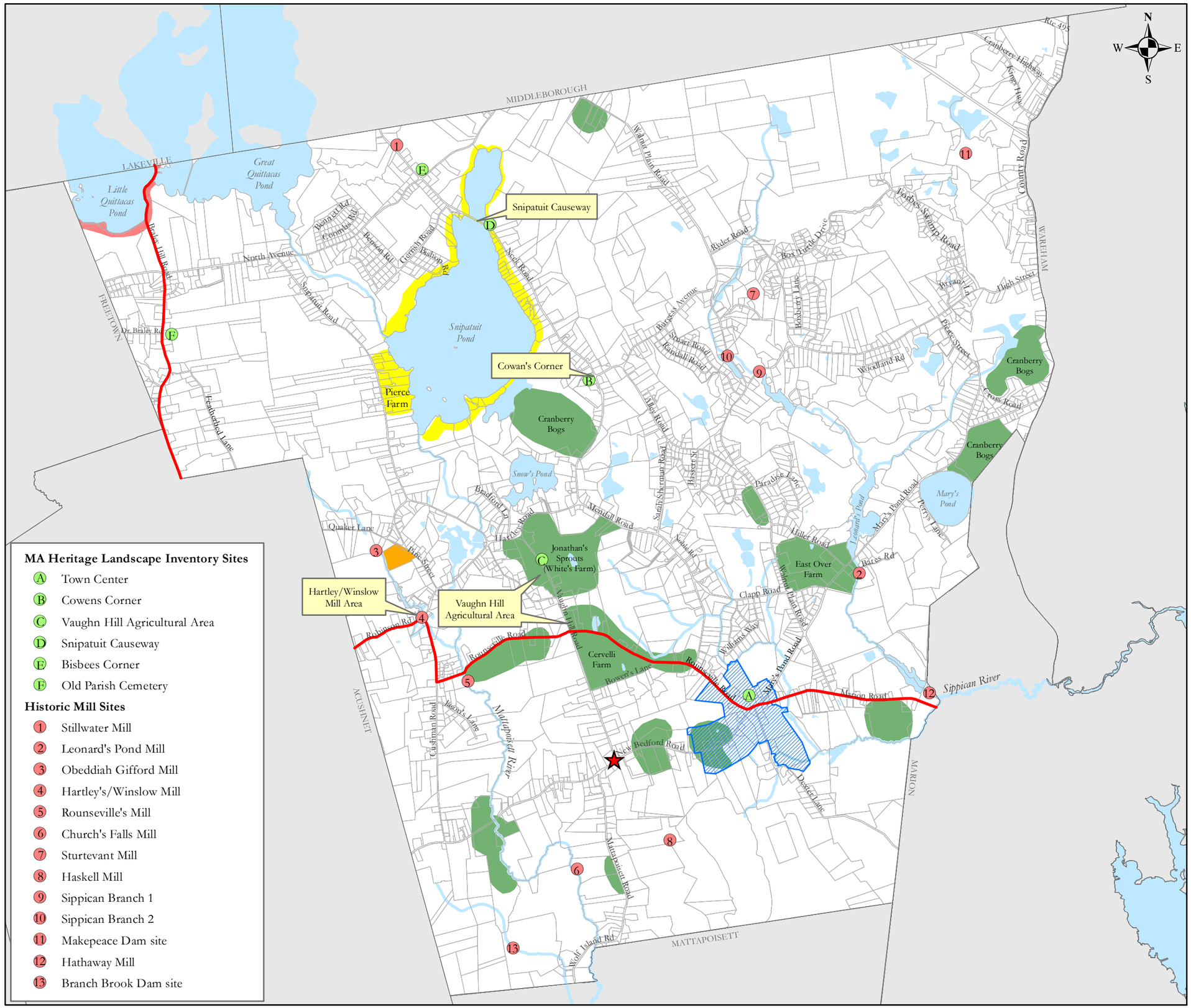
region as the woods and fields fill up with houses. The town's individuality will slowly change as its working landscape changes.

Rochester's boundaries encompass 33 square miles that include large areas of woodlands, fields, wetlands, ponds (among them is Snipatuit Pond, Rochester's largest pond) and streams that provide habitat for hundreds of species of plants and animals including several threatened, rare or endangered species. Opportunities for hunting, fishing, hiking, cycling, horseback riding, nature walks and birding are numerous.

Town of Rochester

Map 6
Scenic Resources & Unique Features Map

2021



MA Heritage Landscape Inventory Sites

- A Town Center
- B Cowens Corner
- C Vaughn Hill Agricultural Area
- D Snipatuit Causeway
- E Bisbees Corner
- F Old Parish Cemetery

Historic Mill Sites

- 1 Stillwater Mill
- 2 Leonard's Pond Mill
- 3 Obeddiah Gifford Mill
- 4 Hartley's/Winslow Mill
- 5 Rounseville's Mill
- 6 Church's Falls Mill
- 7 Sturtevant Mill
- 8 Haskell Mill
- 9 Sippican Branch 1
- 10 Sippican Branch 2
- 11 Makepeace Dam site
- 12 Hathaway Mill
- 13 Branch Brook Dam site

- Historic District
- Scenic Roads - Route 105
- Witch Rock
- Scenic Agricultural Views
- Views of Snipatuit Pond
- Little Quittacas Shore Views
- Town Fairgrounds
- MajorRivers/Streams
- Waterbodies
- Assessors' Parcels

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

0 0.5 1 2 Miles

Map prepared by:
Buzzards Bay National Estuary Program
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C. Water Resources

(See Map 7: Water Resources; following pages)

Rochester is blessed with abundant natural resources. Chief among these is fresh water. The swamps were a major resource for forest products in the past when they were regularly harvested for white cedar, maple, swamp oak and, from the higher ground, white pine and mixed hardwoods. For their role in maintaining clean ground water supplies alone, these large swamps and their surrounding upland watershed areas must be protected. The town encompasses the headwaters of both the Sippican and the Mattapoisett Rivers. These rivers and their tributaries drain the large wooded swamps that act as rainwater collectors, recharging the groundwater. The aquifers in these watersheds supply drinking water for Rochester and three surrounding towns. The Town of Marion has three wells in the Sippican River watershed and three in the Mattapoisett River watershed**,** one of which was drilled since the last Open Space Plan was written. The other two towns, Mattapoisett and Fairhaven, have well fields in the lower end of the Mattapoisett River Valley.

Most of Rochester lies in the Buzzards Bay Watershed. Designated an estuary of national significance in the National Estuary Program, Buzzards Bay has become a focus of attention for all the communities in its watershed. From the large swamps, the water flows seaward through the two watersheds that encompass most of Rochester's area, the Mattapoisett River and the Sippican River watersheds empty into the middle of Buzzards Bay's western shore. Large areas of high yield aquifer underlie both the Sippican and Mattapoisett watersheds. The aquifers and their recharge areas deserve a high degree of protection.

Snipatuit Pond

Snipatuit Pond is Rochester's largest pond and largest open space. This 710-acre warm water pond is the headwater of the Mattapoisett River. It is about two and one half miles long by one and a quarter mile wide and about eleven feet deep at its deepest point, averaging about five feet in depth. (Most of the pond is much shallower, three to five feet.) It provides some of the most sweeping views to be enjoyed in town. The mucky bottom and shallow water make it less popular for swimming than some of the other ponds in town. Snipatuit Pond offers good fishing for an assortment of warm water fish species. (Please refer to Appendix for a species list.) A boat ramp maintained by the Department of Fish and Game off Neck Road provides access and limited parking.

Long Pond is connected to Snipatuit Pond by a hand-dug channel constructed many years ago to allow access to the larger pond through the smaller one for flooding the large bog complex that borders Long Pond.

A small part of the northwest corner of town is located in the Quittacas-Pocksha-Assawompset-Long Pond system that is drained by the Nemasket River (Taunton River watershed) that

empties into Mount Hope Bay. After being closed to the public for more than 100 years, The Assawompsett Pond Complex (commonly referred to as the Water Works) is located in the towns of Rochester, Lakeville, Middleboro, and Freetown, now is open to the public for passive recreation.

Coastal Plain Pond Shore Communities

Snow's Pond is located just south and east of Snipatuit Pond and is a deep kettle pond. Snow's Pond and the somewhat larger kettle pond, Mary's Pond situated still farther to the east, both support globally rare plant species. They are examples of Coastal Plain Ponds that are vulnerable natural areas found mostly in Plymouth and Barnstable Counties. Their sand and gravel bottoms and acidic soils limit nutrients. They have no inlets or outlets so the only sources of water are rainfall and ground water, which can result in large seasonal fluctuations in water levels.

Due to their small area, outboard motors have been limited to electric trolling motors on both Mary's and Snow's Ponds. Both ponds are used for fishing, canoeing and swimming. Snow's Pond has limited access but Mary's Pond has a canoe/cartop boat access constructed by the Department of Fish & Game Office of Boating Access off Perry's Lane. The town acquired this land on the western shore of Mary's Pond for a town beach and the Department of Fisheries and Wildlife Natural Heritage and Endangered Species Program have approved plans for a beach.

Both Mary's Pond and Snipatuit Pond are stocked by the Department of Fish and Game. Snipatuit Pond is typically stocked with northern pike, and Mary's Pond is stocked in the spring and fall with brook, brown and rainbow trout.

In addition to these Great Ponds, there are several mill ponds created in the past by dams built to power small sawmills, iron foundries or gristmills; among them are Hathaway Pond, Leonard's Pond, Hartley Mill Pond and Mill Pond on Walnut Plain Road. Small reservoirs and impoundments are found throughout the town on most of the smaller streams. Many were built to provide water for cranberry bogs.

The East and West Branches of the Sippican empty into Leonard's Pond. It is at that point where the water emerges from the dam at the lower end of Leonard's Pond that the Sippican River begins again. A mile or so, as the river flows, below Leonard's Pond is Hathaway Pond with its dam. Both of these dams supplied waterpower to mills in the past.

Vernal Pools

All throughout town, scattered through the woods and fields, are small isolated wetland areas called vernal pools. Vernal pools are temporary ponds that serve as amphibian breeding grounds. Evidence of their presence is easy to find each spring when at times an almost deafening chorus of wood frogs and spring peepers announces their presence. Vernal pools also

provide essential habitat for the life cycles of many creatures that are less familiar, such as fingernail clams, fairy shrimp, clam shrimp and other invertebrate species. In 2001, over 30 vernal pools were certified in town through a program sponsored by the Department of Coastal Zone Management.

Flood Hazard Areas

Rochester is a low-lying inland town bordering on the coastal towns of Marion and Wareham. There are two major river systems, the Mattapoisett and Sippican, which are subject to flooding during heavy storm events. The Federal Emergency Management Agency (FEMA) designates the land area covered by the floodwaters of the base flood as a Special Flood Hazard Area (SFHA) on the National Flood Insurance Program (NFIP) maps. The SFHA flood zones A, AE, and X are present in Rochester. These are the areas where the NFIP's flood plain management regulations must be enforced and the area where the mandatory purchase of flood insurance may apply.

Floods occur naturally and can happen almost anywhere. They may not even be near a body of water, although river and coastal flooding are the most common types. Heavy rains, poor drainage, and even nearby construction projects can put be a risk for flood damage. Current flood construction require that new structures be elevated above the base flood elevation designated on the FEMA Firm Maps. FEMA maintains and updates data through flood maps and risk assessments. Flood maps show how likely it is for an area to flood. Any place with a 1% chance of experiencing a flood each year is considered to have a high risk. Those areas have at least a one-in-four chance of flooding during a 30-year mortgage. On July 6, 2021, FEMA updated the Town of Rochester's FEMA Firm Maps.

D. Vegetation

Rochester's forestland is one of its most abundant resources; approximately 60% of the total land area is classified as forestland. Rochester is fortunate to have three large tracts of forestland protected by the Department of Fish and Game, however the majority of forestland is privately owned. These forests provide very good habitat for game both in the white pine and mixed hardwood forests and the white cedar and red maple swamps.

Upland Forests

The most common upland tree is white pine, found in mature stands and mixed with hardwoods such as oaks, ash, poplar and birches (white, yellow, gray, black). Also quite common is the holly-beech association found on small well-drained hills, with numerous holly and beech trees, often growing in close proximity they are found surrounded by white pines, oaks and ash. Young shoots of chestnut growing out of old but still viable root systems are rare, but still occur. Also occasional clumps of small American elms can be found, survivors of the

Dutch elm disease that wiped out their towering elders. Other tree species are sassafras, locust, shagbark hickory, ash and ironwood.

Open Upland Habitats

In many of the old farm fields that have been allowed to over grow, the soil is acid and a community of low pH tolerant trees, shrubs, wildflowers, mosses and grasses prevail. Pasture juniper is one of the most common shrubs or trees seen in these areas along with wild cherry, sweet fern and invasive plants such as autumn olive, bittersweet vines and the bushy multiflora rose. Also in these fields to the delight of some of the neighborhood children, are wild blackberries, black cap raspberries, red raspberries, low bush blueberries and sometimes even wild strawberries.

Wooded Swamps

In Rochester's wooded swamps, the most common tree is the red or swamp maple but there are also swamp white oak, eastern hemlock, ash, ironwood, tupelo (black gum) and white cedar in stands of a few acres in size. One of the ecosystems of concern is the Atlantic white cedar (Chamaecyparis thyoides) swamp. Slow growing white cedars were harvested in the past to yield shingles, shakes and clapboards. Though cedars grow in wet areas, there is evidence that fire has a part in their ecology. If that is so, then fire suppression breaks the cycle that is necessary for healthy succession. Also, many cedar swamps were over-harvested and red maples often grew in their place; as a consequence there are very few cedar stands left in the area. The ones that remain need protection. Of the cedar swamps of varying size in Rochester, some small stands in the Haskell Swamp Wildlife Management Area are protected.

Eastern hemlocks, which grow in both wetland and upland habitats, are fairly common in town where there are many stands of old trees, some fifteen feet around at breast height and possibly one hundred feet tall. Young hemlocks abound as well. But a parasitic insect, the hemlock woolly adelgid, is attacking them and it seems there is no practical protection from this invasive parasite on an ecosystem scale. For individual trees or small groups of trees, treatment (listed by increasing toxicity) with lady beetle release, insecticidal soaps, horticultural oils, systemic insecticides or toxic insecticide spray application can provide some control at an expense of $150 to $165 per treatment per tree.

Coastal Plain Ponds

Rochester has two coastal plain ponds, Mary's Pond and Snow's Pond, that support globally restricted plant species. These are kettle ponds formed as the glacier melted back leaving blocks of ice behind. The ice blocks were gradually surrounded by sand, gravel and rocks dropped as the glacial meltwater flowed around them. They have no inlets or outlets, are very deep and they are subject to large seasonal water level fluctuations. Because they are connected directly to ground water, the level of the pond is actually the level of the local aquifer. Their acidic soils and sand and gravel bottoms limit nutrients. The species that have

adapted to these demanding conditions, while common locally, can be found in only a few other places on earth. These ponds are very sensitive to many factors in their surroundings. Pumping from nearby wells can affect the level of the pond water directly by altering the flow of ground water into the pond. Septic systems within several hundred feet of the pond edge can upset the delicate nutrient balance of the pond by adding nitrogen. An altered level of nitrogen will change the vegetation in and around the pond, making survival difficult for the rare plants adapted to the unusual conditions in these ponds. Some of the rare plants that can be found on these ponds are the Plymouth gentian, Philadelphia panic grass, long-leaved panic grass, yellow bladderwort, thread-leaved sundew, and New England Boneset.

Other Wetland Communities

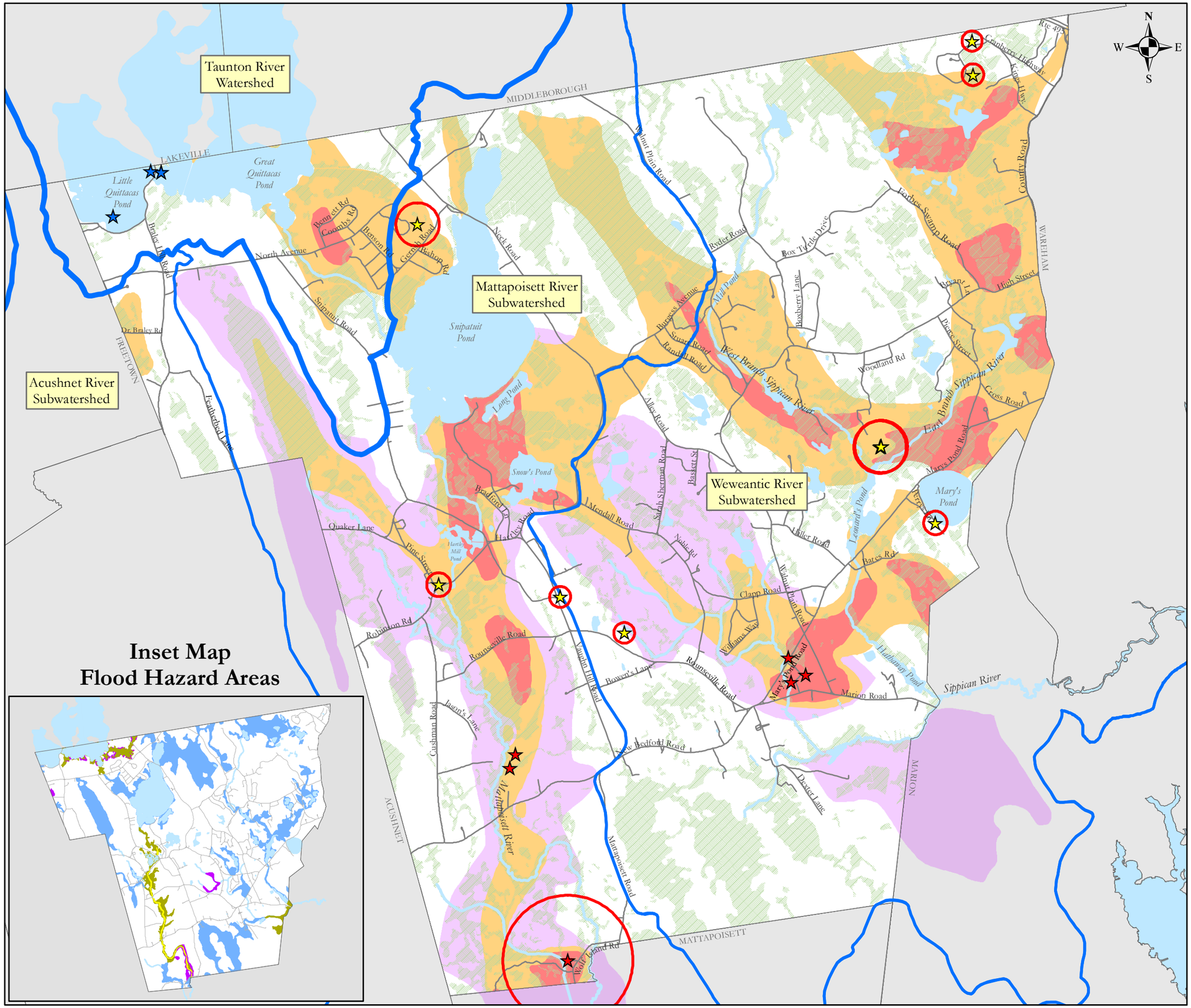
In addition to the wooded swamps and pond edges there are numerous wet meadows and shrub swamps found next to wooded swamps and along streams. These provide habitat for the more common wetlands plants such as cat-o'nine-tails (or cattails), meadow beauty, boneset, spireia, joe pye weed, cardinal flower, swamp candles, marsh marigold, various grasses, sedges and rushes, cranberries, several orchids, high bush blueberries, willows, alders, winterberry, ink berry, swamp azalea and many others. Invasive species are also found in these wetland areas, the most common of these are Phragmites and purple loosestrife.

Shade Trees

The Rochester Green Ways Committee plants and maintains memorial flora around the town. The Committee relies solely on volunteers and donations, and has been active in town for over a decade. Since its formation as an ad hoc committee by the Selectmen, the Green Ways Committee has worked to restore the canopy along area roads by replanting trees in Rochester. The Committee has also planted lilacs and wildflower gardens, such as the one connecting Dexter Lane and New Bedford Road. Memorial trees are accompanied by an engraved brick set in the ground at the base of the tree. There are five different varieties of trees to choose from, with each memorial tree costing $200. The Committee has also worked with SRPEDD, the regional planning agency, to map existing and potential tree planting sites.

Invasive Species

Invasive species are non-native species with few natural controls (predators and pests) in their new environment and aggressive growth or behavior habits that allow them to dominate habitats and choke out or kill native species. The most familiar invasive species tend to be plants that take over large areas of native vegetation but there are animal invasive species as well. One such species is the elm beetle that, while not greatly affecting elm trees by its own activities, was responsible for altering the landscape of much of the eastern part of the country by carrying another invasive species, the Dutch elm disease fungus that killed most of the American elm trees.



Town of Rochester

Map 7
Water Resources

2021

Interim Wellhead Protection Area

Public Water Supplies

- Community Groundwater Source
- Surface Water Intake
- Non-Community Groundwater Source
- Buzzards Bay/Taunton River Watershed Boundary
- Subwatersheds
- Roads
- Waterbodies
- MajorRivers/Streams
- Wetlands

Aquifers

- Medium Yield Aquifer (100-300 gpm)
- High Yield Aquifer (>300 gpm)
- Groundwater Protection District (Zone II)

Inset Map - FEMA National Flood Hazard Areas

- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- X: 0.2% Annual Chance of Flooding

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

0 0.5 1 2 Miles

Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

Some invasive plants found in Rochester are: Oriental bittersweet, purple loosestrife, multiflora rose, autumn or Russian olive, Phragmites, Japanese knotweed, Eurasian water milfoil and black swallow wort. Some invasive animals in Rochester are: gypsy moth, hemlock wooly adelgid, Dutch elm beetle, English sparrow, starling and mute swan. There are several organisms that have not spread to this area yet but they are being carefully watched in areas close by. Often the species themselves are very attractive and actually sought for their beauty or exotic appearance until it is discovered that they adapt to their new surroundings all too well. Some invasive species have become so common that many people accept them as a natural part of the environment.

Climate Change

Steadily rising temperatures, changing rates of precipitation, and shifts in weather patterns are accompanying global climate change. It is anticipated that aquatic and terrestrial biomes in Rochester could be significantly affected by these changes. Temperature increase is a given, expanding the habitats for some species of vegetation and shrinking it for others. Given that the larger weather patterns accompanying global climate change are not stable, the longer-term effects on precipitation and the resulting impacts on vegetation are not yet known or amenable to prediction.

Rare Plant Species – Rochester

The following table lists rare and uncommon plant species found in Rochester. To protect these plants their locations have been intentionally omitted from this report. Documented state-listed species in town include:

Table 9 – Massachusetts Endangered Species Act (MESA) and Federal Status Rare Species
Key: E = Endangered; T = Threatened; SC = Special Concern

Scientific Name	Common Name	MESA Status
Ludwigia sphaerocarpa	Round Fruited False-loosestrife	E
Lycopus rubellus	Gypsywort	E
Linum medium var. *texanum*	Rigid Flax	T
Panicum philadelphicum ssp. philadelphicum	Philadelphia Panic Grass	SC
Sabatia kennedyana	Plymouth Gentian	SC
Carex backii	Back's Sedge	E
Carex grayi	Gray's Sedge	T

Priority Natural Communities

According to NHESP, there are four types of Priority Natural Communities documented to NHESP from Rochester:

- Alluvial Red Maple Swamp (2 occurrences)
- Atlantic White Cedar Bog (1 occurrence)
- Coastal Atlantic White Cedar Swamp (3 occurrences)
- Coastal Plain Pondshore Community (3 occurrences)

According to NHESP, there is one other type of more common natural community documented from Rochester, as well:

- Red Maple Swamp (1 occurrence)

Vernal Pools

There are 50 certified and 132 potential vernal pools (PVP's) documented in the town of Rochester. Most of the PVP's are likely able to be certified; NHESP encouraged the Town to certify vernal pools on its own properties and to require developers to certify pools on any property requiring permits from the Town.

BioMap2

Twenty-nine areas within Rochester are BioMap 2 Core Habitat. They include 18 Aquatic Cores, 6 Forest Cores, 8 Priority Natural Community Cores, 25 Wetland Cores, and areas for 15 Species of Conservation Concern.

Adjacent to and overlapping some of these Core Habitats in Rochester is one area of BioMap2 Critical Landscape, Including five Aquatic Buffers, one Coastal Adaptation Area, one Landscape Block, and 16 Wetland Buffers.

Unique Natural Resources

- ❖ Coastal Plain Pond Communities – Mary's Pond, Snow's Pond.
- ❖ Atlantic White Cedar Swamp – northeast portion of Rochester.
- ❖ Ponds (more than 80 ponds scattered throughout town, including Snipatuit Pond, Leonard's Pond, Snow's Pond, Hathaway Pond, Grandma Hartley's Pond and numerous old mill ponds and reservoirs).
- ❖ Vernal pools
- ❖ Major flood plain wetlands along the length of the Mattapoisett River and Sippican Rivers.

E. Fisheries and Wildlife

(See Map 8: Plant and Wildlife Habitat; following pages)

Herring Runs

The Mattapoisett River supports one of the strongest herring runs in Buzzards Bay. These fish spend most of their adult lives in the ocean. Each spring alewives and blueback herring swim up the river into Snipatuit Pond to spawn. Fish that display this type of life cycle are called anadromous fish. For the past fourteen years the local Herring Inspectors and a private non-profit group called Alewives Anonymous have carefully monitored their numbers. In 1990, a portion of the upper river that had become choked with vegetation was dredged using funds from the Towns of Mattapoisett, Marion and Rochester and Alewives Anonymous. The resulting channel has allowed easier passage and the non-profit group will work to maintain the waterway. There is a smaller run in the Sippican River, which has been reduced in size in the past because of inadequate fish ladders at Hathaway Pond and Leonard's Pond. Work has been done and still is needed on these structures and it is hoped that the numbers of fish may increase if the fish ladders are improved.

Rare, Threatened, and Endangered Species - Rochester

The following data was provided by the Natural Heritage and Endangered Species Program:

Table 10 – Massachusetts Endangered Species Act (MESA) and Federal Status Rare Species
Key: E = Endangered; FE=Federally Endangered T = Threatened; SC = Special Concern

Group	Scientific Name	Common Name	MESA Status
Reptile	Pseudemys rubriventris pop.1	Northern Red-bellied cooter	FE
Amphibian	Ambystoma opacum	Marbled Salamander	T
Fish	Notropis bifrenatus	Bridle Shiner	SC
Bird	Parula americana	Northern Parula	T
Bird	Haliaeetus leucocephalus	Bald Eagle	T
Mussels	Ligumia nasuta	Eastern Pondmussel	SC
Mussels	Leptodea ochracea	Tidewater Mucket	SC
Reptile	Terrapene carolina	Eastern Box Turtle	SC
Butterfly/Moth	Scaphiopus holbrookii	Eastern Spadefoot	T
Butterfly/Moth	Papaipema sulphurata	Water-willow Borer Moth	T

Animal Species in Rochester (By class but in no other particular order)

Amphibians: Wood frog, bullfrog, green frog, northern leopard frog, pickerel frog, gray tree frog, spring peeper, American toad, Fowler's toad, spotted salamander, marbled

salamander, blue spotted salamander, red-spotted newt, four toed salamander, red back salamander

Birds: Red winged blackbird, Cooper's hawk, wood duck, mallard duck, ruby-throated humming bird, great egret, great blue heron, tufted titmouse, cedar waxwing, Canada goose, great horned owl, red-tail hawk, red-shouldered hawk, broad-winged hawk, sharp-shinned hawk, northern cardinal, American goldfinch, house finch, purple finch, veery, hermit thrush, brown creeper, belted kingfisher, chimney swift, killdeer, black-billed cuckoo, northern flicker, eastern wood pewee, American crow, blue jay, mute swan, prairie warbler, pine warbler, yellow warbler, black-throated warbler, gray catbird, American kestrel, common yellowthroat, barn swallow, tree swallow, wood thrush, Baltimore Oriole, herring gull, wild turkey, song sparrow, northern mockingbird, black-and-white warbler, brown- headed cowbird, great crested flycatcher, house sparrow, indigo bunting, downy woodpecker, hairy woodpecker, eastern towhee, scarlet tanager, black-capped chickadee, blue-gray gnatcatcher, purple martin, eastern grackle, golden-crowned kinglet, eastern phoebe, oven bird, northern water thrush, eastern bluebird, red-breasted nuthatch, white-breasted nuthatch, chipping sparrow, northern rough-winged swallow, European starling, Carolina wren, house wren, winter wren, American robin, eastern kingbird, red-eyed vireo, mourning dove, loon, grebe, migrating ducks of several species.

Fish: goldfish, common carp, bluegill, white perch, yellow perch, flathead minnow, pickerel, largemouth bass, hornpout, eel, alewife, black back herring, bridle shiner

Insects: house cricket, field cricket, grasshoppers, long horned grasshoppers, ground crickets, cicadas, katydids, aphids, leaf-footed bugs, European earwig, harvest flies, carpenter bees, yellow jackets, cicada-hunters, other hornets, mud-dauber, paper wasps, other wasps, honey bees, bumblebees, giant water bug, water boatmen, water striders, backswimmers, caddis flies, stonefly, diving beetle, crawling water beetle, water scavenger beetle, whirligig beetle, water scorpion, fish fly, mayfly, midge, phantom midge, spring tales, water mites, mosquitoes, sucking louse, European praying mantis, tree hoppers, leaf hoppers, walking stick, stink bugs, American cockroach, wood roach, meadow spittlebug, ambush bugs, stone flies, squash bugs, spiny-shouldered bug, western conifer seed bug, termites, ants, ants, ants, ants, more ants, ant lions, apple maggot fly, fruit fly, houseflies, green bottle flies, horse flies, deer fly, black flies, green headed flies, plum curculio, fleas, fireflies, burying beetle, scald bugs, June bugs, sow bugs, pill bugs, lady beetles, stag beetles, brown tiger beetles, snow fleas, thrips, plant bugs, Butterflies: silver bordered fritillary, spring azure, clouded sulphur, American copper, little wood satyr, mourning cloak, pearl crescent, white cabbage, American lady, European skipper, variable dancer, violet dancer, ebony jewel wing, common basket-tail, monarch, viceroy, and others, Moths: gypsy moth, tomato worm sphinx, polyphemus, cercropia, luna, io, water willow borer, millers, winter moth and many

others, Dragon flies: eastern pond hawk, widow skimmer, common whitetail, wandering glider, ruby meadow hawk, common green darner, twelve spotted skimmer, yellow legged meadow hawk, common basket tail, frosted white face, four spotted skimmer, slaty skimmer, damselflies: amber winged speadwing, northern bluet, spotted spread wing, azure bluets

Other Invertebrates: freshwater sponges, freshwater isopods, Mystic Valley amphipod, water-flea, fairy shrimp, freshwater bryozoan, rufous garden slug and other slugs, air breathing snails, freshwater snails, amphibious snails, fingernail clams, tidewater mucket, eastern pond mussel, earthworms, red worms, leeches, turtle leeches, and other flatworms such as planaria, horsehair worm, aquatic worms, daphnia, copepods, ostracods, Arthropods: crayfish, millipedes, centipedes, dog tick, deer tick, lone star tick, brown tick, daddy longlegs, funnel-web grass spider, lynx spiders, ambush crab spiders, jumping spiders, wolf spider, orb weavers, mites

Mammals: dog, cat, coyote, woodchuck, cottontail rabbit, opossum, stripped skunk, eastern gray squirrel, red squirrel, flying squirrel, eastern chipmunk, raccoon, gray fox, red fox, white-tailed deer, muskrat, river otter, weasel, mink, fisher, meadow vole, pine mouse, shrew, moles, brown rat, brown bat and people

Reptiles: snapping turtle, eastern box turtle, spotted turtle, painted turtle, bog turtle, mud turtle, musk turtle, ribbon snake, black racer, milk snake, eastern garter snake, ring-necked snake, water snake

F. Scenic Resources and Unique Environments

Core Habitats

The remnants of Rochester's working countryside can be seen in large tracts of forest and farmland not yet developed. Many of them are valuable as regional resources: water supply, wild life habitat and biodiversity protection and recreational areas. The Executive Office of Environmental Affairs in conjunction with the Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife published a BioMap for the entire state in 2001, which "is a blue print of 'biodiversity hotspots' in Massachusetts-the most important intact terrestrial and wetland ecosystems that support the state's diversity of life." The BioMap for Rochester shows two areas of Core Habitat in Rochester, one in the southern part of town and the other situated northwest, north and east of Snipatuit Pond. Together with their Supporting Natural Landscape, they cover nearly the entire town.

In the biodiversity habitat classification for the area of the state that includes Rochester, the Bristol Lowlands, two thirds of the Core Habitat and nearly all of the Supporting Natural Landscape is unprotected. The Haskell Swamp Wildlife Management Area encompasses about one third of the southern core habitat area. The more northerly area has 19.5 acres managed by the Conservation Commission that is protected in the portion east of Snipatuit Pond and

850+ acres owned by the City of New Bedford west of Snipatuit Pond; altogether these areas amount to protection for about half of the Core Habitat in town. Very little of the Supporting Natural Landscape in Rochester is protected.

Scenic Treasures

Since the character of Rochester is derived from its history as an agricultural and forestry community, most of its scenic resources are farmlands, forests and water bodies. These remaining examples of landscapes that supported these livelihoods are among the things most mentioned as worth protecting in three surveys done in the past six years. Many of the scenic or unique areas encompass the most valuable agricultural soils that have not been developed as yet and on them are houses and barns that have stood there for up to two hundred years.

East Over Farm

East Over Farm has been owned by the Hiller family for over one hundred years and the vistas across the skillfully built antique stone walls to the distant woods and to Leonard's Pond are among the most beautiful in the region. In the spring of 2003, the Town of Rochester voted at Town Meeting on March 24th, and again at a Special Election on April 9th to borrow $1.75 million to help preserve this farm in perpetuity. State funding obtained from the Division of Conservation Services Land and Water Conservation Fund and the state Agricultural Preservation Restriction (APR) Program.

Cervelli's Farm

And anyone who has driven along the ridge of Vaughn Hill will not easily overlook the massive dairy barn located on the Cervelli Farm. Built in the early 1900's for the Jenney family, it was for decades the largest structure in town and stands as sentinel over more than 150 acres of agricultural land, offering striking views from Hartley, Mendell and Vaughn Hill Roads. From the crest of Vaughn Hill, Cervelli Farm's open fields provide long views to the north, east and west and it is a spot favored by the townspeople for appreciating sunrises, full moons, sunsets, storm clouds, rainbows, and other celestial shows like comets, meteor showers and on rare occasions, the Northern Lights. In the recent past it was possible to see the tops of the Bourne Bridge and the railroad bridge that cross the Cape Cod Canal from the highest part of Vaughn Hill. Now the trees to the east of the hill have grown tall enough to hide the bridges from view.

Route 105 - Scenic Highway

In August 2000, Governor A. Paul Cellucci under Massachusetts General Law Chapter 40, section 15c, designated State Route 105 in Acushnet, Rochester and Marion as a Scenic Road. This designation was given to Route 105 to protect its character, scenery and history. Designation as a scenic road limits the ability of the state to widen or otherwise change the road. The legislation requires any proposed change, such as road widening, tree or stonewall removal, to be reviewed by the Rochester Planning Board.

Pierce Farm

Close rival in scenic value to East Over, though much smaller, is the Pierce Farm on Snipatuit Road. With its sweeping view across the hayfields past the well-maintained, well-designed dairy barn, to Snipatuit Pond and across to the wooded hillside on the eastern shore of the pond, this farm shows Rochester's largest expanse of open water to great advantage.

Church Property

Another similar and noteworthy landscape is the Church property on Mattapoisett Road. This farm is the last property of the Town's original "30 proprietors" to be held continuously by the original family from1679 until the present day. It encompasses the site of Church's Mill and is bounded by 300 year-old stonewalls, many of which can be seen from Mattapoisett Road.

George and Katherine Church's homestead and Sawmill Museum are also located on Mattapoisett Road and remains vacant after their passing. Their 30-acre parcel is sandwiched between two parcel owned by the Rochester Land Trust and surrounded by property owned by the Department of Fish and Game.

Heritage Landscape Inventory

In 2001, Rochester accepted an invitation to participate in a pilot program, The Massachusetts Heritage Landscape Inventory of the Massachusetts Historical Commission. Eleven historic and scenic sites were identified and described as significant landscapes to be protected and preserved if possible. These sites are Eastover Farms/Hiller Farms, Town Center, Vaughn Hill Agricultural Area, Hartley/Winslow Mill Site and Pond, Cowan's Corner, Snipatuit Causeway, Old Parish Cemetery, Olausson's Tree Farm, Bisbee's Corner, Witch Rock. These eleven sites and those mentioned above are among those appearing on the Unique and Scenic Resources Map and Historic Resources Map. The Rochester Reconnaissance Report 2001 by PAL for the Massachusetts Heritage Landscape Inventory states:

> "The figures generated for Rochester's build-out potential are somewhat alarming in large part due to the vast areas of unprotected open land. A full build-out would generate an additional 8,500 dwelling units eating up much more of the over 15,000 acres of potentially developable land in the Town. The proximity of Rt. I-195 and I-495 as well as the near future MBTA expansion combined with the regions status as the fastest growing area in Massachusetts sets the stage for loss of important heritage landscapes."

Heritage Landscapes: PAL conducted detailed inventories of four of the eleven sites identified as significant during this program; they are Cowan's Corner, Vaughn Hill agricultural area, Winslow/Hartley Mill Area and Snipatuit Causeway (see the Historic Resources map.) The rest are included within the areas noted on the Scenic Resources map. The MA Department of Environmental Management recommends that those properties that have not been documented should be and that any properties recommended for the National Register of Historic Places be so listed.

G. Environmental Challenges

Unlined Landfill

Like many towns, Rochester has an unlined landfill. It has been capped and is being monitored by the Board of Health for methane and leachate movement in groundwater. There has been an issue of methane gas migration in the past, however, at present the results of the monitoring programs show no reason for concern but continued monitoring is necessary.

There is also an old landfill, closed since the 1950's, along the east side of the West Branch of the Sippican River south of High Street and on the bank of the reservoir for a cranberry operation. This site is not monitored for leachate.

Contaminated Sites

The Department of Environmental Protection (DEP) maintains a list of sites where reported discharges of oil or hazardous wastes have occurred. Using a Numerical Ranking System (NRS), DEP scores sites on a point system based on a variety of factors, including the site's complexity, type of contamination, and potential for human or environmental exposure.

Table 7. DEP (21E Sites) in Rochester as of July 1, 2019

ROA (Response Action Outcome): A site/release where an RAO was submitted. An RAO Statement asserts that response actions sufficient to achieve a level of no risk or at least ensure that all substantial hazards are eliminated.	38
DEF Tier 1B (Default Tier 1B):	0
DEPNFA:	1
Unclassified:	1

Tier 1: Sites that pose imminent hazard, affect public water supply, or miss regulatory deadlines.	0
Tier 2: A site/release receiving a total Numerical Ranking System (NRS) score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria. Permits are not required at Tier 2 Sites/releases and response actions may be performed under supervision of a Licensed Site Professional (LPS) without prior DEP approval.	1

Table 8. List of DEP Reported Releases in the Town of Rochester as of July 1, 2019

RTN	Release Address	Site Name Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type
4-0027294	282 VAUGHN HILL ROAD	SAINT ROSE OF LIMA CHURCH	TWO HR	06/19/2018	UNCLASSIFIED	06/19/2018			
4-0026718	VIC 285 MARY'S POND ROAD	BRIDGE	TWO HR	06/22/2017	PSNC	10/20/2017		PN	
4-0026706	45 NEW BEDFORD ROAD	RESIDENCE	TWO HR	06/26/2017	PSNC	06/29/2018		PN	
4-0026158	583 MARY'S POND ROAD	ROADWAY	TWO HR	06/16/2016	PSNC	07/19/2016		PN	
4-0026046	STEWART & SPRAUGE CT	POLE #197/6	TWO HR	03/24/2016	PSNC	04/20/2016		PN	
4-0025957	NEAR 153 CRANBERRY HWY	FEDEX TRUCK ACCIDENT	TWO HR	02/05/2016	PSNC	03/23/2016		PN	
4-0024431	36 SARAH SHERMAN RD	CRANBERRY BOG	TWO HR	02/19/2013	RAO	06/19/2013		A2	Oil
4-0023528	MARY'S POND ROAD	GIFFORD PARK	TWO HR	09/07/2011	RTN CLOSED	08/06/2012			Hazardous Material
4-0023417	MARY'S POND ROAD	GIFFORD PARK	72 HR	07/22/2011	PSNC	07/24/2014	PHASE II	PN	Hazardous Material
4-0022398	141 CRANBERRY HWY	SEMASS - ROCHESTER	TWO HR	01/24/2010	RAO	01/03/2011	PHASE II	A2	Hazardous Material
4-0022248	141 CRANBERRY HWY	SEMASS	TWO HR	10/22/2009	RAO	12/04/2009	PHASE II	A1	Oil
4-0021926	141 CRANBERRY HWY	COVANTA SEMASS	TWO HR	05/04/2009	RAO	07/02/2009	PHASE II	A2	
4-0020406	141 CRANBERRY HWY	SEMASS	TWO HR	03/31/2007	RAO	05/31/2007		B1	
4-0019888	MARY POND RD	WALNUT PLAIN & RTE 105	TWO HR	06/29/2006	RAO	08/28/2006		A2	Oil
4-0018799	221 CRANBERRY HWY	NEW ENGLAND SANDBLASTING	TWO HR	11/26/2004	RAO	12/05/2005		A2	Oil
4-0018752	241 MARION RD	KNIGHT & LOOK CAMP	TWO HR	10/29/2004	RAO	03/07/2005		A1	Oil
4-0018195	141 CRANBERRY HWY	SEMASS	TWO HR	01/07/2004	RAO	03/08/2004		A1	Oil
4-0017686	16 PINE ST	ROCHESTER MEMORIAL SCHOOL	TWO HR	03/13/2003	RAO	05/07/2003		A2	Oil
4-0017682	459 NEW BEDFORD RD	NO LOCATION AID	TWO HR	03/10/2003	RAO	05/06/2003		A2	Oil
4-0017567	RTE 28 AND RTE 58	SEAMASS FACILITY	TWO HR	01/14/2003	RAO	03/11/2003		A1	Oil
4-0017495	912 WALNUT PLAIN RD	NO LOCATION AID	TWO HR	11/29/2002	RAO	08/29/2003		A1	Oil
4-0017334	32 BATES RD	OFF MARYS POND RD	TWO HR	09/10/2002	RAO	01/09/2003		A2	Oil
4-0017121	FOSS FARM RD	NO LOCATION AID	TWO HR	06/07/2002	RAO	08/07/2002		A1	Oil
4-0016559	257 WALNUT PLAIN RD	NO LOCATION AID	72 HR	09/11/2001	RAO	12/20/2001		A2	Oil
4-0016326	HARTLEY RD	NO LOCATION AID	TWO HR	06/25/2001	RAO	08/30/2001		A1	Oil

4-0015206	287 SNIPATUIT RD	CRANBERRY BOG	TWO HR	01/07/2000	RAO	11/20/2000		A1	Oil
4-0014445	RTE 105	ASHLEY BROOK	TWO HR	01/07/1999	RAO	01/07/2000		A1	Oil
4-0014423	KINGS HWY	RTE 28&COUNTY RD	TWO HR	12/24/1998	RAO	08/19/2003		A1	Oil
4-0013981	85 MARION RD	WATER SUPPLY PUMP HOUSE	TWO HR	06/22/1998	RAO	09/01/1998		A1	Hazardous Material
4-0013681	96 WOLF ISLAND RD	NO LOCATION AID	TWO HR	02/25/1998	RAO	01/30/2004		A2	Oil
4-0012903	RTE 28	RTE 58&495	TWO HR	03/15/1997	RAO	06/11/1997		A1	
4-0012510	107 MIDDLEBORO RD RTE 28	SEMASS FACILITY	120 DY	09/20/1996	RAO	12/06/1996		A2	Oil
4-0012404	SEMASS PLANT RTE 28	FUEL OIL LOADING STN	TWO HR	08/11/1996	RAO	10/23/1996		A1	Oil
4-0012069	PO BOX 140	SEMASS FACILITY	TWO HR	04/05/1996	RAO	04/16/1996		A1	
4-0011906	RTE 28 CRANBERRY HWY	NO LOCATION AID	TWO HR	01/22/1996	RAO	02/05/1996		A1	Oil
4-0011839	MARYS POND RD	WEST OF WALNUT PLAIN	TWO HR	12/08/1995	RAO	04/08/1996		A1	Oil
4-0010367	4 PINE ST	AT CORNER OF HARTLEY RD	TWO HR	03/31/1994	RAO	09/14/1994		A1	Oil
4-0010097	OFF CRANBERRY HWY RTE 28	SEMASS/NEAR RAIL CAR WING	TWO HR	12/06/1993	RAO	04/04/1994		A1	Oil
4-0000359	RTE 105	ROCHESTER HIGHWAY DEPT	NONE	01/15/1987	DEPNFA	07/23/1993			Hazardous Material

Water Pollution Problems

Rochester is in the almost unique position of having unpolluted ground water resources. The challenge is to preserve this position for the future. The best way to accomplish this is to implement strict regulations supported by the best scientific information available. It is far easier to protect a clean aquifer than to try to clean up a polluted one.

Poorly Regulated Growth and Ground Water Pollution

Sprawl is the greatest threat to Rochester's future. The balancing act of accommodating necessary and advantageous growth along with protecting scenic character, recreational opportunities, natural resources, wildlife habitat and biodiversity will be one of the town's most difficult tasks. With development comes the problem of increased stormwater runoff, which affects water quality and groundwater infiltration. Rochester has implemented a strong stormwater management by-law that addresses such concerns. More lawns, houses, paved driveways and roads also increase runoff and contamination from lawn chemicals and motor vehicles. Another effect of development is the increase of sewage that must be disposed of by individual treatment systems. This makes nitrogen loading of soils and ground water a growing problem, considering the town's aquifers are providing drinking water for its own population and three other towns' as well. In addition to sewage disposal, runoff from agricultural operations can cause nitrogen loading, either from nitrogen fertilizers or improperly handled animal waste.

Besides degrading ground water quality, nitrogen loading is a grave threat to Coastal Plain ponds, since they are in essence ground water exposed to the light of day. The uniqueness of the habitat depends on large water level fluctuations and low nitrogen levels that allow the rare species to compete with those that are commonly found on pond shores.

Acid Rain

The entire Northeast has concerns about acid rain, which is a likely cause of increased acidity of ground water, surface water and the soil. This widespread condition may threaten the balance of the entire eco-region. "Acid rain" is the result of air pollutants released elsewhere, from natural phenomena or human activity, which is subsequently deposited downwind in snow or rain.

Mercury Pollution

As with many water bodies in the Massachusetts, Snipatuit Pond has a high enough level of mercury to make some fish caught there (most affected are largemouth bass and black crappie) subject to a consumption advisory for pregnant women and nursing mothers and to a limit of two meals a month for the general population. This advisory was effective as of May 1996.

On July 3, 2019, the town was informed that the MA Department of Public Health (DPH) issued a public health fish consumption advisory for Mary's Pond. DPH recommends that children under 12, pregnant women, nursing mothers, and women that may become pregnant should not eat any fish from Mary's Pond and everyone else should limit consumption of all fish to two meals per month.

Mercury is a heavy metal that is viewed by many public health officials across the nation as a significant environmental issue. The organic forms of mercury are particularly toxic and can "bio-accumulate" or build up in concentration in living tissue. The metal can be released into the air during industrial activities, both past and present, in the form of spills, combustion of fossil fuels, improper disposal, leaching of natural ore deposits, use in dentistry and other sources. It enters the atmosphere and is deposited in rain and snow over wide areas.

Mercury pollution is of concern in all of our ponds. In Snipatuit Pond it is of special concern because the pond's large surface area relative to its volume and its sizeable watershed may make it more vulnerable to mercury concentration than some of the other ponds in the area. A major source for this pollutant comes from power generating plants in the mid-west that are exempted from the regulations set forth in the Federal "Clean Air Act." These power plants emit vaporized mercury compounds as a combustion product of fossil fuel. Other sources are industrial emissions both long past and more recent and local solid waste combustion facilities. SEMASS, located in Rochester, is such a facility.

> "*A study of air, land and water resources in the vicinity of SEMASS waste to energy plant did not detect any increase in mercury levels in those areas most likely to be affected by emissions from the facility. This finding suggests that emissions from this combustion source are dispersed over a broad area*." (June 1996 Executive Summary by MA DEP, Mercury in Massachusetts: An Evaluation of Sources, Emissions, Impacts and Controls.)

Bacterial Pollution

There is one beach on Snipatuit Pond, monitored for bacterial contamination, which has in the very hottest summer days tested high enough in coliform bacteria to require brief closings. It has been determined that a large population of resident Canada geese is the likely cause of this contamination. (Rochester Board of Health.) These birds are a fairly new factor in the pond's ecology. In the past few decades, there has been an increase in the number of geese that over winter instead of flying to Chesapeake Bay. It may be that they are a separate variety of the Canada species descended from birds that were captives held as decoys in the late 1800s and early 1900s to attract migrating geese to ponds for hunters. They seem to be larger than their migrating relatives. Warmer winters have made open water available all winter long, allowing the birds to rest at night safely. With corn left behind in the fields after harvest, they have adequate food. Not making a long migration in spring and fall, they can put more energy into growing larger than can migrating geese. Whatever the reason, increased numbers of resident geese help create conditions that produce high bacterial counts in hot weather. This condition is under continued monitoring by the Board of Health during such periods.

Only one other swimming area in town is monitored and has been closed only rarely because of high bacteria level. There may be other swimming areas that are subject to bacterial pollution but these are private and so are not monitored by the Board of Health.

There was a problem in the past with runoff from an agricultural operation causing bacterial and nitrogen pollution of the Mattapoisett River. Improperly handled feed and manure from a pig farm was washed overland, depositing large amounts of silt containing high levels of nitrogen and bacteria into the river.

Other Concerns for Snipatuit Pond

Water levels in Snipatuit Pond concern many residents and farmers on the pond. Some believe that the levels are so high as to create water inundation problems on farmland and erosion problems on the islands, as well as an ineffective management of the fish ladder. Others believe the pond should be kept high for habitat, recreational use and agriculture. Since the water levels are maintained by management of a flume under the jurisdiction of the town, a knowledgeable resource committee should prepare a management plan for the flume that includes all of the various uses and impacts.

Also, because of the shallowness of the pond and its mucky bottom, when outboard motors are used, they pose a danger to the health of the pond's ecosystem, stirring up the sediments, causing the water to become murky. There have been a few personal aquatic vehicles (Jet Skis) in use on the pond and these vehicles cause a large quantity of solids to be suspended in the water. Some residents have inquired regarding regulation of powerboats on Snipatuit Pond. Thus far no action has been taken. Because it is a large pond used by many fishermen, it is likely the Department of Fisheries & Wildlife would be included in the discussion. It is obvious

that any change to the current status of outboard motor use on the pond will affect a number of users.

Development Impacts

More than one owner owns most of the contiguous forest areas. While their size makes them valuable to maintaining biodiversity, ecosystem stability and water quality, their pattern of ownership makes protecting them difficult. Any one of the owners could exercise his or her right to sell/develop and continue the fragmentation of habitat that is happening so swiftly everywhere.

As house lots are cleared and the forests are opened up, the habitats of many of our familiar and not so familiar plants and animals are altered. The vegetation changes, run off increases, predator/prey equations are skewed, timber resources are lost and recreational opportunities disappear. Biodiversity is diminished. Soil, water and air quality suffers.

Environmental Equity

Rochester residents, along with visitors from neighboring communities and across the state, have access to a range of the passive and active recreational, as well as open space and cultural resources in the community. The distribution of these resources, including Town holdings, publicly accessible non-profit organizational holdings, and federal, state, and community association holdings, occurs across the length and breadth of Rochester.

The Town also has an excellent online and printed Trail Map. The Trail Map was created through a great collaborative effort that included partners from the Rochester Land Trust, the Conservation Commission, and the Open Space Action Committee, with mapping assistance from the Buzzards Bay Project and printing assistance from the Old Rochester Regional High School.

Environmental equity considers the distribution of the above-mentioned resources in a community to all neighborhoods, including Environmental justice (EJ) populations. Although Rochester does not contain a state or federally designated EJ population, neighboring Fairhaven, Marion, Mattapoisett, Middleboro, and Wareham all have designated EJ communities.

These municipal opportunities are supplemented by regional non-profit conservation areas that provide no-cost passive recreation opportunities for the local population. The challenge for the Town, going forward, will be to: retain and strengthen these partnerships and actively seek out new partnership opportunities that will enhance the health and environmental benefits that open space and recreation provides to the entire community, and; to seek improved connectivity between these resources whenever and wherever possible. This second challenge, in particular, is daunting, due to the lack of sidewalks and bike/shared use paths available on the narrow local roads **(**and the limited potential to develop a network of these types of facilities). The distance between facilities in our rural setting can also add to these challenges.

The most significant environmental challenges that impact conservation lands in Rochester and need to be addressed both in the short-term and on an ongoing basis include:

- Maintaining water quality and quantity in the various rivers, ponds, streams and wetlands found in Rochester.
- Attention to management of forestlands and timber management
- Control of invasive exotic species

Invasive Exotic Species

One of the environmental concerns facing the town is the abundance and spread of invasive exotic species. Exotic invasive plant species in particular have become a serious threat to the Town's biodiversity over the past decade. Some of the best known and most prevalent include purple loosestrife, Japanese knotweed, multiflora rose, oriental bittersweet, glossy buckthorn, and winged euonymus (fire bush).

Climate Change

Steadily rising temperatures, changing rates of precipitation, and shifts in weather patterns are accompanying global climate change. It is anticipated that aquatic and terrestrial biomes in Rochester could be significantly affected by these changes. Temperature increase is a given, expanding the habitats for some species of vegetation and shrinking it for others. Given that the larger weather patterns accompanying global climate change are not stable, the longer-term effects on precipitation and the resulting impacts on vegetation are not yet known or amenable to prediction.

Forested Lands and Timber Management

The Towns of Rochester, Marion and City of New Bedford own over 1,000 acres of forested watershed land to protect surface and ground water supplies. These watershed lands are protected to maintain a vegetative buffer to critical water supply wells. Water quality is maintained through selective forestry and timber harvesting, with the additional benefits of providing wildlife habitat and informal areas to recreate. Watershed lands are managed as restricted open space and only informal passive recreation such as walking, bird watching and hunting that does not threaten the integrity of the water resource is allowed.

Section 5. Inventory of Conservation and Recreation Lands

(See Map 9: Open Space Inventory; following pages)

Open space preservation is critically important, not only because it provides residents of Rochester with its treasured rural landscape, but it also serves a vital role as a buffer between land uses, for flood control, community resilience, and as habitats for desirable plant and wildlife species.

Protected land includes:

A. Any land that is specifically designated for conservation purposes under MGL Chapter 40, Section 8C (Conservation Commission Act), contains a conservation restriction under MGL Chapter 184, Sections 31-33, designated for conservation or recreation purposes purchased with LAND grant funds (or former Self Help or Urban Self Help Grant funds funding under MGL Chapter 132A, Sections 2B and the implementing regulations 301CMR7.00)
B. State-owned wildlife habitat land and water department land held for aquifer protection, and recreation land is protected under Article 97 of the Amendments to the Constitution. All other municipally-owned land is defined as land not committed to conservation purposes, or parks not dedicated under MGL Chapter 45, Sections 3 and 14, and therefore are not protected under Article 97.
C. The majority of land acquired using the aforementioned laws and funding sources consists of municipal and government land holdings and is referred to as “public open space land” in this document. There are private landowners, like land trusts, whose land is also permanently protected and open to the public. This land is referred to as ‘private open space land” in this document.

Sometimes the term “conservation” land is used when residents are looking for information about wetlands. This is a very common mistake. Conservation land is land that is owned or managed by the Conservation Commission while wetlands describe the physical and biological characteristics of land regulated under the Massachusetts Wetland Protection Act. While some wetlands might be protected as conservation land, not all conservation land contains wetlands. When purchasing property, it is prudent to conduct due diligence and research the property at the Town Hall, particularly if the real estate agent or the seller mentions “conservation” land or wetland.

The distinction between active and passive recreation (defined below) has not always been clear to the public or local officials, but it is very important when dealing with land under the management of the Conservation Commission or under the management of the Recreation Commission. By law, only passive recreation is allowed on land owned or managed by the Conservation Commission.

Passive Outdoor Recreation, per the MA Division of Conservation Service's (DCS) recently revised definition (per 301 CMR 5.00), is any outdoor activity that occurs in a natural setting with minimum disturbance of the natural and cultural resources, and that is consistent with quiet enjoyment of the land including, but not limited to, hiking, nature study, outdoor education, cross country skiing, snowshoeing, horseback riding, trail bicycling, hunting, fishing, picnicking, canoeing, ice-skating, community gardening in existing fields, swimming in a natural water body with minimal site development, or informal sports activities on an open natural field. For the purposes of eligibility and reimbursement under these regulations snowmobiling may be considered passive outdoor recreation if the municipality determines that it is compatible with other activities. Facilities necessary to support passive recreation with a minimum of disturbance to the natural and cultural resources, such as natural surface trails and wood roads, and appropriately-scaled parking areas, bathrooms, and nature centers, are considered consistent with passive outdoor recreation. Passive outdoor recreation areas may also be managed for sustainable forestry and farming, including community farms and forests.

The definition of **Active Outdoor Recreation** has also been revised by DCS (per 301 CMR 5.00) to include any outdoor recreation that occurs in parks and requires significant alteration of the natural landscape to provide playground or active sports facilities, such as: tennis, basketball or other court sports; ballfields; swimming pools or spray pads; paved bike or walking trails; golf courses; marinas; enclosed dog parks; boat rentals; concession stands; community gardens; outdoor skating rinks; bathroom buildings; bleachers or stands, or; other developed facilities needed for active outdoor recreation.

A conservation restriction is a deed restriction that permanently protects property as open space. Landowners can donate a conservation restriction to the Conservation Commission; sometimes the development rights can be sold to the Conservation Commission instead. The DCS, acting on behalf of the Executive Office of Energy and Environmental Affairs (EEA), approves the language of the restriction and the owner records the conservation restriction at the Registry of Deeds with the property. Even if the property changes hands the restriction will remain in place. A number of land owners place conservation restrictions on their property to ensure that their family's land will remain in its natural state even after they have passed.

Open Space and Land Inventory

Open space includes a variety of land types that provide numerous benefits not only to the Town and its residents, but to the region as a whole. Open space value includes aesthetics, natural resources, recreational opportunities, and economic vitality. It also plays an important part in shaping community identity and enhancing the quality of life.

An inventory of lands which are important to the Town in terms of their current status as either open space and/or recreational areas. Private sites have been included in this inventory, although the open space or recreational use of these sites is not guaranteed. These

undeveloped parcels may provide aesthetic appeal, may contribute to the Town's rural character, or may be an important part of the Town's natural resource base.

The Massachusetts Division of Conservation Services (DCS) defines protected lands as lands that are public or semi-public parcels that are permanently reserved for conservation purposes (not all publicly owned land falls under this category).

Conservation Restrictions

It is not commonly known that land purchased or designated and used for conservation purposes is not always protected in perpetuity from development. The best way to ensure a parcel's perpetual protection is to place language in the deed to that effect. Such language is known as a conservation restriction, or" CR', and is one of the major land protection tools being used today. A conservation restriction may be owned by a non-profit land trust or another non-profit organization including the town itself; it does not necessarily have to be held by the owner of the land. In many cases, a land trust may hold a conservation restriction on land that is owned by a private landowner or even on land that is owned by the town or state. Conservation Restrictions may vary in duration and therefore expire after a period of time (often referred to as a "sunset clause"). In order to ensure perpetual protection, a permanent conservation restriction should be assigned to the deed and recorded at the Registry of Deeds.

It is very important to remember that land used for conservation and recreation is not always protected and can be developed by the municipality at any time, providing the appropriate legal steps are followed. According to state law, land acquired for the purposes of natural resource protection cannot be converted to any other use without the following actions:

1. The matter must be taken up at Town Meeting or City Council and pass by a 2/3 vote;
2. the city/town must file an Environmental Notification Form (ENF) with EEA's MEPA Unit; and,
3. the matter must pass by a 2/3 vote of the Massachusetts Legislature.

Finally, if the land was acquired with assistance from one of the EEA's Division of Conservation Service's funding programs, the converted land must be replaced with land of equal monetary value and recreational or conservation utility.

Conservation Restrictions are the easiest and most reliable means of ensuring the perpetual protection of land. The Town should work in conjunction with land trusts and other private land conservation organizations to acquire conservation restrictions on all unprotected municipal lands.

A. Permanently Protected Open Space

The following table summarizes Rochester's permanently protected lands:

Table 11. Protected Open Space in Rochester by Type - June 2019

Prepared by: Sarah Williams, Buzzards Bay NEP on June 17, 2019

Fee Landowners	**Acres**
Buzzards Bay Coalition	1.49
City of New Bedford	757.20
Commonwealth of Massachusetts	2257.16
Mattapoisett Land Trust	79.76
Rochester Land Trust	238.33
The Trustees of Reservations	40.06
Town of Marion	334.71
Town of Rochester	493.76
Wildlands Trust	265.90
TOTAL	**4468.37**

CR Holders	**Acres**
The Trustees of Reservations	27.90
Division of Fisheries and Wildlife	387.40
Rochester Land Trust/Buzzards Bay Coalition	117.90
Buzzards Bay Coalition	14.51
TTOR & Rochester Con Comm	23.55
TTOR & Rochester Land Trust	173.80
Wildlands Trust & Rochester Con Comm	184.00
Town of Marion & Rochester Land Trust	99.10
Rochester Land Trust	10.60
Wildlands Trust	151.80
TOTAL	**1190.56**

APR Holders	**Acres**
Dept. of Food & Agriculture	361.56
Wildlands Trust	14.80
TOTAL	**376.36**
ALL OPEN SPACE TOTAL	**6035.29**

A matrix of all of Rochester's permanently protected lands is included in **the Inventory of Rochester's Protected Lands in Appendix B.**

B. Partially Protected Open Space

Unprotected lands contain a mixture of Town owned and private land. Town owned land is all land not committed for conservation purposes. Private land refers to land enrolled in MGL Chapters 61, 61A, 618, and other private lands that add significantly to the open space profile of the Town.

The unprotected lands in the Town have been divided into six sub-categories:

- park and recreation land
- conservation land
- multi-purpose open space land;
- Chapter 61B Recreation Lands;
- Chapter 61A Agriculture Land; and,
- Chapter 61 Forest Lands.

The owner, location, map and parcel, size of the parcel, recreational potential, public and handicapped access, current use of the site, degree of protection, condition, means of purchase (grant source, etc.), and zoning, for each parcel, is included in the **Inventory of Lands of Conservation Interest in Appendix D** of this Open Space and Recreation Plan.

Partially protected open space can be property with types of deed restrictions limiting development to certain areas; open space that cannot be developed for a specific term or time period (i.e. conservation restrictions may apply for only 30 years); and land that may be currently protected but does not have regulations ensuring its permanent protection, such as institutional land holdings.

Chapter 61 land - General

Land in this classification is voluntarily committed, by the landowner, to be used temporarily for agricultural, forest or recreational use in exchange for a reduction in taxes paid to the local municipality. Parcels taxed under the Chapter 61 (Forestry), Chapter 61A (Agriculture), and 61B (Recreation) tax classification are in private ownership and are not protected open space areas. The tax classification enables the lands to be taxed at their use value rather than the full fair market value. The Town has the right of first refusal if the parcels are sold prior to the expiration of the tax abated status. Owners of land classified under Chapters 61, 61A, and 61B must notify the Town before selling or converting the land to another use. This allows the Town to protect individual open space parcels as they enter the market or become threatened by development.

The Town of Rochester currently has a total of **5,712.81 acres in the three Chapter 61 land classifications.**

Chapter 61 – Private ownership

Known as the "Forestland Tax Law," Chapter 61 helps maintain open land by providing tax benefits to maintain forests. This program is for properties of contiguous forestland of ten acres or more and is administered by the Massachusetts Department of Conservation and Recreation.

The Town of Rochester currently has **1,234.18 acres of land designated as Chapter 61 land.**

Chapter 61A – Private ownership

Chapter 61A classification is for lands used primarily for agriculture or horticulture. Land in agricultural use is defined as land primarily used in raising animals, which includes everything from cattle to bees to fur-bearing animals. Land in horticultural use is land used for growing anything from fruit to vegetables to ornamental shrubs.

The Town of Rochester currently has **4,014.18 acres of land designated as Chapter 61A land.**

Chapter 61 B – Private ownership

Chapter 61B is designed to promote conservation of open space and recreational lands. To qualify for the program, a landowner must have at least five acres retained in a substantially natural, wild, open, pastured or landscaped condition. Recreational use includes hiking, camping, golfing, horseback riding, skiing, swimming and others specified in the Chapter 61B statute.

The Town of Rochester currently has **463.66 acres of land designated as Chapter 61B land.**

Town of Rochester

Map 8
Open Space Inventory Map

2021

- Walking Trails Open to the Public
- Houses/Buildings
- MajorRivers/Streams
- Cranberry Bogs
- Waterbodies
- Permanently Protected Lands
- Chapter Lands (61, 61A, 61B)
- Assessors' Parcels

Unprotected Lands

- Municipal Land with Recreational/Conservation Potential
- Private Land with Recreational/Conservation Potential
- Public Schools with Recreational Facilities
- Rochester Country Fairgrounds (Town Owned)
- Town/Church Green
- Rochester Golf Club (Public Course)
- Sippican Rod & Gun Club (Private Club)

Key to Abbreviations:

APR - Agricultural Preservation Restriction
BBC - Buzzards Bay Coalition
BOS - Rochester Board of Selectmen
Con Comm - Rochester Conservation Commission
CR - Conservation Restriction
MLT - Mattapoisett Land Trust
RLT - Rochester Land Trust
TTOR - The Trustees of Reservations
WMA - Wildlife Management Area (State)

Note: For properties designated as Chapter Lands on the map, the entire parcel has been highlighted. However, the exact acreage enrolled in the Chapter Programs may be less than shown.

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

0 0.5 1 2 Miles

Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

Section 6. Community Vision

A. Description of Process

The OSRP Committee sought input for the updated Open Space & Recreation Plan from the residents of Rochester through the distribution of an Open Space and Recreation Survey during the summer of 2016. The survey and results are included as Appendix E. The public was polled via a scientific survey that was mailed out randomly to 360 households (representing one quarter of the number of households in Rochester). The survey was also available, to those polled, on SurveyMonkey via a link on the Town website (which was included on the mailed survey). The goal of the Committee was to obtain confidential, unbiased results that accurately represent resident opinion.

Of the 360 surveys mailed, 101 households responded, representing 27.5% of the sample pool. The information obtained in the responses to the survey was used as one of the primary means of gauging the public's conservation, recreation, and open space concerns and needs.

In addition to the survey, SRPEDD, on behalf of the Open Space Committee, provided technical assistance in the preparation of the Open Space and Recreation Plan and participated in a number of planning meetings as well as public forums. The Open Space Committee conducted additional telephone interviews with those who'd participated in the survey in order to collect additional opinion and supplemental data. Other planning activities included: open working meetings; community goals, objectives, and action plan meetings hosted by the Open Space Committee and; conversations with municipal staff and others directly associated with the major issues raised by the public through the survey and public meeting process.

B. STATEMENT OF OPEN SPACE AND RECREATION GOALS

Unlike many cities and towns in southeastern Massachusetts, the Town of Rochester does not contain any areas of dense commercial, industrial, or residential development. The town is quite rural, with large areas of passive and active open land. Agricultural parcels, forestland, wetlands, streams, and ponds, located throughout these less developed areas, have been important to the overall preservation of the more rural characteristics of the town.

In 2019, the stewardship of existing assets, coupled with the challenges of developing new opportunities for the public, makes establishing sound conservation planning strategies a necessity. With an aging population, fewer financial resources with which to operate, and more competition for those remaining financial resources (competitive grants, etc.), the town and its citizens need to be organized, creative, and resourceful in maximizing partnership opportunities, pursuing new and innovative ways to generate revenue, and developing prioritization criteria for addressing future open space, conservation and recreation needs.

Below is a broad brush list of Conservation, Recreation, and Open Space Goals based upon the results of the process described in Section 6A above.

- Provide Rochester residents of all ages and abilities life-long recreational opportunities in well-maintained facilities and natural areas throughout Town.
- Protect surface and ground water quality and quantity, and natural resources, in the Mattapoisett River and Sippican River watersheds.
- Preserve select farmlands and forestlands that are the basis of Rochester's character, history, and working landscape.
- Encourage growth while respecting Rochester's natural, cultural, and scenic resources.
- Improve stewardship of conservation lands and trails.

Section 7. Analysis of Needs

A. Summary of Resource Protection Needs

Over the past several years, the Rochester Conservation Commission & Town Forest Committee, aside from administering the Massachusetts Wetlands Protection Act and Rochester Wetlands Bylaw, has also been working with other departments to protect and increase the conservation and open space assets of the Town. The Conservation Commission has partnered with the Rochester Land Trust, Wildlands Trust, The Trustees, Buzzards Bay Coalition, and Mattapoisett Land Trust on collaborative land protection projects. The Rochester Land Trust has worked diligently to improve efforts to also involve outside organizations to partner with, and as of July 2019 a total of 6,035 of its total 23,062 acres, or 26 percent of the Town of Rochester total land area is permanently protected land.

In order to further protect the quality and quantity of Rochester's water resources, the Commission should assess and prioritize the acquisition/permanent protection of open space in significant watershed areas. This assessment should not only include land that meets conservation and recreation needs, but also provides river and stream buffers, preserves critical habitat linkages and functions, and protects recharge areas near existing and future potential water supply sites. Healthy environmental systems require a network of vital connections that help to preserve the services that these systems provide to our cities and towns (water quality, air quality, fish and wildlife habitat, etc.). By protecting and restoring naturally functioning ecosystems, we help to preserve the "green infrastructure" that is critical to the overall health and resiliency of our cities and towns.

This approach can complement regulatory measures currently being employed by the Planning Board (Flexible Development Bylaw), and should be employed as part of a comprehensive municipal natural resources protection strategy.

Another part of a more comprehensive municipal natural resources protection strategy would be to develop management plans for all of its conservation holdings. This could be part of an ongoing effort and involve other conservation partners such as the Rochester Land Trust. The process should begin by addressing municipal lands (and Conservation Restrictions) held in areas recognized as critical to the town's natural resources. If parcels already have management plans, they should be revisited in order to see if they are still appropriate, and if they are being addressed.

Areas that are critical for their conservation, recreation, and cultural values, and are heavily used and favored by the public, should also undergo regular need assessments and upgrades.

B. Parks & Recreation and Community Needs

The Statewide Comprehensive Outdoor Recreation Plan (SCORP), Massachusetts Outdoor 2017, is a five-year plan developed by the Commonwealth's Executive Office of Energy and Environmental Affairs (EEA). The plan is required for state participation in the federal Land and Water Conservation Fund (LWCF) grants programs. The SCORP also provides an overview of the recreational preferences of the citizens of each geographic region of the Commonwealth as determined through a public participation and outreach process. The profile of recreational use afforded by the SCORP also provides municipalities with a planning tool for addressing the future needs and uses of our outdoor recreational resources.

The SCORP's summary of information, collected at both public events and through other methods of survey (online and telephone), showed that people participate in outdoor activities primarily for physical fitness, but also to be close to nature. Despite having access to nearby facilities, lack of time (55%) was the number one reason that people gave for not using these facilities more often. While recreational programs were also important to responders, 88.2% that it was either somewhat or very important to have more programs for those aged 4 to 12 years, and 91.2% responded similarly regarding programs for teens.

Survey data also indicates that: water based activities, such as boating – canoe, kayak, power boat; fishing; swimming – at beaches, lakes, rivers, pools, paddle boarding, tubing; and, trail-based recreation, such as hiking, biking (on and off-road), cross-country skiing, walking/jogging on trails, and mountain biking, provide the most popular recreational outlets for families in the regions. The SCORP also revealed that the types of projects that respondents would like to see funded in the future are: trails (hiking, biking, paved walkways, trails for people with disabilities); playgrounds (for ages 2-5, for people with disabilities, for ages 6-12, and for ages 6 months – 2 years), and; water (swimming pool, canoe/kayak access, and fishing areas).

Finally, it should also be noted that the SCORP also called out the need to recognize and address the needs of underserved populations (citizens with disabilities, teens, and senior citizens) and areas of a community (areas that are lacking facilities, environmental justice neighborhoods) when planning for and designing parks and conservation areas.

A good part of the SCORP summary also reflects Rochester's recreation preferences and goals. Based upon both the Open Space survey and feedback at community meetings, the top five choices for the types of recreation facilities that are needed or should be expanded in Rochester were (in order of preference): nature/hiking/walking trails; bike paths; family picnic areas; water/beach access, and; more, and more diverse, active recreation programs and facilities for people of all ages and abilities.

Some of the facilities/opportunities specifically mentioned as "recreational and community needs" (in terms of upgrades, repurposing, or new development) at public meetings and in Open Space Survey comments, included:

- The Raynor Gifford Recreational Area: In need of playground/tot lot improvements; in need of basketball court improvements
- The Dexter Lane Recreational Area: In need of a Pavilion with picnic tables on a concrete pad; increased number of soccer/lacrosse practice fields; paved perimeter walking path/loop trail, and; bleachers
- Provide better signage at various locations (way finding)
- Implement the Mary's Pond Beach Plan

Community planners have traditionally looked to the National Park and Recreation Association Standards (NPRA) as a benchmark for the number of facilities/opportunities/acres a community should have per units of population. These standards are still very useful as guides, but have become more difficult to achieve in leaner economic times as communities struggle to maintain their current recreational assets and stock. Partnerships (local and regional), reinvestment, and repurposing may hold the keys to the maximum and efficient use of current recreational stock as well as the ability to expand and offer more (and more diverse) quality experiences to citizens of all ages and abilities.

Seniors

Rochester is similar to its neighbors, the state, and national trends in that its population is aging and remaining more active than in years past. Data presented in Section 3 of this plan shows that the percentage of Rochester's population aged 55 and over increased significantly between 1990 and 2010. The population aged 55 to 64 years increased by 450%, and represents 25% of Rochester's current population. At the same time, Rochester's population aged 25 to 44 years has experienced a significant decrease, and now makes up only 14% of the current population (where this age group made up 36% 0f the population in 1990). In total, 55% of Rochester's current population is aged 45 and over.

As a result of all of the above, Rochester's Median Age increased by approximately nine (9) years (to 43.3years of age) during this same time period, and passed the state Median Age figure (39.1 years) for the first time.

Many people in this age group, both in survey responses and in community meetings, were looking for the Town to provide increased outdoor activities for seniors (walking, hiking, biking, etc.), as well as year-round indoor programs conducted at recreational facilities (YMCA, etc.).

Citizens with Disabilities

Rochester prepared a self –evaluation and transition plan (Included as Appendix X) for its recreational facilities as required under the Americans with Disabilities Act (ADA) in 2018. These plans are carried out through the municipally appointed ADA Coordinator, Andrew Daniel, who is also the Town Facilities Manager. The Coordinator is responsible for working to bring all municipal services, infrastructure, and buildings into compliance with the Act: the ADA Coordinator is not responsible for privately owned facilities.

The ADA Transition Plan, found in Appendix A of this plan, contains an inventory of the public recreation facilities of the Town. The Transition Plan presents an inventory of the improvements needed to bring a facility into ADA compliance. The Town has been attempting to address these needs as funding allows, and has slowly accomplished some of the necessary tasks.

All future recreation facilities should be designed with the needs of citizens with disabilities in mind, in terms of site access, physical use, and ability to view events and cultural/scenic landscapes.

C. Management Needs

Beyond the management needs of the physical conservation and recreation assets of the Town of Rochester, the OSRP Committee recognized the need to better manage the flow of information/education regarding the Open Space & Recreation Plan as a major priority. People feel the need to promote the plan, increase public awareness, involvement (volunteerism), and in turn, local government efficiency. The following ideas are a synthesis of those offered at Rochester Open Space & Recreation Committee and community meetings, and in follow-up interviews: management oversight, education/outreach, land acquisition and preservation as outlined below.

Management/Oversight

The Board of Selectmen should appoint a permanent Open Space Action Committee (OSAC). The OSAC can serve as the Town's initial point of contact for, and to oversee the implementation of the Open Space & Recreation Plan. This will also improve both the internal communication process, and in turn, communication with external agencies, organizations, and potential partners. The OSAC can also meet on a regular basis to make sure that the Open

Space & Recreation Plan's action items are being addressed (and report any delays for whatever reasons) and keep the plan and the Town's stated goals in the public eye.

The Board of Selectmen should appoint a Bike/Pathways Committee to help develop local bike and pedestrian routes and also to engage similar regional groups who would like to forge trail links with Rochester. Rochester's neighbors in Marion, Mattapoisett, Wareham, and Carver have been very active participants in the South Coast Bikeway Alliance (these towns are developing individual routes as well as regional links to proposed and existing routes).

Education/ Outreach

The Town needs to actively promote public interest, engagement, and involvement in conservation, recreation, and open space planning. One of the plan's goals is to grow a volunteer base to help address facility needs (with a possible end result being the appointment of a "Volunteer Coordinator"). A necessary first step in this process is to place the Open Space & Recreation Plan on the Town's website in an easily accessible format and location.

The Town needs to develop and promote local public education materials describing available conservation, recreation, and open space assets and opportunities. In particular, make Rochester citizens more aware of the fact that they can use/access Buzzards Bay beaches in Wareham and Mattapoisett by agreement. Citizens should also be reminded that there are opportunities for school age children at the YMCA, and opportunities for adults/adult programs through the Marion YMCA. Most of the public information about these opportunities was developed and distributed by outside organizations. This material could be scanned in, linked, or uploaded to the appropriate page(s) on the Town's website. These types of activities also afford Rochester the opportunity to improve "tri-town" communication.

Developing a passive and active recreation facilities website, with downloadable brochures and fact sheets, would complement the existing web page. An improved web page and physical materials would help to forge stronger ties between the Town and potential conservation and recreation partners, as well as to promote the public ownership and the need for stewardship of these outstanding resources.

Land Acquisition and Preservation

The OSRP Committee, the public, and several partnering conservation organizations also identified the need for a formal Land Acquisition/Protection Strategy for conservation and open space parcels. The goal here would be to promote a more unified and purposeful approach to land acquisition by the Town that would focus on: keeping significant natural corridors intact; retaining the integrity of significant blocks of watershed and agricultural land; looking at land function as well as features in a complementary context, and; promoting a coordinated, multidisciplinary approach as to how and why land is preserved or acquired.

This strategy should be used to target susceptible natural resource areas in Rochester along its river corridors, and in areas of agricultural significance (in essence, a way to address issues in

identified Core Habitat, high-quality streams, Heritage Landscape Inventory and Critical Natural Landscape areas).

The Town should continue to promote agricultural retention, preservation, and assistance programs offered by both MDAR and the USDA.

This can also help with retention of agricultural lands, promote the practice of agriculture, and encourage new farmers to invest in the community. The Town can also sponsor workshops on intergenerational transfer of property to help older farm owners and their heirs.

Section 8. Goals and Objectives

The list of goals and objectives set forth below were identified by compiling feedback from Rochester residents through public forums, public meetings, and a community survey. Analysis of the Open Space surveys, along with input from public planning sessions and meetings, indicated a slight shift in public priorities from the 2009 Rochester Open Space & Recreation Plan. Natural resource conservation, particularly water quality and quantity, as well as agricultural and forest preservation, remained high priority items. Public concern over stewardship and quality recreational opportunities was also prominent, and has been incorporated and reflected in the proposed "Goals and Objectives" listed below.

Goal 1: Provide Rochester residents of all ages and abilities life-long recreational opportunities in well-maintained facilities and natural areas throughout Town.

Objective A: Continue to maintain and improve recreational facilities in Rochester.

Objective B: Identify land that is suitable and available for development of public access and recreational areas.

Objective C: Better inform residents about existing recreational facilities and programs.

Objective D: Develop a plan for biking in Rochester.

Goal 2: Protect surface and ground water quality and quantity, and natural resources, in the Mattapoisett River and Sippican River watersheds.

Objective A: Identify the Zone II recharge areas that are of the highest priority for land acquisition, and protect properties within those areas when the opportunity arises.

Objective B: Encourage consistent enforcement of the Groundwater Protection Bylaw.

Objective C: Increase herring and other aquatic populations in the Mattapoisett and

Sippican Rivers.

Objective D: Identify conditions that need improvement for recreational use (including fishing).

Goal 3: Preserve select farmlands and forestlands that are the basis of Rochester's character, history, and working landscape.

Objective A: Identify and prioritize, for potential acquisition, critical farmland and Forestland that may come up for sale or be released from Chapter 61, 61A, or 61B.

Objective B: Identify and promote productive local farms and agricultural businesses.

Objective C: Encourage the continued use of the Flexible Development Bylaw in future residential development projects.

Goal 4: Encourage growth while respecting Rochester's natural, cultural, and scenic resources.

Objective A: Implement the Goals of the 2019 Open Space and Recreation Plan.

Objective B: Preserve identified areas/resources that are of unique natural, cultural, historic, and scenic value to the Town.

Goal 5: Improve stewardship of conservation lands and trails.

Objective A: Expand public awareness of the stewardship needs of existing conservation lands and trails through public outreach.

Objective B: Strengthen existing conservation/stewardship partnerships between the Town, the Rochester Land Trust, regional land trusts, and state agencies.

Section 9. Seven-year Action Plan 2019 -2026

The Action Plan

(See Map 8: Seven-Year Action Plan; following pages)

The following Seven-year Action Plan sets forth Rochester's proposed action items necessary to implement the goals and objectives presented in section 8.0 of this plan. Local leads and potential partners for each action item are identified, and include Rochester staff, boards, committees, volunteers and local organizations. Potential funding sources are also listed.

The Seven-year Action Plan categorizes action steps by the estimated timeframe needed to implement each action. The timeframes are listed as follows:

- Ongoing
- Short term: 1-3 years
- Intermediate: 3-5 years
- Long term: 5-7 years

Years 1- 3

ACTION: Appoint a committee to develop a web page for the Town website focused on conservation and recreation opportunities, programs, and facilities
Local Lead/Potential Partners: Board of Selectmen, Park Commission, Conservation Commission, Rochester Land Trust, Buzzards Bay Project, Buzzards Bay Coalition, SRPEDD
Goals/ Objectives/Needs addressed: Goal 1, Objective C
Potential Funding Source: local funds

ACTION: Implement the Mary's Pond Beach Development Plan
Local Lead/Potential Partners: Board of Selectmen**,** Planning Board, Park Commission, Conservation, and other town boards and commissions, DCS, SRPEDD
Goals/Objectives/Needs addressed: Goal 1, Objective A; Goal 4, Objective A
Potential Funding Source: DCS grant, SRPEDD Technical Assistance, other

ACTION: Appoint a Pathways Committee to address bike and trail needs
Local Lead/Potential Partners: Board of Selectmen, South Coast Bikeway Alliance, Highway Dept., other town boards and commissions as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objective D

ACTION: Refurbish the Raynor Gifford Recreational Area, including improved handicapped access, improved playground, and improved restrooms

Local Lead/Potential Partners: Park Commission, ADA Coordinator, other town boards, commissions, and departments, as appropriate
Goals /Objectives/Needs addressed: Goal 1, Objective a
Potential Funding Source: State and Local funds

ACTION: Put the Open Space Plan on the Town website, with Action Plan related tasks noted as they are completed, in order to keep the public and planning partners (and potential partners) better informed
Local Lead/Potential Partners: Board of Selectmen, Conservation Commission
Goals/Objectives/Needs addressed: Goal 4, Objective A

ACTION: Appoint a new Open Space Action Committee
Local Lead/Potential Partners: Board of Selectmen, other Town boards, commissions, departments, non-profits, citizens
Goals/Objectives/Needs addressed: Goal 4, Objective A

ACTION: Conduct a seminar for engineering firms doing work in town and present Rochester's guidelines for maintaining rural character
Local Lead/Potential Partners: Board of Selectmen, Conservation Commission, Planning Board, other state, regional, and town offices, as appropriate
Goals/Objectives/Needs addressed: Goal 4, Objective B
Potential Funding Source: Local funds, technical assistance from regional groups/agencies

ACTION: Initiate a new volunteer program to establish a core group of volunteer stewards to help maintain and improve conservation areas and trails
Local Lead/Potential Partners: Board of Selectmen, Conservation Commission, Park Commission, other boards, commissions, departments, non-profits
Goals/Objectives/Needs addressed: Goal 5, Objectives A, B

ACTION: Create off-street parking for any conservation lands that are presently lacking
Local Lead/Potential Partners: Conservation. Highway Dept., others as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objectives A, B
Potential Funding Source: Local funds, state grants

ACTION: Add or improve signage identifying conservation lands
Local Lead/Potential Partners: Conservation Commission, others as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objectives A,B
Potential Funding Source: Local funds, state grants

ACTION: Adopt a surface water protection bylaw for the Mattapoisett and Sippican Rivers and their tributaries
Local Lead/Potential Partners: Planning Board, Conservation Commission, Buzzards Bay Project, SRPEDD, others as appropriate
Goals/Objectives/Needs addressed: Goal 2, Objective A

ACTION: Develop a Rochester "Buy Local" campaign
Local Lead/Potential Partners: Agricultural Commission, SEMAP, other boards, commissions, agencies, non-profits as necessary
Goals/Objectives/Needs addressed: Goal 3, Objective B
Potential Funding Source: Technical assistance from potential partners

ACTION: Conduct a GIS mapping assessment to prioritize areas for protection based on identified priority resources and attributes. Match identified parcels with public and private programs that will support acquisition and protection.
Local Lead/Potential Partners: Planning, Conservation Department, SRPEDD, Board of Selectmen, Rochester Land Trust, Buzzards Bay Coalition, and other non-profits as necessary
Goals/Objectives/Needs addressed: Goal 2 & 3, Objective A
Potential Funding Source: Technical assistance from potential partners.

Years 3 – 5

ACTION: Improve and expand the Dexter lane Recreational Area including a pavilion with picnic tables, soccer/lacrosse practice fields, paved walking path/loop trail, tot lot, playground, bleachers, and basketball court
Local Lead/Potential Partners: Board of Selectmen, Park Commission, others as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objective A
Potential Funding Source: State, non-profit, local funds

ACTION: Develop a locally grown food sustainability "Farm to School Project"
Local Lead/Potential Partners: Board of Selectmen, School Department, Agricultural Commission, Mass. Farm to School Project, SEMAP, other federal, state, local, and non-profit partners as appropriate
Goals/Objectives/Needs addressed: Goal 3, Objective B
Potential Funding Source: State grants, local funds, technical assistance from non-profits

Ongoing, Years 1 – 7

ACTION: Acquire land on Snipatuit Pond for public access

Local Lead/Potential Partners: Conservation Commission, Board of Selectman, Rochester Land Trust, other federal, state, and regional agencies and non-profits as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objectives A, B
Potential Funding Source: State and federal grants, local funds, non-profits

ACTION: Work with the South Coast Bikeway Alliance as part of the regional bike planning process
Local Lead/Potential Partners: Conservation Commission, Planning Board, DPW, South Coast Bikeway Alliance, SRPEDD, others as appropriate
Goals/Objectives/Needs addressed: Goal 1, Objectives A, D

ACTION: Acquire lands critical to water supply protection and recharge in the Mattapoisett and Sippican River watersheds when they are for sale or are released from Ch. 61 programs
Local Lead/Potential Partners: Board of Selectmen, Conservation Commission, Planning Board, other town boards and commissions as appropriate, federal, state, local, regional, and non-profit agencies and organizations
Goals/Objectives/Needs addressed: Goal 2, Objective A Goal 3, Objective A
Potential Funding Source: State and federal grants, local funds, non-profit organizations

ACTION: Educate the public about water conservation, storm water pollution, and best management practices in important aquifer recharge areas in the Sippican and Mattapoisett River watersheds
Local Lead/Potential Partners: Conservation Commission, Planning Board, Board of Health, Highway Dept., Board of Selectmen, other state, federal, regional, local, and non-profit partners as appropriate
Goals/Objectives/Needs addressed: Goal 2, Objectives A, B
Potential Funding Source: Local funds; technical assistance/funds from federal, state, local, and regional agencies, organizations, and non-profits

ACTION: Continue to improve and maintain fish ladders and keep the river free of obstructions
Local Lead/Potential Partners: Conservation Commission, Herring Inspector, other federal, regional, state, and local organizations, agencies and non-profits, as necessary
Goals/Objectives/Needs addressed: Goal 2, Objectives C, D
Potential Funding Source: Local funds, state grants; technical assistance from other partners as appropriate and necessary

ACTION: Continue to monitor the condition and flow/ levels of Rochester's streams and ponds
Local Lead/Potential Partners: Conservation Commission, Board of Health, regional non-profits, local colleges/universities, others as necessary

Goals/Objectives/Needs addressed: Goal 2, Objective D
Potential Funding Source: Local funds, state grants

ACTION: Pursue funding sources available for agricultural preservation efforts
Local Lead/Potential Partners: Agricultural Commission, Conservation Commission, Planning Board, Board of Selectmen, other federal, state, regional, local, and non-profit agencies and organizations
Goals/Objectives/Needs addressed: Goal 3, Objectives A, B

ACTION: Educate the public about the economic and social benefits of open space preservation
Local Lead/Potential Partners: Conservation Commission, Rochester Land Trust, Buzzards Bay Coalition, Buzzards Project, SRPEDD, other federal, state, regional, and local agencies, organizations, and non-profits
Goals/Objectives/Needs addressed: Goal 4, Objectives A, B; Goal 5, Objective B
Potential Funding Source: Local funds, state grants, technical assistance from partnering organizations, agencies, and non-profits

ACTION: Facilitate active forest and wildlife management on town owned parcels
Local Lead/Potential Partners: Conservation Commission, Board of Selectmen, others as necessary and appropriate
Goals/Objectives/Needs addressed: Goal 1, Objective A; Goal 5, Objectives A, B
Potential Funding Source: Local funds, technical assistance from non-profit organizations

ACTION: Develop and maintain walking trails, bridle paths, and bike paths on public land where suitable and feasible
Local Lead/Potential Partners: Conservation Commission, Park Commission, Highway Dept., SRPEDD, Mass DOT, South Coast Bikeway Alliance, others as necessary and appropriate
Goals/Objectives/Needs addressed: Goal 1, Objectives A, B, D
Potential Funding Source: DCS, DER, Mass DOT, local funds; technical assistance from potential partners

ACTION: Continue to educate land owners on the benefits of Conservation Restrictions, Chapter 61 Programs, Agricultural Preservation Restrictions (APR), the Flexible Development Bylaw, and other land protection tools employed in Rochester
Local Lead/Potential Partners: Conservation Commission, Planning Board, Agricultural Commission, Board of Selectmen, other state, regional, local, and non-profit agencies and organizations as appropriate and necessary
Goals/Objectives/Needs addressed: Goal 3, Objectives A, C; Goal 4, Objectives A, B; Goal 5, Objectives A, B

Potential Funding Source: Local funds and technical assistance from potential partners

Town of Rochester

Map 8
Open Space Inventory Map

2021

- Walking Trails Open to the Public
- Houses/Buildings
- MajorRivers/Streams
- Cranberry Bogs
- Waterbodies
- Permanently Protected Lands
- Chapter Lands (61, 61A, 61B)
- Assessors' Parcels

Unprotected Lands

- Municipal Land with Recreational/Conservation Potential
- Private Land with Recreational/Conservation Potential
- Public Schools with Recreational Facilities
- Rochester Country Fairgrounds (Town Owned)
- Town/Church Green
- Rochester Golf Club (Public Course)
- Sippican Rod & Gun Club (Private Club)

Key to Abbreviations:

APR - Agricultural Preservation Restriction
BBC - Buzzards Bay Coalition
BOS - Rochester Board of Selectmen
Con Comm - Rochester Conservation Commission
CR - Conservation Restriction
MLT - Mattapoisett Land Trust
RLT - Rochester Land Trust
TTOR - The Trustees of Reservations
WMA - Wildlife Management Area (State)

Note: For properties designated as Chapter Lands on the map, the entire parcel has been highlighted. However, the exact acreage enrolled in the Chapter Programs may be less than shown.

This map is for planning purposes only and should not be used for survey, engineering, legal, or regulatory purposes, or for parcel-level analysis.

Data Sources: MassGIS, Buzzards Bay NEP, and Town of Rochester.

0 0.5 1 2 Miles

Map prepared by:
Buzzards Bay National Estuary Program
81-B County Rd, Suite E, Mattapoisett, MA 02739
www.buzzardsbay.org

Section 10. Public Comments

Public comments were received from a variety of sources while developing this plan, including: surveys, public forums, public meetings and meetings between conservation and recreation staff members. The 2016 Rochester OSRP survey, results and all public comments are included in Appendix E.

Review Letters

- Rochester Board of Selectmen
- Rochester Planning Board
- Southeast Regional Planning & Economic Development District (SRPEDD)
- Rochester Conservation Commission
- Rochester Park Commission

Section 11. References

Rochester Master Plan, 2010

Rochester Open Space and Recreation Plan update, 2009

Mass Wildlife. Massachusetts Division of Fisheries & Wildlife. Natural Heritage and Endangered Species Program.
http://maps.massgis.state.ma.us/dfg/biomap/pdf/town_core/Rochester.pdf. 2019
http://maps.massgis.state.ma.us/dfg/biomap2.htm. 2019

Town of Rochester Conservation Department web site.
http://www.rochestermaconservation.com. 2019.

Section 7: ***Americans with Disabilities Act Compliance ~***

Town of Rochester Recreation

The Town of Rochester has a three member elected Park Commission that oversees the following properties. The Commission is in charge of all of the park facilities. The Park Commission meets the second and fourth Thursday of every month at the Rochester Town Hall.

Raynor Gifford Park

Map/ Lot: Map 30 / Lots 27, 28 and 29A
Acreage: 5.88 Acres
Location: Mary's Pond Road
Ownership: Town of Rochester

ADA Survey

Raynor Gifford Park

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	Conforms No	Conforms N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking		X			Blue stone/ hard packed/ grass firm
Surface		X			Grass firm
Stairs				X	
Doors			X		Bathroom are not accessible
Restrooms		X			One ADA compliant bathroom
Shower Rooms	N/A			X	
Drinking Fountain		X		X	
Telephones	N/A			X	
Signs			X		No assigned spaces
Switches/Controls				X	
Ball Fields		X			
Seating				X	
Playground Equip.		X			Soft pebbles w/ 42 inch underpass
Basketball Court		X			Surface is uneven
Picnic Tables		X			5 Picnic Tables (height 27 inches)
Trash cans		X			6 trash cans
Trails	X				1 mile loop trail to rear of property 48.3-acres managed by the Wildlands Trust
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	
Programming					Youth Baseball Program
Services/Technical Assistance				X	
Wildlife area		X			Trailhead to Rounseville II Preserve
Concession stand			X		15 inch rise
Score Box Building			X		7 inch rise

Description: Raynor Gifford Park facilities consist of a playground, two Little League fields, one T-ball field, one basketball court, soccer practice areas and one batting cage. Rochester Youth Baseball manages the three diamonds. Approximately 400 young people use this facility throughout the season. There is a wildlife area owned by The Wildlands Trust to the rear of the fields, which is inaccessible due to the topography of the area. Some of the playground equipment is accessible but current

Recommendations/Transition: Though the ball-fields are equipped to provide accessible seating for spectators many other improvements are necessary. Ramps need to be constructed to allow access to the concession stand and score box buildings. There is one handicap accessible restroom near the concession stand: the two bathrooms adjacent to Mary's Pond Road are not accessible and will need to be upgraded. Handicap accessible Port-A-Johns could be utilized until a more permanent solution could be realized. Official parking spaces should be designated with signage in areas in close proximity to activities through out the park. The playground equipment is not accessible at this time due to the use of pebbles as surface material. (See photos and table for more information)

Raynor Gifford Park Photos

ADA Bathroom and Snack Shack

Pavillion

Little League Field

Batting Cage

Second Little League Field

Tee Ball Field

Dexter Lane Ball fields

Map/ Lot: Map 6 /Lot 17
Acreage: 26 Acres
Location: Dexter Lane
Ownership: Town of Rochester

ADA Survey

Dexter Lane Ballfields

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)		N/A		X	
Parking		X			Handicapped parking spaces
Surface		X			Hard parked gravel and grass
Stairs	N/A			X	
Doors		X			
Restrooms		X			Port-A-Johns not accessible (22" width)
Shower Rooms	N/A			X	
Drinking Fountain	N/A	X			
Telephones	N/A			X	
Signs			X		Informational signs only
Switches/Controls				X	
Ball Fields		X			
Seating			X		5 Viewing stands
Playground Equip.		X			Skateboard Park
Basketball Court	N/A			X	
Picnic Tables		X			5 Picnic table (standard size)
Trash cans		X			
Trails			X		Not well defined and surface is rough grass
Boat Docks	N/A				
Fishing Facilities	N/A			X	
Programming		X			Youth Baseball Program, Soccer, Lacrosse
Services/Technical Assistance				X	
Wildlife area		X			
Paths		X			Loop trail, uneven and undefined (4 feet wide)

Description: The Dexter Lane playing fields were completed in 1999, and have been periodically renovated over the years. The park consists of a softball field, Farm League field, Little League Field, and a Babe Ruth field, soccer/lacrosse/field hockey field and a skate board park. Recently

new fields and restrooms were constructed and there is room for more fields and sports facilities. A walking path that loops around the entire park connects the Senior Center to the playing fields and the police station.

Recommendations/Transition: Due to the fact that the park was just recently upgraded many of the design issues associated with ADA compliance have already been addressed. Other possible recommendations for the Dexter Lane playing fields would include: displaying signage for parking, appropriately designed ramps for the concession stand and score box buildings, provide accessible Port-A-John's, create a walking path to fields and amenities, and the walking path currently is not smooth enough for a wheel chair throughout. (See photos and table for more information)

Dexter Lane Recreational Area Photos

Dexter Lane Ballfields Sign at Entrance

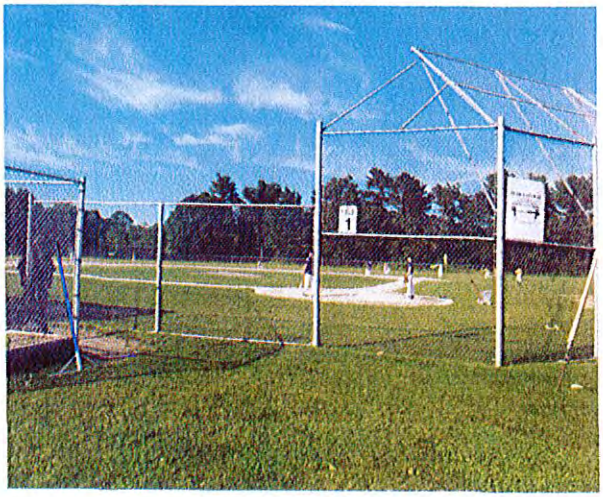
Handicapped accessible restroom

Doggetts Brook Nature Trail
Map Mounted Display

Handicapped parking

Playground

Multi-purpose Field



Babe Ruth Field

Rochester Memorial School

Map/ Lot: Map 37 / Lot 38
Acreage: 7+ Acres
Location: Pine Street
Ownership: Town of Rochester

ADA Survey

Memorial School

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking		X			Signage posted
Surface		X			Pavement, hard pack gravel and grass
Stairs	N/A			X	
Doors	N/A			X	
Restrooms		X			Restrooms available during school hours*
Shower Rooms	N/A			X	
Drinking Fountain		X			Fountain available during school hours
Telephones		X			
Signs				X	
Switches/Controls		X			*See restrooms
Ball Fields		X			Multi purpose - soccer fields
Seating			X		No seating provided
Playground Equip.		X	X		One play area has a railroad ties surrounding it 8" rise/small stones not hard pack in this area the other play area is soft sand
Basketball Courts		X			Several half courts available
Picnic Tables	N/A			X	
Trash cans		X			None present
Trails	N/A			X	Property connects to Hartley WMA behind multi-purpose fields
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	
Programming				X	Only as it relates to formal curriculum
Services/Technical Assistance				X	
Wildlife area	N/A			X	Conservation Restriction Area – vernal pool to the rear of parking lot, connects to Hartley WMA trails

Description: The playground is located on Pine Street behind the Memorial School. The School Committee manages the school grounds and playground. This area is heavily used by the residents and is in relatively poor condition. The playing fields consist of a combination baseball and soccer field and basketball court. The playground consists of a climbing apparatus with slide and hanging bars, swing set and imitation train. (See photos and table for more information)

Recommendations/Transition: Since the playground and ball fields are directly associated with the Memorial School many of the amenities are in compliance. For instance bathrooms, telephone, trash cans, and drinking fountains are all provided during school hours. These amenities are not available for residents or general public after school hours. When playgrounds are repaired or enhanced the railroad ties surrounding the playground should be removed, lowered or a wide cut in the ties could allow passage into the area, and surfaces in playgrounds should be reconsidered. Presently no seating or trash cans have been provided at this site.

Memorial School Accessory Land

Map/ Lot:	Map 37/Lot 72B
Acreage:	13 Acres
Location:	Off Hartley Road
Ownership:	Town of Rochester

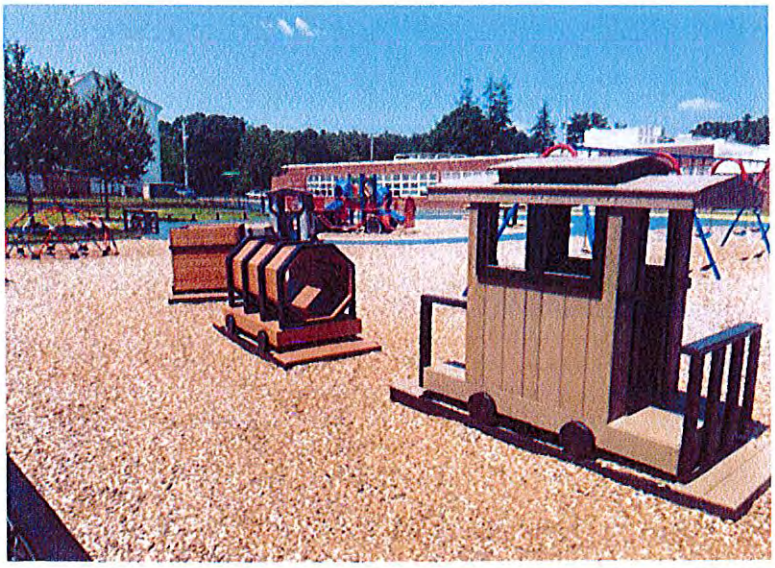
Description: the Memorial School Accessory Land is located off of Hartley Road abutting the school. The only access currently is from across school grounds. Presently this area is being utilized as a wildlife preserve with future plans to expand the school. The wildlife preserve is a predominately white pine transitioning red oak. This typical oak-conifer forest grows on well-drained, nutrient-poor, relatively thin soils. A certified vernal pool is located within the forest as well as an abandoned gravel pit. A short path is accessible from the school site that maybe utilized as an educational opportunity.

Recommendations: Leave undeveloped at this time

Rochester Memorial School Photos

View east of multipurpose field at rear of building and parking area.

View south of playground behind school.



View north of playground off Hartley Road.

View northeast of playground off Hartley Road.

Old Colony Regional Vocational Technical High School

Map/ Lot: Map 42/ Lots 2 and 3
Acreage: 86 Acres
Location: North Avenue
Ownership: Old Colony Regional School District

ADA Survey

Old Colony Regional Vocational Technical High School

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)				X	
Parking		X			
Surface					Asphalt, hard pack gravel and grass
Stairs				X	
Doors		X			
Restrooms		X			Port-A-John is accessible
Shower Rooms				X	* Located in the school
Drinking Fountain				X	*Located in the school
Telephones				X	*Located in the school
Signs		X			
Switches/Controls				X	
Ball Fields		X			Field hockey, soccer, baseball, football
Seating		X			
Playground Equip.	N/A			X	
Basketball Court		X			Located in parking area
Picnic Tables				X	
Trash cans		X			
Trails			X		Cross county track path, walking trail
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	
Programming				X	As it relates to the school**
Services/Technical Assistance				X	**
Wildlife area	N/A			X	

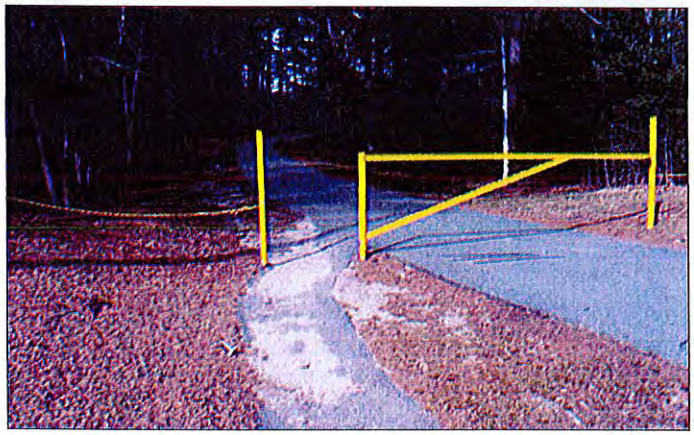
Description: Since the athletic fields are directly associated with the Old Colony Regional Vocational Technical High School many of the amenities are in compliance. The athletic fields consist of a football field, cross country track, field hockey, soccer and baseball fields, viewing stands, dugouts, concession stand and score keeper box. There is also a large wooded area surround the school that is utilized as the cross country track path. This area also abuts the Town Forest a Town owned parcel that has been identified as a living classroom.

Recommendations/Transition: The only recommendation for this area are related to the concession stand/score box facility and the viewing stand to create a ramp to the building and a viewing area for family members with disabilities.

Old Colony Regional Vocational Technical High School Photos:

Football fields

Concession stand and score keeper box



Path to athletic fields

Town of Rochester Conservation Commission

The Town of Rochester has a Conservation Commission is a regulatory board appointed by the Board of Selectmen. Currently there are seven members appointed to the Rochester Conservation Commission and a full-time Conservation Commission Agent to undertake the development, conservation, supervision, and regulation of natural resources. The natural resources would include but are not limited to water, soil and land, recreation, wildlife, information and education.

The Rochester Conservation Commission meets the first and third Tuesday of every month in the Town Hall Conference Room. Currently they do not run regular programs, however organize periodic events public meetings on important topics as they come up.

Conservation Properties
Town Forest

Map/ Lot: Map 42/ Lot 1
Acreage: 17 Acres
Location: North Avenue
Ownership: Town of Rochester
Managed: Conservation Commission

ADA Survey

Town Forest

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking		X			Accessible from school, no signage
Surface		X			
Stairs	N/A			X	
Doors	N/A			X	
Restrooms	N/A			X	
Picnic Tables				X	
Trash cans				X	
Trails				X	A rough trail runs along the Algonquin Gas Easement
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	
Programming				X	Only what is provided through the school
Services/Technical Assistance				X	
Wildlife area		X			

Description: The Town Forest is managed by the Rochester Conservation Commission & Town Forest Committee and is located off of North Avenue next to the Old Colony Regional Vocational Technical High School. There is a walking path with nature studies provided at the High School. This site is also open to the residents and general public. Thick woods encompass the front and rear of the parcel with numerous blow-downs, the site was recently thinned as part of a forest cutting project in collaboration with Old Colony Regional Vocational Technical High School. The Algonquin Gas easement is relatively accessible. The Conservation Commission has reviewed the site and considered various management opportunities for example: trails, picnic area, managed forest. They are actively managing the forest upon the advice of forester Phil Benjamin of Benjamin Forestry Services.

Recommendations: One possible remedy is the removal of blow-downs and creation of trails with a picnic area is possible. Parking on weekends may be available from the Old Colony Regional Vocational Technical High School adjacent to the site. Consulting with a licensed forester

					access.
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	
Programming	N/A			X	
Services/Technical Assistance	N/A			X	
Wildlife area	N/A		X		Possible vernal pool along side the trail

Description: The Town Pound is a 3.5 acre site located on Snipatuit Road. This is a combination of wildlife and historic preserve, hence the name. High stonewalls surround an impounded area with a rustic gate entrance historically used for stray livestock. Presently this site is utilized as a nature study and hiking trails. This area is surrounded by white pine and includes an abandoned cranberry bog and small watering hole.

Recommendations/Transition: Minimum work in the parking area will improve access to the site. However, wetlands will limit enhancement of trails. This site is possible for a short loop trail. Continued maintenance to the parcel would improve accessibility.

Town Pound Photos:

Town Pound

Trail head

Interior of Town Pound

Trail

View from Snipatuit Road

Water hole

Mary's Pond Lots

Map/ Lot: Map 9/ Lot 6B-F
Acreage: 10 Acres
Location: Perry's Lane
Ownership: Town of Rochester

ADA Survey

Name here: Mary's Pond

Canoe/Cartop Boat Access

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)		X			Paved path down to Pond
Parking		X			Signage with two designated handicap parking sites
Surface		X			Packed (blue stone) gravel, paved path down to Mary's Pond.
Stairs				X	Ramp to water cut though old roadbed
Doors				X	Opening in fence meets width requirement
Signs		X			Proper sign in parking area closest to ramp
Trails			X		Walking trail along pond has a fence blocking it from boat ramp area
Boat Docks	N/A			X	
Fishing Facilities			X		Not a flat level area avail adjacent to boat ramp
Programming	N/A			X	
Services/Technical Assistance	N/A			X	
Wildlife area		X			

Description: Mary's Pond Lots are located on Perry Lane and is currently managed by the Town of Rochester Board of Selectmen and is under a Land Management Agreement with the Department of Fish and Game. The uses at this facility vary from swimming (at own risk), fishing, and boating to picnicking and hiking. The wildlife preserve is a predominately white pine forest and hardwood. The Natural Heritage and Endangered Species Program has identified this community as a coastal plain pond and is protected through a conservation restriction by the Rochester Land Trust. Abandoned old Perry Lane roadbed is situated parallel to the pond shore and provides access to the site.

Recommendations/Transition: The parking area is in full compliance with an appropriate number of parking spaces designated for people of disabilities. Grading of boat ramp area could be improved and review possibility of a level area or short dock for fishing adjacent to the ramp area.

Mary's Pond Canoe/Cartop Boat Access Photos

Mary's Pond Designated Handicapped Parking

Canoe/cartop boat access to Mary's Pond.

Mary's Pond handicapped parking area/trailer access.

View of Mary's Pond from bottom of ramp.

Hiking trail

Signage

East Over Farm Reservation

Map/ Lot: Map 11/ Lots 5 and 5D
Acreage: 75 Acres
Location: Mary's Pond Road
Ownership: Trustees of Reservations and Town of Rochester

ADA Survey

East Over Farm Reservation

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking		X			Gravel Parking Lot
Surface		X			Packed woodchips
Stairs				X	
Doors				X	Gates meet width requirement
Picnic Tables				X	
Trash cans				X	
Trails		X			No gravel, mowed grass
Boat Docks	N/A			X	
Fishing Facilities	N/A			X	Easement to Leonard's Pond
Programming				X	TTOR has a trail map and walks throughout the year

Services/Technical Assistance				X	
Wildlife area		X			

Description: The East Over Farm Reservation area is a 75.52 acre wildlife habitat preservation, aquifer, riverfront and passive recreation protection dream located on Mary's Pond Road. The permanent protection of the East Over Farm field was part of a much larger land protection initiative to permanently protect approximately 780-acres of land in Rochester and Marion. The initiative included a combination of fee acquisitions, Agricultural Preservation Restrictions and Conservation Restrictions. More than 60 acres of cranberry bogs and surrounding wooded areas are protected in perpetuity by conservation restriction, as are two farmhouses and many historic farm buildings and gristmill. A parking area managed by the Trustees of Reservations is located on Clapp Road. (Town of Rochester, Open Space Plan) (photo: Trustees of Reservations)

East Over's wildlife habitats reflect past land uses from rolling hills and pasture lands. This type of use has provided habitat for a unique array of wildlife including bobolinks, meadow voles, blue-winged warbler, towhee, cottontail rabbit and countless butterflies.

Recommendations: The management plan is in effect for the property. The development of the parking area is still underway. The gate opening is offers an accessible passage way to the fields, which can be utilized by person of disabilities with some difficulties.

East Over Farm Reservation Photos:

Leonard's Pond Lot

Map/Lot: Map 11/Lot 9B
Acreage: 4.1 Acres
Location: Mary's Pond Road
Ownership: Town of Rochester

ADA Survey

Name here: Leonard's Pond Lot

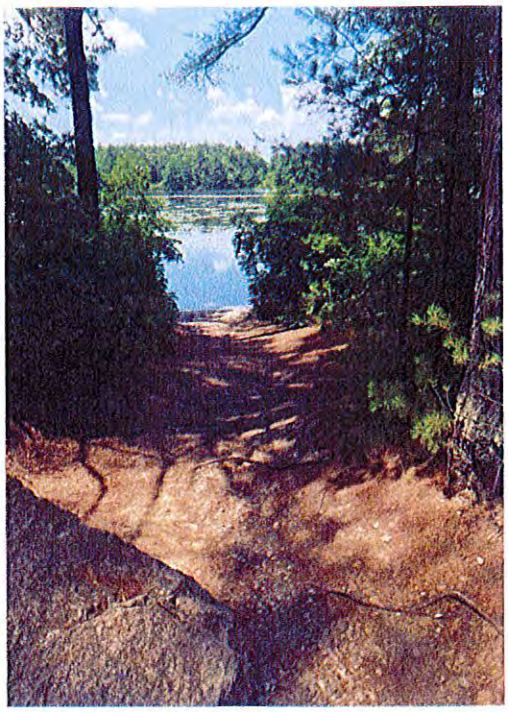
Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	Conforms No	Conforms N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking			X		Fenced gravel parking and kiosk.
Surface			X		Short, narrow path hard packed dirt covered in pine needles
Trails				X	Short narrow path that drops quickly down to pond
Boat Docks	N/A			X	
Fishing Facilities	N/A		X		No level area at pond
Programming				X	The Rochester Land Trust and Buzzards Bay Coalition have held programs at this site annually
Services/Technical Assistance				X	
Wildlife area		X			

Description: The Leonard's Pond Lot is located directly on Mary's Pond Road.
Recommendations: The path down to the water could be made less steep for ease of p.

Leonard's Pond Recreational Area Photos

Leonard's Pond Recreational Area Sign



Canoe/cartop boat access to Leonard's Pond.

Leonard's Pond parking area.

Leonard's Pond informational kiosk.

Fireman's Memorial

Map/Lot: Map37, Lot 29
Acreage: 47 Acres
Location: Hartley Road
Ownership: Town of Rochester

ADA Survey

Name here: Fireman's Memorial

Compliance Guidelines for Section 504 Self-Evaluation

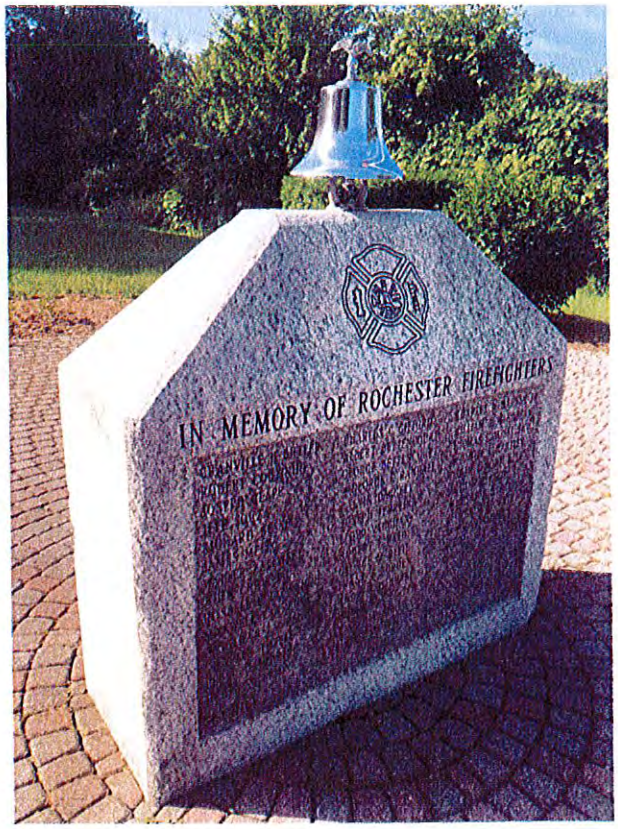
Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)	N/A			X	
Parking			X		Parking on the side of the road for up to four cars, surface is fairly flat and is sand and gravel.
Surface		X			Hard packed grass surface off brick walk
Telephones				X	General Store across the street
Signs			X		No signage
Seating		X			4 benches
Fishing Facilities	N/A			X	
Programming	N/A			X	
Services/Technical Assistance	N/A			X	
Wildlife area		X			Pond was very low during site visit, however, wetlands and woods offsite would provide habitat for wildlife.

Description: The Fireman's Memorial Park is located on Hartley Road and owned by the Town of Rochester. The park is a memorial site for members of the community to offer a moment of reflective solitude. Also included on this site is a Memorial Stone Statue, flag pole, beautiful plantings and picnic area off to the edge of Hartley's Mill Pond. The parcel was donated to the town by the family of Lloyd Vaughan to be protected by the terms of the gift. This is also a great location for viewing waterfowl.

Recommendations: The walk way is paved to the Memorial Stone Statue. To is an acceptable site for persons of disabilities to access. If adjacent property (Historic Mill) becomes available would make an excellent addition to park. (See photos and table for more information)

Firemen's Memorial Photos

Firemen's Memorial



Hathaway Pond Lots

Map/ Lot: Map 8/ Lot 23 and 24
Acreage: 77 Acres
Location: Off Marion Road
Ownership: Town of Rochester

ADA Survey

Name here: Hathaway Pond Lots

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Signs				X	
Trails			X		Access is by easement over Hiller property
Boat Docks				X	
Fishing Facilities					Could be developed into a fishing location
Programming				X	
Services/Technical Assistance				X	
Wildlife area		X			

Description: Hathaway Pond Lots are located off Marion Road, with access via trail easement through Hiller Property. Currently these lots are used for passive recreation and wildlife habitat. The natural community is a mature upland with mix of wetlands along Hathaway Pond.

Recommendations: Viable access from Route 105 with parking needs to be established

Hathaway Pond

Rounseville Family Recreation Area

Map/Lot: Map 33 / Lot 55
Acreage: 6.9 Acres
Location: Rounseville Road
Ownership: Town of Rochester

ADA Survey

Rounseville Family Recreation Area

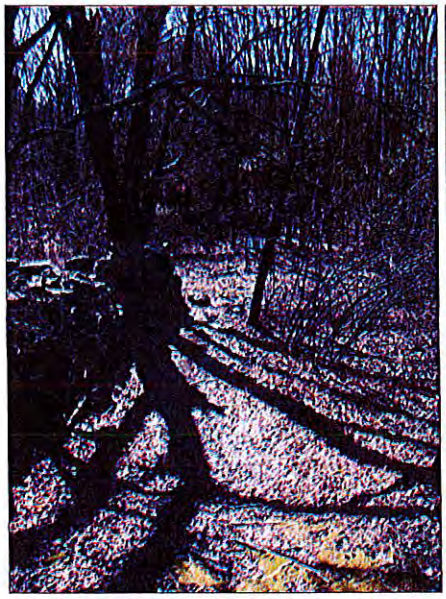
Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	Conforms No	Conforms N/A - None	Comments/Notes
Ramps (boat ramp)				X	
Parking			X		3 Parking spaces on side of road on a curve, parking area is uneven and mixed surface
Surface			X		Surfaces range from loose gravel to wet and muddy depending where on site you are
Signs				X	
Trails			X		Short muddy trail down to sign
Boat Docks					
Fishing Facilities			X		Great fishing location but tough to access
Programming				X	
Services/Technical Assistance				X	
Wildlife area		X			Wonderful site in a rural state

Description: Located on Rounseville Road is a beautiful trail and wildlife preserve along the Mattapoisett River called the Rounseville Family Recreation Area. A mature stand of white pine graces the site. Not only does this site have wildlife preservation appeal it is also rich in historic nature due to the mill site built along the rivers edge. The property was purchased with the help of a Self-Help Grant from the Department of Environmental Protection (DEP) under the Division of Conservation Services (DCR).

Recommendations: Improved parking, signage and trail will enhance use of site. (See photos and table for more information)

Rounseville Family Recreation Area Photos:



Country Fair Property Photos

Entrance to Country Fairgrounds

Country Fair Signage

Rear of Country Fairgrounds

Country Fair Property

Map/Lot: Map 37 / Lots 8 & 9
Acreage: 18.2-acres
Location: Pine Street
Ownership: Town of Rochester

ADA Survey

Country Fair Property

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)				X	
Parking			X		Dense gravel/hard packed/grass firm
Surface			X		Grass Firm
Signs				X	
Trails				X	
Boat Docks				X	
Fishing Facilities				X	
Programming		X			Annual multi-day event – Handicapped Parking provided, Handicapped Portable Restrooms
Services/Technical Assistance				X	
Wildlife area				X	

Description: Located off Pine Street and Andrew Burke Lane. The Fairgrounds property consists of a large open area with interior gravel packed roadway which provides access to vendors, a main arena, animals, show ring, food area, tractor pulls, and parking. There is a designated area for handicapped parking, and handicapped accessible portable restrooms. The fair is typically held in August every year, and the property is utilized by non-profits for events subject to permission from the Rochester Board of Selectmen.

Recommendations: Improved parking, signage and trail will enhance use of site. (See photos and table for more information)

Snipatuit Road Logging Swamp Property (Melink Donation)

Map/Lot: Map 38 / Lots 8A
Acreage: 100-acres
Location: Snipatuit Road
Ownership: Town of Rochester

ADA Survey

Snipatuit Road Logging Swamp Property

Compliance Guidelines for Section 504 Self-Evaluation

Category	Section	Conforms Yes	No	N/A - None	Comments/Notes
Ramps (boat ramp)				X	
Parking			X		Dense gravel/hard packed/grass firm
Surface			X		Grass Firm
Signs				X	
Trails				X	
Boat Docks				X	
Fishing Facilities				X	
Programming				X	
Services/Technical Assistance				X	
Wildlife area		X			Old logging trails lead to the rear through wetlands, ample opportunity for wildlife viewing.

Description: Located off Snipatuit Road behind existing solar facility. There is a paved apron to dense gravel parking area before locked gate with pedestrian access to road to solar facility. The trail emanates from the woods to the rear of the solar site. Trail is difficult to find and needs to be marked

Recommendations: Improved signage and trail will enhance use of site. (See photos and table for more information)

Snipatuit Road Logging Swamp Property

Gate and trail access

Parking

Other parcels not included due to inaccessibility or landlocked:

Brightman Lot:	Map 27, Lot 4
Lopes Lot:	Map 18, Lot 7
Morse Lot:	Map 19, Lot 24
"Home Look Lot"	Map 21, Lot 5C, 5B
Pereira Lot	Map 14, Lot 13A
Sippican River Lots	Map 14, Lots 11 & 12
Haskell Lot	Map 29, Lot 36*
Briarwood Estates OS	Map 21, Lot 19Q**
Geggatt Lot	Map 46, Lot 32
Bray Lot	Map 34, Lot 1G
Gibbs Lot	Map 8, Lot 25
Hoop Island Lot	Map 4, Lot 14
Winslow Lots	Map 31, Lots 11B & 11C
Cushman Road Lots	Map 33, Lots 36, 38, 39
Mattapoisett River Valley	Map 2, Lot 2 & 6, Map 1, Lot 17
Dexter Lane Bogs	Map 6, Lot 9
Cedar Swamp Lot	Map 27, Lot 4
Gomes Lot	Map 21, Lot 33***

*Haskell Lot no longer represents the wildlife description provided by the Conservation Commission due to encroachment by the abutting resident.

**Briarwood Estates though considered an open space parcel in the deed is basically a drainage basin for the sub-division.

***Gomes Lot is not a permanently protected parcel. It is a mature pine forest with many blow downs and has potential for a Forestry Stewardship Plan.

COMMONWEALTH OF MASSACHUSETTS

TOWN OF ROCHESTER

TO: ANDREW DANIEL

We, the appointing authority for the Town of Rochester by virtue of the authority vested in us do hereby appoint you as the:

ADA COORDINDATOR

FOR THE

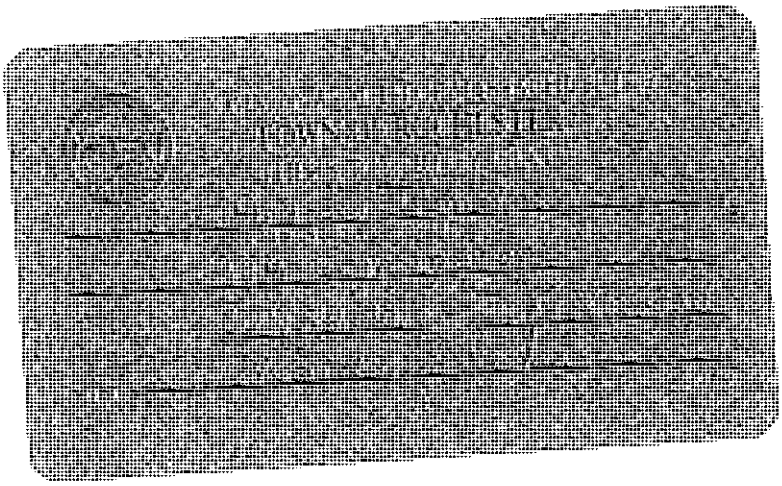
TOWN OF ROCHESTER

Term effective:
July 1st, 2020 to June 30th, 2023

Board of Selectmen

Paul Castanzi

Recorded: Oct. 15, 2020



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 on the basis of disability in the provisions of services, activities, programs, or benefits by The Town of Rochester.

The Town of Rochester 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 interview or tape recording of complaint, will be made available for person 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 of Rochester**.

Within 15 calendar days after the receipt of the complaint, **The Town of Rochester**, or The **Town of Rochester's Designee** will meet with the complainant to discuss the complaint and the possible resolution. Within 15 calendar days of the meeting, **The Town of Rochester or 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 Rochester** and offer options for substantive resolution of the complaint.

If the response by **The Town of Rochester or Town of Rochester 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 Town of Rochester or The Town of Rochester's Designee**.

Within 15 calendar days after the receipt of the appeal**, The Town of Rochester or The Town of Rochester's Designee** will meet with the complainant to discuss the complaint and possible resolutions. After 15 days after the meeting **The Town of Rochester or The Town of Rochester's Designee** will respond in writing, and where appropriate, in a format accessible to the compliant, **with** a final resolution of the complaint.

All written complaints received by **The Town of Rochester or The Town of Rochester's Designee**, appeals to **The Town of Rochester's or Town of Rochester's Designee**, and responses from the **Town of Rochester or the Town of Rochester's Designee**, and responses from these two offices will be trained by **The Town of Rochester** for at least 3 years.

ROCHESTER OPEN SPACE MATRIX - PERMANENTLY PROTECTED LANDS, June 2019

Agricultural Preservation Restrictions

MAP	LOT	LOT ID#	PROPERTY NAME	OWNERSHIP
35	44	035.0-0000-0044.00	White's Farms, Inc. APR	Cervelli, Francesco
34	14B	034.0-0000-0014.B0	White's Farms, Inc. APR	Cervelli, Francesco
34	18	034.0-0000-0018.00	White's Farms, Inc. APR	Cervelli, Francesco
34	17	034.0-0000-0017.00	White's Farms, Inc. APR	Cervelli, Francesco
34	14	034.0-0000-0014.00	White's Farms, Inc. APR	Cervelli, Francesco
31	1	031.0-0000-0001.00	Cervelli Farm APR	Cervelli, Alan
11	5D	011.0-0000-0005.D0	Eastover Farm APR	TTOR & Town of Rochester
11	5	011.0-0000-0005.00	Eastover Farm APR	TTOR & Town of Rochester
32	6	032.0-0000-0006.00	Rounseville APR	Rounseville, Lincoln - heirs of

Conservation Restrictions

MAP	LOT	LOT ID#	PROPERTY NAME	OWNERSHIP
29	3	029.0-0000-0003.00	Old Haskell Farm CR	Gilmore, Benjamin & Susan
32	26	032.0-0000-0026.00	Red Barn Farm CR	Keeler, Russell
33	2	033.0-0000-0002.00	Gaumont CR	Gaumont, Christine
6	39	006.0-0000-0039.00	Sperry CR	Sperry, Stephen C.
2	18C	002.0-0000-0018.C0	MacPhail Woods CR	MacPhail, Diana
1	1	001.0-0000-0001.00	Gurney Woods CR	Gurney, John & Linda
39	19	039.0-0000-0019.00	Dufficy-Lawrence Tract CR	Lawrence, R. & Dufficy, J.
9	6B	009.0-0000-0006.B0	Mary's Pond Recreation Area CR	Town of Rochester
9	0	No lot # - part of roadway	Marys Pond Shore CR	Town of Rochester
8	22	008.0-0000-0022.00	Hathaway Dam CR	Beaton's, Inc.
8	27	008.0-0000-0027.00	Eastover Farm Southern Bogs CR	Beaton's, Inc.
8	29	008.0-0000-0029.00	Eastover Farm Southern Bogs CR	Beaton's, Inc.
8	30	008.0-0000-0030.00	Eastover Farm Southern Bogs CR	Beaton's, Inc.
11	5C	011.0-0000-0005.C0	Eastover Farm - Residence 1 CR	Hiller, Robert & Dorothy
11	8	011.0-0000-0008.00	Eastover Farm - Farm Parcel CR	Hiller, Robert
11	5B	011.0-0000-0005.B0	Eastover Farm - Residence 2 CR	Hiller, Robert & Sandra
9	2	009.0-0000-0002.00	Grist Mill Parcel CR	Sippican Mill, LLC
9	4	009.0-0000-0004.00	Eastover Farm - Middle Bogs CR	Beaton's, Inc.

9	12	009.0-0000-0012.00	Eastover Farm - Middle Bogs CR	Beaton's, Inc.
9	5	009.0-0000-0005.00	Eastover Farm - Northern Bogs CR	Beaton's, Inc.
31	17	031.0-0000-0017.00	Teal Farm CR I Amendment	Teal, John & Susan
31	12	031.0-0000-0012.00	Teal Farm CR I	Teal, John & Susan
31	26	031.0-0000-0026.00	Teal Farm CR II	Teal, John & Susan
35	19	035.0-0000-0019.00	Rounseville Homestead CR	Rounseville, Lincoln - heirs of
32	6	032.0-0000-0006.00	Rounseville Homestead South CR	Rounseville, Lincoln - heirs of
19A	23S1	019.A-0000-0023.OS1	Connet Woods CR	Connet Woods, LLC
19A	63S7	019.A-0000-0063.OS7	Connet Woods CR	Connet Woods, LLC
19A	19S5	019.A-0000-0019.OS5	Connet Woods CR	Connet Woods, LLC
19A	88S4	019.A-0000-0088.OS4	Connet Woods CR	Connet Woods, LLC

Land Trust Properties

MAP	LOT	LOT ID#	PROPERTY NAME	OWNERSHIP
44	31A	044.0-0000-0031.A0	Habitat for Humanity Lot	Buzzards Bay Coalition
2	3	002.0-0000-0003.00	Rochester Parcel (Oldfield Farm)	Mattapoisett Land Trust
2	4	002.0-0000-0004.00	Shoolman Preserve	Mattapoisett Land Trust
2	21	002.0-0000-0021.00	Barnes Tree Service Preserve	Rochester Land Trust
5	1	005.0-0000-0001.00	Church Pony Pasture	Rochester Land Trust
29	8C	029.0-0000-0008.C0	Lionberger Preseve	Rochester Land Trust
27	1A	027.0-0000-0001.A0	White Cedar Preserve	Rochester Land Trust
29	6K	029.0-0000-0006.K0	Shadow Farm Property	Rochester Land Trust
4	19D	004.0-0000-0019.D0	Center Village Reserve	Rochester Land Trust
38	46	038.0-0000-0046.00	Kirby Preserve	Rochester Land Trust
29	3C	029.0-0000-0003.C0	Haskell Woods	Rochester Land Trust
8	19	008.0-0000-0019.00	Church Wildlife Conservation Area	Rochester Land Trust
3	14B	003.0-0000-0014.B0	Church's Field	Rochester Land Trust
11	9A	011.0-0000-0009.A0	Leonards Pond Property	Rochester Land Trust
9	19A	009.0-0000-0019.A0	Carr Property	The Trustees of Reservations
11	5F	011.0-0000-0005.F0	Eastover Farm - Carr	The Trustees of Reservations
32	27A	032.0-0000-0027.A0	Lionberger Preserve	Wildlands Trust
32	6A	032.0-0000-0006.A0	Rounseville Preserve	Wildlands Trust
30	26	030.0-0000-0026.00	Rounseville II Preserve	Wildlands Trust
31	19	031.0-0000-0019.00	Carolyn Goodenough Bruce Reservation	Wildlands Trust

8	16	008.0-0000-0016.00	Stephen C.L. Delano Memorial	Wildlands Trust
6	31	006.0-0000-0031.00	Lincoln P. Holmes Memorial Woods	Wildlands Trust
39	1	039.0-0000-0001.00	Robinson-Gilmore Preserve	Wildlands Trust
40	11	040.0-0000-0011.00	Robinson-Gilmore Preserve	Wildlands Trust

Protected Municipal Lands

MAP	LOT	LOT ID#	PROPERTY NAME	OWNERSHIP
3	3	003.0-0000-0003.00	Branch Brook	Town of Marion
1	8	001.0-0000-0008.00	Branch Brook	Town of Marion
1	7	001.0-0000-0007.00	Branch Brook	Town of Marion
3	5	003.0-0000-0005.A0	Branch Brook	Town of Marion
30	30	030.0-0000-0030.00	Marion Town Wells	Town of Marion
8	5	008.0-0000-0005.00	Marion Town Wells	Town of Marion
32	5	032.0-0000-0005.00	Rentumis Property	Town of Marion
8	6A	008.0-0000-0006.A0	Marion Town Wells	Town of Marion
32	1B	032.0-0000-0001.B0	Perry Hill Well Field	Town of Marion
32	4	032.0-0000-0004.00	Perry Hill Well Field	Town of Marion
3	5B	003.0-0000-0005.B0	Wolf Island Town Well Field	Town of Marion
3	3A	003.0-0000-0003.A0	Wolf Island Town Well Field	Town of Marion
3	14A	003.0-0000-0014.A0	Wolf Island Town Well Field	Town of Marion
45	7	045.0-0000-0007.00	New Bedford Water Works Property	City of New Bedford
44	4	044.0-0000-0004.00	New Bedford Water Works Property	City of New Bedford
44	11	044.0-0000-0011.00	New Bedford Water Works Property	City of New Bedford
45	9	045.0-0000-0009.00	New Bedford Water Works Property	City of New Bedford
45	8	045.0-0000-0008.00	New Bedford Water Works Property	City of New Bedford
45	14	045.0-0000-0014.00	New Bedford Water Works Property	City of New Bedford
45	13	045.0-0000-0013.00	New Bedford Water Works Property	City of New Bedford
44	2	044.0-0000-0002.00	New Bedford Water Works Property	City of New Bedford
44	6	044.0-0000-0006.00	New Bedford Water Works Property	City of New Bedford
44	3	044.0-0000-0003.00	New Bedford Water Works Property	City of New Bedford
45	12	045.0-0000-0012.00	New Bedford Water Works Property	City of New Bedford
45	15	045.0-0000-0015.00	New Bedford Water Works Property	City of New Bedford
44	23	044.0-0000-0023.00	New Bedford Water Works Property	City of New Bedford
44	1	044.0-0000-0001.00	New Bedford Water Works Property	City of New Bedford

45	17	045.0-0000-0017.00	New Bedford Water Works Property	City of New Bedford
44	22	044.0-0000-0022.00	New Bedford Water Works Property	City of New Bedford
44	29	044.0-0000-0029.00	New Bedford Water Works Property	City of New Bedford
44	30	044.0-0000-0030.00	New Bedford Water Works Property	City of New Bedford
44	12	044.0-0000-0012.00	New Bedford Water Works Property	City of New Bedford
45	11	045.0-0000-0011.00	New Bedford Water Works Property	City of New Bedford
44	13	044.0-0000-0013.00	New Bedford Water Works Property	City of New Bedford
44	33	044.0-0000-0033.00	New Bedford Water Works Property	City of New Bedford
45	10	045.0-0000-0010.00	New Bedford Water Works Property	City of New Bedford
44	21	044.0-0000-0021.00	New Bedford Water Works Property	City of New Bedford
25	2	025.0-0000-0002.00	New Bedford Water Works Property	City of New Bedford
44	17	044.0-0000-0017.00	New Bedford Water Works Property	City of New Bedford
44	18	044.0-0000-0018.00	New Bedford Water Works Property	City of New Bedford
43	13	043.0-0000-0013.00	New Bedford Water Works Property	City of New Bedford
44	9	044.0-0000-0009.00	New Bedford Water Works Property	City of New Bedford
44	15	044.0-0000-0015.00	New Bedford Water Works Property	City of New Bedford
44	37	044.0-0000-0037.00	New Bedford Water Works Property	City of New Bedford
44A	69	044.A-0000-0069.00	New Bedford Water Works Property	City of New Bedford
45	1	045.0-0000-0001.00	New Bedford Water Works Property	City of New Bedford
45	5	045.0-0000-0005.00	New Bedford Water Works Property	City of New Bedford
45	20	045.0-0000-0020.00	New Bedford Water Works Property	City of New Bedford
21	19Q	021.0-0000-0019.Q0	Bogview Estates Subdivision open space	Town of Rochester
2	2	002.0-0000-0002.00	Upper River Bend Lot	Town of Rochester
2	6	002.0-0000-0006.00	Lower River Bend	Town of Rochester
1	17	001.0-0000-0017.00	Rounseville River Lot	Town of Rochester
27	8	027.0-0000-0008.00	Brightman Lot	Town of Rochester
46	32	046.0-0000-0032.00	Geggett Lot	Town of Rochester
47	16	047.0-0000-0016.00	Town Pound	Town of Rochester
47	16A	047.0-0000-0016.A0	Town Pound	Town of Rochester
4	14	004.0-0000-0014.00	Hood Island Lot	Town of Rochester
42	1	042.0-0000-0001.00	Town Forest	Town of Rochester
19	24	019.0-0000-0024.00	Morse Lot	Town of Rochester
33	55	033.0-0000-0055.C0	Rounseville Recreation Area/Canoe Launch	Town of Rochester
29	3E	029.0-0000-0003.E0	Haskell Lot	Town of Rochester

3	6	003.0-0000-0006.00	Wolf Island Road North Lot	Town of Rochester
37	72C	037.0-0000-0072.C0	Conservation Commission land next to RMS	Town of Rochester
6	20A	006.0-0000-0020.A0	Doggetts Brook Property	Town of Rochester
8	26	008.0-0000-0026.00	Eastover Farm	Town of Rochester
8	25	008.0-0000-0025.00	Hathaway Pond	Town of Rochester
33	36	033.0-0000-0036.00	Cushman Road Woods	Town of Rochester
33	38	033.0-0000-0038.00	Cushman Road Woods	Town of Rochester
33	39	033.0-0000-0039.00	Cushman Road Woods	Town of Rochester
8	23	008.0-0000-0023.00	Eastover Farm	Town of Rochester
11	9B	011.0-0000-0009.B0	Leonards Pond Property (Town)	Town of Rochester
34	1G	034.0-0000-0001.G0	Bray Lot	Town of Rochester
37	29	037.0-0000-0029.00	Firemen's Memorial	Town of Rochester
6	17	006.0-0000-0017.00	Dexter Lane Fields	Town of Rochester
38	8	038.0-0000-0008.00	Melink Donation	Town of Rochester

Protected Commonwealth of MA Lands

MAP	LOT	LOT ID#	PROPERTY NAME	OWNERSHIP
26	1	026.0-0000-0001.00	Snipatuit Pond Boat Ramp	Commonwealth of Massachusetts
41	13	041.0-0000-0013.00	Gull Island	Commonwealth of Massachusetts
3	2	003.0-0000-0002.00	Church Homestead WMA	Commonwealth of Massachusetts
37	62	037.0-0000-0062.00	Rochester Wildlife Management Area	Commonwealth of Massachusetts
37	68	037.0-0000-0068.00	Rochester Wildlife Management Area	Commonwealth of Massachusetts
37	71	037.0-0000-0071.00	Rochester Wildlife Management Area	Commonwealth of Massachusetts
5	7B	005.0-0000-007.B0	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	12	005.0-0000-0012.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	4	005.0-0000-0004.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	7	007.0-0000-0007.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	6	007.0-0000-0006.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	8	007.0-0000-0008.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	9	005.0-0000-0009.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	5	007.0-0000-0005.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	8	005.0-0000-0008.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	4	007.0-0000-0004.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	2	007.0-0000-0002.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts

4	17	004.0-0000-0017.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	18	004.0-0000-0018.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	14	005.0-0000-0014.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	9	007.0-0000-0009.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	10	005.0-0000-0010.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	13	004.0-0000-0013.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	1	007.0-0000-0001.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	11	007.0-0000-0011.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	13	007.0-0000-0001.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	3	007.0-0000-0003.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
7	12	007.0-0000-0012.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	13	005.0-0000-0013.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	11	004.0-0000-0011.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	2C	004.0-0000-0002.C0	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	12	004.0-0000-0012.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	2B	004.0-0000-0002.B0	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
4	5	004.0-0000-0005.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	11	005.0-0000-0011.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	3	005.0-0000-0003.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts
5	1	005.0-0000-0001.00	Haskell Swamp Wildlife Management Area	Commonwealth of Massachusetts

MANAGING AGENCY	CURRENT USE	CONDITION	PUBLIC ACCESS	DISABILITY ACCESS
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Agriculture	Excellent	None	N/A
Dept. of Food & Agriculture	Hay Field/Trails	Excellent	Yes	None
Dept. of Food & Agriculture	Hay Field/Trails	Excellent	Yes	None
Wildlands Trust	Hay Field	Excellent	None	N/A

MANAGING AGENCY	CURRENT USE	CONDITION	PUBLIC ACCESS	DISABILITY ACCESS
Buzzards Bay Coalition	Fields	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest/Fields	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest/Fields	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest	Excellent	None	N/A
Rochester Land Trust/Buzzards Bay Coalition	Forest/Island	Excellent	None	N/A
Rochester Land Trust	Pond access/Forest	Excellent	Yes	Paved parking/ramp
Rochester Land Trust	Rare species protection	Excellent	Yes	Paved parking/ramp
The Trustees of Reservations	Dam on Hathaway Pond	Good	Allowed by CR	None
The Trustees of Reservations	Cranberry Production	Excellent	None	N/A
The Trustees of Reservations	Cranberry Production	Excellent	None	N/A
The Trustees of Reservations	Cranberry Production	Excellent	None	N/A
TTOR & Rochester Con Comm	Cranberry Production	Excellent	None	N/A
TTOR & Rochester Con Comm	Farm Stand/Trail to pond	Excellent	Yes	Paved parking
TTOR & Rochester Con Comm	Cranberry Production	Excellent	None	N/A
TTOR & Rochester Con Comm	Old mill/Dam on pond	Good	None	N/A
TTOR & Rochester Land Trust	Cranberry/Blueberry Production	Excellent	Limited - blueberry picking	Dense gravel roads

TTOR & Rochester Land Trust	Cranberry/Blueberry Production	Excellent	Limited - blueberry picking	Dense gravel roads
TTOR & Rochester Land Trust	Cranberry/Blueberry Production	Excellent	Limited - blueberry picking	Dense gravel roads
Wildlands Trust	Forest/Fields	Excellent	None	N/A
Wildlands Trust	Forest/Fields	Excellent	None	N/A
Wildlands Trust	Forest/Fields/Farm	Excellent	None	N/A
Wildlands Trust & Rochester Con Comm	Forest/Wetlands	Excellent	None	N/A
Town of Marion & Rochester Land Trust	Forest	Excellent	None	N/A
Division of Fisheries and Wildlife	Forest	Excellent	Allowed by CR	None
Division of Fisheries and Wildlife	Forest	Excellent	Allowed by CR	None
Division of Fisheries and Wildlife	Forest/Wetlands	Excellent	Allowed by CR	None
Division of Fisheries and Wildlife	Forest	Excellent	Allowed by CR	None

MANAGING AGENCY	CURRENT USE	CONDITION	PUBLIC ACCESS	DISABILITY ACCESS
Buzzards Bay Coalition	Forest	Good	Yes	None
Mattapoisett Land Trust	Forest/Field	Excellent	Yes	None
MLT & Rochester Land Trust	Forest/Field	Excellent	Yes	None
Rochester Land Trust	Forest	Excellent	Yes	None
Rochester Land Trust	Fields	Excellent	Yes	None
Rochester Land Trust	Forest	Excellent	Yes	None
Rochester Land Trust	Forest/Field	Excellent	Yes	Small parking area
Rochester Land Trust	Forest/Pond	Excellent	Limited - annual walk	None
Rochester Land Trust	Forest	Excellent	Limited - annual walk	None
Rochester Land Trust	Forest	Excellent	Yes	None
Rochester Land Trust	Forest	Excellent	Yes	None
Rochester Land Trust	Forest	Excellent	Yes	Small parking area
Rochester Land Trust	Forest/Field	Excellent	Yes	Small parking area
Rochester Land Trust & TTOR	Forest/Pondfront	Excellent	Yes	None
The Trustees of Reservations	Forest	Excellent	Yes	None
The Trustees of Reservations	Forest/Field	Excellent	Yes	None
Wildlands Trust	Forest/Field	Excellent	Yes	None
Wildlands Trust	Forest	Excellent	Yes	None
Wildlands Trust	Forest	Excellent	Yes	None
Wildlands Trust	Forest	Excellent	Yes	None

Wildlands Trust	Forest	Excellent	Yes	None
Wildlands Trust	Forest	Excellent	Yes	None
Wildlands Trust	Forest/Pondfront	Excellent	Yes	None
Wildlands Trust	Forest/Pondfront	Excellent	Yes	None

MANAGING AGENCY	CURRENT USE	CONDITION	PUBLIC ACCESS	DISABILITY ACCESS
Marion Department of Public Works	Water Supply Protection	Excellent	Yes	None
Marion Department of Public Works	Water Supply Protection	Excellent	Yes	None
Marion Department of Public Works	Water Supply Protection	Excellent	Yes	None
Marion Department of Public Works	Water Supply Protection	Excellent	Yes	None
Marion Water Department	Well Field	Excellent	No	N/A
Marion Water Department	Well Field	Excellent	No	N/A
Marion Water Department	Water Supply Protection	Excellent	No	N/A
Marion Water Department	Water Supply Protection	Excellent	No	N/A
Marion Water Department	Well Field	Excellent	No	N/A
Marion Water Department	Water Supply Protection	Excellent	No	N/A
Marion Water Department	Well Field	Excellent	No	N/A
Marion Water Department	Well Field	Excellent	No	N/A
Marion Water Department	Well Field	Excellent	No	N/A
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None

New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
New Bedford Water Department	Water Supply Protection	Excellent	Yes	None
Rochester Board of Selectmen	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest along Mattapoisett River	Excellent	Yes	None
Rochester Conservation Commission	Forest along Mattapoisett River	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forested wetland	Excellent	Yes	None
Rochester Conservation Commission	Forested wetland	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	Small parking area
Rochester Conservation Commission	Forest	Excellent	Yes	None

Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest/Field	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Conservation Commission	Forest	Excellent	Yes	Small parking area
Rochester Conservation Commission	Forest	Excellent	Yes	Small parking area
Rochester Conservation Commission	Forest	Excellent	Yes	None
Rochester Fire Department	Memorial with seating	Excellent	Yes	Small parking area
Rochester Park Department	Ball Fields/Playground/Skatepark	Excellent	Yes	Hardpack trails
Rochester Conservation Commission	Forest	Excellent	Yes	None

MANAGING AGENCY	CURRENT USE	CONDITION	PUBLIC ACCESS	DISABILITY ACCESS
Division of State Parks & Recreation	Boat Ramp	Excellent	Yes	Small parking area
Department of Fish & Game	Island in Snipatuit Pond	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting/Fishing	Excellent	Yes	Small parking area
Department of Fish & Game	Hiking/Hunting/Fishing	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting/Fishing	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting/Fishing	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None

Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None
Department of Fish & Game	Hiking/Hunting	Excellent	Yes	None

RECREATION POTENTIAL	ZONING	DEGREE OF PROTECTION	TYPE OF PUBLIC GRANT
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	

RECREATION POTENTIAL	ZONING	DEGREE OF PROTECTION	TYPE OF PUBLIC GRANT
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
High - Public Land	Ag/Res	Perpetuity	
High - Public Land	Ag/Res	Perpetuity	
Medium - construction of trails allowed by CR	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	

Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	Land and Water Conservation Funds
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	
Low - Private Property	Ag/Res	Perpetuity	

RECREATION POTENTIAL	**ZONING**	**DEGREE OF PROTECTION**	**TYPE OF PUBLIC GRANT**
Medium - no existing trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Medium - no existing trails	Ag/Res	Perpetuity	Buzzards Bay NEP Mini-grant
Medium - no existing trails	Ag/Res	Perpetuity	
High- Hiking Trails, Picnic Bench	Ag/Res	Perpetuity	Buzzards Bay NEP Mini-grant
High - Hiking Trails, Parking, Picnic Bench	Ag/Res	Perpetuity	Conservation Partner., BBNEP mini-grant
Medium - Access thru private property	Ag/Res	Perpetuity	
Low - No access	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	Conservation Partnership Grant
Medium - Trails not fully developed	Ag/Res	Perpetuity	
Medium - no existing trails	Ag/Res	Perpetuity	
Medium - No existing trails	Ag/Res	Perpetuity	
Medium - No existing trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Medium - No existing trails	Ag/Res	Perpetuity	

High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	

RECREATION POTENTIAL	**ZONING**	**DEGREE OF PROTECTION**	**TYPE OF PUBLIC GRANT**
	Ag/Res	Perpetuity	Two BBNEP Mini-grants
	Ag/Res	Perpetuity	Two BBNEP Mini-grants
	Ag/Res	Perpetuity	Two BBNEP Mini-grants
	Ag/Res	Perpetuity	Two BBNEP Mini-grants
Low - municipal drinking water well	Ag/Res	Perpetuity	
Low - municipal drinking water well	Ag/Res	Perpetuity	
Low - Landlocked	Ag/Res	Perpetuity	
Low - entirely wet	Ag/Res	Perpetuity	
Low - municipal drinking water well	Ag/Res	Perpetuity	
Low - Landlocked	Ag/Res	Perpetuity	
Low - municipal drinking water well	Ag/Res	Perpetuity	
Low - municipal drinking water well	Ag/Res	Perpetuity	
Low - municipal drinking water well	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	

High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Low - Drainage basin for development	Ag/Res	Perpetuity	
High - Hiking trails	Ag/Res	Perpetuity	
Low - Inaccessible without river crossing	Ag/Res	Perpetuity	
Low - Landlocked	Ag/Res	Perpetuity	
Low - entirely wet, landlocked	Ag/Res	Perpetuity	
Low - entirely wet, landlocked	Ag/Res	Perpetuity	
Medium - no existing trails	Ag/Res	Perpetuity	
Medium - no existing trails	Ag/Res	Perpetuity	
High - Hiking trails (from Haskell Swamp)	Ag/Res	Perpetuity	
High - Hiking trail	Ag/Res	Perpetuity	
Low - Wetlands, no access	Ag/Res	Perpetuity	
High - portage for annual Memorial boat race	Ag/Res	Perpetuity	Self-Help grant
Medium - no exisiting trails	Ag/Res	Perpetuity	

Medium - no existing trails	Ag/Res	Perpetuity	BBNEP mini-grant
High - connected to Hartley WMA	Ag/Res	Perpetuity	
High - hiking trails that lead to TTOR property	Ag/Res	Perpetuity	BBNEP mini-grant
High - high trails	Ag/Res	Perpetuity	
Medium - existing trails but no access from 105	Ag/Res	Perpetuity	
	Ag/Res	Perpetuity	
	Ag/Res	Perpetuity	
	Ag/Res	Perpetuity	
	Ag/Res	Perpetuity	Self-Help grant
High- Canoe/Cartop boat access to pond	Ag/Res	Perpetuity	Self-Help grant
Medium- no existing trails	Ag/Res	Perpetuity	
High - Sitting area	Ag/Res	Perpetuity	
High - Public ball fields/playground	Ag/Res	Perpetuity	Urban Self-Help grant
High - Hiking Trail	Ag/Res	Perpetuity	

RECREATION POTENTIAL	**ZONING**	**DEGREE OF PROTECTION**	**TYPE OF PUBLIC GRANT**
High - Public Boat Ramp	Ag/Res	Perpetuity	
Low - Only accessible by boat	Ag/Res	Perpetuity	
High - Footpath to fishing area	Ag/Res	Perpetuity	
High - Hiking trails/Hunting/Fishing	Ag/Res	Perpetuity	
High - Hiking trails/Hunting/Fishing	Ag/Res	Perpetuity	
High - Hiking trails/Hunting/Fishing	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	
High - Hiking trails/Hunting	Ag/Res	Perpetuity	

High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity
High - Hiking trails/Hunting	Ag/Res	Perpetuity

DEED RESTRICTIONS	ACQUIRED	BOOK/PAGE	ACRES
	1981 - 11/23	5083/467	30.27
	1981 - 11/23	5083/467	4.33
	1981 - 11/23	5083/467	3.48
	1981 - 11/23	5083/467	2.86
	1981 - 11/23	5083/467	151.56
	1983 - 4/15	05332/434	96.52
	2003 - 12/17	27241/218	19.02
	2004 - 6/17	28462/117	53.52
	1994 - 2/15	12665/129	14.80
		TOTAL ACRES	**376.36**

DEED RESTRICTIONS	ACQUIRED	BOOK/PAGE	ACRES
	2001 - 12/22	40769/53	14.51
	2007 - 12/24	35434/229	60.00
	2007 - 12/24	35434/251	7.19
	2005 - 12/28	31986/134	13.50
	2009 - 12/23	38065/56	12.62
	2009 - 12/23	38065/76	17.03
	2011 - 12/22	Plan 56/1150	7.56
	1980 - 1/22	4784/292	9.00
NHESP premit requirement, NHESP file # 97-1612	2006 - 12/26	33883/36	1.60
	2013 - 7/17	43360/102	9.73
	2004 - 8/20	28904/1	18.00
	2004 - 8/20	28904/1	0.05
	2004 - 8/20	28904/1	0.12
	2004 - 6/17	28462/38	4.31
	2004 - 6/17	28462/61	11.50
	2004 - 6/17	28462/10	4.69
	2005 - 11/1	31652/85	3.05
	2005 - 11/1	31652/48	8.80

	2005 - 11/1	31652/48	103.00
	2005 - 11/1	31652/69	62.00
	2002 - 12/23	23769/53	4.80
	1995 - 11/10	13954/52	100.00
	1999 - 12/27	18161/1	47.00
	2005 - 4/29	30439/312	184.00
	2003 - 3/20	24544/274	99.10
	2009 - 2/19	36824/159	18.91
	2009 - 2/19	36824/159	21.40
	2009 - 2/19	36824/159	153.29
	2009 - 2/19	36824/159	193.80
		TOTAL ACRES	**1190.56**

DEED RESTRICTIONS	**ACQUIRED**	**BOOK/PAGE**	**ACRES**
	2017 - 8/21	48820/72	1.49
	1988 - 1/19	8245/25	0.02
	1984 - 12/31	5919/150	79.74
	2017 - 6/9	48523/153	18.27
	2016 - 9/30	47544/325	2.70
	2016 - 1/27	46532/22	11.00
Rochester Con Comm holds a CR (bk 89986 pg 206)	2018 - 6/20	18977/333	83.34
	1998 - 9/8	16580/299	9.21
	2006 - 3/20	32380/239	28.06
	2006 - 1/9	32042/346	3.50
	2006 - 12/21	33870/15	26.50
	2007 - 6/28	34734/306	20.80
	2010 - 12/30	39335/269	32.00
	2008 - 12/22	36622/313	2.95
	2012 - 10/11	42079/84	36.66
	2004 - 3/9	27698/349	3.40
	1991 - 12/26	10662/ 241	19.31
	1992 - 12/24	11532/ 232	13.20
	1995 - 3/28	PRO94PO898-E	46.00
	1976 - 8/25	4193/54	10.49

	1985 - 12/31	6507/90	110.76
	1987 - 12/31	8217/168	32.30
	1971 - 1/21	3646/79	18.24
	1971 - 1/21	3646/79	15.60
		TOTAL ACRES	**625.54**

DEED RESTRICTIONS	**ACQUIRED**	**BOOK/PAGE**	**ACRES**
BBC & Towns of Mattapoisett & Fairhaven hold CR#19	2017 - 6/30	48625/81	116.37
BBC & Towns of Mattapoisett & Fairhaven hold CR#19	2017 - 6/30	48625/81	4.14
BBC & Towns of Mattapoisett & Fairhaven hold CR#19	2017 - 6/30	48625/81	29.30
BBC & Towns of Mattapoisett & Fairhaven hold CR#19	2017 - 6/30	48625/81	3.28
	1958 - 9/30	2659/ 247	15.60
	1952 - 1/1	?	28.46
Buzzards Bay Coalition holds CR	2011 - 2/4	39631/197	54.20
	1958 - 10/7	2659/ 247	2.65
	1982 - 1/6	5099/13	35.00
	1983- 1/24	5283/450	29.00
	1973- 7/15	3901/264	6.79
	1973 - 6/15	3901/264	1.13
	1973- 7/15	3901/264	8.79
	1895 - 10/28	708/397	21.91
	1896 - 12/31	732/356	13.95
	1921 - 3/25	1388/36	8.21
	1939 - 2/21	1760/584	23.85
	1895 - 8/20	701/ 532	75.00
	1939 - 2/21	1760/584	16.91
	1924 - 4/16	1457/452	26.92
	1895 - 7/12	699/319	6.29
	1895 - 7/12	699/318	26.33
	1896 - 12/31	732/356	24.83
	1939 - 2/12	1760/584	54.50
	1895 - 7/12	699/315	19.44
	1896 - 6/2	719/426	2.48
	1895 - 7/12	699/320	8.80

1895 - 7/12	699/314	82.71
1895 - 7/13	699/396	5.36
1895 - 7/12	699/335	26.43
1896 - 6/2	719/425	30.00
1921 - 3/25	1388/36	23.70
1921 - 3/25	1388/36	8.21
1896 - 6/2	721/239	60.89
1895 - 7/12	699/328	12.00
1900 - 1/16	790/327	2.47
1995 - 7/12	703/137	35.00
1897 - 1/2	736/384	6.90
1895 - 7/12	699/326	40.45
1895 - 7/12	703/130	1.48
1921- 3/25	1388/36	64.43
1919 - 11/1	1337/463	3.54
1895 - 7/12	699/327	6.64
1926 - 3/23	1498/429	3.75
1973 - 7/16	CER.51565	4.25
1895 - 10/25	708/399	4.99
1889 - 3/9	571/423	3.46
1900- 1/1	794/441	1.12
2008 - 8/27	36306/343	12.42
2002 - 6/27	22328/202	32.41
2002 - 6/27	22328/202	31.00
2002 - 6/27	22328/202	21.83
1970 - 8/3	3608/ 587	12.00
1973 - 1/3	3851/62	6.35
1984 - 3/23	5597/249	3.49
1977 - 8/30	4319/26	2.23
1976 - 11/19	4218/293	3.11
1931 - 8/24	PRO41167	17.62
?	?	6.00
2000 - 6/5	18582/140	6.90
1986 - 12/31	7393/96	5.80

Fairhaven BPW holds CR (bk 40757 pg 57 rec'd 12/20/11)	2011 - 12/20	40757/57	10.70
	2011 - 10/21	40469/ 261	8.84
Rochester Land Trust holds a CR	2011 - 10/17	40436/32	29.61
	2005 - 6/29	30807/175	0.92
	1976 - 12/29	4229/319	9.92
	2002 - 6/27	22328/202	3.42
	2002 - 6/27	22328/202	3.20
	2002 - 6/27	22328/202	38.90
	2005 - 6/29	30807/175	77.65
	2005 - 6/29	30807/175	4.10
	1990 - 3/20	9656/ 263	22.44
	2001 - 12/26	21219/347	0.50
	1998	7086/41	22.40
	2016 - 12/13	47867/310	100.00
		TOTAL ACRES	**1585.67**

DEED RESTRICTIONS	**ACQUIRED**	**BOOK/PAGE**	**ACRES**
	1977 - 6/16	4277/57	0.50
	?	?	0.28
	2005 - 6/13	30703/295	163.00
	1968 - 5/7	3440/31	11.30
	1968 - 5/7	3440/31	53.00
	1968 - 5/7	3440/31	0.25
	2001 - 2/14	19371/4	10.62
	2000 - 6/29	18649/52	11.70
	1999 - 12/30	18175/61	22.86
	1997- 7/1	15290/269	6.61
	1997- 7/1	15290/269	8.82
	1997- 7/1	15290/269	9.32
	2000 - 6/29	18649/58	91.47
	1997- 7/1	15290/269	13.00
	2006 - 2/2	32163/122	47.50
	1997- 7/1	15290/269	27.26
	1997- 7/1	15290/269	30.44

1999 - 12/30	18175/61	22.86
2008 - 12/24	36635/15	34.50
1998 - 7/10	16391/100	4.50
1997 - 7/1	15290/269	115.48
1997 - 7/1	15290/269	862.79
1999 - 12/30	18175/61	1.07
1997 - 7/1	15290/269	256.00
1997 - 7/1	15290/296	7.92
1997 - 7/1	15290/296	25.60
1997 - 7/1	15290/296	42.86
1998 - 7/10	16390/302	1.75
1997 - 7/1	15290/296	208.38
1999 - 12/30	18175/61	60.10
1998 - 7/10	16391/100	1.20
1998 - 7/10	16391/100	50.00
1998 - 7/10	16391/100	0.50
1998 - 7/10	16391/100	11.00
1997 - 7/1	15290/ 269	18.40
2016 - 6/?	47106/121	11.90
2016 - 6/28	47106/121	12.42
	TOTAL ACRES	**2257.16**

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

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March 5, 2019

Laurell J. Farinon
Rochester Conservation Agent
Town Hall Annex
37 Marion Rd.
Rochester, MA 02770

RE: Rochester Open Space and Recreation Plan

Dear Ms. Farinon:

Thank you for contacting the Massachusetts Natural Heritage and Endangered Species Program (NHESP) regarding the Open Space and Recreation Plan for the Town of Rochester. Enclosed is information on species listed under the Massachusetts Endangered Species Act (MESA), as well as on Priority Natural Communities, Certified and Potential Vernal Pools, Coldwater Fishery Resource streams and rivers, and other aspects of biodiversity documented in our database for the Town of Rochester. The Town is encouraged to include this letter and associated materials in the Open Space and Recreation Plan.

MESA-listed Species

According to the NHESP database, the Town of Rochester currently has habitat for the following rare species listed under MESA and the federal Endangered Species Act:

- Northern Red-bellied Cooter (*Pseudemys rubriventris* pop. 1, Endangered, federally Endangered)
- Round-fruited False-loosestrife (*Ludwigia sphaerocarpa,* Endangered)
- Gypsywort (*Lycopus rubellus,* Endangered)
- Marbled Salamander (*Ambystoma opacum,* Threatened)
- Water-willow Borer Moth (*Papaipema sulphurata,* Threatened)
- Northern Parula (*Parula americana,* Threatened)
- Bald Eagle (*Haliaeetus leucocephalus,* Threatened)
- Rigid Flax (*Linum medium* var. *texanum*, Threatened)
- Eastern Spadefoot (*Scaphiopus holbrookii,* Threatened)
- Tidewater Mucket (*Leptodea ochracea,* Special Concern)
- Eastern Pondmussel (*Ligumia nasuta,* Special Concern)
- Bridle Shiner (*Notropis bifrenatus,* Special Concern)
- Philadelphia Panic-grass (*Panicum philadelphicum* ssp. *philadelphicum,* Special Concern)
- Plymouth Gentian (*Sabatia kennedyana,* Special Concern)

- Eastern Box Turtle (*Terrapene carolina,* Special Concern)

Fact sheets on this species may be downloaded from our website at http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html. The Town is encouraged to include this fact sheet in its Plan.

Priority Natural Communities

There are four types of Priority Natural Communities documented to NHESP from Rochester:

- Alluvial Red Maple Swamp (2 occurrences)
- Atlantic White Cedar Bog (1 occurrence)
- Coastal Atlantic White Cedar Swamp (3 occurrences)
- Coastal Plain Pondshore Community (3 occurrences)

There is one other type of more common natural community documented from Rochester, as well:

- Red Maple Swamp (1 occurrence)

Fact sheets on each of these natural communities may be downloaded from our website at http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/natural-communities/natural-community-fact-sheets.html. The Town is encouraged to include these fact sheets in its Plan.

Vernal Pools

As of this date, there are 50 Certified and 132 Potential Vernal Pools documented from Rochester. Most of the Potential Vernal Pools are likely able to be certified; the Town is encouraged to certify vernal pools on its own properties and to require developers to certify pools on any property requiring permits from the Town.

Coldwater Fishery Resources

There are no Coldwater Fisheries Resource streams in Rochester.

BioMap2

Twenty-nine areas within Rochester are *BioMap2* Core Habitat. They include 18 Aquatic Cores, 6 Forest Cores, 8 Priority Natural Community Cores, 25 Wetland Cores, and areas for 15 Species of Conservation Concern.

Adjacent to and overlapping some of these Core Habitats in Rochester is one area of *BioMap2* Critical Natural Landscape, including five Aquatic Buffers, one Coastal Adaptation Area, one Landscape Block, and 16 Wetland Buffers. For an explanation of *BioMap2* and the Core Habitats within Rochester, please see the attached *BioMap2* Report.

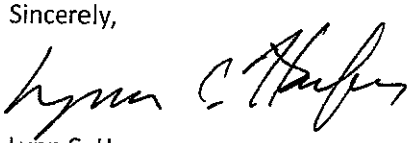
Discussion

In a town like Rochester, it can be hard to decide which areas are the highest priorities for conservation actions. The Town should consider carefully these suggestions for inclusion in its Open Space and Recreation Plan:

- Land Protection: The Town and its conservation partners should consider concentrating on two priorities for land protection:
  - In the northern part of Rochester, there are three large wetlands – Logging Swamp, Cedar Swamp, and Forbes Swamp. Together with the adjacent undeveloped uplands, these areas are *BioMap2* Forest Cores and support two MESA-listed rare species, including the globally rare Water-willow Borer Moth. Cedar Swamp is, indeed, a documented Coastal Atlantic White Cedar Swamp, with an Atlantic White Cedar Bog bordering the northern part of Snipatuit Pond.
  - Much of the land along the Mattapoisett River has already been protected, by a range of conservation organizations. The remaining lands should be protected to help conserve this long *BioMap2* Aquatic Core.
- Habitat Management: The Town should assess its conservation areas for the presence of invasive species. If invasives are present in substantial numbers or areas, consider removing them. (Note that MassWildlife has offered grants to fund such activities in the past and is hoping to do so again in the future).
- Regulation: The Town should support and encourage its Conservation Commission to enforce the provisions of the Massachusetts Wetlands Act. While there is no local board or official charged with enforcing the provisions of the Massachusetts Endangered Species Act, the Town could consider having the Conservation Commission and the Building Inspector notify development applicants of the presence/absence of Priority Habitat of Rare Species on the applicant's property.
- Education and Outreach: Developing community support for conservation of biodiversity is essential for successful efforts at land protection, habitat management, and regulation. Offering field trips on Town conservation areas, writing articles on conservation for local websites and newspapers, and encouraging local students to conduct biological surveys and observations on conservation areas are a few of the low-cost ways to build support that will pay off in the future.

The Town of Rochester is to be commended for undertaking production of an Open Space and Recreation Plan. Please do not hesitate to call me at 508-389-6351 if you have any further questions.

Sincerely,



Lynn C. Harper
Habitat Protection Specialist
Massachusetts Natural Heritage & Endangered Species Program

Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

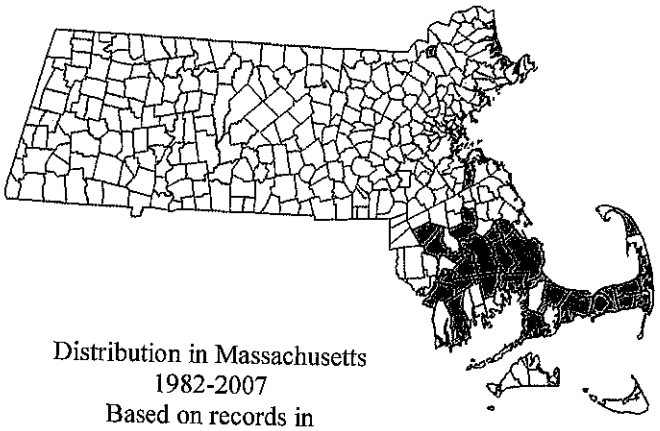
Plymouth Gentian
Sabatia kennedyana
Fernald

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: Plymouth Gentian (*Sabatia kennedyana*) is a globally rare and showy perennial herb of the gentian family (Gentianaceae), with striking pink and yellow flowers and opposite lance-shaped leaves. It inhabits the sandy and peaty shorelines of coastal plain ponds.

AIDS TO IDENTIFICATION: Plymouth Gentian reaches 12 to 28 inches (30–70 cm) in height, with opposite branches bearing narrowly lanceolate leaves. The leaves are entire, sessile, and 0.8 to 5 inches (2–5 cm) in length. The flowers, which form atop long pedicels, are pink with a yellow center bordered by red; they have 9 to 11 petals, each of which is 0.6 to 1.1 inches (1.5–3 cm) in length. Plymouth Gentian blooms between early July and mid-September, depending on when the water level of the site decreases enough to expose adequate shoreline. The fruit is a capsule with two valves.

Photo by Jennifer Garrett, NHESP



Distribution in Massachusetts
1982-2007
Based on records in
Natural Heritage Database

SIMILAR SPECIES: Slender Marsh Pink (*Sabatia campanulata*, Endangered) occurs in similar habitat in Massachusetts, but has only 7 or fewer petals per flower. Rose Coreopsis (*Coreopsis rosea*), another showy flower of coastal plain pondshores, is somewhat similar to Plymouth Gentian due to its radial pink and yellow inflorescence. Rose Coreopsis, however, is a composite (family Asteraceae) with disc and ray flowers, and linear, rather than lanceolate, leaves.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.
www.mass.gov/nhesp

HABITAT IN MASSACHUSETTS: Plymouth Gentian grows along the seasonally wet, sandy to peaty soils of low-nutrient, acidic, coastal plain pondshores. It prefers full sun and does not compete well with shrubs; therefore, fluctuating water levels are important for the persistence of this species at a site. Associated species include Golden Hedge-hyssop (*Gratiola aurea*), Pondshore Rush (*Juncus pelocarpus*), Slender-leaved Goldenrod (*Euthamia tenuifolia*), Toothed Flatsedge (*Cyperus dentatus*), and Rose Coreopsis (*Coreopsis rosea*). Several rare species can be associated with Plymouth Gentian, including Long-beaked Bald-sedge (*Rhynchospora scirpoides*, Special Concern), Short-beaked Bald-sedge (*Rhynchospora nitens*, Threatened), Torrey's Beak-sedge (*Rhynchospora torreyana*, Endangered), Terete Arrowhead (*Sagittaria teres*, Special Concern), and Wright's Panic-grass (*Dichanthelium wrightianum*, Special Concern).

THREATS: Plymouth Gentian is threatened by any activity that changes the hydrologic regime, water, quality, or soil integrity of the coastal plain pond it inhabits. Region-wide, coastal plain ponds are imperiled due to shoreline development, water table drawdown (from wells), eutrophication (resulting from fertilizers and septic systems), and soil disturbance from heavy recreational use (ORV, horse, and foot traffic; camping; boat-launching; raking and digging).

RANGE: Plymouth Gentian has a very limited range, consisting of the coastal plain areas of Nova Scotia, Massachusetts, Rhode Island, North Carolina, South Carolina, and Virginia; it is rare in each of these locations except for Virginia (where it has been introduced).

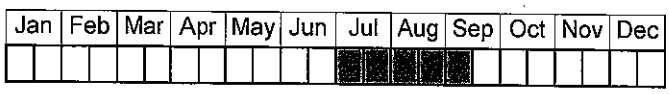
POPULATION STATUS IN MASSACHUSETTS: Plymouth Gentian is listed under the Massachusetts Endangered Species Act as a Species of Special Concern. All listed species are legally protected from killing, collection, possession, or sale, and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. Plymouth Gentian is currently known from Barnstable, Essex, Norfolk, and Plymouth Counties, and is historically known from Nantucket County.

MANAGEMENT RECOMMENDATIONS: Management of Plymouth Gentian requires protection of the hydrology, water quality, and soil integrity of its habitat. Like many other coastal plain pondshore plant species, Plymouth Gentian requires pronounced water-level fluctuations; acidic, nutrient-poor water and substrate; and an open, exposed shoreline, free from major soil disturbance. The hydrologic regime is particularly important; coastal plain pondshore species often require low water years for reproduction, but their persistence at a site depends on high water years to keep dense woody vegetation from taking over the shoreline. Protection of Plymouth Gentian habitat may require regulation of new wells, exclusion of septic systems, prohibitions on fertilizer use, and restrictions on recreational use of the site. Recreational activities such as swimming, hiking, horseback riding, and ORV use should be diverted from the plant population location by re-routing trails, installing fences, and providing alternative locations for the activities.

Populations should be monitored to identify threats such as over-shading, invasive plant establishment, and soil disturbance. Plymouth Gentian is most likely to be observed in the middle to late summer when water levels have decreased to expose shoreline. Sites that have encroaching woody vegetation could be carefully thinned after the growing season (November–April).

Habitat sites should checked for the early stages of exotic plant species invasions. The low-nutrient, acidic shores inhabited by Plymouth Gentian are generally inhospitable for many exotic invasive plants, but invasives could become established at sites that have received heavy soil disturbance or nutrient input. Exotic species that could establish at such sites include Common Reed (*Phragmites australis* ssp. *australis*), Gray Willow (*Salix cinerea*), and Purple Loosestrife (*Lythrum salicaria*). To avoid inadvertent harm to rare plants, all active management of rare plant populations should be planned in consultation with the Massachusetts Natural Heritage and Endangered Species Program.

Flowering time in Massachusetts



Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

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www.mass.gov/nhesp

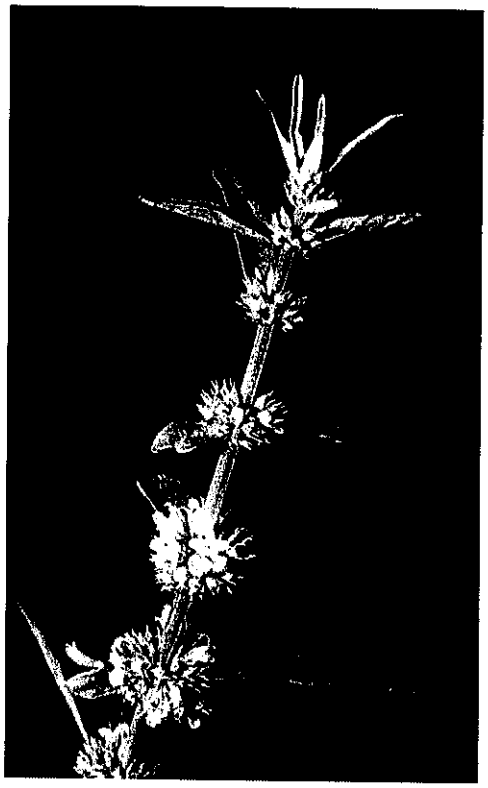
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
tel: (508) 389-6360, fax: (508) 389-7891
www.nhesp.org

Gypsywort

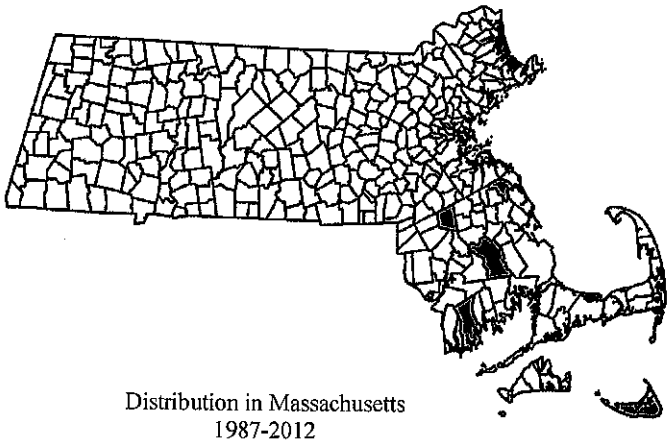
Lycopus rubellus Moench

State Status: **Endangered**
Federal Status: **None**

Description: The perennial herb Gypsywort is a non-aromatic member of the mint family reaching a height of 18 in. (1/2 meter) but more often only 1 ft. high in Massachusetts. The slender, erect, sparsely branching stems bear simple, opposite leaves arranged in vertical ranks of pairs which are relatively widely spaced on the stem. The stem bases send out many slender and long, freely branching runners that form tubers at their ends. The broadly lance-shaped to oval leaves are 4-12 cm long and 1-4 cm wide and the basal part of each leaf is distinctly straight or slightly concave as it tapers to the petiole. The leaf margins are coarsely shallow-toothed above the elongated bases and smooth below.



Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species.* Midwest National Technical Center, Lincoln.



Distribution in Massachusetts
1987-2012
Based on records in Natural Heritage Database

The small, white, faintly purple-spotted flowers are densely clustered at the junction of the stem and leaves and form doughnut-shaped whorls around the stem. The five-lobed, tubular corolla is composed of petals which flare abruptly outwards and extend 2-3 mm beyond (twice as long as) the surrounding calyx tube. The lobes of the calyx tube are narrowly triangular and long pointed. The mature fruits of Gypsywort consist of a set of four nutlets per flower, each roughly triangular-shaped with narrow bases and broad tops. The shape and surface of the nutlets, apparent with a hand lens, are useful characters for separating species of *Lycopus*. In *L. rubellus*, the top of the nutlet is jagged with tuberculate (bumpy), thickened edges called crests. Flowering and fruiting occurs from mid July through mid September.

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

Range: Gypsywort is distributed from eastern Massachusetts southward to Florida and eastern Texas on the Coastal Plain, and northwards through the Mississippi River basin to southern Michigan. It is only sporadically found in the area between the Mississippi and the Atlantic Coast.

Similar Species: All five native species of *Lycopus* are much alike in habit and general leaf shape. Virginian Water-Horehound (*Lycopus virginicus*) most closely resembles Gypsywort; the leaves taper in the same manner. The calyx teeth differ, however, being ovate or acute and not long-pointed and the four-lobed corolla is non-flaring. It usually inhabits floodplain forests, or occasionally Red Maple swamps. American Water-Horehound (*Lycopus americanus*), also known as Cut-leaved Water-Horehound, normally has deeply lobed middle and lower leaves, but when these are merely toothed, it can be distinguished by very long, sharp-tipped or needle-like calyx lobes, a shorter and four-lobed corolla (about equal to the calyx), and smooth nutlets with rounded tops. It inhabits a variety of wetland types. Common Water-Horehound (*Lycopus uniflorus*) has narrower, shorter leaves with only a few small teeth. Its calyx lobes are acute, not long-pointed. The underground base of the stem is enlarged to form a short thick tuber or rootstalk. It inhabits pond shores as well as various wetlands. Clasping Water-Horehound (*Lycopus amplectens*) is our only species with sessile leaves (no stalks) and it is restricted to the shores of coastal plain ponds.

Habitat in Massachusetts: Gypsywort is most abundant on damp soils of the Atlantic Coastal Plain and Mississippi River basin, where it is found along streams in maple swamps, marshy shores of ponds and lakes, seepage areas, and floodplain forests. In Massachusetts, its habitat is only now beginning to be known with certainty. Current populations are found along small streams in Red Maple swamps, in association with Sweet Pepperbush, Smooth Arrowwood, and Netted Chain-fern. Historically, it also was known from borders of ponds in Fall River and Westport.

Population Status: There are currently six known populations of Gypsywort, resulting in its designation as an Endangered species in Massachusetts. The status of Gypsywort is only now being understood, due to past misidentification and confusion with other species. It is likely that it will be found locally throughout southeastern Massachusetts. West Roxbury (Boston) marks the northern verified limit of the species' range.

Updated March 2012

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Massachusetts Division of Fisheries & Wildlife
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tel: (508) 389-6360, fax: (508) 389-7891
www.nhesp.org

Round-fruited False-loosestrife

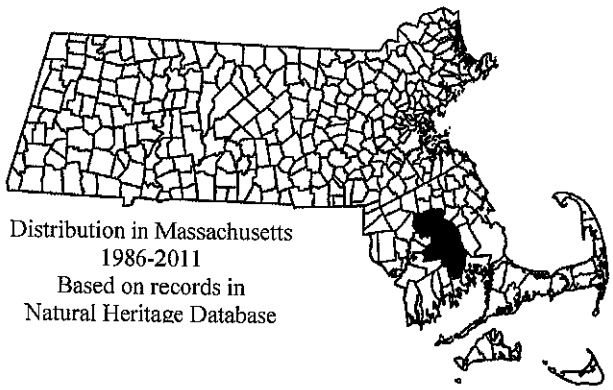
Ludwigia sphaerocarpa Ell.

State Status: **Endangered**
Federal Status: **None**

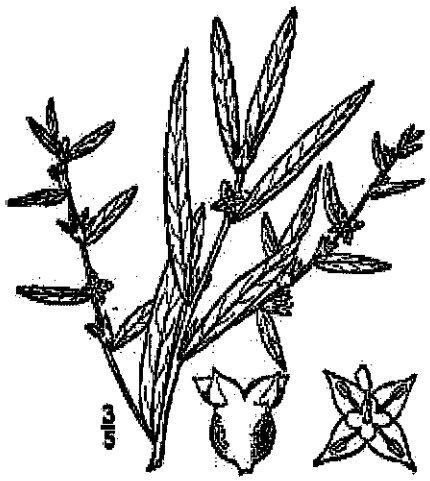
Description: Round-fruited False-loosestrife is an erect, branching, finely pubescent, shrub-like perennial that stands .03-1 m (1-3 ft.) tall. Leaves are alternate, lanceolate, and narrowed at both ends. Flowers are produced singly at the leaf bases, and are greenish and inconspicuous, but the triangular sepals are readily apparent. The dry fruits are rounded, softly hairy capsules. When submerged or standing in water, the stem bases become spongy and thickened. Except for the semi-woody base, the plant dies back each winter. Flowering occurs from July to September.

Similar Species: The False-loosestrife genus is represented by several local species that inhabit wet places. All are similarly erect and branched except for Water-purslane *(Ludwigia palustris)*, a very common species, easily identified by oval leaves and prostrate stems. Seedbox *(L. alternifolia)* has conspicuous yellow petals and square capsules, while *L. sphaerocarpa* has no petals. Many-fruited False-loosestrife *(L. polycarpa)*, (Endangered), is very similar but has smooth capsules and inhabits floodplain swamps along the Connecticut River.

Range: Round-fruited False-loosestrife is an Atlantic coastal plain species locally distributed from Massachusetts south to central Florida and Texas with disjunct populations in northwest Indiana and southwest Michigan. Massachusetts marks the northeastern limit of its range. It is listed as rare in Connecticut, Rhode Island, New York, Virginia, Tennessee, Indiana, Louisiana, North Carolina, and Michigan, and as extirpated in Pennsylvania.



Distribution in Massachusetts
1986-2011
Based on records in
Natural Heritage Database



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions. 3 vols.* Charles Scribner's Sons, New York. Vol. 2: 586.

Habitat in Massachusetts: This plant is found on nutrient-rich, muddy, sandy to peaty shores and in shallow water of freshwater ponds and slow-moving rivers with fluctuating water levels. The habitat requirements are not well-known or well-documented in this state for this easily overlooked species. Its associates include Plymouth Gentian *(Sabatia kennedyana)*, Common Threesquare *(Schoenoplectus,* formerly *Scirpus, pungens)*, Golden Pert *(Gratiola aurea)*, Marsh Rush *(Juncus canadensis)*, and Bayonet Rush *(Juncus militaris)*.

Population Status: Round-fruited False-loosestrife is listed under the Massachusetts Endangered Species Act as Endangered. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors.. It is known from only three current stations (since 1986) and four historical (before 1986) stations have not been relocated. One current population is very large and on state land. This species has not been relocated at several historical sites on the Concord River, but further searches of suitable habitat could locate more populations. Potential threats to Round-fruited False-loosestrife are increased recreational use of the shorelines, residential building, and manipulation of water levels for water supplies.

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

Updated March 2012

Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

Massachusetts Division of Fisheries & Wildlife

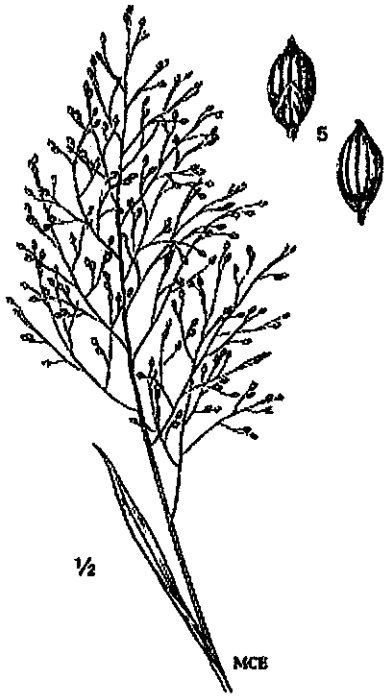
Gattinger's and Philadelphia Panic-grasses

Panicum philadelphicum* ssp. *gattingeri
Panicum philadelphicum* ssp. *philadelphicum

State Status: **Special Concern**
Federal Status: **None**

GENERAL DESCRIPTION: Philadelphia Panic-grass (*Panicum philadelphicum*), a member of the Grass family (Poaceae), is a slender, hairy, herbaceous, annual grass with yellow-green leaves that grows from a bundle of fibrous roots. It typically grows to a height of about 2.5 to 3.25 ft (80-100 cm), but can also be found as tiny plants on receding pondshores. Philadelphia Panic-grass consists of three subspecies, two of which occur in Massachusetts (both rare here): Philadelphia Panic-grass (*P. philadelphicum* ssp. *philadelphicum*) and Gattinger's Panic-grass (*P. philadelphicum* ssp. *gattingeri*). Philadelphia Panic-grass subspecies *philadelphicum* grows primarily on sandy shores of lakes and streams. Gattinger's Panic-grass (ssp. *gattingeri*) grows in open fields, roadsides, rock or clay ledges, clifftops, and wet clay on receding shores.

AIDS TO IDENTIFICATION: Members of the genus *Panicum* are difficult to distinguish from one another and at first glance may appear similar. To positively identify any member of the genus *Panicum* (including the species *philadelphicum*) a technical manual should be consulted. The basic flowering unit of grasses is the spikelet, which may or may not have a pair of bracts at its base called glumes. A spikelet may be made up of one to many individual flowers (florets). Each floret has a pair of bracts at its base called the lemma and the palea. The palea is closer to the stem of the spikelet (rachilla) than the lemma. Species in the genus *Panicum* produce inflorescences on the ends of their stems (culms) in an open panicle and have spikelets with more than one floret. The spikelets have thin membranous glumes, a lower, sterile or male floret with a lemma that resembles the glumes, and an upper, fertile floret with a rigid, shiny lemma that clasps the palea.



Philadelphia Panic-grass. From: Holmgren, N.H. 1998. Illustrated companion to Gleason and Cronquist's manual: Illustrations of the Vascular Plants of Northeastern United States and adjacent Canada. The New York Botanical Garden, Bronx. NY
The illustration gives the general character of the species panicle, showing the short flag leaf of ssp. *philadelphicum*.

Philadelphia Panic-grass has branching, hairy stems that are erect to decumbent (curving at the base with an ascending tip). The subspecies of Philadelphia Panic-grass are best separated using a combination of characters; see the table below.

SIMILAR SPECIES: In Massachusetts, both subspecies of Philadelphia Panic-grass grow in association with other members of the genus *Panicum* including: Fall Panic-grass (*P. dichotomiflorum*), Flat-

stemmed Panic-grass (*P. rigidulum*), and Witchgrass (*P. capillare*). Philadelphia Panic-grass is most likely to be confused with Witchgrass. The panicles of Philadelphia Panic-grass are usually less than half of the plant height, whereas they are greater than half in Witchgrass. The inflorescence stems (pedicels) of Philadelphia Panic-grass tend to stay intact, but when the pedicels of Witchgrass mature they usually break, forming tumbleweeds. As the fruits of Philadelphia Panic-grass ripen they turn dark brown, whereas those of Witchgrass are straw-colored.

Unlike Philadelphia Panic-grass, Fall Panic-grass and Flat-stemmed Panic-grass are mostly glabrous (hairless) throughout.

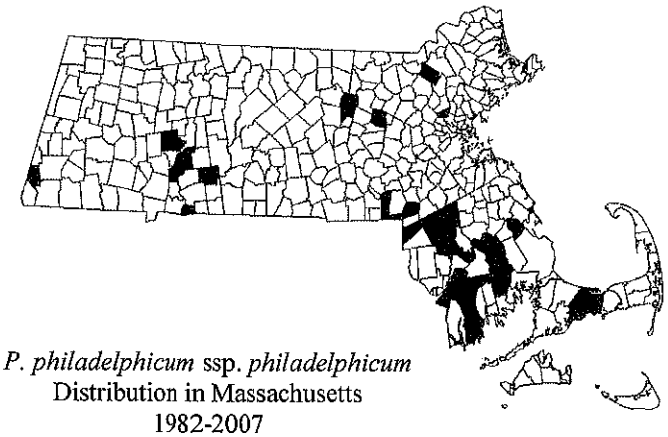
	ssp. *philadelphicum*	ssp. *gattengeri*
Spikelet length	1.4 - 2.1 mm	1.9-2.4 mm
Flag leaf length (uppermost stem leaves)	less than half the length of panicle	greater than half the length of panicle
Secondary panicle branches and floral stalks	press against the primary panicle branches	diverge away from the main panicle branches
Upper glume and lower lemma tips	curve over the upper flowers	straight
Leaf blade width	usually 2-6 mm	5-12 mm

HABITAT: Philadelphia Panic-grass subspecies *philadelphicum* grows in open, full sun, on seasonally flooded sands typically bordering acidic stream, lakes, and wetlands. Plants typically found growing in association with subspecies *philadelphicum* in Massachusetts include: Common Buttonbush (*Cephalanthus occidentalis*), Golden Hedge-hyssop (*Gratiola aurea*), Fall Panic-grass (*P. dichotomiflorum*), Slender Fimbry (*Fimbristylis autumnalis*), Toothed Flatsedge (*Cyperus dentatus*), and various Spikerushes (*Eleocharis* species).

Gattinger's Panic-grass grows in open, disturbed areas usually with alkaline soils. All but one documented occurrences of Gattinger's Panic-grass in Massachusetts grow along roadsides. The occurrence that is not found along a roadside grows on the top of a cliff. In Massachusetts, Gattinger's Panic-grass grows in association with the following species: Field Horsetail (*Equisetum arvense*), Ragweed (*Ambrosia artemisifolia*), and Witchgrass (*P. capillare*).

RANGE: Philadelphia Panic-grass subspecies *philadelphicum* ranges from Nova Scotia west to Ontario and south to Georgia, Alabama, and Texas. Philadelphia Panic-grass is not considered globally imperiled, but is rare in a number of other states including Rhode Island, Ohio, and Iowa. Gattinger's Panic-grass ranges from Quebec and Ontario south to North Carolina, Oklahoma, Kansas, and Alabama. Gattinger's Panic-grass is rare in numerous other states including New Jersey, and Kansas, and is also not considered globally imperiled.

POPULATION STATUS IN MASSACHUSETTS: Philadelphia Panic-grass, including both subspecies *philadelphicum* and *gattingeri*, is listed under the Massachusetts Endangered Species Act as a Species of Special Concern. All listed species are legally protected from killing, collection, possession, or sale, and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. The two subspecies are currently known from different counties within Massachusetts. Philadelphia Panic-grass (ssp. *philadelphicum*) is currently known from Barnstable, Bristol, Hampden, Hampshire, Middlesex, Norfolk, Plymouth, and Worcester counties. Gattinger's Panic-grass is currently known from Berkshire and Franklin counties. It is likely that both subspecies may occur in other locations in the state, but have gone unnoticed due to their similarities with other members of the genus *Panicum*.



P. philadelphicum ssp. *philadelphicum*
Distribution in Massachusetts
1982-2007
Based on records in Natural Heritage Database

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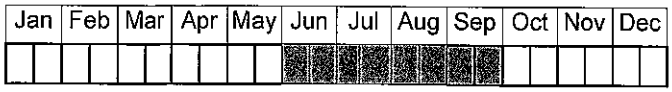
MANAGEMENT RECOMMENDATIONS:
Philadelphia Panic-grass subspecies *philadelphicum* requires open, sunny habitat that experiences seasonal flooding. Activities that alter hydrologic regimes could threaten this subspecies of Philadelphia Panic-grass. Overgrowth and shading by other plants through succession could also harm Philadelphia Panic-grass.

Many Massachusetts populations of Gattinger's Panic-grass occur in disturbed areas near roadsides and are in danger of being harmed by road maintenance activities. Roads also act as corridors for the dispersal of invasive plant species that are capable of forming dense monocultures and of excluding native species through shading. Efforts should be made to prevent the dispersal of such invasive plants into areas where either subspecies of Philadelphia Panic-grass grows.

To avoid inadvertent harm to rare plants, all active management of rare plant populations (including invasive species removal) should be planned in consultation with the Massachusetts Natural Heritage & Endangered Species Program.

PHENOLOGY: In Massachusetts, both subspecies of Philadelphia Panic-grass flower from June to August. Fruits form from late August to October.

Flowering Time in Massachusetts:



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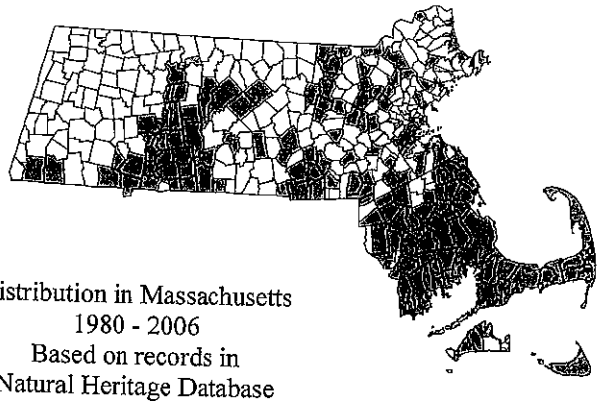
Massachusetts Division of Fisheries & Wildlife

Eastern Box Turtle
Terrapene carolina

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: The Eastern Box Turtle is a small terrestrial turtle ranging from 11.4–16.5 cm (4.5–6.6 in.) in length. It is so named because a hinge on the lower shell (plastron) allows it to enclose head, legs, and tail completely within the upper (carapace) and lower shells. The adult box turtle has an oval, high-domed shell with variable coloration and markings. The carapace is usually dark brown or black with numerous irregular yellow, orange, or reddish blotches. The plastron typically has a light and dark variable pattern, but some may be completely tan, brown, or black. The head, neck, and legs also vary in color and markings, but are generally dark with orange or yellow mottling. The Eastern Box Turtle has a short tail and an upper jaw ending in a down-turned beak. The male box turtle almost always has red eyes, and females have yellowish-brown or sometimes dark red eyes. Males have a moderately concave plastron (females' are flat), the claws on the hind legs are longer, and the tail is both longer and thicker than the females. Hatchlings have a brownish-gray carapace with a yellow spot on each scute (scale or plate), and a distinct light-colored mid-dorsal keel (ridge). The plastron is yellow with a black central blotch, and the hinge is poorly developed.

Photo by Liz Willey



Distribution in Massachusetts
1980 - 2006
Based on records in
Natural Heritage Database

SIMILAR SPECIES: The Blanding's Turtle (*Emydoidea blandingii*) may be confused with the Eastern Box Turtle. Often referred to as the "semi-box turtle," the Blanding's Turtle has a hinged plastron enabling the turtle to pull into its shell, but with less closure than in the Eastern Box Turtle. Both may have yellow markings on the carapace; however, the markings on a Blanding's Turtle are spots or flecks rather than blotches. An adult Blanding's Turtle is larger than the box turtle (15-23 cm; 6-9 in. in shell length). While both will be found nesting in similar habitat, the Blanding's Turtle is essentially aquatic whereas the Eastern Box Turtle is terrestrial. Eastern Box Turtle hatchlings could be confused with Spotted Turtle hatchlings, because both have spots on each scute. However, the Spotted Turtle lacks a mid-dorsal keel.

RANGE: The range of the Eastern Box Turtle is from southeastern Maine; south to northern Florida; and west to Michigan, Illinois, and Tennessee. Although Eastern Box Turtles occur in many towns in Massachusetts, they are more heavily concentrated in the southeastern section of the state.

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HABITAT IN MASSACHUSETTS: The Eastern Box Turtle is a terrestrial turtle, inhabiting many types of habitats. It is found in both dry and moist woodlands, brushy fields, thickets, marsh edges, bogs, swales, fens, stream banks, and well-drained bottomland.

LIFE CYCLE & BEHAVIOR: The Eastern Box Turtle hibernates in the northern parts of its range from late October or November until mid-March or April depending on the weather. Box turtles overwinter in upland forest, a few inches under the soil surface, typically covered by leaf litter or woody debris. As soil temperatures drop, the turtles burrow into soft ground. Overwintering is usually not communal, although several may overwinter within close proximity of one another. Some individuals may emerge prematurely during warm spells in winter and early spring. When this occurs, they may perish from exposure if there is a sudden cold snap. During the spring, Box Turtles start to forage and mate in the forest and fields.

In summer, adult Box Turtles are most active in the morning and evening, particularly after a rainfall. To avoid the heat of the day, they often seek shelter under rotting logs or masses of decaying leaves, in mammal burrows, or in mud. They often scoop out a "form" (a small domelike space) in leaf litter, grasses, ferns, or mosses where they spend the night. These forms may be used on more than one occasion over a period of weeks. Though known as "land turtles", in the hottest weather they frequently enter shaded shallow pools and puddles and remain there for periods varying from a few hours to a few days. In the cooler temperatures of spring and fall, box turtles forage at any daylight hour.

The Eastern Box Turtle is omnivorous, feeding on animal matter such as slugs, insects, earthworms, snails, and even carrion. Box Turtles also have a fondness for mushrooms, berries, fruits, leafy vegetables, roots, leaves, and seeds.

Females reach sexual maturity at approximately 13 years of age. Mating is opportunistic and may take place anytime between April and October. Courtship begins with the male circling, biting, and shoving the female. Afterward, the premounting and copulatory phases take place. Females can store sperm and lay fertile eggs up to four years after mating.

Females nest in June or early July and can travel great distances to find appropriate nesting habitat. They may travel up to approximately 1600 m (1 mile), many of them crossing roads during their journey. Nesting areas may be in early successional fields, meadows, utility right of ways, woodland openings, roadsides, cultivated gardens, residential lawns, mulch piles, beach dunes, and abandoned gravel pits. Females sometimes exhibit nest site fidelity, laying eggs in close proximity to the previous years' nest. Females typically start nesting in the late afternoon or early evening and continue for up to five hours.

THREATS: There are several reasons the Eastern Box Turtle is under threat in Massachusetts: habitat destruction resulting from residential and industrial development; road mortality; collection by individuals for pets; mowing of fields and early successional habitat during the active season; unnaturally inflated rates of predation in suburban and urban areas; disturbance of nest sites by ATVs; and genetic degradation due to the release of non-native (pet store) turtles. The release of non-native species could also transmit disease, which may become an issue in Massachusetts, but is not currently a problem.

MANAGEMENT RECOMMENDATIONS:
Using NHESP records, Eastern Box Turtle habitat needs to be assessed and prioritized for protection based on the extent, quality, and juxtaposition of habitats and their predicted ability to support self-sustaining populations of box turtles. Other considerations should include the size and lack of fragmentation of habitat and proximity and connectivity to other relatively unfragmented habitats, especially within existing protected open space.

Given limited conservation funds, alternatives to outright purchase of conservation land is an important component to the conservation strategy. These can include Conservation Restrictions (CRs) and Agricultural Preservation Restrictions (APRs).

Habitat management and restoration guidelines should be developed and implemented in order to create and/or maintain consistent access to nesting habitat at key sites. This is most practical on state-owned conservation lands (i.e. DFW, DCR). However, educational materials should be made available to guide private landowners on the best management practices for box turtle habitat.

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Alternative wildlife corridor structures should be considered at strategic sites on existing roads. In particular, appropriate wildlife corridor structures should be considered for bridge and culvert upgrades and road-widening projects within box turtle habitat. Efforts should be made to inform local regulatory agencies of key locations where these measures would be most effective for turtle conservation.

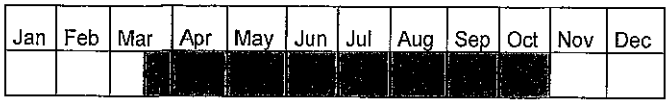
Educational materials need to be developed and distributed to the public in reference to the detrimental effects of keeping our native box turtles as pets (an illegal activity that slows reproduction in the population), releasing pet store turtles (which could spread disease), leaving cats and dogs outdoors unattended (particularly during the nesting season), mowing of fields and shrubby areas, feeding suburban wildlife (which increases numbers of natural predators on turtles), and driving ATVs in nesting areas from June to October. People should be encouraged, when safe to do so, to help box turtles cross roads (always in the direction the animal was heading); however, turtles should never be transported to "better" locations. They will naturally want to return to their original location and likely need to traverse roads to do so.

Increased law enforcement is needed to protect our wild populations, particularly during the nesting season when poaching is most frequent and ATV use is common and most damaging.

Forestry Conservation Management Practices should be applied on state and private lands to avoid direct turtle mortality. Motorized vehicle access to timber harvesting sites in box turtle habitat should be restricted to the times when box turtles are inactive during the winter, preferably when the ground is frozen. Motorized vehicles should not be used for soil scarification.

Finally, a statewide monitoring program is needed to track long-term population trends in Eastern Box Turtles.

Active Period



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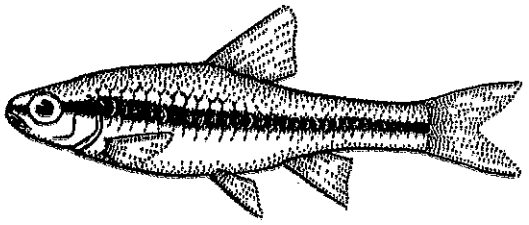
Massachusetts Division of Fisheries & Wildlife

Bridle Shiner
Notropis bifrenatus

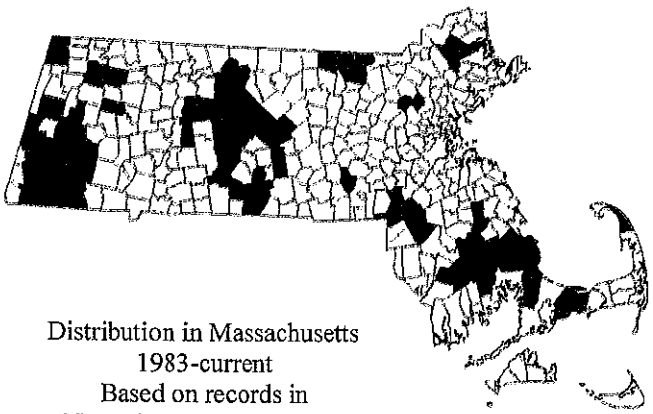
State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: The Bridle Shiner is a small minnow (< 50 mm) that is straw colored with a distinct dark lateral band that starts at the tip of the snout and ends in a spot at the base of the caudal fin. This minnow has a large eye and a somewhat pointed, slightly subterminal mouth. The scales on the sides of the body have distinct dark outlines. The breast is usually 90-100% scaled and the belly is fully scaled. The lateral line is generally incomplete. Bridle Shiners have 32-36 lateral line scales. They generally have 8 dorsal rays, 7 anal rays, 8 pelvic rays, and 12 pectoral rays. They have a silvery and lightly speckled peritoneum (lining of the body cavity).



Drawing by Laszlo Meszoly, from Hartel et al. 2002. Inland Fishes of Massachusetts.

HABITAT: Bridle Shiners are found in clear water in slack areas of streams and rivers and are also found in lakes and ponds. They are associated with moderate levels of submerged aquatic vegetation with open areas where they can school. Bridle Shiners seem to prefer sites with high coverage of submerge aquatic vegetation along the bottom 25 cm. In addition, sites with Bridle Shiner tend to have more aquatic vegetation with feather-like leaves such as *Ceratophyllum*.



Distribution in Massachusetts
1983-current
Based on records in
Natural Heritage Database

LIFE HISTORY: The Bridle Shiner matures at a year and only lives for about 2 years. Spawning occurs during the day from late May to the end of July but may occur as late as August. Spawning sites are generally located in water depths of 0.6 m in clearings surrounded by dense submerged vegetation, such as *Myriophyllum* or *Chara*. Eggs sink and adhere to vegetation. Young of the year remain in vegetation until late July when they begin to school with other young of the year bridle shiners, and by August they join adult schools. Bridle Shiners are visual predators and feed only during the day. They feed in the water column or around aquatic vegetation; although before aquatic vegetation has started growing in the spring, they feed at the bottom. Their diet mainly consists of invertebrates, such as Chironomidae, Cladocera and Copepoda. Bridle Shiners are not good swimmers and are ideal prey for pickerel, bass, and perch species.

THREATS: Habitat alterations due to turbidity, flow alterations, draining of ponds, and exotic species are major threats to Bridle Shiners. Bridle Shiners are visual feeders and turbidity will decrease their feeding efficiency. Bridle Shiners are also poor swimmers and as such changes in flows can negatively impact their habitats. When exotic plants dominate and form large monocultures, this changes the Bridle Shiner's preferred habitat of vegetation with open areas.

Bridle Shiner Breeding Season

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

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Massachusetts Division of Fisheries & Wildlife

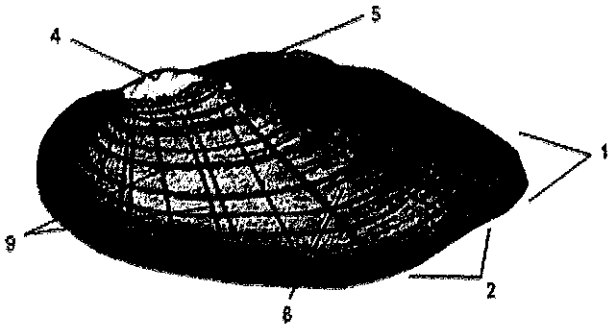
Eastern Pondmussel
Ligumia nasuta

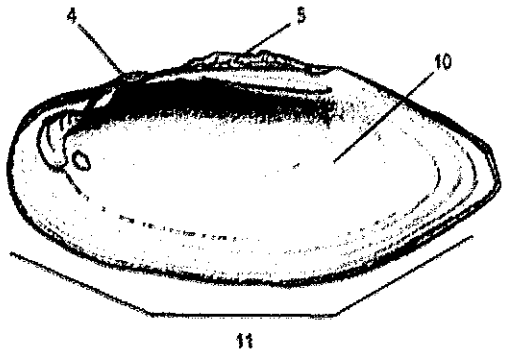
State Status: **Special Concern**
Federal Status: **None**

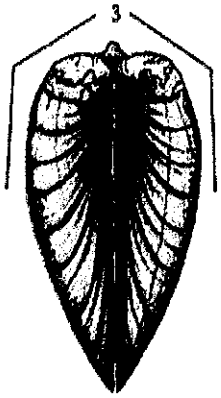
DESCRIPTION: The Eastern Pondmussel is a medium-sized to large mussel that may exceed six inches (150 mm) in length. The shape is distinctly elongate or elliptical and the posterior end tapers to a blunt point (1). Shells of sexually mature females may be slightly more rounded toward the posterior ventral margin (2) than males or adolescent females. Shells are laterally compressed (3), and despite being thin, they are quite strong. Beaks are low (4) and barely extend beyond the line of the hinge (5). Hinge teeth are well developed but delicate; the left valve has two pseudocardinal teeth and two lateral teeth, and the right valve has two pseudocardinal teeth (6) and one lateral tooth (7). The periostracum (8) is yellowish or greenish-black in young individuals, but usually dark brown or black in older specimens. Shell rays (9) are sometimes evident on those individuals with a light-colored periostracum. The nacre (10) is usually purple, pink, or silvery-white.

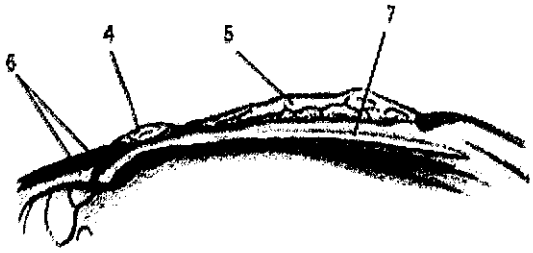
SIMILAR SPECIES IN MASSACHUSETTS: Due to its elongate shape (11), pointed posterior end (1), and laterally compressed shell (3), the Eastern Pondmussel is easy to distinguish from all other species in Massachusetts.

RANGE: The Eastern Pondmussel is distributed throughout Atlantic coastal drainages from Virginia to New Hampshire and in the eastern Great Lakes region. It is most abundant in southeastern Massachusetts, particularly in large coastal plain ponds on the mainland









Illustrations by Ethan Nedeau

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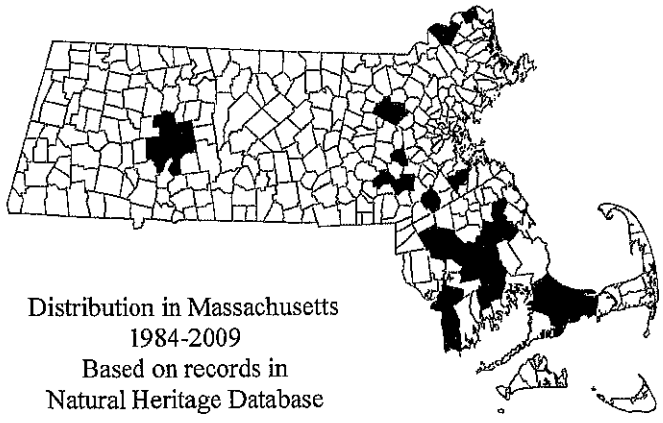
and on Cape Cod. Small populations also occur in the central Connecticut River Valley, especially in low-gradient sections of several tributaries to the Connecticut River.

HABITAT: The Eastern Pondmussel inhabits streams, rivers, and small to large lakes and ponds. It exhibits no distinct preference for substrate, depth, or flow conditions. It has been found at relatively high densities at depths of 15-25 feet in coastal ponds where the substrate was primarily mud (Nedeau and Low 2008), and in shallow rivers with relatively strong currents and a substrate of gravel and cobble (Nedeau 2008). In the Connecticut River watershed, populations are known primarily from streams and rivers (Nedeau 2008), but in eastern Massachusetts, including Cape Cod, there are more lake and pond populations.

BIOLOGY: Eastern Pondmussels are essentially sedentary filter feeders that spend most of their lives partially burrowed into the bottoms of rivers, streams, lakes, and ponds. Eastern Pondmussels, like all freshwater mussels, have larvae (called glochidia) that must attach to the gills or fins of a vertebrate host to develop into juveniles. Sexually mature female Eastern Pondmussels use papillae along their mantle margins to lure potential host fish; this behavior was described by Corey et al. (2006). Displaying females tend to migrate toward the surface of the sediment, and may even lie fully unburied on the surface of the sediment to increase their visibility to fish. They will also part their valves widely, exposing more of the mantle edge. Host fish for this species have not yet been determined, though the mussel's range suggests that its hosts have some affinity for coastal areas. Closely related species have been reported to parasitize centrarchids (sunfishes and bass), as well as the Banded Killifish. These fish species occur throughout the Eastern Pondmussel's range in Massachusetts and southern New England. Little else is known about the biology of the Eastern Pondmussel.



Distribution in Massachusetts
1984-2009
Based on records in
Natural Heritage Database

POPULATION STATUS IN MASSACHUSETTS: The Eastern Pondmussel is a Species of Special Concern in Massachusetts, as well as in Connecticut and New Hampshire. A few sizeable populations exist in coastal plain ponds of eastern Massachusetts; however, riverine populations in the state are generally sparse with the exception of a couple of tributaries to the Connecticut River. The species is currently known from 24 lakes/ponds and 13 rivers; however, fewer than ten of these sites support sizeable populations. There are an additional 34 historic occurrences that have not been documented in the last 25 years and therefore are not subject to MESA protection. Surveys of historic sites and a careful status review are needed.

THREATS: Because Eastern Pondmussels are essentially sedentary filter feeders, they are unable to flee from degraded environments and are vulnerable to the alterations of water bodies. Eastern Pondmussels occur in lakes and rivers, and the threats in these two habitats are slightly different. Overlapping threats include nutrient enrichment, sedimentation, non-native and invasive species, and the many consequences of urbanization. River populations of Eastern Pondmussels are threatened by alteration of natural flow regimes, encroachment of river corridors by development, habitat fragmentation caused by dams and road-stream crossings, and a legacy of land use that has greatly altered the natural dynamics of river corridors (Nedeau 2008). Lake populations are challenged by intense development, modification, and recreational use of sensitive shoreline habitats, and by increasing eutrophication. Dams and other stream barriers in the rivers that connect lakes to coastal waters may also affect lake populations of Eastern Pondmussels. Invasive plants and animals, such as European Milfoil and Asian Clams, are having severe impacts on the fragile ecology of coastal plain ponds. The ultimate consequences on Eastern Pondmussels and other native species are not completely known, but the prognosis is bleak. In addition, the long-term effects of regional or global problems such as acidic precipitation, mercury, and climate change are considered severe, but little empirical data relates these stressors to mussel populations.

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CONSERVATION AND MANAGEMENT RECOMMENDATIONS: Discovery and protection of viable mussel populations is critical for the long-term conservation of freshwater mussels. Currently, much of the available mussel occurrence data are the result of limited presence/absence surveys. In addition, regulatory protection under MESA only applies to rare species occurrences that are less than 25 years old. Surveys are critically needed to monitor known populations, evaluate habitat, locate new populations, and assess population viability so that conservation and restoration efforts, as well as regulatory protection, can be effectively targeted. Coastal plain ponds are critical to the long-term viability of the Eastern Pondmussel in Massachusetts, and these habitats are also experiencing intense development pressure and recreational use. Understanding this threat and developing conservation and management strategies is a high priority for NHESP. The NHESP has produced *Freshwater Mussel Habitat Assessment* and *Survey Guidelines* and has been working with qualified experts to conduct surveys. Other conservation and management recommendations include:

- Understand the effects of shoreline development and recreational use of lakeshores;
- Maintain naturally variable river flows and limit water withdrawals;
- Identify, mitigate, or eliminate sources of pollution to water bodies;
- Identify dispersal barriers for host fish, especially those that fragment the species range within a river or watershed, and seek options to improve fish passage or remove the barrier;
- Maintain adequate vegetated riparian buffers along rivers and lakes;
- Protect or acquire land at high priority sites.

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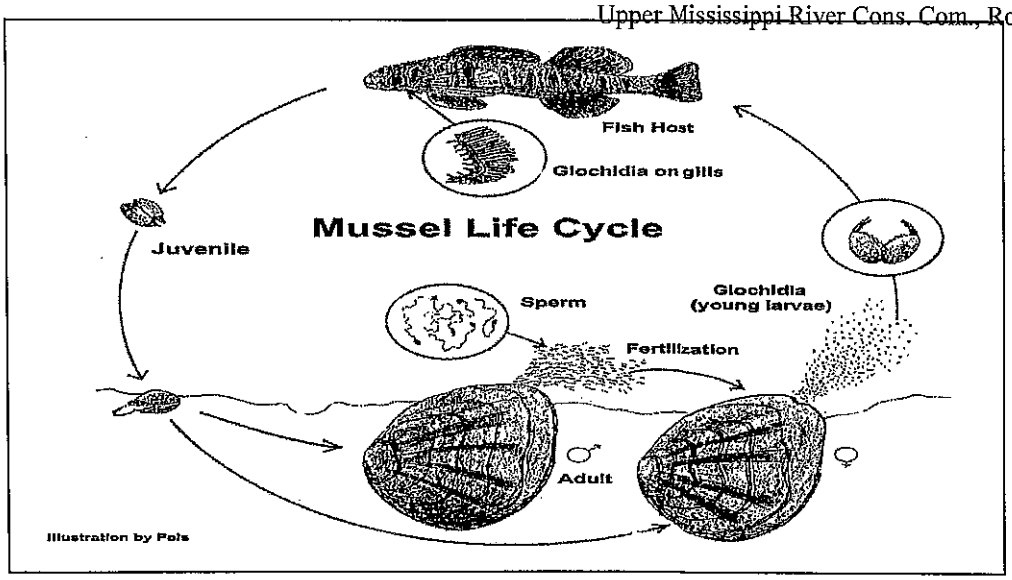

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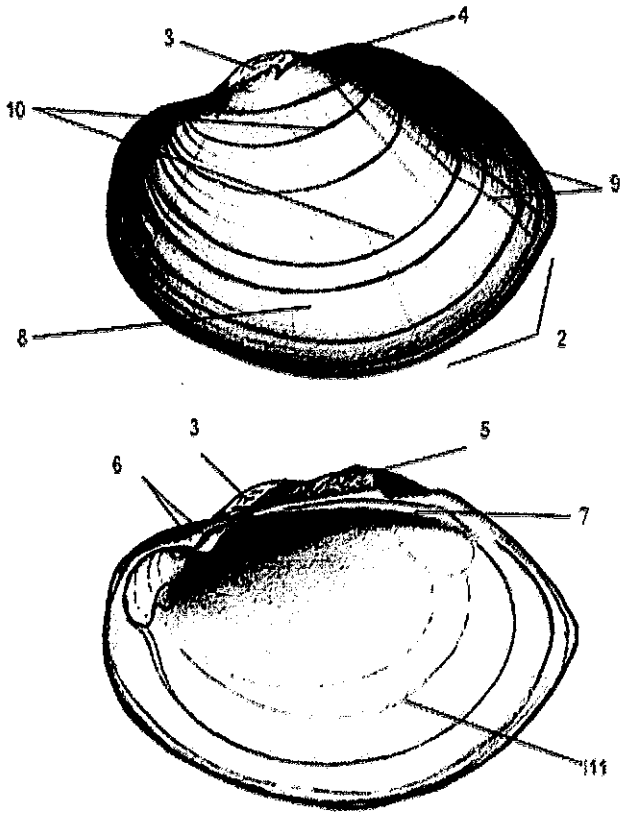
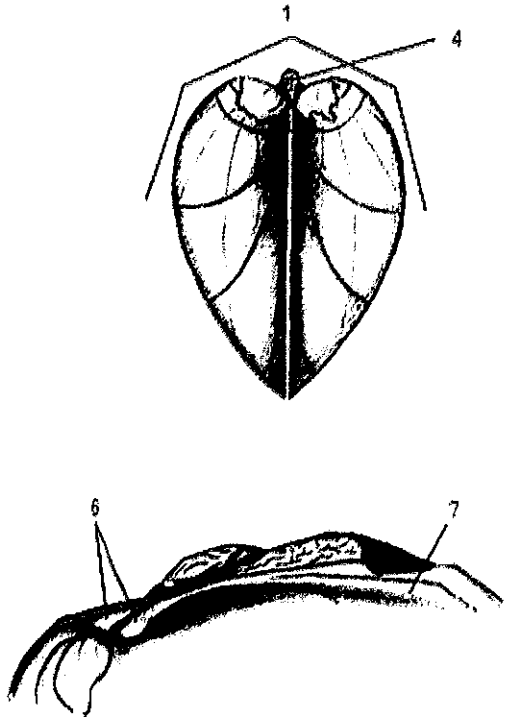
Massachusetts Division of Fisheries & Wildlife

Tidewater Mucket
Leptodea ochracea

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: The Tidewater Mucket is a medium-sized mussel that rarely exceeds four inches (100 mm) in length. The shape is ovate and the shells are laterally inflated (1). Shells of sexually mature females are usually more rounded toward the posterior ventral margin (2), and thus more oval-shaped than males or adolescent females. Shells are uniformly thin but quite strong. The beaks (3) are prominent and raised above the hinge line (4), and the hinge itself (5) is also quite prominent. Hinge teeth are thin and delicate. The left valve has two pseudocardinal teeth and two lateral teeth, and the right valve has two pseudocardinal teeth (6) and one lateral tooth (7). Pseudocardinal teeth are rather thin and elongate (compared to the stout triangular teeth of some other species), and are located anterior of the beak. The periostracum (8) is usually yellowish or greenish-brown, sometimes with a bronze or reddish hue. Juveniles tend to be more yellowish but their shells darken with age. Fine green rays (9) are usually evident on the shell, especially in younger specimens. Dark interannular lines (10) may also be evident on clean shells. The nacre (11) is usually pinkish or salmon-colored.





Illustrations by Ethan Nedeau

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Massachusetts Division of Fisheries & Wildlife

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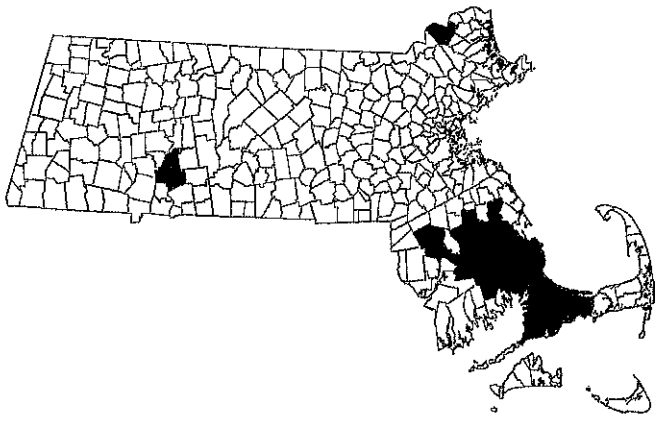
SIMILAR SPECIES IN MASSACHUSETTS: It is often very difficult to distinguish this species from the Yellow Lampmussel, especially for the novice. Compared to the Yellow Lampmussel, the Tidewater Mucket is smaller, it has a thinner shell, and it has more delicate hinge teeth. Its shell is not nearly as shiny or yellow as the shell of the Yellow Lampmussel, and the Tidewater Mucket has dark interannular lines (10) on the periostracum. The nacre of the Tidewater Mucket is usually pinkish or salmon-colored, whereas it is white or bluish-white in the yellow lampmussel. Other differences are described in Nedeau et al. 2000 and Nedeau 2008. The only places currently known in Massachusetts where these two species overlap is the Connecticut River. Live Tidewater Muckets can sometimes be confused with Eastern Lampmussels (a more common species), especially if they have dark or eroded shells, and an expert should be consulted for accurate identification.

RANGE: The Tidewater Mucket is found in Atlantic coastal drainages from Georgia to Nova Scotia. Most of the Massachusetts records are from coastal plain ponds in southeastern Massachusetts and Cape Cod. Although this species occurs throughout the lower Connecticut River in Connecticut, it has only been found in a very limited area of the river in Massachusetts (Nedeau 2008).



Natural Heritage Database

HABITAT: The Tidewater Mucket, as its name suggests, inhabits coastal freshwater environments despite that none of its confirmed fish hosts are anadromous. It occurs in small to large rivers, ponds, and lakes that have, or historically had, direct unimpeded connections with coastal waters. In the Connecticut River watershed, it inhabits muddy, sandy, and gravelly substrates. They have been found in water depths of one to more than 25 feet, and in a variety of flow conditions, but seem to prefer depositional areas with slow currents. Coastal plain ponds of southeastern Massachusetts with springtime Alewife runs may provide the best habitat for this species; densities exceeding 10-15 animals per square meter have been found in the sandy bottoms of these ponds (Nedeau and Low 2008).

BIOLOGY: Tidewater Muckets are essentially sedentary filter feeders that spend most of their lives partially burrowed into the bottoms of rivers, streams, lakes, and ponds. Like all freshwater mussels, larvae (called glochidia) of the Tidewater Mucket must attach to the gills or fins of a vertebrate host to develop into juveniles. Wick (2003) found that White Perch was a suitable host for the Tidewater Mucket. The suitability of Alewife as a host for Tidewater Muckets was also tested but all fish perished before results were apparent. Kneeland and Rhymer (2008) found that the Banded Killifish was a potential host for Tidewater Muckets in Maine, based on the observation of one fish that was heavily infested with 21 glochidia. The White Perch and Banded Killifish are each tolerant of brackish conditions and prefer the same types of habitats as Tidewater Muckets. The potential role of Alewife as a host fish for the Tidewater Mucket should be further investigated. Also, the Striped Bass is closely related to the White Perch (in the genus *Morone*) and its recent resurgence in the lower Connecticut River might be related to a recent perceived recovery of Tidewater Muckets in this same area.

POPULATION STATUS IN MASSACHUSETTS: The Tidewater Mucket is listed as a Species of Special Concern in Massachusetts, as threatened in Connecticut, New Jersey, and Maine, and "at risk" in Nova Scotia. Some coastal plain ponds in Massachusetts support remarkably high densities of Tidewater Muckets with evidence of successful reproduction, whereas many others have smaller populations with animals in poor condition. The viability of the population in the Massachusetts portion of the Connecticut River

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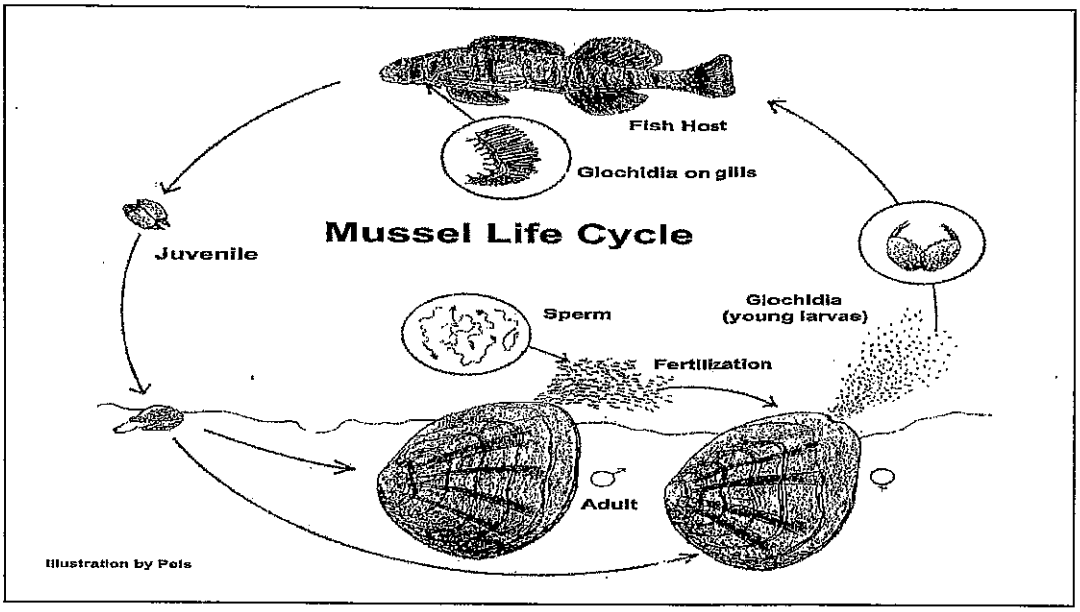

watershed is uncertain and here the species is considerably more imperiled. This species is currently known from 21 lakes/ponds and two rivers in Massachusetts, however, fewer than ten of these sites are known to support sizeable populations. There are an additional 5 historic occurrences that have not been documented in the last 25 years and therefore are not subject to MESA protection. Surveys and a careful status review are needed.

THREATS: Because Tidewater Muckets are essentially sedentary filter feeders, they are unable to flee from degraded environments and are vulnerable to the alterations of water bodies. Tidewater Muckets occur in lakes and rivers, and the threats in these two habitats are slightly different. Overlapping threats include nutrient enrichment, sedimentation, other forms of pollution, non-native and invasive species, and the many consequences of urbanization. River populations of Tidewater Muckets are threatened by alteration of natural flow regimes, encroachment of river corridors by development, habitat fragmentation caused by dams, and a legacy of land use that has greatly altered the natural dynamics of river corridors (Nedeau 2008). Lake populations are challenged by intense development, modification and recreational use of sensitive shoreline habitats, and increasing eutrophication. Dams and other stream barriers in the rivers that connect lakes to coastal waters may also affect lake populations of Tidewater Muckets. Invasive plants and animals, such as European Milfoil and Asian Clams, are having severe impacts on the fragile ecology of coastal plain ponds. The ultimate consequences on Tidewater Muckets and other native species are not completely known, but the prognosis is bleak. In addition, the long-term effects of regional or global problems such as acidic precipitation, mercury, and climate change are considered severe but little empirical data relates these stressors to mussel populations.

CONSERVATION AND MANAGEMENT RECOMMENDATIONS:
Discovery and protection of viable mussel populations is critical for the long-term conservation of freshwater mussels. Currently, much of the available mussel occurrence data are the result of limited presence/absence surveys. In addition, regulatory protection under MESA only applies to rare species occurrences that are less than 25 years old. Surveys are critically needed to monitor known populations, evaluate habitat, locate new populations, and assess population viability so that conservation and restoration efforts, as well as regulatory protection, can be effectively targeted. Coastal plain ponds are critical to the long-term viability of the Tidewater Mucket in Massachusetts, and these habitats are also experiencing intense development pressure and recreational use. Understanding this threat and developing conservation and management strategies is a high priority for NHESP. The NHESP has produced *Freshwater Mussel Habitat Assessment* and *Survey*

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Guidelines and has been working with qualified experts to conduct surveys. Other conservation and management recommendations include:

- Understand the effects of shoreline development and recreational use of lakeshores;
- Maintain naturally variable river flow and limit water withdrawals;
- Identify, mitigate, or eliminate sources of pollution to waterbodies;
- Addressing the problems of combined sewer overflows and the other effects of urban, industrial, and agricultural runoff is critical for protecting and restoring the Tidewater Mucket in the Connecticut River watershed;
- Identify dispersal barriers for host fish, especially those that fragment the species range within a river or watershed, and seek options to improve fish passage or remove the barrier;
- Maintain adequate vegetated riparian buffer along rivers and lakes;
- Protect or acquire land at high priority sites.

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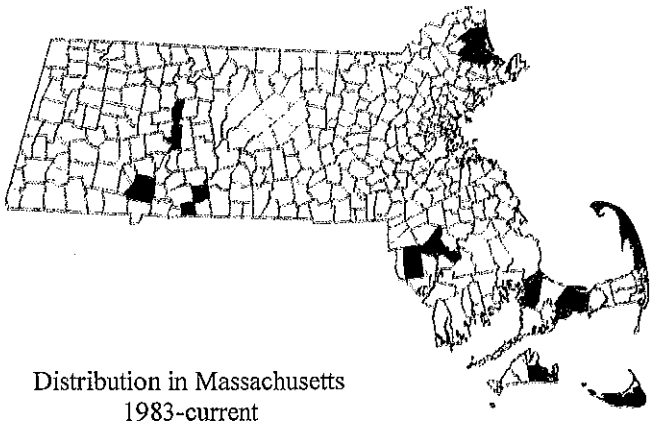
Massachusetts Division of Fisheries & Wildlife

Eastern Spadefoot
Scaphiopus holbrookii

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Eastern Spadefoot, only 1.75-2.25" (4.4-5.7 cm) long, is a short-legged, squat, big-headed toad with unmistakable cat-like, vertically elliptical pupils. The grayish or blackish-brown with olive skin is fairly smooth and scattered with small warts. Two yellowish lines originate from each eye and run down the back to form a lyre-shaped pattern. Another light line runs along each side of the body. The toad's name comes from the horny, sharp-edged, sickle-shaped spade on the inner surface of the hind foot. It belongs to a primitive amphibian family that is neither a true frog nor a true toad.

SIMILAR SPECIES: The Eastern Spadefoot is the only toad in its family occurring east of the Mississippi River. It is distinguished from the true toads by its smoother skin, vertically elliptical pupils, and single sharp-edged spade on each hind foot.



Distribution in Massachusetts
1983-current
Based on records in
Natural Heritage Database

HABITAT: This burrowing species requires dry, sand or sandy loam soils characteristic of Pitch Pine barrens, coastal oak woodlands, or sparse shrub growth, interspersed with temporary ponds. It prefers areas with leaf litter, and may be found in farmland areas. Colonies may occur within the floodplains of major rivers.

LIFE HISTORY: The Eastern Spadefoot is the most fossorial species of frog or toad in Massachusetts. It burrows up to eight feet below the ground's surface to hibernate during the cold months and to avoid desiccation during the rest of the year. It backs down into its burrow, digging with the hind feet and covering itself over with the fore feet. Spadefoots are secretive and nocturnal; activity peaks just after sundown and before sunrise. In the summer months, individuals remain in their burrows an average of 5-9 days between feedings.

In the warmer months, from April to September, the Spadefoot comes up to breed after prolonged warm and heavy rains. They emerge uttering explosive, low-

pitched grunts, short in duration and repeated at brief intervals. Home range movements are estimated to be an average of 108 sq. ft./10 sq. m., 90% of which falls within an area of 67 sq. ft./6.2 sq. m. Spadefoots have been recaptured in the same ranges after 5 years. Individuals may live for several decades. Adults apparently produce noxious or distasteful skin secretions, because native predators usually ignore them.

Colonial breeding is initiated by heavy rainfall in April or May and lasts until August or September. This one- or two-night phenomenon has been likened to an orgy of raucous squawks and frantic courtship. Spadefoots breed in vernal pools. The adhesive eggs, laid in masses or strings of 1000-2500, are draped over submerged twigs or grass, where they hatch in 5 to 15 days. Metamorphosis of larvae to adults is said to coincide with pond conditions; longer pond life results in longer larval life. In Essex County, a natural population metamorphosed in less than 4 weeks. Sexual maturity is reached during the second year after metamorphosis, males at 15 months and females at 19 months. Larvae feed on plankton for the first few days, later becoming vigorously carnivorous and sometimes cannibalistic. Adults eat flies, spiders, crickets, caterpillars, true bugs, other ground-dwelling arthropods, earthworms, snails, moths, and small vertebrates, such as salamanders.

RANGE: The Eastern Spadefoot toad is found from Massachusetts to New York, south to eastern Florida and some of the Keys, west through Pennsylvania, through the southern Great Lakes region, to Arkansas and south to Louisiana. The species is absent from the higher elevations of the Appalachians and the Everglades.

STATUS: Only 32 current populations have been verified since 1982. Museum specimens and literature attest to the former widespread, if not abundant, status of the species. Several factors contribute to the rarity of the species. Plum Island is the northern limit of the species' range. Destruction of suitable habitat continues to limit its numbers; Spadefoot populations have been extirpated by development from Middlesex County, inland Essex County and parts of Martha's Vineyard. The species is vulnerable to pesticides, and many individuals are killed crossing roads, especially during the breeding season.

Adapted from: Lazelle, J. D., Jr. 1987. Eastern Spadefoot. In T. W. French and J. E. Cardoza (eds). Endangered, Threatened, and Special Concern Vertebrates of Massachusetts. *Massachusetts Division of Fisheries and Wildlife.*

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Massachusetts Division of Fisheries & Wildlife

Bald Eagle
Haliaeetus leucocephalus

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Bald Eagle is one of the most impressive and majestic birds in North America. It is one of eight species in the genus *Haliaeetus*, the "fish" or "sea" eagles, and is the only member of the genus that occurs regularly in North America. This species is one member of the family of Accipiters, all of which are in the order Falconiformes. It is also the largest raptor (bird of prey) in Massachusetts, attaining a wingspan of 2.0 to 2.2 meters (6.5 to 7.0 feet) with a body length of 0.9 meters (3.0 feet), and a weight ranging from 3.6 to 6.6 kilograms (8 to 15 lbs.) at maturity. The sexes are similar in appearance but, as with most raptor species, the females are notably larger than the males.

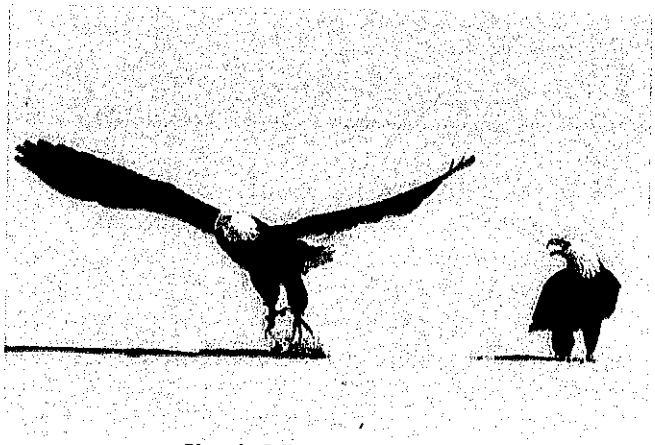
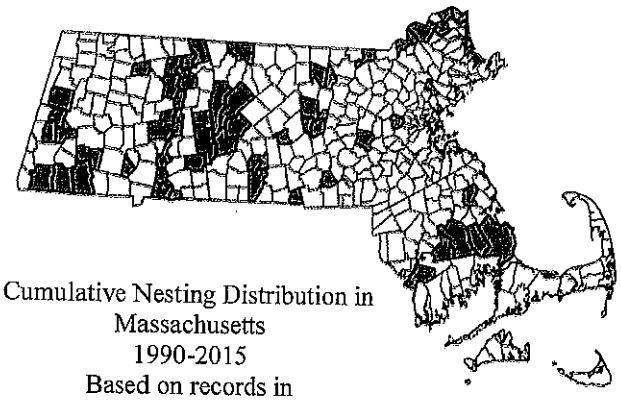


Photo by Bill Byrne, MassWildlife

Adult Bald Eagles are distinctively colored with a white head and tail, brown body, pale yellow eyes, and bright yellow beak and feet. The adult plumage is attained at 4 to 5 years of age. The plumage of immature Bald Eagles may vary considerably. Immatures go through a sequence of plumage types before reaching maturity. These plumages include a uniformly dark phase in the first year, followed by phases with various amounts of white on the belly, back, underwings, tail, and head. The eye and beak color also change with age, from dark brown and blackish-gray at hatching to bright yellow in adults. In all feathered stages, the tail is rounded and the lower half of the tarsus is unfeathered.

Bald Eagles fly with heavy, deep strokes and soar on flattened wings. In silhouette, the beak, head, and neck are almost as long as the tail.



Cumulative Nesting Distribution in
Massachusetts
1990-2015
Based on records in
Natural Heritage Database

SIMILAR SPECIES IN MASSACHUSETTS: The large size and distinctive plumage of the Bald Eagle make it very easy to distinguish from all other birds in Massachusetts, with the exception of the Golden Eagle (*Aquila chrysaetos*). Both grow to approximately the same size, but the white head and tail of the adult Bald Eagle differentiates it from the Golden Eagle. Immature Bald Eagles may be confused with both immature and adult Golden Eagles. The adult Golden Eagle is nearly uniformly dark without the mottling found on the immature Bald Eagle. Golden Eagles at any age may have relatively sharply defined, bright, clean white patches of varying size at the base of the inner primaries and outer secondaries on the wings and a clean white

area at the base of the tail. All immature Bald Eagles have whitish axillaries and, depending on age, can have extensive, "dirty" white mottling virtually anywhere on the head, body, wing linings, and tail. The Golden Eagle's legs are feathered to its toes; the legs of the Bald Eagle are unfeathered.

The Turkey Vulture is similar to an immature Bald Eagle in size and general coloration. At a distance, a distinction can be made by looking at the birds as they soar. Turkey Vultures hold their wings somewhat upright, forming a shallow "V" when soaring and rock from side to side as they ride thermal air currents. Bald Eagles hold their wings straight out from their body while soaring, with only the tips of the primary feathers curved slightly upward. Eagles do not rock from side to side as they soar, but rather make broad, sweeping circles as updrafts lift them skyward. At close range, the Turkey Vulture's small, featherless head (which is red in adults and gray in juveniles) makes identification quite simple.

RANGE: Bald Eagles occur from Alaska and Canada south throughout the United States to Florida and Baja California. In the lower 48 states, they occur sporadically over a wide area with notable seasonal concentrations in Florida, the Chesapeake Bay area, the Mississippi Valley and Pacific Northwest. In Massachusetts, occurrences are possible statewide, especially during migration in March-April and September-October; however, wanderers can appear virtually anywhere at any time. In Massachusetts, Bald Eagles use the Quabbin Reservoir, the Connecticut River, the Merrimack River, and the Assawompsett Pond complex throughout the year as both nesting and wintering habitat. Bald Eagles also overwinter along the coast of Cape Cod, Buzzard's Bay and the islands of Martha's Vineyard and Nantucket. Historically, the Bald Eagle bred throughout most of North America prior to its widespread, well-publicized population decline during the early to mid-1900s. However, during the past several decades, the Bald Eagle has recolonized much of its historic range and continues to repopulate areas where suitable habitat still exists.

HABITAT IN MASSACHUSETTS: Bald Eagles usually inhabit coastal areas, estuaries, and larger inland waters. This species requires a great amount of shoreline habitat containing stands of forest for nesting and trees projecting above the forest canopy for perching, an adequate supply of moderate-sized to large fish, an unimpeded view, and reasonable freedom from human disturbance. Wintering eagles require suitable roost trees for night roosting. Some such roosts may be 20 km or more from feeding areas, occurring in favorable thermal environments where roost trees are protected from the wind by topography or other trees. The use of these protected sites helps minimize the energy stress encountered by wintering birds. The absence of a suitable night roost could limit the use of otherwise suitable habitat.

LIFE CYCLE/BEHAVIOR: Courtship occurs in mid- to late winter and is a spectacular sight consisting of aerial loops, cartwheels, dives, and ending with the prospective mating pair locking their talons together and diving straight downward for hundreds of feet while spinning head over heels. Bald Eagles may live up to 30 years, but mortality is relatively high in the immature age classes. They mate for life, but if one member of a pair dies or is killed, the other will actively court another mate. Sexual maturity is reached at four to six years of age, but the birds may be considerably older before they breed for the first time.

The breeding season for Bald Eagles in Massachusetts begins with courtship during late fall or early winter. After courtship, the mated pair builds a large nest during December–February. The nest is constructed with large sticks and lined with sprigs of pine, grasses, and other soft materials. The male eagle collects the nest material and delivers it to his mate, who is responsible for most of the actual nest construction. Once the nesting site is chosen, the mated pair will usually return every year to the same site and add to the existing structure. The nests are located in hardwoods or conifers from 9 to 37 meters (30 to 120 feet) above the ground and may measure up to 3.6 meters (12 feet) high and 2.6 meters (8.5 feet) wide, with a weight of hundreds of pounds. Trees selected for nesting (and sometimes for roosting and perching) tend to be relatively large and, preferably, taller than their surroundings. Ideally, the nest lies below the top of the crown in a live tree, where the young are sheltered from the elements but the parent birds are still afforded adequate aerial access (generally, from the direction of the nearest water).

The female Bald Eagle lays one to three (two average) dull white eggs several days apart, usually during a period between early March and early April. The eggs

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are incubated (mostly by the female) for approximately 35 days until hatching. The eggs do not hatch at the same time, giving the first hatchling a significant advantage over its siblings. Competition for food is intense, and if the adult eagles are not able to provide enough for all of their young, the older chick will take advantage of its greater strength and size to seize most of the food provided by the parents, causing its younger siblings to starve. This behavior increases the probability that at least one chick will survive. Young eaglets grow rapidly and may eat up to two pounds of fish per day. Ten weeks after hatching, they begin to make short flights from the nest, spending much time with the parent birds observing the adults as they catch and find food. By late fall the adults will no longer care for their young, and the fledgling eaglets begin life on their own. The entire breeding cycle, from nest construction to fledging of young, lasts 6–8 months. Most Bald Eagles appear to nest within 200 miles of where they hatched.

When available, fish (both marine and freshwater) is the Bald Eagle's preferred food. Fish may be captured by swooping from a perch or by coursing low over the water and dropping straight down when a fish is spotted. An eagle may plunge into the water to capture fish and may also steal fish from an osprey by harassing it until it drops its catch. Prey too large to carry may be dragged to shore. Birds, especially waterfowl, are sometimes taken by bursting into a large flock and pursuing a straggler until it tires and can be captured. Bald Eagles also take crippled waterfowl and seabirds, small mammals and carrion, particularly dead fish. In winter, eagles of all ages may gather in large numbers at areas with open water where fish or waterfowl are abundant. This "social grouping" is believed to facilitate locating and acquiring food and may possibly aid in establishing or maintaining pair bonds.

HISTORICAL THREATS: The history of the Bald Eagle is one of human contradictions. On one hand, the Bald Eagle's noble image has been portrayed on public documents, coin, currency, etc. as our nation's symbol since 1782, making it one of the most well-known creatures on earth. On the other hand, its environment has been reduced and degraded, and the bird itself was treated as vermin throughout North America for the better part of a century. As a result of deliberate killing by people (who incorrectly believed that eagles kill livestock or significantly threaten salmon fisheries), combined with substantial habitat loss (conversion of forest to development and agriculture), the Bald Eagle decreased in numbers in much of its range for many years. From 1917 to 1952, at least 128,000 Bald Eagles were believed to have been killed in Alaska where there was a bounty on the species. In the 20th century, the introduction of man-made chemicals and pollutants to the environment was implicated in death, increased susceptibility to death, and diminished reproductive success of Bald Eagles. DDT and its metabolites, as well as other organochlorines, are well-documented causes of eggshell thinning, breakage, and toxicity. The Bald Eagle was listed federally as an Endangered Species in 1967.

A decline in human persecution and reductions in use of DDT and other toxins are credited with recent recoveries of Bald Eagle populations during the past quarter-century. The federal status of the species was upgraded to Threatened in 1995, and the species was removed from the federal list of threatened and endangered species in August 2007. However, Bald Eagle populations remain imperiled in a number of states, as prior habitat loss, prior and current habitat degradation, and ongoing disturbance from growing human populations continue to limit population viability.

POPULATION STATUS IN MASSACHUSETTS: Breeding Bald Eagles were extirpated from Massachusetts during the early 1900s. However, from 1982 to 1988, forty-one young Bald Eagles from Michigan and Canada were relocated to Quabbin Reservoir in Massachusetts. Following this restoration effort, Bald Eagles were confirmed to breed successfully in the state by 1989. Eagle numbers have increased slowly but steadily since that time. During 2015, an all-time high of at least 51 pairs of Bald Eagles maintained breeding territories in Massachusetts: Quabbin Reservoir (7), Connecticut River (11), Merrimack River (3), Assawonpsett Pond Complex (2), Westfield River (2), Deerfield River (2), North Watuppa Pond (1), Wachusett Reservoir (1), Quaboag Pond (1), Swift River (1), Westfield River (1), Housatonic River (1), Onota Lake (1), Lake Shirley (1), Pine Hill Reservoir (1), Webster Lake (1), Foss Reservoir (1), Halfway Pond (1), Powwow River (1), Lake Buel (1), Tully Lake (1), Blackstone River (1), Big Pond (1), Suntaug Lake (1), Chicopee River (1), Housatonic River (1), Charles River (1), Westport River (1), Quinebaug River (1), Round Pond (1), Neponset River (1), and Mashpee Pond (1). Although we no longer conduct a winter survey, during

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the 2008 Midwinter Bald Eagle Survey, 72 Bald Eagles were counted in Massachusetts: Quabbin Reservoir (36), Merrimack River (8), Connecticut River (9), Wachusett Reservoir (5), Lake Assawompsett (4), and other sites (10). Population abundance in Massachusetts is limited mainly by amount of potential breeding habitat (i.e., number of large water bodies surrounded by mature forest and having shallow waters and abundant fish). Population viability is limited mainly by the species' rarity and the possibility of catastrophic events (e.g., storms, disease).

MANAGEMENT RECOMMENDATIONS:

Protection and enhancement of potentially suitable wetland and forest habitats, and maintenance of known breeding, roosting, and wintering areas will be critical to long-term conservation of Bald Eagles in Massachusetts. To achieve these objectives, landowners should first work to limit development near shorelines of large water bodies, as loss of nesting habitat is a primary threat to Bald Eagles in the state. Prevention, identification, and remediation of environmental contamination (e.g., lead, mercury, PCBs, and other toxic depositions) are also key to maintaining adequate foraging habitat and maximizing long-term reproductive success and survival of Bald Eagles. Landowners who wish to harvest timber near potential eagle habitat should consult the Massachusetts Forestry Conservation Management Practices (CMPs) for Bald Eagle; these practices, which are published by the Natural Heritage and Endangered Species Program, provide guidance for protecting (or even enhancing) nesting and foraging habitat during forestry projects. Increased public education about the potentially detrimental effects of human disturbance on reproductive success of Bald Eagles is another measure that can be taken.

Direct mortality does not appear to be a leading threat to long-term conservation of Bald Eagles in Massachusetts. However, every effort should be made to prevent avoidable deaths. Fishermen should be diligent in proper disposal of fishing line and equipment; eagles are known to accidentally ingest hooks, and at least one eaglet has been killed in Massachusetts after becoming tangled in fishing line. Bald Eagles are still taken by shooting on occasion; hence, education and strict law enforcement are additional measures that can be taken to improve survival.

Population monitoring at both the state and regional level will be an important tool to help determine population status, growth potential, and possible conservation setbacks. With continued sound management and increased public awareness, the future of the Bald Eagle should continue to be one of conservation's greatest success stories.

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A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

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Updated 2016

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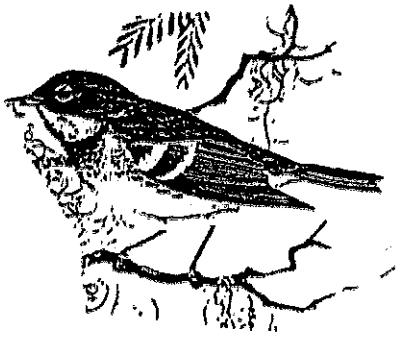
Massachusetts Division of Fisheries & Wildlife

Northern Parula
Setophaga americana

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Northern Parula is one of the smallest and most distinctly marked of the North American wood warblers. They are 10.8–12 cm (4 1/4 – 4 3/4 in) in length with a wing spread of 17.8–19.7 cm (7–7 3/4 in). The males are bright blue-grey above; white below; an olive patch on the upper back; and two bold white wing bars. They have a white eye ring broken by a black eye line; and a bright yellow throat with a dusky, red-brown chest band. Females and juveniles are similar but paler, and have little or no throat band.



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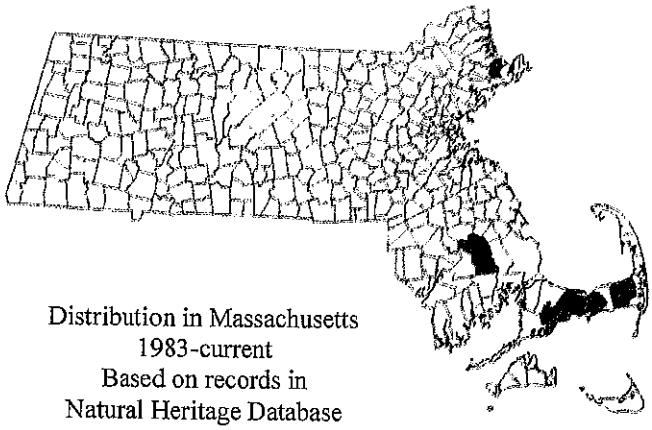
SIMILAR SPECIES IN MASSACHUSETTS: The Black-throated Blue Warbler (*Dendroica caerulescens*) has similar blue-grey upper parts, but lacks the double white wing bar, and has a black throat and face, instead of the yellow throat of *Setophaga americana*.

RANGE: The breeding range of the Northern Parula is from Nova Scotia to Manitoba, south to central Florida and Texas. It is generally associated in the north with the lichen Old-Man's Beard (*Usnea* spp.) and in the south with Spanish moss (*Tillandsia usneoides*). It winters primarily in Mexico, northern Central America and the West Indies.



Distribution in Massachusetts
1983-current
Based on records in
Natural Heritage Database

HABITAT IN MASSACHUSETTS: *Setophaga americana* is characteristically found in wet woodlands, such as Red Maple (*Acer rubrum*) or Atlantic White-cedar (*Chamaecyparis thyiodes*) swamps, river margins, pond shores, or even small depressions. It usually nests in association with the moss-like lichen, Old-Man's Beard (*Usnea* spp.).

LIFECYCLE/BEHAVIOR: In the northeast, the Parula begins nesting in late May or early June. The nest is generally in a hollowed out bunch of hanging *Usnea* lichen in either a deciduous or conifer tree. Though predominately made of *Usnea* spp., the nest may be sparsely lined with finely shredded moss, fine grasses, plant down, or a few hairs. Upon completion, the nest resembles a hanging grey pouch with an opening at or near the top. The nest may also be constructed of other material, such as burlap, leaf fragments, or grass, but this is exceptional. The height of the nest varies from 4 to 40 feet above ground with the average being 25 feet. The same nesting site is often occupied in successive seasons with eggs being laid in the same nest or in another nearby. *Setophaga americana* lays only one clutch of 4 to 5 eggs each year. The eggs are white to cream, speckled with brown, and

are incubated for 12 to 14 days. The young fledge in another 11 to 12 days.

The male sings during the nesting season into late July, and frequently during spring migration. It has at least three main songs, with a great range of variations. The most common is a buzzy, ascending trill, ending with an abrupt explosive note: "swee swee swee swee swee-Zip!"

Like others in its family, the Parula feeds on a variety of small insects such as cankerworms, hairy tent caterpillars, gypsy moth caterpillars, beetles and spiders. When feeding, it hops from twig to twig, inspecting leaves, often hanging upside down, much like a chickadee, or it may creep along trunks or branches like a nuthatch.

This species migrates south in September and October with other warblers, particularly the Blackpoll Warbler (*Setophaga striata*). *Setophaga americana* returns to Massachusetts in the beginning of May. It is more typically a migrant here than a summer resident.

POPULATION STATUS IN MASSACHUSETTS:
Since the turn of the century, the breeding population of the Northern Parula in Massachusetts has experienced a slow but steady decline. Since 1978, nine breeding locations have been recorded in the state. By 1986, though still a common migrant, the Parula was known to breed in only four locations on Cape Cod and the Elizabeth Islands (Harwich, Mashpee, Osterville, Naushon Island), nesting primarily in or on the edges of Atlantic White Cedar (*Chamaecyparis thyoides*) swamps. Each site was estimated to have 2–5 pairs of birds with the total state population thought to number less than 15 pairs (Nikula, 1986). To date, it is believed that the number of breeding pairs has declined even more dramatically, with only one remaining known breeding location (Osterville), where as few as 5 breeding pairs remain (Nikula, 1994). The species therefore appears to be in very serious danger of extirpation in Massachusetts and is currently listed as a state Threatened species.

Reasons for the decline in Northern Parula populations in Massachusetts and elsewhere in the northeast remain unknown. The decline coincides with the decline of its favored nesting material, *Usnea*, which may be sensitive to air pollution and acid rain. It is not clear to what degree the Northern Parula decline is associated with their dependence on *Usnea*. Additionally, its wintering grounds have experienced considerable destruction through deforestation and development, which may be significant in the decline of this species.

MANAGEMENT RECOMMENDATIONS:
Research on the nesting ecology, particularly with regard to the extent of the Parula's dependence upon *Usnea*, is needed to determine what role, if any, that relationship has impacted the species' decline. More information is needed on the Parula's wintering ecology and the effects of habitat alteration on the wintering grounds.

If the Northern Parula is being adversely affected by changes in its wintering grounds or by air pollution on the breeding areas, any attempt on the state level through habitat preservation and/or management are likely to be ineffective. Though the state must make every effort to insure the continued existence of suitable breeding habitat, ultimately, the future of the Northern Parula in Massachusetts may depend upon political decisions made at the national and international levels (Nikula, 1986).

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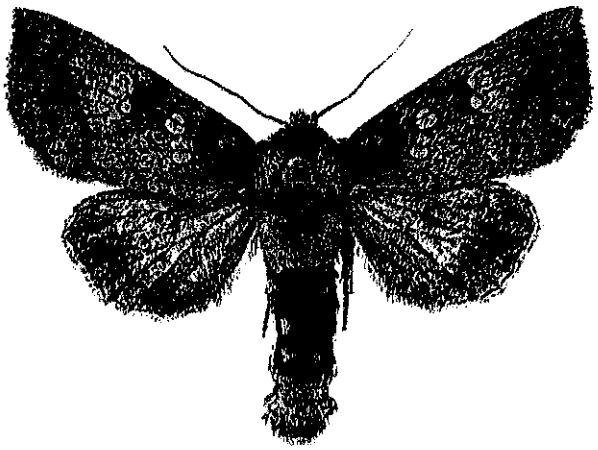
Massachusetts Division of Fisheries & Wildlife

Water-willow Borer
Papaipema sulphurata

State Status: **Threatened**
Federal Status: **None**

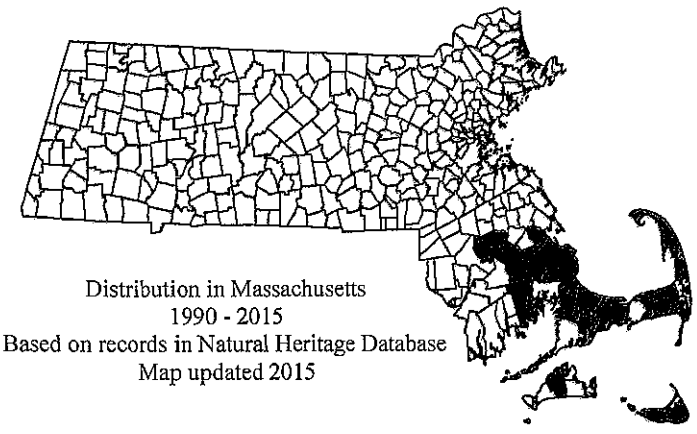
DESCRIPTION: The Water-willow Borer (*Papaipema sulphurata*) is a noctuid moth with a wingspan of 32-38 mm. The forewing is yellow, overlaid with darker, orangish-brown, with purplish-brown shading in the basal and terminal areas. The postmedial line is double (the distal line dark, purplish-brown, thicker than the orangish-brown proximal line), largely straight but curving in toward the costa distal to the reniform spot. An orangish-brown, diffuse and faint median line may be present. The antemedial line is orangish-brown in color and double, with the proximal line often obscured by the basal shading. The reniform spot is a large ring, outlined in orangish-brown and filled with yellow matching the ground color of the forewing. The orbicular and claviform spots are relatively large, the orbicular relatively round and the claviform elongate; like the reniform, both are outlined in orangish-brown and filled with yellow. The hind wing is tan, slightly tinged with orange; a faint discal spot may be present. The elongate scales of the head and thorax are a variable mixture of yellow, orangish-brown, and purplish-brown, matching the overall coloration of the forewing. The abdomen is tan, slightly tinged with orange, matching the color to the hind wing. The Burdock Borer (*Papaipema cataphracta*) is very similar, but the forewing is less saturated with the warm, orange tint of the Water-willow Borer (Forbes 1954).



Papaipema sulphurata ▪ Specimen from MA: Plymouth Co., Carver, collected 16 Sep 2001 by M.W. Nelson

Adult Flight Period in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
								■	■		



Distribution in Massachusetts
1990 - 2015
Based on records in Natural Heritage Database
Map updated 2015

HABITAT: The Water-willow Borer inhabits shallow portions of coastal plain wetlands (swamps, edges of lakes and ponds, riparian areas, abandoned cranberry bogs, vernal pools, etc.) where water-willow (*Decodon verticillatus*) grows.

LIFE HISTORY: In Massachusetts, adult Water-willow Borer moths fly in September and early October. Eggs overwinter, hatching in the spring. The larvae bore into and feed internally on the stems of water-willow (*Decodon verticillatus*), becoming fully grown and pupating in late August or early September.

GEOGRAPHIC RANGE: The Water-willow Borer is endemic to southeastern Massachusetts, occurring in

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

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eastern Bristol and Plymouth Counties and on Cape Cod and the offshore islands.

STATUS AND THREATS: The Water-willow Borer is threatened by habitat loss and hydrologic alteration that disrupts the natural seasonal flooding of its habitat. Other potential threats include invasion by exotic plants, eutrophication or other water pollution, river bank stabilization, aerial insecticide spraying, non-target herbiciding, off-road vehicles, and light pollution.

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Authored by M.W. Nelson, NHESP Invertebrate Zoologist, March 2015

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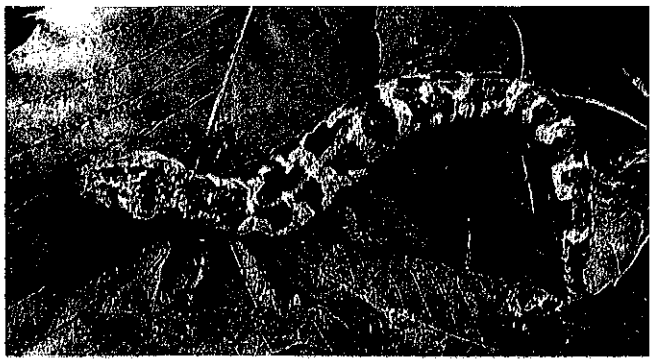
Massachusetts Division of Fisheries & Wildlife

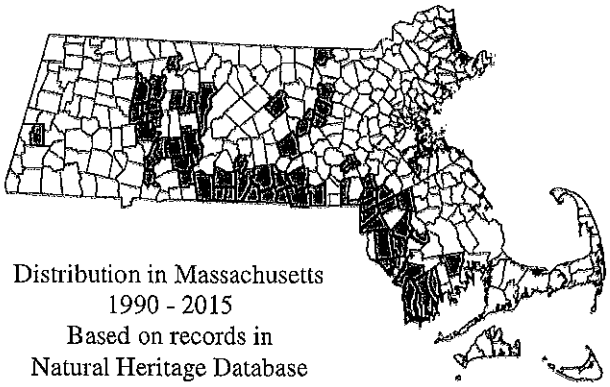
Marbled Salamander
Ambystoma opacum

State Status: **Threatened**
Federal Status: **None**

DESCRIPTION: The Marbled Salamander is a stout, medium-sized salamander with a stocky body, short limbs, and a broad, rounded snout. Dorsal coloration is black, marked with bold, variably-shaped grayish to whitish crossbands that create a "marbled" pattern from head to tail. Lateral and ventral coloration is uniformly dark gray to black. Banding on the mid- to upper dorsum tends to be bright white in mature males and dull gray in mature females. Banding on the tail can be white in both sexes, or gray in females. Total length is 3–5 inches.



Marbled Salamander
Photo by Lloyd Gamble



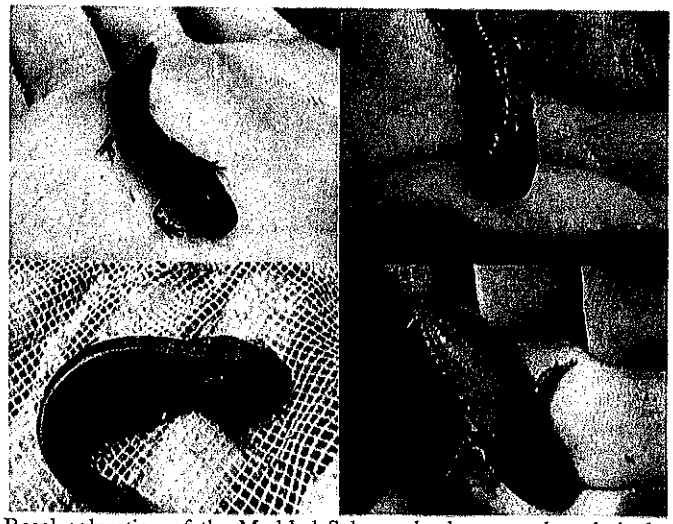
Distribution in Massachusetts
1990 - 2015
Based on records in
Natural Heritage Database

Recently hatched larvae are dark brown to blackish in coloration and measure approximately half-an-inch in total length. Throughout development, they have bushy, external gills, a broad head, a long caudal fin that extends onto the back, and a row of bright-white spots leading from the "armpit" of the forelimb down the lower lateral part of the body toward the hind limb. As larvae age, they develop dark pigment on the chin and belly, as well as light yellowish to olive-colored rows of spots or blotches along the upper lateral part of the body and tail. Mottling of the body and tail increases with age of the larva, and total length typically reaches 2–2.5 inches prior to metamorphosis. Base coloration can vary depending on environmental conditions, as dark-colored larvae collected from the wild will transform to a light-olive color when kept in a light-colored container. Albino/leucistic larvae have been documented in Massachusetts on at least two occasions.

Recently transformed juveniles (metamorphs) have a base color of brown to black and are marked with light, silvery flecks that become more pronounced and aggregated over the dorsum during the first several weeks post-metamorphosis. As the animal matures during the following 1–2 months, the markings elongate to form the characteristic marbled pattern of an adult.

SIMILAR SPECIES: Adult Marbled Salamanders cannot be confused with any other species in Massachusetts. Larvae can be distinguished from those of other *Ambystoma* salamanders in Massachusetts on the basis of the pigmented chin and the ventrolateral row of white spots. Metamorphs are somewhat similar to those of Spotted Salamander (*Ambystoma maculatum*), Blue-spotted Salamander (*A. laterale*), or Jefferson Salamander (*A. jeffersonianum*), but the latter three species are distinguished by yellowish (rather than silvery) dorsal flecking and tend not to occur until July or August, when most young-of-the-year Marbled

Salamanders have already attained the adult color pattern. Juvenile Blue-spotted and Jefferson salamanders have light-blue flecking that might be mistaken for the silvery-gray flecking of juvenile Marbled Salamanders, but the markings in Blue-spotted Salamander and Jefferson Salamander are concentrated much more heavily on the sides and legs (rather than on the head and dorsum).

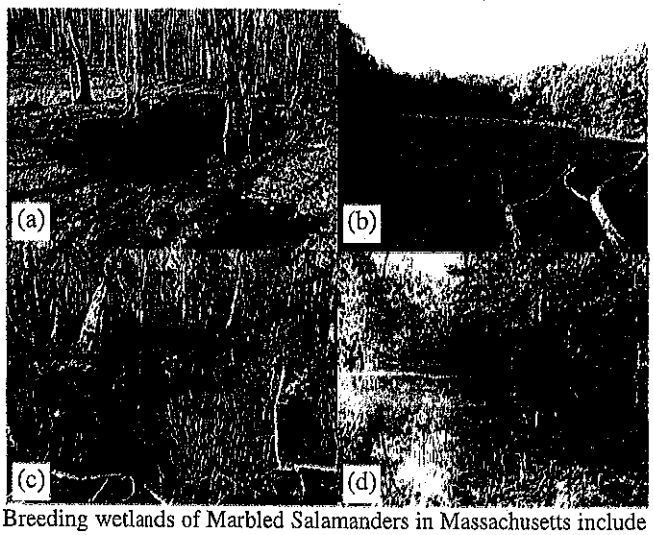


Basal coloration of the Marbled Salamander larva can be relatively dark (top) or light (bottom), depending on developmental stage or pool environment. Both of the larvae shown above were collected on the same date from Dartmouth, Massachusetts, with the top animal from a vernal pool with tannic water, and the bottom animal from a forested swamp with heavy algal growth. Note that the ventrolateral row of white spots and the dark pigments on the chin and belly are much more prominent in the top animal.

Photos by Jacob E. Kubel

RANGE: Marbled Salamander ranges from southern New England south to northern Florida and west to eastern Texas and Oklahoma. Disjunct populations occur in southwestern Missouri, northern Indiana, southwestern Michigan, northern Ohio, and northwestern Pennsylvania. Within Massachusetts, Marbled Salamander is distributed primarily among parts of Bristol, Franklin, Hampden, Hampshire, Norfolk, and Worcester counties. Only several populations are known from Middlesex and Plymouth counties, and a disjunct population occurs in Berkshire County.

HABITAT: Adult and juvenile Marbled Salamanders inhabit relatively mature deciduous and mixed deciduous-coniferous forests and woodlands. Elevation and forest type vary greatly among local populations across Massachusetts, but dry sites seem to be preferred. Breeding/larval habitat is also variable, consisting of vernal pools, woodland ponds, shrub swamps, and forested swamps differing markedly in their surface areas, depths, bottom substrates, and/or densities and composition of vegetation. However, there are three consistent characteristics of those habitats – they almost always are fishless, occur within or adjacent to forests, and hold water continuously during a minimum period of January–May (often October–June). Most breeding wetlands dry completely or substantially during the summer, and many have variable microtopography (e.g., at least one relatively deep sub-basin adjacent to flat or gently-sloped "shelves" of intermediate depth).



Breeding wetlands of Marbled Salamanders in Massachusetts include (a) small vernal pools; (b) large, open, temporary ponds; (c) forested swamps; and even (d) abandoned farm ponds or borrow pits.

Photos by Lori Johnson (a) and Jacob E. Kubel (b–d)

In the terrestrial environment, trademarks of good-quality microhabitat for adult and juvenile Marbled Salamanders include well-developed leaf litter, abundant coarse woody debris, loose soils, predominantly closed-canopy tree cover, and abundant rodent tunnels. Most adult individuals reside within several hundred meters of their breeding wetland. Research suggests that local salamander distribution around a breeding site may be influenced by habitat integrity, with salamanders residing closer to a wetland (on average) in intact forest, but occupying areas farther from the wetland when a forest patch is fragmented (e.g., by development). Of course, variability in the distribution of high-quality microhabitat around a breeding site is also likely to influence the distribution of individual salamanders

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around the wetland, as is the availability of other suitable wetlands within the patch of upland habitat.

LIFE CYCLE / BEHAVIOR: As the family name "mole salamander" implies, adult and juvenile Marbled Salamanders spend the majority of their time underground or hidden beneath rocks, logs, leaf litter, or other debris. During rainy or otherwise humid nights in the warmer months of the year, individuals may occur on the ground surface for purposes of foraging, dispersal, or migration to breeding sites. However, most hours of the year are spent under leaf litter, in rodent tunnels, or in other subsurface cavities. Winters are spent below the frost line, presumably in vertical rodent tunnels or root channels, as has been observed in other mole salamanders.

Unlike most Ambystomatid salamanders in Massachusetts that breed during early spring and deposit gelatinous egg masses in water, Marbled Salamanders breed during late summer and deposit clutches of loose eggs in dried wetland basins. In late August or early September (depending on the timing of rain or other high-humidity events), adult Marbled Salamanders emerge from their underground retreats and migrate to their breeding pools. Migrations occur at night, usually during or shortly following rain, or during foggy or misty conditions. Males generally arrive at the breeding sites several days to a couple of weeks prior to females.

Courtship occurs on land, either in the dried wetland basin or at some other location beyond the wetland (research suggests that males occasionally intercept females prior to their arrival at breeding sites). Courtship behavior involves circular "dancing" and snout-to-vent nudging. This activity induces the male to deposit a gelatinous spermatophore (a tiny packet of sperm) on the ground, which the female picks up with her cloaca and stores for internal fertilization of her eggs.

After mating, the female moves to a select portion of the dried wetland basin (usually at an intermediate depth) to construct a nest. She carves out a small, elliptical cavity in the soil or detritus just below the leaf litter or at the edge of or beneath a partially imbedded log, stone, or mat of dead vegetation. She then deposits a clutch of approximately 50–150 individual eggs in the depression and coils her body over them, waiting for autumnal rains to fill the pool with water and inundate the eggs. The eggs are spherical and approximately 2–5 mm in diameter, depending on their age and hydration. Each egg initially appears as a transparent capsule containing a whitish embryo in a clear, fluid matrix, but the outer membrane soon stains dark-brown to black as the female moves over or turns the eggs, and soil particles stick to them. By the time a nest is several days old, it resembles a pile of spherical mud pellets.

In Massachusetts, egg deposition peaks in mid-September. Unless disturbed by a predator or other large animal, the female typically remains with her eggs until they are inundated by water or, if filling of the pool is slow to materialize, for a period of several weeks. Nests are often abandoned if dryness persists into mid-October; females are seldom observed brooding eggs in November. Dehydration and/or the onset of cold temperatures are probable triggers for abandonment. Egg mortality likely increases as wetland basins remain dry into the winter, but abandoned eggs can remain viable for a considerable period of time. Successful hatching of abandoned nests in Massachusetts has been documented in December and even late January.

A Marbled Salamander found guarding her eggs beneath a log in a dried vernal pool in Sutton, Massachusetts on September 7, 2012. Larvae were observed the following spring, even though the pool had not filled with water until late January.

Photo by Jacob E. Kubel

When the pool basin does fill with water, the eggs hatch within hours to a couple of days. Hatchling larvae are active immediately and feed on zooplankton. If hatching occurs during September or October (when water temperatures are relatively warm), larvae are able to put on noticeable growth (≥50% of initial body size) before winter arrives, pools ice over, and feeding activity slows.

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The larval salamanders remain in their natal wetlands throughout the winter and rapidly increase their feeding activity (and growth) once ice thaws in March and water temperatures rise in April and May. At this time, the larvae feed on zooplankton, aquatic invertebrates (including mosquito larvae), and even other amphibian larvae (e.g., Spotted Salamander). Metamorphosis peaks during late May through early June, with some individuals or sites experiencing earlier or later dates, depending on larval density, pool hydrology, and/or other factors.

During metamorphosis, the larvae develop lungs, resorb their gills, and seek cover beneath stones, woody debris, leaf litter, or other detritus in moist or saturated portions of the wetland basin. There, the juvenile salamanders will wait for an opportunity to leave the basin and disperse into the surrounding forest (typically during an evening rain). Following dispersal from natal wetlands, juvenile salamanders will reside in the forest, feeding on snails, earthworms, beetles, slugs, and other small invertebrates. Upon reaching sexual maturity (1–5 years), most individuals will return to their natal wetland to breed, starting the cycle anew. Others will have sought out new ground, joining another segment of the local breeding population, or pioneering a new one of their own. One study in Massachusetts documented a juvenile dispersal rate of approximately 9%, with some individuals eventually breeding in wetlands >3,000 feet from where they were born.

Maximum life expectancy of Marbled Salamander is unknown. Mark-recapture studies of mole salamanders, in general, indicate that adult survivorship is relatively high, and individuals may live for several years or more with regularity. Accounts of salamanders held in captivity suggest a possible lifespan greater than 10 years. One study in Massachusetts documented Marbled Salamanders surviving greater than 6 years in the wild, with average annual adult survivorship at the site approaching 65%. In comparison, modeling exercises suggested annual adult survival near 80% at a site in South Carolina.

POPULATION STATUS IN MASSACHUSETTS: Marbled Salamander is legally protected and listed as Threatened pursuant to the Massachusetts Endangered Species Act (M.G.L. c. 131A) and implementing regulations (321 CMR 10.00). As of January 2015, approximately 85 local populations had been documented among 61 towns since 1990. Massachusetts is near the northern limit of the geographic range of Marbled Salamander, and local populations in the state are relatively small. Adult survivorship appears critical to population persistence, especially at sites where reproductive output is low, or reproductive failures are common. Primary threats to Marbled Salamander in Massachusetts are habitat loss, habitat degradation, road mortality, and emerging infectious disease.

Clearing of forest for residential and other developments is an ongoing threat to Marbled Salamanders in Massachusetts.
Photo by Jacob E. Kubel

The most common types of habitat loss are the clearing of forests and the filling (or draining) of vernal pools during residential, commercial, industrial, mining, or agricultural development. Habitat degradation typically occurs when development fragments habitat (e.g., creates gaps between forest habitat and breeding wetlands), chemical applications (e.g., pesticides, deicing salts, fertilizers) pollute breeding wetlands, or commercial logging operations disrupt forest ecology (e.g., compact soils, reduce leaf litter, introduce or increase growth of non-native, invasive vegetation). High road densities and traffic volumes tend to result in increased levels of adult salamander mortality; in extreme cases, road mortality functions as a barrier between upland and breeding habitats. Known and potential impacts of several pathogens/emerging infectious diseases (e.g., ranavirus, *Batrachochytrium salamandrivorans*) are not completely understood, but outbreaks could result in severe and widespread salamander mortality.

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MANAGEMENT RECOMMENDATIONS:

At a local scale, sites of known occurrence of Marbled Salamander should be managed to develop or maintain mature forest conditions within at least 1,000-ft radii around confirmed and potential breeding wetlands. Such management should aim to minimize forest loss/fragmentation, road traffic, soil compaction, and introduction/growth of invasive, non-native vegetation. Forest type should be maintained as deciduous or mixed deciduous-coniferous. Fallen trees, branches, leaves, and other detritus should be allowed to accumulate on the forest floor. Hydrology of breeding wetlands should not be altered in ways that might reduce hydroperiod within the October through June time period. Breeding wetlands should be protected from chemical pollution, and basin structure should not be altered without special permits from the Massachusetts Division of Fisheries and Wildlife and/or the Department of Environmental Protection. Breeding wetlands should not be filled or used for dumping of yard waste or refuse.

At the landscape scale, area of mature upland forest between local populations of Marbled Salamander should be maximized to maintain broad dispersal corridors and, therefore, genetic exchange between populations. Land acquisition/protection efforts for maintaining habitat connectivity should prioritize areas with low road densities and traffic volumes. A land-protection strategy may best serve long-term persistence of local populations where they occupy relatively large, connected areas containing abundant breeding habitats. However, lands supporting small, peripheral, or isolated populations are also worth protecting for maintenance of genetic diversity at the state level.

Stronger controls are necessary to guard against the introduction and spread of amphibian pathogens and infectious disease. For example, national policy and enforcement regarding importation of exotic wildlife in the global pet trade should be improved to reduce and minimize the volume of diseased animals entering the country. Within Massachusetts, field biologists, anglers, and other outdoor enthusiasts should adopt and promote appropriate equipment-sanitation procedures when outdoor activities span wide geographic areas. A statewide amphibian monitoring program that includes sampling for pathogens and disease outbreaks is needed.

Citizens are encouraged to assist with conservation of Marbled Salamanders in several ways. For example,

A gravid Marbled Salamander migrates to her breeding site during late August in Attleboro, Massachusetts.
Photo by Jacob E. Kubel

observations of Marbled Salamander should be reported to the NHESP, as land-protection efforts for the species are dependent on knowing where local populations occur. Collection and submission of data for the certification of vernal pool habitat is another beneficial action, as it will afford certain legal protections to salamander habitats. Citizens may also provide important information by reporting incidents of mass amphibian mortality at vernal pools and other wetlands.

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Updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

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Program
Massachusetts Division of Fisheries & Wildlife
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PRIORITY NATURAL COMMUNITIES

BioMap2 Components

Core Habitat: **Priority Natural Communities**
Critical Natural Landscape: **NA**

NATURAL COMMUNITIES: ASSEMBLAGES OF SPECIES IN SPACE AND TIME

Natural communities are assemblages of species that occur together in space and time. These groups of plants and animals are found in recurring patterns that can be classified and described by their dominant physical and biological features: Red Maple swamp and Pitch Pine/Scrub Oak communities are two examples. Natural communities are not discrete units with neat boundaries; there is overlap among and between communities in their composition, structure, and physical characteristics. Large animals often make use of multiple communities.

The Massachusetts Natural Heritage & Endangered Species Program and The Nature Conservancy's Massachusetts Program developed *BioMap2* in 2010 as a conservation plan to protect the state's biodiversity. *BioMap2* is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, priority natural communities, and a diversity of ecosystems.

COMPONENTS OF *BIOMAP2*: *BioMap2* **Core Habitat** identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, priority natural communities, and intact ecosystems. *BioMap2* **Critical Natural Landscape** was created to identify and prioritize intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames. *BioMap2* uses specific data and sophisticated mapping and analysis tools to spatially define each of these components, calling on the latest research and understanding of species biology, conservation biology, and landscape ecology.

Figure 1: An example of Atlantic White Cedar Bogs delineated using aerial photographs and on-the-ground data collection.

PRIORITY NATURAL COMMUNITIES: Natural communities are defined as interacting assemblages of plant and animal species that share a common environment and occur together repeatedly on the landscape. Based on detailed NHESP data on the distribution, composition, and status of natural communities, NHESP currently defines 108 types of terrestrial (upland), palustrine (freshwater wetland), and estuarine (coastal salt-influenced wetland) community types across the Commonwealth.

Terrestrial communities include forests, rocky ridgetops, shrublands, and beaches; palustrine examples include red maple swamps, bogs, and marshes; and estuarine communities include salt marshes and tidal flats.

Natural communities may be restricted or widespread in their distribution across the state. In the creation of *BioMap2*, conservation priority was given to types of natural communities with limited distribution—regionally or globally—and to the best examples documented of more common types, such as old-growth tracts of widespread forest types.

These uncommon and exemplary natural communities were inventoried in the field and mapped using aerial

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photograph interpretation. Based on assessment of their size, condition, and landscape context, 782 examples of 94 of these Priority and Exemplary Natural Community types are included as Core Habitat in *BioMap2*. Conservation of these areas will support the persistence of characteristic common as well as rare species within Massachusetts.

ACHIEVING STRATEGIC CONSERVATION WITH *BioMap2*: In *BioMap2*, the Core Habitat and Critical Natural Landscape are complementary and overlapping, and were delineated based on separate criteria. Each represents a different scale of biodiversity in Massachusetts, yet the protection of both is important to conserve the full suite of biodiversity in the state.

Figure 3: Pitch Pine/Scrub Oak Community

Natural communities may be restricted or widespread in their distribution across the state. Conservation priority should be given to natural communities with limited distribution across ecoregions within the state, those with restricted global distribution, and Massachusetts best examples of more common types (considered to be "Exemplary Natural Communities").

Both land protection and stewardship may be necessary to protect the biodiversity represented by the Priority Natural Communities. For example, invasive species control may be necessary to maintain the integrity of the biodiversity of these areas, while land protection may be necessary to prevent alterations to the plant assemblages and the structure of these important areas.

2010

Figure 2: Atlantic White Cedar swamp

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WETLAND CORE and UPLAND BUFFER

BioMap2 Components

Core Habitat: **Wetland Core**
Critical Natural Landscape: **Upland Buffer**

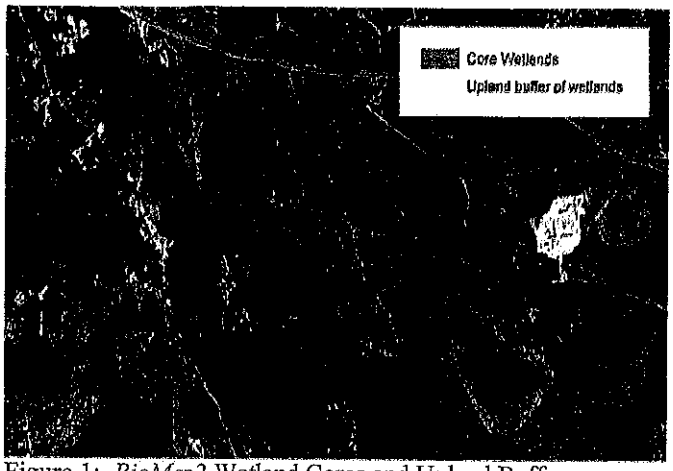

Figure 1: *BioMap2* Wetland Cores and Upland Buffers

FRESHWATER WETLANDS: CONCENTRATIONS OF RARITIES, ESSENTIAL HABITAT

Freshwater wetlands are productive ecosystems that support high biodiversity, including unique plant communities and many animal species that are dependent on wetlands for various life cycle needs. Wetlands also serve critical ecosystem functions: they capture heavy rains and help prevent flooding downstream, absorb greenhouse gases from the atmosphere, and store and purify groundwater. Wetlands are extremely important components of the Massachusetts landscape; however, they are limited in extent, covering only about 450,000 acres (less than 10%) of the state. Despite protection by state and federal regulations, historical wetland destruction, encroaching development, habitat fragmentation, unsustainable water withdrawals, pollution, invasive species, and climate change all threaten the ability of wetlands to support biodiversity and to continue to function effectively.

The Massachusetts Natural Heritage & Endangered Species Program and The Nature Conservancy's Massachusetts Program developed *BioMap2* in 2010 as a conservation plan to protect the state's biodiversity. *BioMap2* is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.

COMPONENTS OF *BIOMAP2*: ***BioMap2* Core Habitat** identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems. ***BioMap2* Critical Natural Landscape** was created to identify and prioritize intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames. *BioMap2* uses specific data and sophisticated mapping and analysis tools to spatially define each of these components, calling on the latest research and understanding of species biology, conservation biology, and landscape ecology.

WETLAND CORES: *BioMap2* includes a statewide assessment of the most intact wetlands in Massachusetts. This analysis identified the least disturbed wetlands within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are mostly likely to support critical wetland functions (i.e. natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future. High-quality wetlands were identified using an assessment of Ecological Integrity. This analysis combined individual wetland types (e.g., shrub swamps, forested wetlands, marshes, bogs) into contiguous wetland

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complexes, selecting only those greater than 10 acres in order to prioritize long-term ecological function. Wetlands larger than 10 acres account for about 303,000 acres in Massachusetts.

To enhance the biodiversity value of wetlands selected as Core Habitat, it is important to represent the varied ecological settings found in Massachusetts. In particular, different plant and animal assemblages occur in unique physical settings determined by geology and elevation. For instance, 108,000 acres of wetlands occur on the sandy soils of southeastern Massachusetts in an elevation range between 20 and 800 feet. By contrast, fewer than 8,000 acres of wetlands are found on marble or calcareous bedrock in western Massachusetts between 800 and 1,700 feet. By mapping the most intact wetlands in each ecological setting, *BioMap2* will help prioritize conservation of wetland diversity in the context of climate change. These intact wetlands in diverse settings may be thought of as representing the ecological stage, and are most likely to support a diversity of wetland types over time, even as different plant and animal species (the actors on the ecological stage) shift in response to climate change.

UPLAND BUFFERS OF WETLAND CORES: A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each

Figure 2: Spoonleaf Sundew is one of the many unique plants found in bog communities

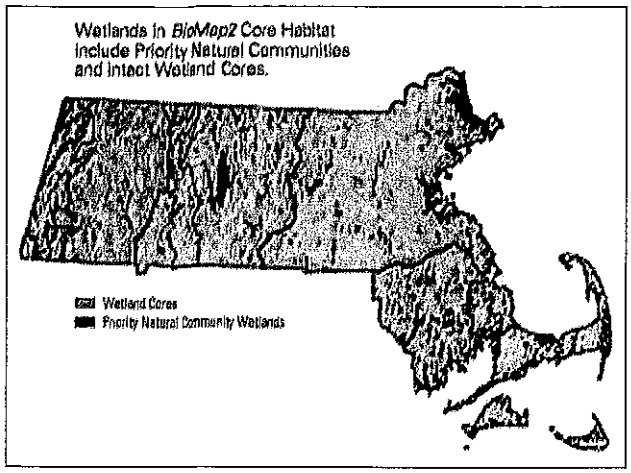

Figure 3: *BioMap2* Wetland Cores and Upland Buffers across Massachusetts

Wetland Core. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

ACHIEVING STRATEGIC CONSERVATION WITH *BioMap2*: In *BioMap2*, the Core Habitat and Critical Natural Landscape are complementary and overlapping, and were delineated based on separate criteria. Each represents a different scale of biodiversity in Massachusetts, yet the protection of both is important to conserve the full suite of biodiversity in the state.

Wetland Core Habitats in *BioMap2* represent the areas in which land protection and stewardship will contribute most significantly to the conservation of specific elements of biodiversity.

Upland Buffers of Wetland Cores, if protected, will help minimize impacts from development on natural wetland systems, allow connectivity among habitats, and provide area for natural processes which result in a wider diversity of habitats and species.

Both land protection and stewardship may be necessary to protect the biodiversity represented by the *BioMap2* Wetland Cores and their Upland Buffers. For example, invasive species control may be necessary to maintain the integrity of the biodiversity of the Wetland Core, while land protection may be necessary to prevent land clearing and runoff from the adjacent Upland Buffers into the Wetland Cores.

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Route 135, Westborough, MA 01581

LANDSCAPE BLOCKS

BioMap2 Components

Core Habitat: **NA**
Critical Natural Landscape: **Landscape Blocks**

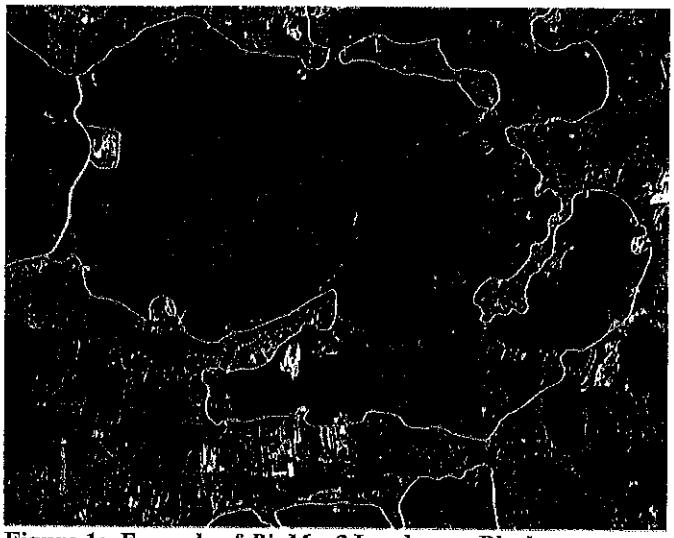

Figure 1: Example of *BioMap2* Landscape Block

LANDSCAPES: THE BIGGER PICTURE

Large intact landscapes provide diverse habitats at a scale necessary to sustain healthy populations of wide-ranging species like Moose, Black Bear, and Bobcat. These animals travel great distances and have large home ranges (the area where an animal lives and travels over the course of a year). The integrated patchwork of wetlands, uplands, and rivers that are found in unfragmented landscapes allows animals to move freely among habitats, supporting daily movements, migration, dispersal, and colonization of new habitats. Intact landscapes also facilitate shifts in the geographic distribution of species, a process that is likely to accelerate in response to climate change in the coming decades.

In contrast to intact landscapes, landscapes fragmented by roads and development result in smaller and more isolated habitat patches, with barriers and resistance to movement. Species that are dependent on intact landscapes avoid developed areas. Direct mortality on roads, combined with indirect impacts of development such as noise, light, pollutants, and invasive species, provide additional hurdles for vulnerable species.

Landscapes also support ecosystem processes and interactions among different habitats, making the whole greater than the sum of the parts. For example, large forested watersheds capture, filter, and gradually supply clean, cool water and nutrients to our river networks, supporting a wide array of fish, mussels, insects, reptiles, amphibians, and mammals. Intact landscapes also buffer smaller and more sensitive species and natural communities—such as wetlands, vernal pool species, freshwater habitats, and rare ridgetop inhabitants such as Timber Rattlesnakes—from the impacts of roads and development. Landscapes are naturally dynamic, described by some as shifting mosaics. Over time, habitats and ecosystems expand, contract, and shift location across larger landscapes as a result of species interactions, natural disturbances, and climate change. The dynamic nature of landscapes, which can only occur in large intact areas, results in a mosaic of habitat types and patches that in turn support a wide array of species. For example, disturbances such as blowdowns, ice storms, tornados, and other weather events result in patches of young forest embedded within larger patches of older forest. Many species depend on these younger forests for breeding and foraging habitat. Another example of a dynamic natural process is the flooding of low-lying forests resulting from Beaver dams, converting former closed canopy forests into open canopy wetlands.

The Massachusetts Natural Heritage & Endangered Species Program and The Nature Conservancy's Massachusetts Program developed *BioMap2* in 2010 as a conservation plan to protect the state's biodiversity. *BioMap2* is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.

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COMPONENTS OF *BIOMAP2*: ***BioMap2* Core Habitat** identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems. ***BioMap2* Critical Natural Landscape** was created to identify and prioritize intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames. *BioMap2* uses specific data and sophisticated mapping and analysis tools to spatially define each of these components, calling on the latest research and understanding of species biology, conservation biology, and landscape ecology.

LANDSCAPE BLOCKS: Landscape Blocks, the primary component of Critical Natural Landscape, are large areas of intact predominantly natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes. Pastures and power-line right-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species.

Collectively, these natural cover types total 3.6 million acres across the state. A GIS-based computer model (the Ecological Integrity assessment) was used to identify the most intact and least fragmented areas. These large Landscape Blocks are most likely to maintain dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes, all of which help support wide-ranging wildlife species and many other elements of biodiversity. This analysis directly applied climate change adaptation strategies of selecting large, well-connected landscape patches with intact ecological processes, which are minimally impacted by other stressors. Additional habitat blocks were included in the Landscape Block delineations to support viable populations of the Special Concern Eastern Box Turtle to protect this wide-ranging, but vulnerable, habitat generalist.

Landscape Blocks were selected across eight different ecoregions in Massachusetts in order to include a diversity of ecological settings. Ecoregions are geographic areas with similar topography, geology, and predominant vegetation, and therefore represent areas of relatively homogeneous ecological setting. In order to identify critical Landscape Blocks in each ecoregion, different Ecological Integrity thresholds were used to select the largest intact landscape patches in each ecoregion while avoiding altered habitat as much as possible. This ecoregional representation accomplishes a key goal of *BioMap2* to protect the ecological stage that supports a broad suite of biodiversity in the context of climate change. Blocks were defined by major roads, and minimum size thresholds differed among ecoregions to ensure that *BioMap2* includes the best of the best in each ecoregion.

ACHIEVING STRATEGIC CONSERVATION WITH *BioMap2*: In *BioMap2*, the Core Habitat and Critical Natural Landscape are complementary and overlapping, and were delineated based on separate criteria. Each represents a different scale of biodiversity in Massachusetts, yet the protection of both is important to conserve the full suite of biodiversity in the state.

BioMap2 is designed to prioritize Species Habitats, Natural Communities, and intact ecosystems to guide land protection and stewardship for biodiversity. Biodiversity conservation also requires maintaining intact landscapes at larger scales. Landscapes are defined as mosaics of forests, wetlands, rivers, shrublands, and other habitats, from valley bottoms to ridgetops. Intact landscapes provide an aggregation of contiguous habitats and connectivity among them, to support the long-term viability of wildlife populations and to help maintain natural ecosystem processes. And while strict *land protection* is a crucial tool used to protect biodiversity at the scale of *BioMap2* Core Habitats, thoughtful *land use* can be employed to protect biodiversity within these larger Landscape Blocks. For example, timber harvests in working forests and certain agricultural practices can still allow for the large-scale ecological processes Landscape Blocks provide, but also support human communities that rely on our state's natural resources. Land management may also be necessary in some areas to maintain the diversity of habitats within Landscape Blocks that have become limited over time, as human development has encroached on natural areas.

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FOREST CORE

BioMap2 Components

Core Habitat: **Forest Core**
Critical Natural Landscape: **NA**

FORESTS: THE FOUNDATION OF NEW ENGLAND'S LANDSCAPE

Forests are the dominant vegetation type in the eastern US, and Massachusetts has nearly three million acres of various forest types. The higher elevations of western Massachusetts support Northern Hardwood forests dominated by birch, beech, and maple, while central and eastern Massachusetts are characterized by Central Hardwood forests, predominantly oak and hickory mixed with pine and hemlock. The Commonwealth's extensive forests provide valuable habitat for a wide range of woodland plants and animals. In addition, forests serve critical ecological and societal functions such as filtration of drinking water, absorption of greenhouse gases, absorption and retention of heavy rains thereby reducing flooding, provision of forest products such as wood and paper, and opportunities for recreation.

Forest interior habitat is widely recognized as critically important for species sensitive to forest fragmentation and is becoming increasingly scarce in highly populated regions of the country like Massachusetts. Forest interior habitats are the areas least impacted by roads, residential and commercial development, and other fragmenting features. Many bird species that breed in Massachusetts are sensitive to forest fragmentation, including Ovenbirds, Scarlet Tanagers, and many woodland warblers. Negative results of fragmentation include edge effects such as nest predation by species associated with development such as skunks, raccoons, and house cats; and nest parasitism by species such as the Brown-headed Cowbird that lay their eggs in the nests of other bird species and reduce their reproductive success. Forest interior habitats also support a wide range of native plants, animals, and ecological processes sensitive to other edge effects such as noise and light pollution from roads and development, invasive species establishment, and alterations to wind, heat, and other climate variables.

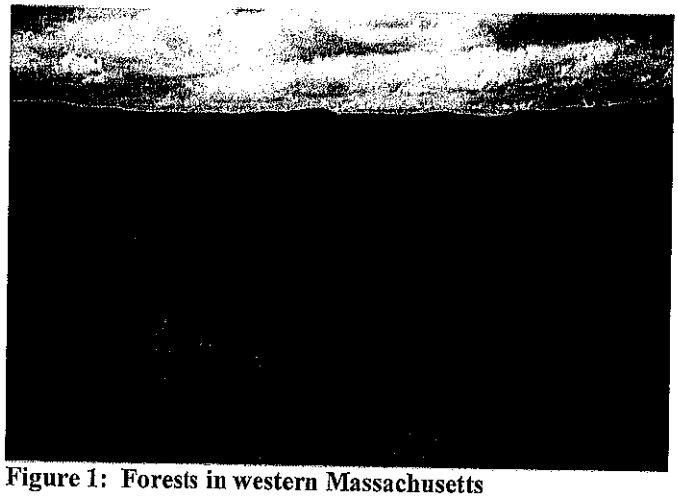

Figure 1: Forests in western Massachusetts

Within the forests of Massachusetts, several uncommon natural communities are found in uncommon settings, such as on marble bedrock, at high elevations, or near the coast. An important example is Rich Mesic Forest, found on moist, nutrient-rich sites that support a high diversity of plant species including abundant forest wildflowers (spring ephemerals) such as Dutchman's Breeches, Wild Leek, and Blue Cohash. Yellow Oak Dry Calcareous Forests occur on marble bedrock in western Massachusetts and also support unique species assemblages. Spruce-fir forests occupy the highest elevations in the state and are thought to be highly vulnerable to warming temperatures associated with climate change

The Massachusetts Natural Heritage & Endangered Species Program and The Nature Conservancy's Massachusetts Program developed *BioMap2* in

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2010 as a conservation plan to protect the state's biodiversity. *BioMap2* is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.

COMPONENTS OF *BIOMAP2*: ***BioMap2* Core Habitat** identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems. *BioMap2* uses specific data and sophisticated mapping and analysis tools to spatially define each of these components, calling on the latest research and understanding of species biology, conservation biology, and landscape ecology.

FOREST CORES: In *BioMap2*, Core Habitat includes the best examples of large, intact forests that are least impacted by roads and development, providing critical habitat for numerous woodland species. For example, the interior forest habitat defined by Forest Cores supports many bird species sensitive to the impacts of roads and development, such as the Black-throated Green Warbler, and helps maintain ecological processes found only in unfragmented forest patches. Of the approximately 3 million acres of forest and forested wetlands in Massachusetts, the largest and least fragmented forest in each ecoregion were selected based on a GIS-based computer model (the Ecological Integrity assessment). Ecoregions are geographic areas with similar topography, geology, and predominant vegetation, and therefore represent areas of relatively homogeneous ecological setting. Minimum forest patch sizes range from about 500 acres in eastern Massachusetts and Connecticut and Housatonic Valleys, to 1,500 to 2,000 acres on the Worcester and Berkshire Plateaus, to over 3,000 acres in the Taconic Mountains. For BioMap2, 325,000 acres of the most intact forest interior habitats across Massachusetts are identified as Forest Core, representing about 10% of the state's forests. Thirty-eight percent of the total Forest Core area remains unprotected; these areas are high priorities for land protection since they provide important habitat for forest interior and other species. Forest Cores are complemented by, and occasionally overlap with, 20 different forested

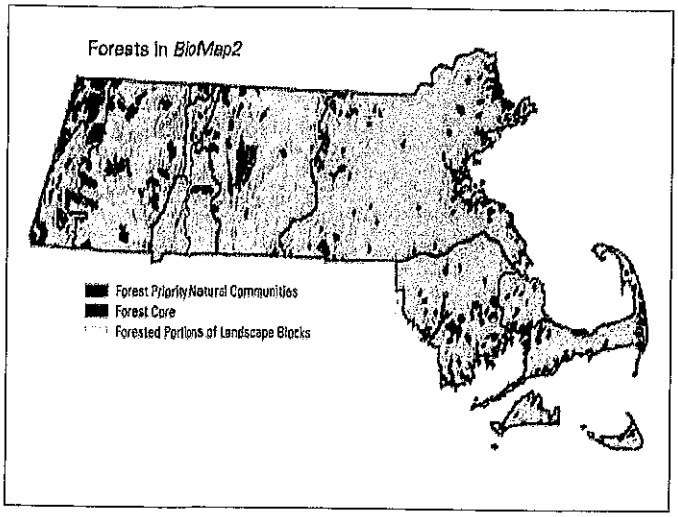

Figure 2: Forest Cores across Massachusetts

natural community types, which support 9,300 acres of unique and irreplaceable plant and animal assemblages, 28% of which is unprotected. Surrounding Forest Cores and other habitats, Critical Natural Landscape identifies extensive and predominantly forested Landscape Blocks. Combined, *BioMap2* forests total 1,232,000 acres, 53% of which is unprotected.

ACHIEVING STRATEGIC CONSERVATION WITH *BioMap2*: In *BioMap2*, the Core Habitat and Critical Natural Landscape are complementary and overlapping, and were delineated based on separate criteria. Each represents a different scale of biodiversity in Massachusetts, yet the protection of both is important to conserve the full suite of biodiversity in the state.

Forest Core Habitats in *BioMap2* are based on an understanding of species habitat requirements, and interpretation of land cover and land use data representing the distribution of ecosystems and patterns of development that affect them. They represent the areas in which land protection and stewardship will contribute most significantly to the conservation of specific elements of biodiversity.

Both land protection and stewardship may be necessary to protect the biodiversity represented by the *BioMap2* Forest Cores. For example, invasive species control may be necessary to maintain the integrity of the biodiversity of the Forest Core, while land protection may be necessary to protect against fragmentation and loss of interior forest habitats within Forest Cores.

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AQUATIC CORE and UPLAND BUFFER

BioMap2 Components

Core Habitat: **Aquatic Core**
Critical Natural Landscape: **Upland Buffer**

AQUATIC HABITATS: PROTECTING FRESHWATER BIODIVERSITY

Massachusetts is home to a wide variety of lakes, ponds, rivers, and streams. From small streams that cascade down the steep hills in western Massachusetts, to the powerful Connecticut and Merrimack Rivers, to the low-gradient meanders of the Taunton River in southeastern Massachusetts, the streams and rivers of the Commonwealth provide habitat for numerous species. Similarly, lakes and ponds vary from the mineral-laden hard-water ponds in the Berkshires to the sandy shores of globally significant Coastal Plain Ponds along the coast. Massachusetts waterways have been the lifeblood of Massachusetts' ecology and economy for centuries, supplying power, food, drinking water, and recreational opportunities. Yet pollution, water withdrawal, and habitat fragmentation have long threatened the integrity of aquatic habitats.

Together, these aquatic systems support a great diversity of species, including numerous fish, aquatic plants, freshwater mussels, crayfish, snails, aquatic insects, and more. Some of these species are quite rare, such as the Endangered Dwarf Wedgemussel and the Threatened Lake Chub, while others such as the Eastern Brook Trout are important for the high quality habitat types they occupy and the recreational opportunities they provide. Coastal rivers support fish that migrate between salt and freshwater. And rivers and streams are integrally linked to the floodplain wetlands along their borders, defining dynamic ecosystems and irreplaceable habitat.

The Massachusetts Natural Heritage & Endangered Species Program and The Nature Conservancy's Massachusetts Program developed *BioMap2* in 2010 as a conservation plan to protect the state's biodiversity. *BioMap2* is designed to guide strategic biodiversity conservation in Massachusetts over the next decade by focusing land protection and stewardship on the areas that are most critical for ensuring the long-term persistence of rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems.

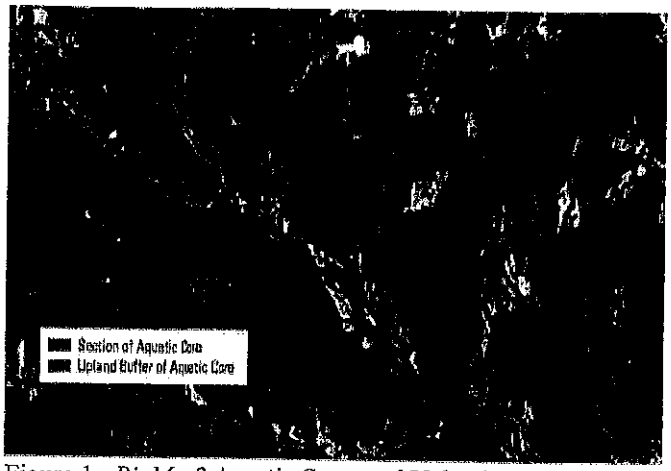

Figure 1: *BioMap2* Aquatic Cores and Upland Buffers

COMPONENTS OF *BIOMAP2*: *BioMap2* **Core Habitat** identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems. *BioMap2* **Critical Natural Landscape** was created to identify and prioritize intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames. *BioMap2* uses specific data and sophisticated mapping and analysis tools to spatially define each of these components, calling on the latest research and understanding of species biology, conservation biology, and landscape ecology.

AQUATIC CORES: To delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern, *BioMap2* identified intact river corridors within which important physical and ecological processes of the river or stream occur. To identify those areas integrally connected to each river and stream, each river segment was buffered 30 meters. All wetlands wholly or partially contained within this buffer were then included, and the combination of the river channel, the adjacent buffer, and the connected wetlands make up this riverine Core Habitat. The resulting Aquatic Cores are designed to protect 10 MESA-listed fish, 17 non-listed fish, as well as 145 MESA-listed species with all or a portion of their life cycle in aquatic habitats.

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In total, *BioMap2* Core Habitat identifies 220,000 acres of Aquatic Core Habitat, and includes 2,700 miles of rivers and streams specifically selected to protect aquatic species and ecosystems.

UPLAND BUFFERS OF AQUATIC CORES: A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each Aquatic Core. In this way, the conservation of aquatic buffers will support the habitats and functionality of each Aquatic Core, and also include adjacent uplands that are important for many species that move between habitat types.

ACHIEVING STRATEGIC CONSERVATION WITH *BioMap2*: In *BioMap2*, the Core Habitat and Critical Natural Landscape are complementary and

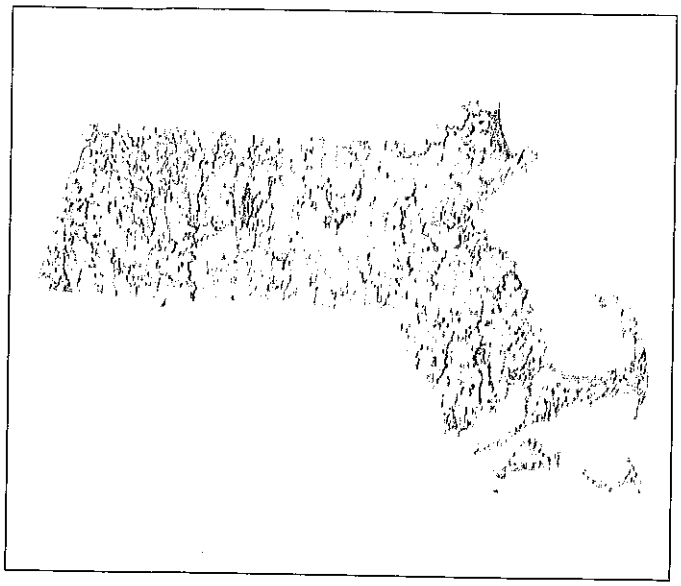
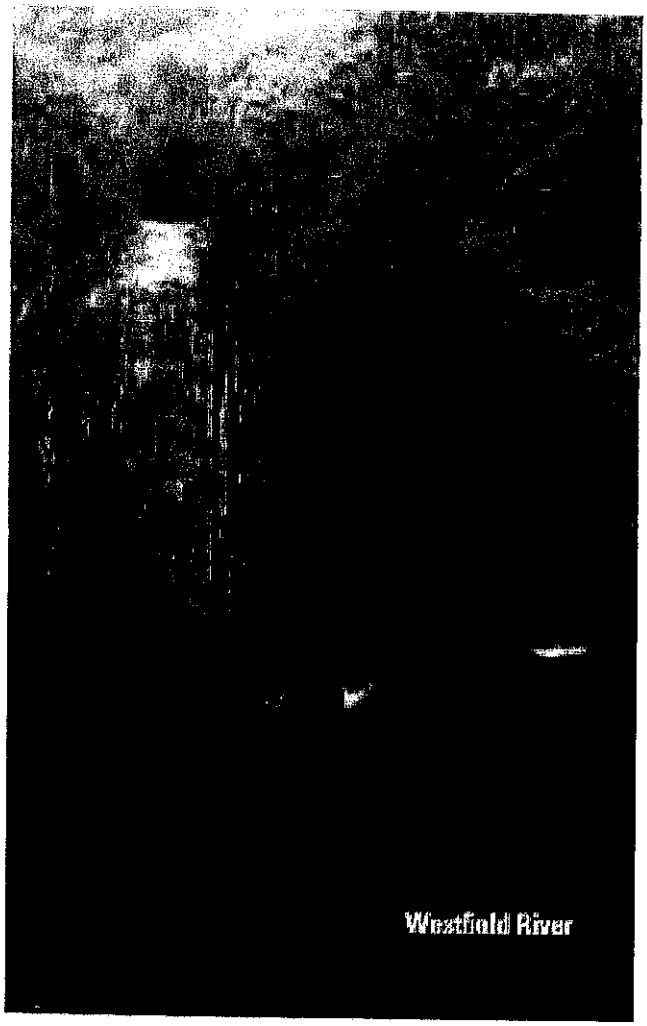


Figure 2: *BioMap2* Aquatic Cores across Massachusetts



overlapping, and were delineated based on separate criteria. Each represents a different scale of biodiversity in Massachusetts, yet the protection of both is important to conserve the full suite of biodiversity in the state.

Aquatic Core Habitats in *BioMap2* are based on rare species habitat mapped from actual observations, habitat for wildlife of conservation concern, exemplary natural communities, and other aquatic conservation targets. These delineations are based on both substantial high-quality field data and an understanding of species habitat requirements, and interpretation of land cover and land use data representing the distribution of ecosystems and patterns of development that affect them. They therefore represent the areas in which land protection and stewardship will contribute most significantly to the conservation of specific elements of biodiversity.

Upland Buffers of Aquatic Cores, if protected, will help minimize impacts from development on natural aquatic systems, allow connectivity among habitats, and provide area for natural processes—such as stream meanders within a floodplain—which result in a wider diversity of habitats and species.

Both land protection and stewardship may be necessary to protect the biodiversity represented by the *BioMap2* Aquatic Cores and their Upland Buffers. For example, invasive species control may be necessary to maintain the integrity of the biodiversity of the Aquatic Core, while land protection may be necessary to prevent land clearing and runoff from the adjacent Upland Buffers into the Aquatic Cores.

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Red Maple Swamp

State Ranks: S5 - Secure

Red Maple Swamp with tussock sedges and ferns. Photo: BioEngineering Group.

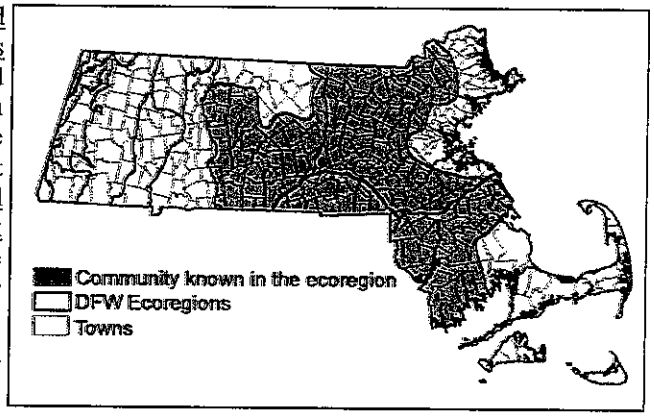
Red Maple Swamps are forested wetlands that are dominated by red maple. They are the most common forested wetlands in Massachusetts.

Description: Red Maple Swamps are broadly defined and some of the obviously recurrent variants (for example, Red Maple - Black Ash Swamp; Red Maple - Black Gum Swamp; Alluvial Red Maple Swamps, and others) are classified separately. Generally, occurrences remaining in the Red Maple Swamp category occur in seasonally flooded basins or on slopes with groundwater seepage. Soils are shallow to thick organic layers overlying mineral sands/silts. Standing water is often present in the spring and the substrates remain saturated *throughout the growing season. Most sites* are relatively low in nutrients and somewhat acidic. Vegetation is strongly influenced by water dynamics.

Characteristic Species: Red Maple Swamps are dominated by red maple, mixed with scattered other trees, such as yellow birch, black gum, white ash, white pine, American elm, swamp white oak, and Atlantic white cedar. The community usually has a well developed shrub layer of winterberry, highbush blueberry, wild raisin, red osier dogwood, swamp azalea, and sweet pepper-bush. In southeastern Massachusetts, dense thickets of sweet pepper-bush are often bound together by greenbriers. The herb layer is often dominated by ferns such as cinnamon fern, sensitive fern, and royal fern, mixed with skunk cabbage, jewelweed, and sedges.

Red maple leaves. Photo: T. Davis Sydnor, The Ohio State University, Bugwood.org.

Differentiating from Related Communities: Red Maple Swamp is a broadly defined red maple dominated defined community type. Several fairly distinctive types have been defined separately. Alluvial Red Maple Swamps occur along low-gradient rivers and receive river flood waters. Silver maple is often a codominant with red maple. Alluvial Hardwood Flat Communities are along small, flashy streams, usually have black cherry and white pine abundantly in the canopy, and have ironwood and alternate leaved dogwood mixed with other shrub species. Red Maple - Black Ash Swamps are an enriched variant of Red Maple Swamps with black ash close to codominant in the canopy/subcanopy in at least parts of the swamp. Red Maple - Black Ash - Bur Oak Swamps occur in Berkshire County and have bur oak or bur oak/swamp white oak hybrid trees. Red Maple - Black Gum Swamps are generally in small topographically constrained basins surrounded by upland forests. Black gum needs to be abundant in large areas of the swamp. Black Gum - Pin Oak - Swamp White Oak Perched Swamps occur in the Connecticut River Valley on glacial Lake Hitchcock lakebed sediments. The presence of fairly high proportions of black gum, pin oak and swamp white oak in the canopy, in addition to the topographic setting distinguish the type. When Atlantic white cedar is dominant in the overstory, the community is classified as an Atlantic white cedar swamp.



Habitat for Associated Fauna: Red Maple Swamps contribute variation to the habitats of wide-ranging wildlife species. The dense shrub layers provide excellent nesting locations for birds of thickets. The amount of escape cover and water availability makes swamps important habitat for many species of small mammals. Ground-dwelling species, such as reptiles and amphibians, are affected by the presence of wet or moist soils in swamps, and tend to use them for breeding and feeding.

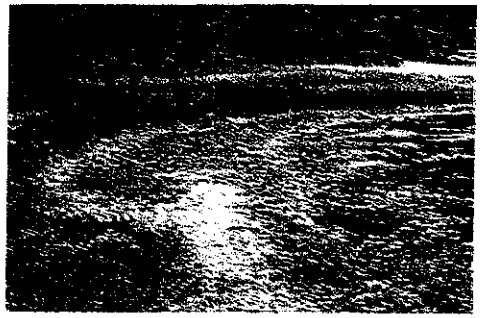
Examples with Public Access: Red Maple Swamps literally occur state wide. Because they are so widespread and abundant, NHESP does not usually keep track of occurrences. Examples on public lands from the NHESP database are in the Quaboag WMA, West Brookfield, and Haskell Swamp WMA, Rochester.

Red Maple Swamp with dense undergrowth in midsummer. Photo: Patricia Swain, NHESP.

From: *Classification of Natural Communities of Massachusetts* http://www.mass.gov/nhesp/
Natural Heritage & Endangered Species Program, Division of Fisheries & Wildlife, 1 Rabbit Hill Rd., Westborough, MA 01581
Updated: 2016
(508) 389-6360

Coastal Plain Pondshore Community

State Ranks: S3 - Vulnerable



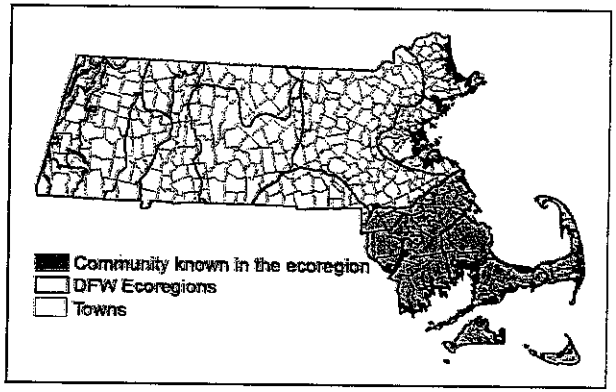
Coastal Plain Pondshore with vegetation zones. Photo: Patricia Swain, NHESP.

Coastal Plain Pondshore Communities occur on exposed shores of ponds in glacial outwash in the coastal plain where water levels are controlled by seasonal groundwater changes. The herbaceous flora has a distinct southern component.

Description: Coastal Plain Pondshores (CPPS) are herbaceous communities characterized by a distinct coastal plain flora on exposed pondshores in southeastern Massachusetts. Coastal plain ponds are shallow, highly acidic, low nutrient groundwater ponds in sandy glacial outwash, with no inlet or outlet. Water rises and falls with changes in the water table, typically leaving an exposed shoreline in late summer. Annual and inter-annual fluctuations in water levels are key to maintaining the community: low water years eliminate obligate aquatic plants and allow adapted plants to grow and high water years limit invasion by woody species. The community develops best in small ponds or bays of larger ponds with little space for wind sweep that causes wave and ice damage along shorelines on large ponds. The substrates are usually sand, sometimes with cobbles; a surface layer of organic muck occurs on some ponds and pondshores.

Characteristic Species: Coastal Plain Pondshore Communities are composed of a mixture of herbaceous and graminoid plants that include state-rare species that can be locally abundant, growing mixed with more common plants typical of dry grasslands (such as little bluestem) or marshes (including rushes, sedges, bonesets, and purple gerardia). A characteristic zonation pattern, correlated with flooding regime, from dry to waterline is: 1. Upland oak/pine forest; 2. Shrub border dominated by highbush blueberry associated with sweet pepper-bush, and green briar; 3. An intermediate area of beach provides habitat for most of the species of the Coastal Plain Pondshore Community. Emergent exposed pondshore dominated by slender-leaved flat-topped goldenrod, pondshore rush, rose coreopsis and golden pert, with beaksedge, lance-leaf violet, and dwarf St. John's-wort; 4. Semipermanently flooded zone characterized by one or more of the following: bayonet rush, spike-rushes, or pipewort; and 5. Hydromorphic rooted vegetation in deeper water including yellow water-lily, white water-lily and Robbins' spike-rush. Not every pond has every zone, shores within ponds vary, and zones change width and species composition from year to year.

Plymouth gentian, a CPPS specialist. Photo: Jennifer Garrett, NHESP.



Differentiating from Related Communities: Coastal Plain Pondshore Communities are in the coastal plain, generally on sand around ponds in closed basins that intersect groundwater that affect pond levels. The seasonally and annually fluctuating water table typically leaves an exposed shoreline by late summer that supports common and rare, often coastal or southern, herbaceous species. Coastal Plain Pondshores – Inland Variant also occur in closed basins in sandy outwash, but are in the Connecticut River Valley. Some, but fewer, coastal plain species grow in them. Acidic Pondshore/Lakeshore Community is broadly defined, variable, and includes shorelines not explicitly included in coastal plain pondshores, the inland variant, or calcareous ponds. The shore line is often not distinct, merging into marsh or other wetlands. Many ponds have inflow or outflows. Calcareous Pondshores/Lakeshores occur in the Marble Valleys of Berkshire County, around ponds that have calcium in the water. Freshwater Mud Flat Communities are within ponds rather than along shores. Mud flats in Coastal Plain Ponds are treated as part of the pondshore community.

Habitat for Associated Fauna: Coastal Plain Pondshore Communities and ponds provide habitat for many state rare animal and plant species, some of which occur only on coastal plain ponds. Coastal plain pondshores are important habitat for dragonflies and damselflies (over 45 species are known to occur on coastal plain ponds). They are also important habitat for painted, musk, spotted, and snapping turtles, and the federally endangered northern red-bellied cooters. Larger pond and pondshores are used by migrating and wintering waterfowl.

Examples with Public Access: Myles Standish State Forest, Carver; Mary Dunn Ponds WMA, Hyannis; Nickerson State Park, Brewster.

CPPS, sandy shoreline in low water year. Photo: Jennifer Garrett, NHESP.

From: *Classification of Natural Communities of Massachusetts* http://www.mass.gov/nhesp/
Natural Heritage & Endangered Species Program, Division of Fisheries & Wildlife, 1 Rabbit Hill Rd., Westborough, MA 01581
Updated: 2016
(508) 389-6360

Coastal Atlantic White Cedar Swamp

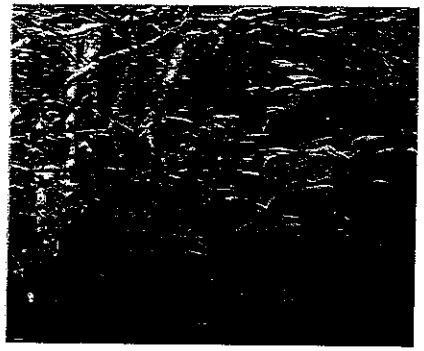
State Ranks: S2 - Imperiled

Coastal AWCS in the spring with moss hummocks. Photo: Patricia Swain, NHESP.

Coastal Atlantic White Cedar Swamps are acidic, low nutrient basin swamps dominated by Atlantic white cedar in the overstory and a mixture of species in the understory. This community type occurs at low elevations in SE Massachusetts.

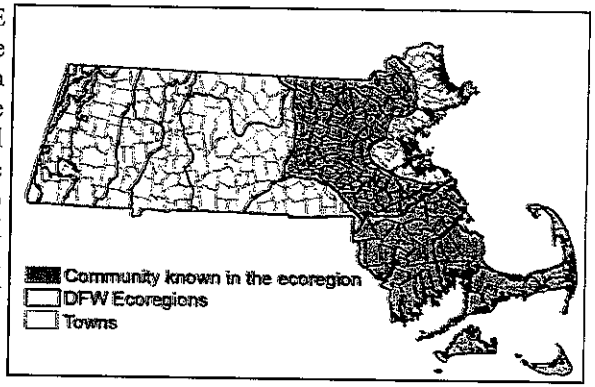
Description: Coastal Atlantic White Cedar Swamps (AWCS) - as with all AWCS - usually have standing water for at least half of the growing season. Water and soil are acidic and nutrient-poor. Leaf litter decomposition is slow. When conifers dominate the canopy, occurrences may be dark and have limited understory growth. Fallen and tipped trees are common and the resultant openings become tangles with dense shrub and sapling growth around downed trunks. Coastal AWCS generally occur in southeastern Massachusetts in basins or seepage wetlands.

Characteristic Species: All AWCS are defined as having >25% cover of Atlantic white cedar (AWC) in the canopy. Plants that commonly co-occur with AWC include red maple, high-bush blueberry, swamp azalea, and sphagnum moss. Occasional additional associates in Coastal AWCS include pitch pine, white pine and hemlock. These swamps can have a very dense shrub layer, additionally including sweet pepperbush, swamp-sweetbells, and, especially on Cape Cod, inkberry. The herb layer is sparse and patchy with cinnamon fern, Virginia and netted chain ferns, starflower, and wild sarsaparilla. The ground layer is dominated by sphagnum mosses.



Coastal AWCS with sweet pepper-bush. Photo: Patricia Swain, NHESP.

Differentiating from Related Communities: Although each of the AWC swamp community types has a characteristic vegetation structure and composition, as with all natural communities, transitions and mixes do occur. Coastal AWCS generally occur below 60 ft. elevation in SE Massachusetts. Species that are found in greater abundance in coastal regions than elsewhere include pitch pine as an occasional canopy associate, greenbrier, the shrubs inkberry, dangleberry, sheep laurel, and swamp sweet-bells, and Virginia chain-fern and netted chain -fern. Inland AWCS typically occur at elevations between 60 ft. and 1000 ft., and are not in southeast MA. Yellow Birch is more common than in Coastal AWCS. Inland AWCS have lower abundance of coastal indicators than in Coastal AWCS. AWC also occurs in AWC Bogs, relatively open peatland communities with canopy cover <25%. Alluvial AWCS are along streams. The vegetation is highly variable. AWC and red maple dominate the tree layer, the shrub layer includes silky dogwood, and the herb layer often has sensitive fern, royal fern, and bugleweed.



AWC branch. Photo: Jennifer Garrett, NHESP.

Habitat for Associated Fauna: AWCS contribute variation to the habitats of wide-ranging wildlife species. Young AWC thickets provide excellent cover for deer, rabbits, and birds. Swamps provide vernal pool habitat if water remains for 2-3 months and they lack fish.

Examples with Public Access: Marconi AWC Swamp, Wellfleet; Mashpee Pine Barrens WMA, Mashpee; Freetown - Fall River SF and Copicut WMA, Freetown; Great Cedar Swamp, Lakeville; Hockomock Swamp WMA, Taunton/Bridgewater.

Dark interior of a Coastal AWCS with ferns under tipped trees. Photo: P. Swain, NHESP.

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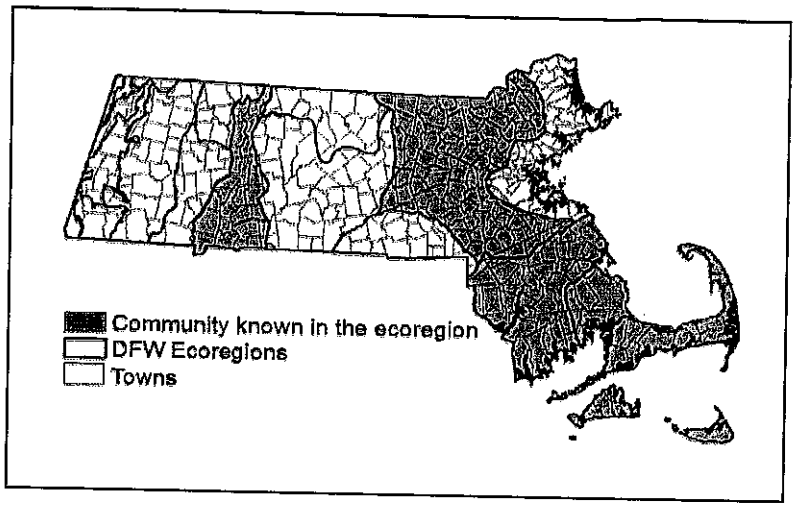
Atlantic White Cedar Bog

Community Code: CP1B1B2000

State Rank: S2



Concept: Acidic forested peatlands with a nearly continuous heath shrub layer and an open canopy in which Atlantic white cedar is the characteristic tree species.

Environmental Setting: Atlantic White Cedar Bogs (AWC Bogs) are semi-forested acidic dwarf-shrub peatlands - wetlands with incompletely decomposed plant material (peat) that accumulates when saturated year round with water that is cool, acidic, poorly oxygenated, and low in nutrients. Short (2-10m or 6-30 ft) Atlantic White Cedar trees dominate the open canopy. An open to nearly continuous, low (~1m or 3ft) shrub layer often includes small Atlantic White Cedars. In Massachusetts, many AWC Bogs occur as small (<3 acre) openings within larger AWC Swamps, in parts of the state where Oak and Oak - Pine Forests dominate the landscape. The settings are variable: pond border, patches in large swamps, and on Cape Cod, in kettleholes where they are surrounded by upland Pitch Pine - Oak Forests and Pitch Pine - Scrub Oak Communities.

Vegetation Description: Total canopy coverage is low (<25% cover) with Atlantic white cedar (AWC; *Chamaecyparis thyoides*) dominant with scattered red maple (*Acer rubrum*). Occasional associates include white and pitch pine (*Pinus strobus* and *P. rigida*), grey birch (*Betula populifolia*), and black spruce (*Picea mariana*). Scattered clumps of tall shrubs include highbush blueberry (*Vaccinium corymbosum*) and swamp azalea (*Rhododendron viscosum*). An often continuous low shrub layer is dominated by leatherleaf (*Chamaedaphne calyculata*) and sheep laurel (*Kalmia angustifolia*) with black and dwarf huckleberry (*Gaylussacia baccata* and *G. bigeloviana*), rhodora (*Rhododendron canadense*), and bog rosemary (*Andromeda polifolia* var. *glaucophylla*). There is typically a well-formed Sphagnum moss layer below the shrubs, and large and small cranberry (*Vaccinium macrocarpon* and *V. oxycoccos*), sundews (*Drosera* spp.) and pitcher plants (*Sarracenia purpurea*) occur throughout. Virginia chain-fern (*Woodwardia virginica*) tends to be more common in peatlands, including AWC bogs, in southeastern Massachusetts than in other parts of the state.

Atlantic White Cedar Bog

Differentiating Occurrences:

Atlantic White Cedar Bogs have sparse canopy (averaging <25%, but there may be local clumps of trees) cover of Atlantic White Cedar over Sphagnum on peat. AWC Bogs share many species and characteristics with other acidic peatlands including Level Bogs, which they might be considered a variation of, and Kettlehole Level Bogs and Acidic Graminoid Fens. The most obvious difference is the presence of Atlantic White Cedar in the sparse tree layer and as scattered shrubs on the Sphagnum mat. AWC Bogs often occur as openings in Coastal, Inland, and Northern AWCS, which are forested wetland communities with closed canopies (>25% tree cover overall, generally more), with >25% cover of AWC. AWC Bogs have, overall, <25% cover of canopy species (there may be clumps of trees with very locally greater cover; the coverage is for the extent of the community, which will have areas of no canopy cover at all), with AWC dominating the canopy that does occur. Whether AWC Bogs are considered to be separate entities or openings in the prevailing AWCS depends on the patch size and abundance of local patches: 2 acres that may be cumulative across local patches are required in the rank specifications.

Habitat Values for Associated Fauna:

Winged animals and large terrestrial animals can use peatlands as part of a larger habitat. White-tailed deer browse on shrubs in acidic peatlands leaving trails across the peat mat. Some birds use peatlands for nesting or foraging. The acidity and low oxygen content make peatlands poor habitat for most amphibians and reptiles, although four-toed salamanders nest in Sphagnum hummocks over water and individuals may incorporate AWC Bogs as part of their habitat. Many species of dragonflies and damselflies inhabit acidic peatlands, especially where there is adjacent open water. AWC bogs with dense patches of Virginia chain fern or water willow are likely to support species of moths that specialize in those plants.

Threats:

The two greatest threats to AWC swamps are land clearing for agricultural, commercial and residential development, and interference of normal hydrological functioning as a result of development. Atlantic white cedar has been cut extensively for posts and shingles for over three centuries. In an extensive statewide vegetation inventory funded by MNHESP in 1990, no uncut stands were found, but several sites contained cedars that were 100-200 years old. Selective cutting is detrimental to the persistence of AWC swamps, because hardwoods, such as red maple, outcompete and replace AWC. Any alterations to the natural hydroperiod of AWC swamps threatens their persistence. The peat in AWC Bogs is threatened by hydrology changes and introduction of nutrients.

Management Needs:

Due to the limited distribution of AWC swamps, it is recommended that no clearing or filling of these wetlands be allowed. Atlantic white cedar will regenerate best following catastrophic disturbance events such as hurricanes and fires. Data suggest that in the absence of disturbance, red maple and shrubs increase in abundance at the expense of Atlantic white cedar. Fire suppression negatively threatens the long-term persistence of AWC swamps, and controlled burning practices may be an appropriate restoration tool in many areas. Controlled burning should be accompanied by small-patch clearcuts to be most effective. By clear-cutting small patches (generally 20 m x 20 m) and removing the slash and competing vegetation, pure, even-aged stands of Atlantic white cedar are able to regenerate. AWC swamps require a natural cycle of wet and dry periods for their survival and reproduction. Standing water for much of the year is unfavorable for both seed germination and seedling survival, and young seedlings are killed by both drowning and drought. It is recommended that any alterations in water levels be avoided, this includes development and road construction in uplands surrounding AWC swamps which can alter water levels. Where cedar wetlands are associated with river systems, it is important to maintain normal hydrologic regime of the river.

USNVC/NatureServe:

Chamaecyparis thyoides Northern Peatland Alliance -- *Chamaecyparis thyoides/Chamaedaphne calyculata* Woodland [CEGL006321].

Alluvial Red Maple Swamp

State Rank: S3 - Vulnerable

Alluvial Red Maple Swamp with ferns and variable understory. Photo: Michael Batcher.

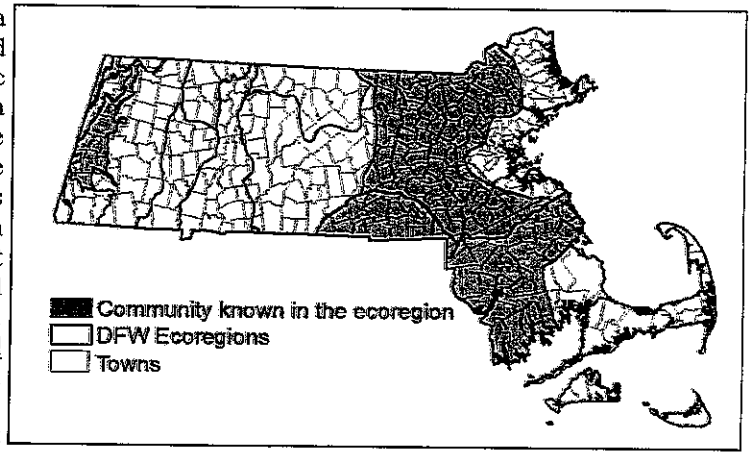
Alluvial Red Maple Swamps are a type of red maple swamp that occur in low areas along rivers and streams. Regular flooding enriches the soil with nutrients, resulting in an unusual set of associated trees and plants.

Description: Alluvial Red Maple Swamps occur along main stem sections of low gradient rivers and streams that flood periodically, primarily in the eastern part of the state. They experience overbank flooding, but they are more poorly drained than true floodplain forests. Soils are typically silt loams with pronounced soil mottling and a surface organic layer. Alluvial Red Maple Swamps may occur as parts of wetland mosaics with other types of floodplain forests, shrub swamps, and other wetland communities. Groundwater from uplands and surrounding wetlands may maintain soil moisture over the growing season.

Characteristic Species: The overstory of Alluvial Red Maple Swamps is a mixture of red maple and, usually, silver maple along riverbanks, with lesser amounts of American Elm, sugar maple, green ash, shagbark hickory, and/or swamp white oak. Red oak, white pine, and black cherry occur in elevated sections. A subcanopy includes the canopy dominants along with hornbeam. Unlike true floodplain forests, Alluvial Red Maple Swamps have well-developed shrub layers with northern arrow-wood, American hazelnut, silky dogwood, buttonbush, meadowsweet, and the non-native plant glossy alder-buckthorn. Vines include poison ivy. In the coastal plain, shrubs may include mountain laurel, winterberry, and sweet pepper-bush. The herbaceous layer is often dominated by sensitive fern and false nettle mixed with a rich assemblage of herbaceous species that commonly includes cinnamon fern, royal fern, golden rods, jewelweeds, beggar-ticks, bugleweeds, awned sedge, and grasses including rice cutgrass, bluejoint grass, and woodreed.

Red Maple leaves. Photo: T. Davis Sydnor, The Ohio State University, Bugwood.org

Differentiating from Related Communities: Alluvial Red Maple Swamps, along low-gradient rivers, flood annually and are slow to drain. Silver maple is often a codominant with red maple. The periodic river flooding is a key process in the Alluvial Red Maple Swamps that affects species composition and differentiates it from closely related community types. Alluvial Hardwood Flats are along small streams that have multiple short flooding events throughout the year after storms. Black cherry and white pine are usually abundant in the canopy with red maple, but not silver maple. High-terrace Floodplain Forests do not flood annually. They have a mix of floodplain trees and mesic, deciduous hardwoods. The diverse herbaceous layer includes floodplain species and others more typical of rich forests. Red Maple Swamps are in basins or hillside seeps along small drainage ways. They are less diverse than Alluvial Red Maple Swamps in all layers.



Habitat for Associated Fauna: Alluvial Red Maple Swamps contribute variation to the habitats of wide-ranging wildlife species. These swamps, especially at the upland fringe or in old meander scars and oxbows, can function as vernal pool habitat if water remains standing for 2-3 months and they lack fish; these areas provide important amphibian breeding habitat. Riverine Odonates use Alluvial Red Maple Swamps adjacent to rivers for shelter.

Examples with Public Access: Taunton River WMA and Black Brook WMA, Middleborough; West Hill Dam property (USACE), Northbridge; George L. Darey Housatonic Valley WMA, Lenox.

Alluvial Red Maple Swamp trees with multiple stems typically found on floodplains. Photo: Michael Batcher.

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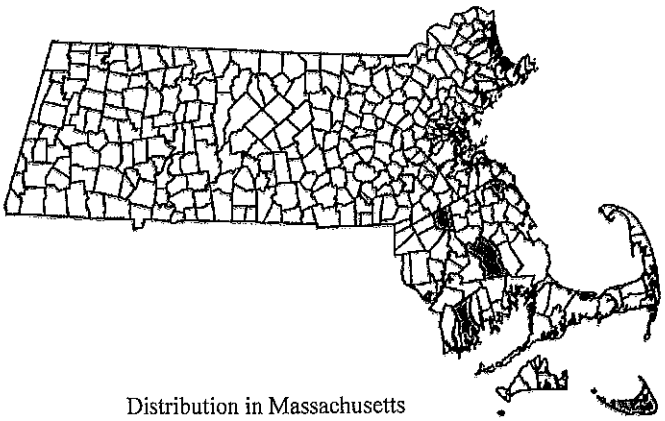
Gypsywort

Lycopus rubellus Moench

State Status: **Endangered**
Federal Status: **None**

Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species.* Midwest National Technical Center, Lincoln.

Description: The perennial herb Gypsywort is a non-aromatic member of the mint family reaching a height of 18 in. (1/2 meter) but more often only 1 ft. high in Massachusetts. The slender, erect, sparsely branching stems bear simple, opposite leaves arranged in vertical ranks of pairs which are relatively widely spaced on the stem. The stem bases send out many slender and long, freely branching runners that form tubers at their ends. The broadly lance-shaped to oval leaves are 4-12 cm long and 1-4 cm wide and the basal part of each leaf is distinctly straight or slightly concave as it tapers to the petiole. The leaf margins are coarsely shallow-toothed above the elongated bases and smooth below.



Distribution in Massachusetts
1987-2012
Based on records in Natural Heritage Database

The small, white, faintly purple-spotted flowers are densely clustered at the junction of the stem and leaves and form doughnut-shaped whorls around the stem. The five-lobed, tubular corolla is composed of petals which flare abruptly outwards and extend 2-3 mm beyond (twice as long as) the surrounding calyx tube. The lobes of the calyx tube are narrowly triangular and long pointed. The mature fruits of Gypsywort consist of a set of four nutlets per flower, each roughly triangular-shaped with narrow bases and broad tops. The shape and surface of the nutlets, apparent with a hand lens, are useful characters for separating species of *Lycopus*. In *L. rubellus,* the top of the nutlet is jagged with tuberculate (bumpy), thickened edges called crests. Flowering and fruiting occurs from mid July through mid September.

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Massachusetts Division of Fisheries & Wildlife

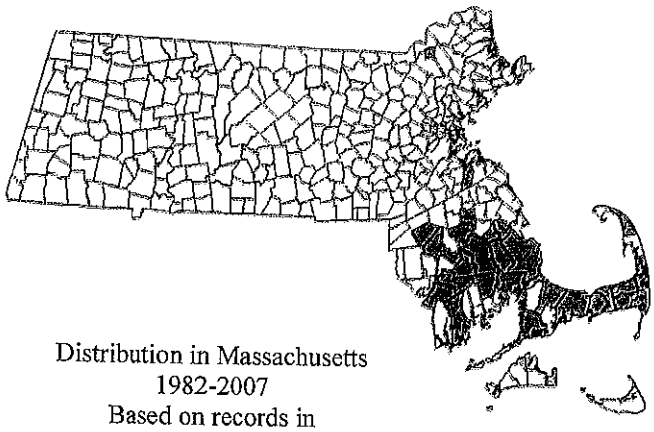
Plymouth Gentian
Sabatia kennedyana
Fernald

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: Plymouth Gentian (*Sabatia kennedyana*) is a globally rare and showy perennial herb of the gentian family (Gentianaceae), with striking pink and yellow flowers and opposite lance-shaped leaves. It inhabits the sandy and peaty shorelines of coastal plain ponds.

AIDS TO IDENTIFICATION: Plymouth Gentian reaches 12 to 28 inches (30–70 cm) in height, with opposite branches bearing narrowly lanceolate leaves. The leaves are entire, sessile, and 0.8 to 5 inches (2–5 cm) in length. The flowers, which form atop long pedicels, are pink with a yellow center bordered by red; they have 9 to 11 petals, each of which is 0.6 to 1.1 inches (1.5–3 cm) in length. Plymouth Gentian blooms between early July and mid-September, depending on when the water level of the site decreases enough to expose adequate shoreline. The fruit is a capsule with two valves.

Photo by Jennifer Garrett, NHESP



Distribution in Massachusetts
1982-2007
Based on records in
Natural Heritage Database

SIMILAR SPECIES: Slender Marsh Pink (*Sabatia campanulata*, Endangered) occurs in similar habitat in Massachusetts, but has only 7 or fewer petals per flower. Rose Coreopsis (*Coreopsis rosea*), another showy flower of coastal plain pondshores, is somewhat similar to Plymouth Gentian due to its radial pink and yellow inflorescence. Rose Coreopsis, however, is a composite (family Asteraceae) with disc and ray flowers, and linear, rather than lanceolate, leaves.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

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1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

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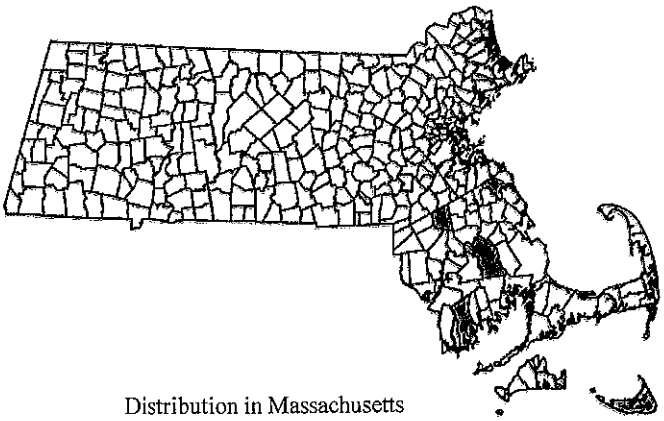
Gypsywort

Lycopus rubellus Moench

State Status: **Endangered**
Federal Status: **None**

Description: The perennial herb Gypsywort is a non-aromatic member of the mint family reaching a height of 18 in. (1/2 meter) but more often only 1 ft. high in Massachusetts. The slender, erect, sparsely branching stems bear simple, opposite leaves arranged in vertical ranks of pairs which are relatively widely spaced on the stem. The stem bases send out many slender and long, freely branching runners that form tubers at their ends. The broadly lance-shaped to oval leaves are 4-12 cm long and 1-4 cm wide and the basal part of each leaf is distinctly straight or slightly concave as it tapers to the petiole. The leaf margins are coarsely shallow-toothed above the elongated bases and smooth below.

Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species.* Midwest National Technical Center, Lincoln.



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The small, white, faintly purple-spotted flowers are densely clustered at the junction of the stem and leaves and form doughnut-shaped whorls around the stem. The five-lobed, tubular corolla is composed of petals which flare abruptly outwards and extend 2-3 mm beyond (twice as long as) the surrounding calyx tube. The lobes of the calyx tube are narrowly triangular and long pointed. The mature fruits of Gypsywort consist of a set of four nutlets per flower, each roughly triangular-shaped with narrow bases and broad tops. The shape and surface of the nutlets, apparent with a hand lens, are useful characters for separating species of *Lycopus*. In *L. rubellus,* the top of the nutlet is jagged with tuberculate (bumpy), thickened edges called crests. Flowering and fruiting occurs from mid July through mid September.

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Massachusetts Division of Fisheries & Wildlife

Plymouth Gentian
Sabatia kennedyana
Fernald

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: Plymouth Gentian (*Sabatia kennedyana*) is a globally rare and showy perennial herb of the gentian family (Gentianaceae), with striking pink and yellow flowers and opposite lance-shaped leaves. It inhabits the sandy and peaty shorelines of coastal plain ponds.

AIDS TO IDENTIFICATION: Plymouth Gentian reaches 12 to 28 inches (30–70 cm) in height, with opposite branches bearing narrowly lanceolate leaves. The leaves are entire, sessile, and 0.8 to 5 inches (2–5 cm) in length. The flowers, which form atop long pedicels, are pink with a yellow center bordered by red; they have 9 to 11 petals, each of which is 0.6 to 1.1 inches (1.5–3 cm) in length. Plymouth Gentian blooms between early July and mid-September, depending on when the water level of the site decreases enough to expose adequate shoreline. The fruit is a capsule with two valves.

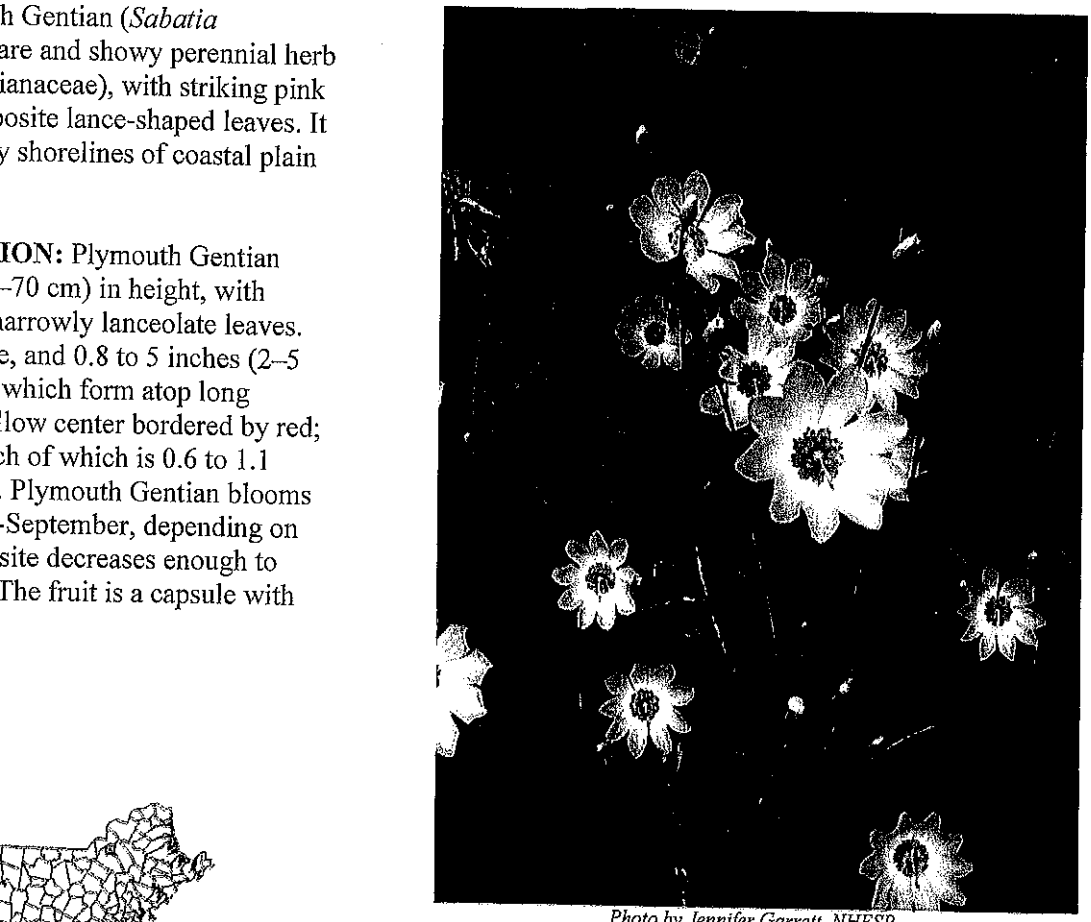
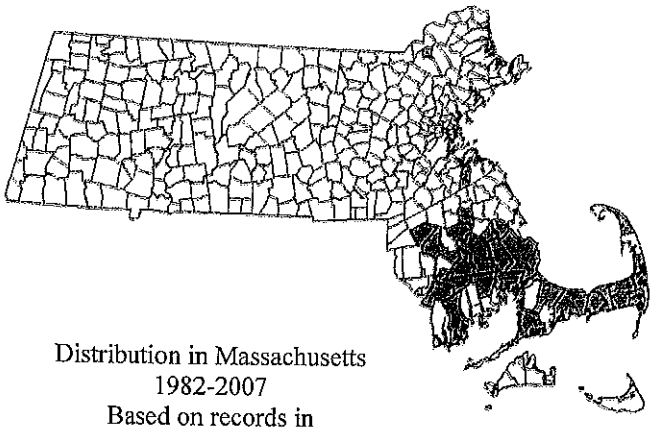


Photo by Jennifer Garrett, NHESP



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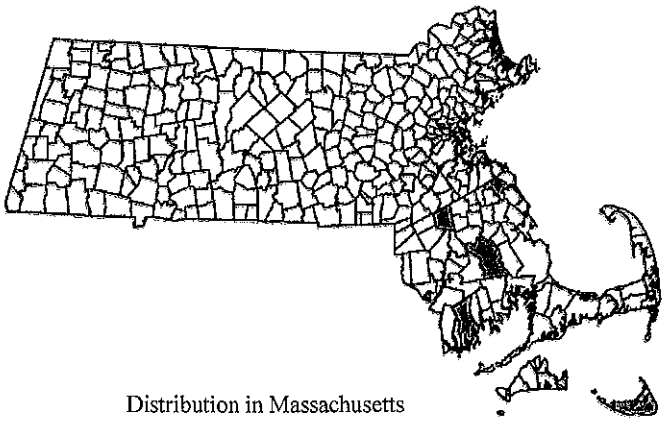

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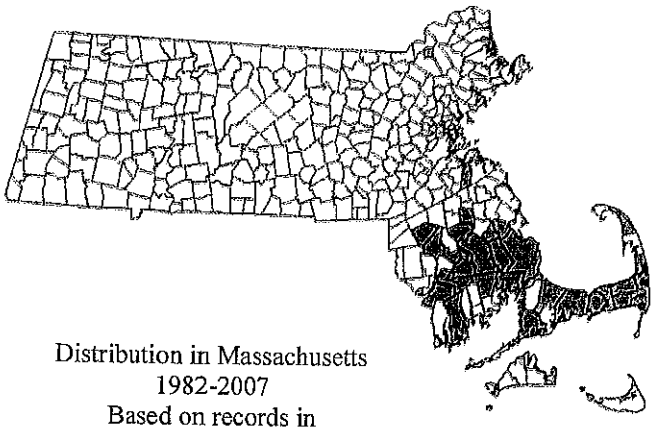

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Based on records in
Natural Heritage Database

SIMILAR SPECIES: Slender Marsh Pink (*Sabatia campanulata*, Endangered) occurs in similar habitat in Massachusetts, but has only 7 or fewer petals per flower. Rose Coreopsis (*Coreopsis rosea*), another showy flower of coastal plain pondshores, is somewhat similar to Plymouth Gentian due to its radial pink and yellow inflorescence. Rose Coreopsis, however, is a composite (family Asteraceae) with disc and ray flowers, and linear, rather than lanceolate, leaves.

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

1 Rabbit Hill Rd., Westborough, MA; tel: 508-389-6300; fax: 508-389-7890; www.mass.gov/dfw

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.
www.mass.gov/nhesp

Natural Heritage
& Endangered Species
Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
tel: (508) 389-6360, fax: (508) 389-7890
www.nhesp.org

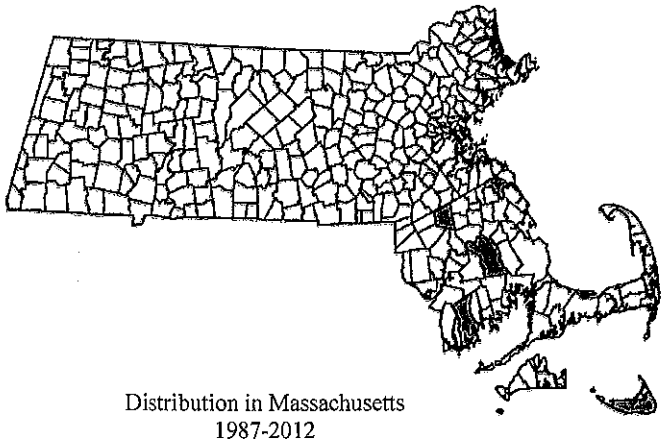
Gypsywort

Lycopus rubellus Moench

State Status: **Endangered**
Federal Status: **None**

Description: The perennial herb Gypsywort is a non-aromatic member of the mint family reaching a height of 18 in. (1/2 meter) but more often only 1 ft. high in Massachusetts. The slender, erect, sparsely branching stems bear simple, opposite leaves arranged in vertical ranks of pairs which are relatively widely spaced on the stem. The stem bases send out many slender and long, freely branching runners that form tubers at their ends. The broadly lance-shaped to oval leaves are 4-12 cm long and 1-4 cm wide and the basal part of each leaf is distinctly straight or slightly concave as it tapers to the petiole. The leaf margins are coarsely shallow-toothed above the elongated bases and smooth below.

Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species.* Midwest National Technical Center, Lincoln.



Distribution in Massachusetts
1987-2012
Based on records in Natural Heritage Database

The small, white, faintly purple-spotted flowers are densely clustered at the junction of the stem and leaves and form doughnut-shaped whorls around the stem. The five-lobed, tubular corolla is composed of petals which flare abruptly outwards and extend 2-3 mm beyond (twice as long as) the surrounding calyx tube. The lobes of the calyx tube are narrowly triangular and long pointed. The mature fruits of Gypsywort consist of a set of four nutlets per flower, each roughly triangular-shaped with narrow bases and broad tops. The shape and surface of the nutlets, apparent with a hand lens, are useful characters for separating species of *Lycopus*. In *L. rubellus,* the top of the nutlet is jagged with tuberculate (bumpy), thickened edges called crests. Flowering and fruiting occurs from mid July through mid September.

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Natural Heritage & Endangered Species Program

www.mass.gov/nhesp

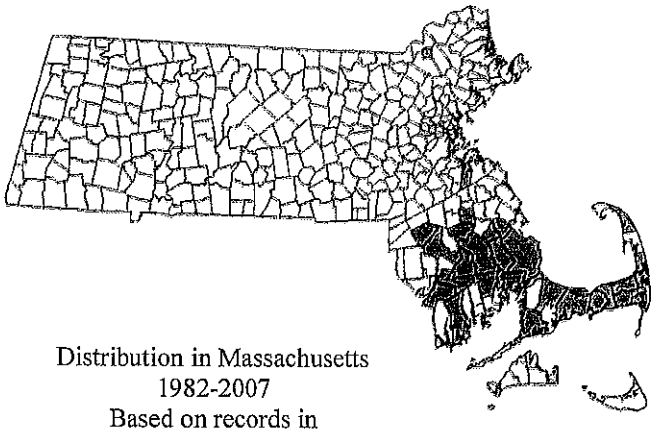
Massachusetts Division of Fisheries & Wildlife

Plymouth Gentian
Sabatia kennedyana
Fernald

State Status: **Special Concern**
Federal Status: **None**

DESCRIPTION: Plymouth Gentian (*Sabatia kennedyana*) is a globally rare and showy perennial herb of the gentian family (Gentianaceae), with striking pink and yellow flowers and opposite lance-shaped leaves. It inhabits the sandy and peaty shorelines of coastal plain ponds.

AIDS TO IDENTIFICATION: Plymouth Gentian reaches 12 to 28 inches (30–70 cm) in height, with opposite branches bearing narrowly lanceolate leaves. The leaves are entire, sessile, and 0.8 to 5 inches (2–5 cm) in length. The flowers, which form atop long pedicels, are pink with a yellow center bordered by red; they have 9 to 11 petals, each of which is 0.6 to 1.1 inches (1.5–3 cm) in length. Plymouth Gentian blooms between early July and mid-September, depending on when the water level of the site decreases enough to expose adequate shoreline. The fruit is a capsule with two valves.



Distribution in Massachusetts
1982-2007
Based on records in
Natural Heritage Database

Photo by Jennifer Garrett, NHESP

SIMILAR SPECIES: Slender Marsh Pink (*Sabatia campanulata*, Endangered) occurs in similar habitat in Massachusetts, but has only 7 or fewer petals per flower. Rose Coreopsis (*Coreopsis rosea*), another showy flower of coastal plain pondshores, is somewhat similar to Plymouth Gentian due to its radial pink and yellow inflorescence. Rose Coreopsis, however, is a composite (family Asteraceae) with disc and ray flowers, and linear, rather than lanceolate, leaves.

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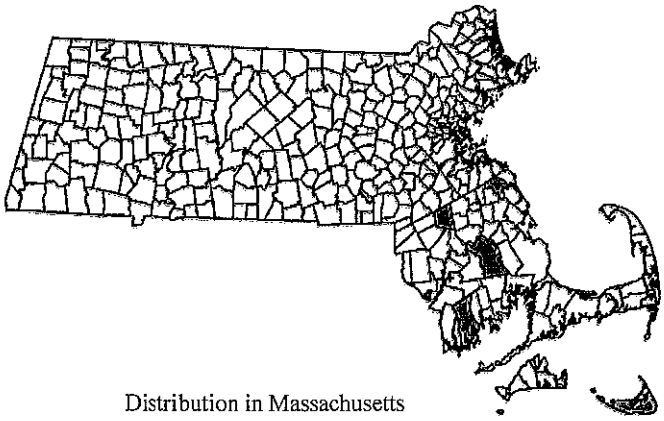
Gypsywort

Lycopus rubellus Moench

State Status: **Endangered**
Federal Status: **None**

Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species.* Midwest National Technical Center, Lincoln.

Description: The perennial herb Gypsywort is a non-aromatic member of the mint family reaching a height of 18 in. (1/2 meter) but more often only 1 ft. high in Massachusetts. The slender, erect, sparsely branching stems bear simple, opposite leaves arranged in vertical ranks of pairs which are relatively widely spaced on the stem. The stem bases send out many slender and long, freely branching runners that form tubers at their ends. The broadly lance-shaped to oval leaves are 4-12 cm long and 1-4 cm wide and the basal part of each leaf is distinctly straight or slightly concave as it tapers to the petiole. The leaf margins are coarsely shallow-toothed above the elongated bases and smooth below.



Distribution in Massachusetts
1987-2012
Based on records in Natural Heritage Database

The small, white, faintly purple-spotted flowers are densely clustered at the junction of the stem and leaves and form doughnut-shaped whorls around the stem. The five-lobed, tubular corolla is composed of petals which flare abruptly outwards and extend 2-3 mm beyond (twice as long as) the surrounding calyx tube. The lobes of the calyx tube are narrowly triangular and long pointed. The mature fruits of Gypsywort consist of a set of four nutlets per flower, each roughly triangular-shaped with narrow bases and broad tops. The shape and surface of the nutlets, apparent with a hand lens, are useful characters for separating species of *Lycopus*. In *L. rubellus,* the top of the nutlet is jagged with tuberculate (bumpy), thickened edges called crests. Flowering and fruiting occurs from mid July through mid September.

Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form as these donations comprise a significant portion of our operating budget.

UNPROTECTED LANDS, June 2019

Chapter Lands

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
1	2	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWE,M.,LLC	Private landowner	Forestry	
1	2	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWE,M.,LLC	Private landowner	Forestry	
1	2	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWE,M.,LLC	Private landowner	Forestry	
1	4	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
1	4	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
1	5	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
1	6	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
1	6A	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
4	24B	Chapter 61 - Forestry	MCCARTY, SUSAN J	Private landowner	Forestry	
4	24B	Chapter 61 - Forestry	MCCARTY, SUSAN J.	Private landowner	Forestry	
4	24	Chapter 61 - Forestry	MCCARTY, SUSAN J.	Private landowner	Forestry	
6	39	Chapter 61 - Forestry	SPERRY, STEPHEN C. & MAUREEN L., TRS.	Private landowner	Forestry	
6	39	Chapter 61 - Forestry	SPERRY, STEPHEN C. & MAUREEN L., TRS.	Private landowner	Forestry	
18	1	Chapter 61 - Forestry	SLOCUM-GIBBS, CO.	Private landowner	Forestry	
20	1	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	1	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	4	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	4A	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	4	Chapter 61 - Forestry	RITTER,C.LLC;HAWES,P.,LLCHAWES,M.,LLC	Private landowner	Forestry	
20	5	Chapter 61 - Forestry	RITTER,C.LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	5	Chapter 61 - Forestry	RITTER,C.LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	5	Chapter 61 - Forestry	RITTER,C.LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	11	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	11	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	13	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	13	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	13	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	16	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	16	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
20	17	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.LLC	Private landowner	Forestry	

ROCHESTER OPEN SPACE/ACTION PLAN FORUM 10/5/15

What is the most important thing that we done to meet our Conservation, Recreation, and Open Space needs since our last Open Space Plan?

- Create the Open Space Plan Implementation Committee to move the 2008 OSRP Action Plan
- Create an Agricultural Commission and adopt a corresponding Right-to-Farm Bylaw
- Laurell – you can add other items from your list here

What would we like to do as part of the Action Agenda for our new Open Space Plan?

- Develop bike path/biking opportunities
- Develop a paved walking path/track at Dexter field
- Implement the Mary's Pond Beach development plan
- Provide recreational opportunities that promote life-long activities that serve populations of all ages and abilities
- Develop and install more way finding and educational signage to promote conservation lands and trails awareness/opportunities to the general public
- Pursue public-private and non-profit partnerships, where and when feasible, in order to help meet the town's conservation, recreation , and open space needs (Rochester Land Trust, Buzzards Bay Coalition)

Who are we planning for?

- A majority of the population is aged 45+ (55%)
- Since 1990, the population aged 24 has remained virtually the same;
- The population aged 25-34 has decreased by 69%;
- The population aged 35-44 has decreased by 42% (the 25-44 age group makes up only 14% of the current population whereas in 1990, it made up 36% of the population);
- The population aged 45-54 has remained virtually the same;
- The population aged 55-64 has increased by 450% (this age group represents 25% of Rochester's current population);
- The population aged 65-74 has remained virtually the same;
- The population aged 75-84 has increased by 72%;
- The population aged 85+ has increased by 419%
- Since 1990, the median age has increased from 34.9 years to 43.3 years in 2010; the median age in the state is 39.1 years

What are our community assets?

- Conservation lands
- Open Space
- Agricultural lands
- Small town character/feel

What are our Recreation needs?

- More, and more diverse summer recreational programs
- Nature/hiking trails
- Bike Path
- Picnic Areas
- Beach Access
- Paved walking track

What are our Conservation /Preservation Priorities?

- Groundwater protection
- Open Space/Conservation land
- Rural Character
- Surface water protection
- Agricultural land/working farms (agricultural retention)

How should we preserve these areas?

- Enact Zoning measures/provide incentives to developers to set aside Open Space
- Use Town funds

What do we have to work with (land profile)?

- 23,062 acres (36 square miles)
- 4,713 acres protected (as of 2013)
- 3,411 acres developed (as of 2013)
- 17,269 acres of natural land (as of 2013)
- 2,362 acres of open land (as of 2013)

In order to address our Recreation needs we should . . .

Fields and Trails

- Have better signage at various locations (way finding)
- Make online recreational information easier to find/more accessible
- Make parking improvements/paved walking path at Dexter Field
- Maintain the recreational facilities that we have at a high quality
- Grow a volunteer base to help address facility needs; find/appoint a Volunteer Coordinator

Bike Paths/Routes

- Form a Bike Study Committee to look at safe bike routes (town wide)
- Look at sites appropriate for trail biking
- Explore potential regional connections with Marion/Mattapoisett/others
- Look at areas appropriate to employ "Share the Road" signs
- Way finding signs for off-road trail opportunities

Beach Access

- Explore ways in which to implement the Mary's Pond Beach Plan (look at insurance, liability, construction, etc.)
- Make Rochester citizens more aware of the fact that they can use/access Buzzards Bay beaches in Marion and Mattapoisett (do a better job of promoting this opportunity)

Summer Recreation Programs

- There are opportunities for school age kids at the "Y"
- Opportunities for adults/adult programs at the Marion "Y"
- Making people aware of "all ages" summer recreation programs/opportunities presents a possibility to develop a new website/link
- In order to maximize/take advantage of these opportunities we need to improve tri-town communication

Picnic Areas

- This is another website listing opportunity
- Need for way finding signs

How can we achieve our Conservation/Open Space/Recreation Goals ?

Zoning

- Flexible Zoning (cluster) doesn't work the way it should
- Transfer of Development Rights (TDR) – non-starter
- Low Impact Development (LID) measures – non-starter; too expensive to maintain
- Community Preservation Act (CPA) – non-starter; has been defeated twice
- Town needs a "Cost of Community Services" study/analysis, like the one that the American Farmland Trust did for Middleborough

Town Funding

- "Town Meeting has always risen to the occasion when called upon to fund critical open space purchases"
- The local Land Trust and partners such as the Buzzards Bay Coalition have also partnered to acquire open space
- The town has very limited industrial/commercial/retail development opportunity to help shift the tax burden/generate other sources of revenue from the residential sector
- The residential tax burden is increasingly falling upon the older population, aged 55+, as the population aged 25-44 has decreased drastically in the past twenty-five years; a significant portion of the 55+ population may also be on fixed income in their retirement years (?)
- The loss of population aged 25-44 may also indicate something about the overall affordability/cost of living/housing in Rochester (?)
- Is going to Town Meeting to ask tax payers to foot the cost going to be a sustainable option in light of the demographic trend?

Q1 Please type in the number from the top right corner of your survey:

Answered: 94 Skipped: 1

#	Responses	Date
1	1666	7/25/2015 12:15 PM
2	1196	7/25/2015 12:04 PM
3	1801	7/25/2015 12:00 PM
4	2024	7/25/2015 11:55 AM
5	3	7/25/2015 8:35 AM
6	2	7/25/2015 8:33 AM
7	1	7/25/2015 8:31 AM
8	447	7/24/2015 10:09 AM
9	1518	7/24/2015 10:06 AM
10	376	7/24/2015 10:03 AM
11	168	7/24/2015 10:00 AM
12	1576	7/24/2015 9:58 AM
13	1136	7/24/2015 9:54 AM
14	1226	7/24/2015 9:48 AM
15	1646	7/24/2015 9:42 AM
16	922	7/24/2015 9:40 AM
17	1194	7/24/2015 9:38 AM
18	1110	7/24/2015 9:36 AM
19	817	7/24/2015 9:32 AM
20	1387	7/24/2015 9:07 AM
21	755	7/24/2015 9:04 AM
22	1739	7/24/2015 8:57 AM
23	1540	7/24/2015 8:50 AM
24	1163	7/24/2015 8:45 AM
25	618	7/24/2015 8:43 AM
26	1668	7/24/2015 8:40 AM
27	815	7/24/2015 8:35 AM
28	1815	7/24/2015 8:32 AM
29	882	7/24/2015 8:29 AM
30	1801	7/24/2015 8:27 AM
31	2029	7/24/2015 8:24 AM
32	2004	7/24/2015 8:21 AM

33	1656		7/24/2015 8:18 AM
34	437		7/24/2015 8:16 AM
35	1265		7/23/2015 6:08 PM
36	940		7/23/2015 6:05 PM
37	36		7/23/2015 6:02 PM
38	1821		7/23/2015 5:52 PM
39	2046		7/23/2015 5:49 PM
40	610		7/23/2015 5:45 PM
41	81		7/23/2015 5:43 PM
42	523		7/23/2015 5:39 PM
43	20		7/23/2015 5:27 PM
44	557		7/23/2015 5:24 PM
45	774		7/23/2015 5:18 PM
46	657		7/23/2015 5:13 PM
47	290		7/23/2015 5:10 PM
48	164		7/23/2015 5:07 PM
49	1010		7/23/2015 5:04 PM
50	1667		7/23/2015 4:54 PM
51	1685		7/23/2015 4:48 PM
52	603		7/23/2015 4:45 PM
53	65		7/23/2015 4:39 PM
54	1816		7/23/2015 4:35 PM
55	590		7/23/2015 3:55 PM
56	672		7/23/2015 3:49 PM
57	1713		7/23/2015 3:47 PM
58	1079		7/23/2015 3:41 PM
59	1581		7/23/2015 3:39 PM
60	1793		7/23/2015 3:37 PM
61	96		7/23/2015 3:34 PM
62	1549		7/23/2015 3:31 PM
63	325		7/23/2015 3:28 PM
64	1397		7/23/2015 3:24 PM
65	968		7/23/2015 3:21 PM
66	1341		7/23/2015 3:14 PM
67	1558		7/23/2015 3:09 PM
68	312		7/23/2015 3:02 PM
69	481		7/23/2015 2:56 PM
70	382		7/23/2015 2:40 PM

71	1361		7/23/2015 2:36 PM
72	281		7/23/2015 2:33 PM
73	1869		7/23/2015 2:18 PM
74	1141		7/23/2015 2:12 PM
75	1672		7/23/2015 2:05 PM
76	1643		7/23/2015 2:01 PM
77	1306		7/23/2015 1:49 PM
78	351		7/23/2015 1:27 PM
79	671		7/23/2015 1:23 PM
80	743		7/23/2015 1:20 PM
81	1489		7/23/2015 1:17 PM
82	1952		7/23/2015 1:14 PM
83	48		7/23/2015 1:08 PM
84	1904		7/23/2015 1:05 PM
85	1320		7/23/2015 12:53 PM
86	1744		7/9/2015 11:44 AM
87	1030		7/8/2015 9:42 PM
88	1336		7/8/2015 9:07 PM
89	316		7/5/2015 12:13 PM
90	431		6/28/2015 11:49 AM
91	909		6/28/2015 9:20 AM
92	201		6/27/2015 5:52 PM
93	1013		6/27/2015 3:53 PM
94	2026		6/26/2015 3:25 PM

Q2 What do you like about Rochester?

Answered: 86 Skipped: 9

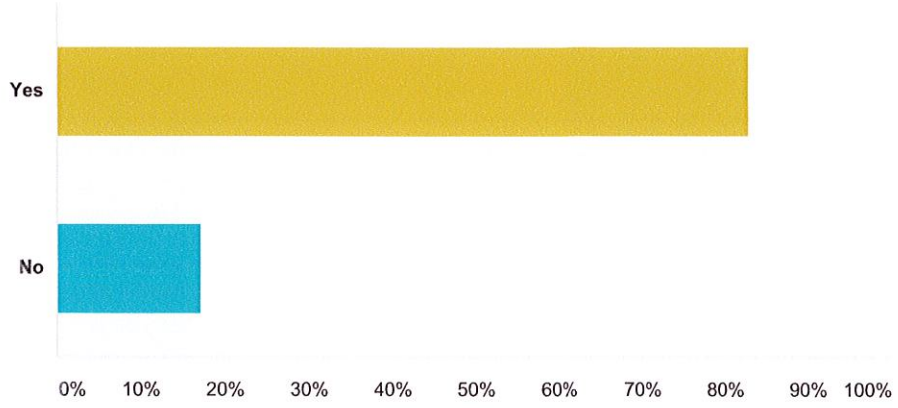
#	Responses	Date
1	Quiet low crime rate wildlife scenic roadways caring schools ponds	7/25/2015 12:15 PM
2	quiet quality's of a small town	7/25/2015 12:04 PM
3	Common sense?	7/25/2015 12:00 PM
4	The quiet, slow pace of life. It's only a high-paced & social as one wants to make it. But no one passes judgment - everyone is so nice - it's a great small town of wonderful families, school, churches, small businesses...proud history & pride & a desire to keep it that way.	7/25/2015 11:55 AM
5	Rural Qualities	7/25/2015 8:33 AM
6	rural qualities - agricultural - (No Low income Housing!!) Don't want any!!	7/25/2015 8:31 AM
7	The rural nature overall. The small town feel, the people overall and the helpful nature of most town employees.	7/24/2015 10:09 AM
8	Rural, picturesque, community	7/24/2015 10:06 AM
9	Close knit community	7/24/2015 10:00 AM
10	Rural area/fishing/hunting	7/24/2015 9:58 AM
11	Lack of traffic and noise. Farming heritage, lack of commercialization. Good town services, friendly people.	7/24/2015 9:48 AM
12	The peace and quiet Friendly neighbors	7/24/2015 9:40 AM
13	Community Schools	7/24/2015 9:38 AM
14	The quiet and friendliness of the people and just a beautiful town in general.	7/24/2015 9:36 AM
15	Authentic commitment to "rural" community, farm land and open space - not a suburb and with authentic small town "feel"	7/24/2015 9:32 AM
16	Being rural; farms; privacy	7/24/2015 9:07 AM
17	It's quiet (well....sometimes, speeding dump trucks don't help) as well as motorcycles with no mufflers that you can hear coming from a mile away. - Noise pollution -	7/24/2015 9:04 AM
18	Rural qualities.	7/24/2015 8:57 AM
19	Rural qualities - Location - small town feel - public trails -	7/24/2015 8:50 AM
20	Open spaces	7/24/2015 8:45 AM
21	Rural living	7/24/2015 8:43 AM
22	rural quality which diminishes more every year	7/24/2015 8:40 AM
23	Generally quiet rural living - Woods, lakes, ponds - no gas stations, no red lights - it's like a step back in time.	7/24/2015 8:35 AM
24	Small town feel, rural appeal. Grew up on Cape Cod & work on Cape, it is nice to get away to quiet.	7/24/2015 8:32 AM
25	Deb Common sense?	7/24/2015 8:27 AM
26	Rural atmosphere Quality of life in Rochester Preserve Rochester as is	7/24/2015 8:24 AM
27	the open space!	7/24/2015 8:18 AM
28	Rural character, low traffic volume, bicycle rides on safe low traffic roads, no gas stations.	7/24/2015 8:16 AM
29	the rural setting of quiet living knowing the children will grow up having the ability to explore and play without worrying about traffic and congestion like the city streets.	7/23/2015 6:05 PM
30	One of the last small communities in this area that has kept its character intact!	7/23/2015 6:02 PM

31	rural charm, peaceful	7/23/2015 5:52 PM
32	Quiet - big house lots - need business	7/23/2015 5:49 PM
33	Country rural atmosphere	7/23/2015 5:45 PM
34	It has been my home for almost 70 yrs. It's a gentle town if it is handled properly and correctly. It is the true meaning of a rural community.	7/23/2015 5:43 PM
35	Rural - clean	7/23/2015 5:39 PM
36	Open land	7/23/2015 5:27 PM
37	It is still a rural area with little traffic & good people. The town is starting to spread. Too much money and it is going to drive people out.	7/23/2015 5:24 PM
38	Quiet, uncommercialized rural character of the town. Our family grew up here and take pride in supporting and contributing to the many organizations and committees that volunteer to keep our town unique and like no other.	7/23/2015 5:18 PM
39	everything - quiet - clean	7/23/2015 5:13 PM
40	Friendly people/town hall workers helpful & will to work with problems you may have. Quiet - rural	7/23/2015 5:10 PM
41	taxes used to be low	7/23/2015 5:07 PM
42	The open land that I'm able to walk and just on that is not posted. The people for the most part and support most town functions.	7/23/2015 5:04 PM
43	The pristine, rural, agricultural characteristics of the town.	7/23/2015 4:54 PM
44	that its rural	7/23/2015 4:48 PM
45	Not the same as in 1980 but still the most bucolic and least restrictive on the Southcoast. Population must be contained at the existing level.	7/23/2015 4:45 PM
46	Right to farm, rural small community with small government.	7/23/2015 4:39 PM
47	Ruralness, beauty, natural habitats are breathtaking, well water, community & everyone's awareness of recycling, caring for their environment. The care for children & elderly are primary concerns.	7/23/2015 4:35 PM
48	The rural nature of the town, yet it lies within driving distance of Boston, Providence, & Cape Cod.	7/23/2015 3:55 PM
49	The small town that it is, and the good people here	7/23/2015 3:47 PM
50	Everything!	7/23/2015 3:41 PM
51	Small town	7/23/2015 3:39 PM
52	Rural community and a well managed town.	7/23/2015 3:34 PM
53	Rural, farming community	7/23/2015 3:31 PM
54	Everything	7/23/2015 3:28 PM
55	Peaceful beauty	7/23/2015 3:24 PM
56	The feeling of community. The importance of open land and ability to farm.	7/23/2015 3:21 PM
57	School system, open land, quiet neighborhoods, proximity to Boston/Providence	7/23/2015 3:14 PM
58	Woods, open fields, lack of noise and traffic, farmland and fresh produce, and people who enjoy the same.	7/23/2015 3:09 PM
59	Woods/privacy	7/23/2015 3:02 PM
60	It's farm community status. The people in Rochester seem to get along - no political grandstanding. Development is small - preserving what we have - greed seems not to rule.	7/23/2015 2:56 PM
61	Absolutely love small town feel.	7/23/2015 2:40 PM
62	Quiet, slow, respect for neighbors.	7/23/2015 2:36 PM
63	Open space, farm land, keeping Rochester beautiful	7/23/2015 2:33 PM
64	we love the country - feel, access to beach, shell fishing and the people.	7/23/2015 2:18 PM

65	Love about Rochester A beautiful, peaceful, quiet, friendly, small town!	7/23/2015 2:12 PM
66	quiet, easy to walk on streets.	7/23/2015 2:05 PM
67	I like that it's a small town, and everything isn't too far away.	7/23/2015 2:01 PM
68	Peace, simplicity, lack of traffic, rural character	7/23/2015 1:54 PM
69	The tranquility & not congested.	7/23/2015 1:49 PM
70	How quiet the community is. Lots of land.	7/23/2015 1:27 PM
71	Town has a bunch of good people.	7/23/2015 1:23 PM
72	Country atmosphere - very friendly people. Great services provided by Town Hall - Police and Fire Depts. - etc.	7/23/2015 1:20 PM
73	Rural atmosphere. Small town feel. Open spaces.	7/23/2015 1:17 PM
74	The open space.	7/23/2015 1:14 PM
75	Everything	7/23/2015 1:08 PM
76	The openness of the community, the beautiful environment that surrounds us and the ability to enjoy it.	7/23/2015 1:05 PM
77	Quiet rural community where your are away from the hustle and bustle of the city.	7/23/2015 12:53 PM
78	Country setting, peacefulness, friendly community	7/9/2015 11:44 AM
79	The forests and the feilds. The open country - what there is left of it. The people too, most of them anyway.	7/8/2015 9:42 PM
80	Natural Beauty, lack of traffic, lack of litter, No Loud music coming from vehicles, large lot sizes, serenity, fresh air	7/8/2015 9:07 PM
81	Our family enjoys many things about Rochester, as we have lived here our entire lives. Our extended family has lived here for two and three generations. We appreciate mostly the School systems, large quaint lot sizes, rural atmosphere, fishing ponds and well water. We also use and enjoy the soccer and baseball fields, Dexter Lane park with playground equipment, and basketball courts.	7/5/2015 12:13 PM
82	Not too crowded. Quite a bit of open space and preserved countryside, farm land and forest. Glad it is a right to farm town.	6/28/2015 11:49 AM
83	We like the small town feel. It's very clean, well maintained, great school system, great neighbors. It has little to no crime and no big businesses. However it is fairly close to chain stores and gas stations without having them within Rochester.	6/28/2015 9:20 AM
84	rural character. Relative quiet	6/27/2015 5:52 PM
85	We have lived in this area all our lives. We have lived in this house for over 40 years there is no reason for us to leave!	6/27/2015 3:53 PM
86	The rural qualities, as well as the fact my family has resided in this town for many, many years. We have not been overrun with developments, strip malls and drive-thrus. Sense of community with neighbor helping neighbor without being an overwhelming busy body about it. Long standing roots with members in town government keeping our rural qualities instead of lining their pockets with business ventures.	6/26/2015 3:25 PM

Q3 Do you support the Town purchase of open spaces for recreation?

Answered: 93 Skipped: 2



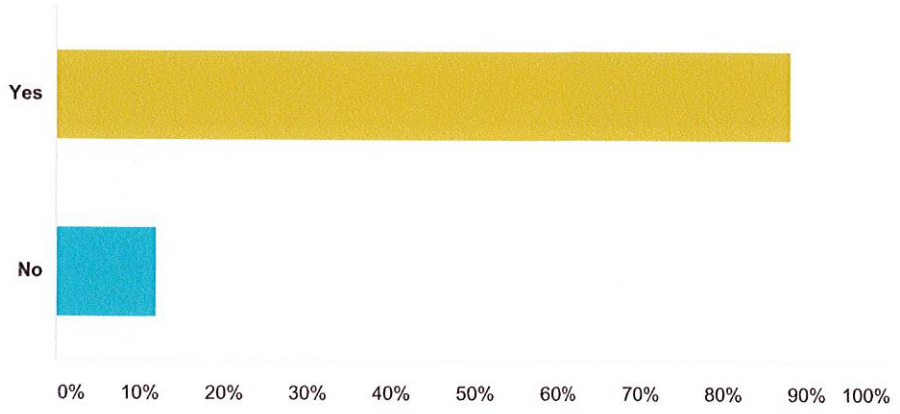
Answer Choices	Responses	
Yes	82.80%	77
No	17.20%	16
Total		93

#	Comments:	Date
1	having places where people can go & stay active usually keeps them out of trouble - especially youth.	7/25/2015 12:15 PM
2	if for hiking and boating non invasive on land	7/25/2015 12:04 PM
3	We cherish the open spaces - it preserves our privacy & the quiet of the small town. that's why we moved here!	7/25/2015 11:55 AM
4	within reason	7/24/2015 10:09 AM
5	w/hope of hunting w/either bows or guns	7/24/2015 9:58 AM
6	no - unless there is real town need	7/24/2015 9:54 AM
7	I already use them to walk my dog.	7/24/2015 9:48 AM
8	I think the town is doing a wonderful job.	7/24/2015 9:36 AM
9	Yes I am an equestrian and hope to have riding trails shared with other compatible uses.	7/24/2015 9:32 AM
10	but depends on the size of the project	7/24/2015 9:04 AM
11	Very limited purchases ok.	7/24/2015 8:57 AM
12	not at the expense of higher taxes	7/24/2015 8:40 AM
13	to a point	7/24/2015 8:35 AM
14	mountain biking, hiking, x-country skiing	7/24/2015 8:16 AM
15	The youth are given enough here!	7/23/2015 6:02 PM
16	Limited, do not over tax the people for this	7/23/2015 5:49 PM
17	This is a question that has to be a case by case.	7/23/2015 5:24 PM
18	if open to all types of recreation.	7/23/2015 5:04 PM

19	when and if suggested/recommended by a town Recreational board.	7/23/2015 4:54 PM
20	we don't have the money (keep taxes low)	7/23/2015 4:39 PM
21	The natural habitats' been disrupted for many wildlife & their existing homes. Please maintain & no longer disturb or disrupt their current nesting grounds	7/23/2015 4:35 PM
22	As the population increases recreational needs will expand.	7/23/2015 3:55 PM
23	Open space take land off tax roll & adds more to everyone else's.	7/23/2015 3:49 PM
24	More walking trails the better	7/23/2015 3:47 PM
25	As long as it's not noisy!	7/23/2015 3:09 PM
26	Walking trails are good for all. Sports for kids.	7/23/2015 2:56 PM
27	Taxes are taking too much of living expenses	7/23/2015 2:36 PM
28	keep town quiet	7/23/2015 2:12 PM
29	I think there should be more to do in Rochester.	7/23/2015 2:01 PM
30	have enough at Dexter and other locations	7/23/2015 1:54 PM
31	open space is needed for the overall rural aspect	7/23/2015 1:49 PM
32	Need a place to play!	7/23/2015 1:14 PM
33	Needs for walking, bicycling, hiking & "just enjoying".	7/23/2015 1:05 PM
34	Only if this open space generates revenue for the town. Most people in town do not spend much time outdoors. I live on Snipatuit pond, when frozen, there are very few town residents ice skating, walking or fishing. Most Ice Fishermen are from out-of-town	7/8/2015 9:07 PM
35	We support this effort, but within reason and ONLY with minimal impact to our ever increasing real estate taxes.	7/5/2015 12:13 PM
36	But not for solar panel farms.	6/28/2015 9:20 AM

Q4 Do you support the Town purchase of open spaces for conservation?

Answered: 92 Skipped: 3



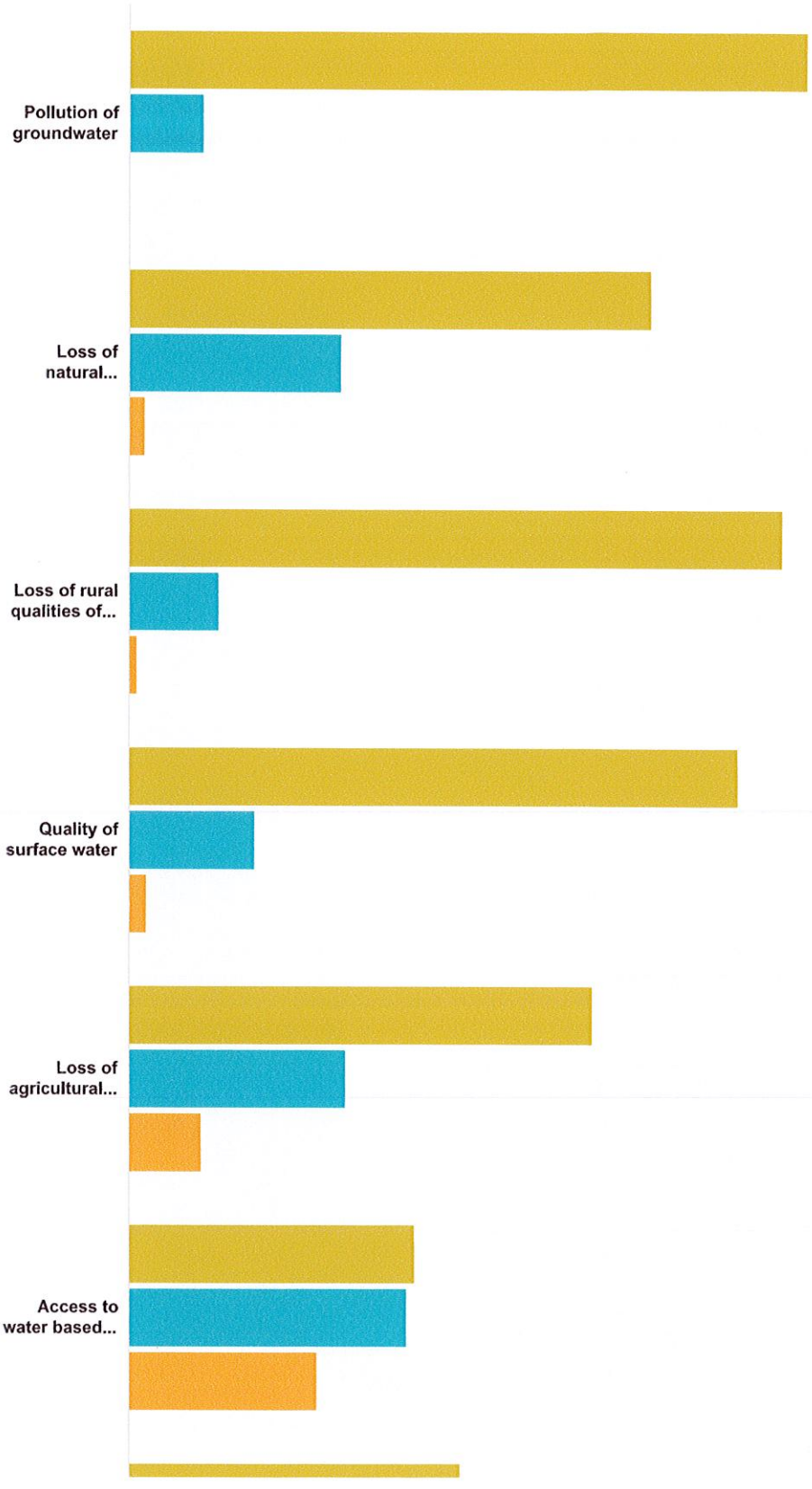
Answer Choices	Responses	
Yes	88.04%	81
No	11.96%	11
Total		92

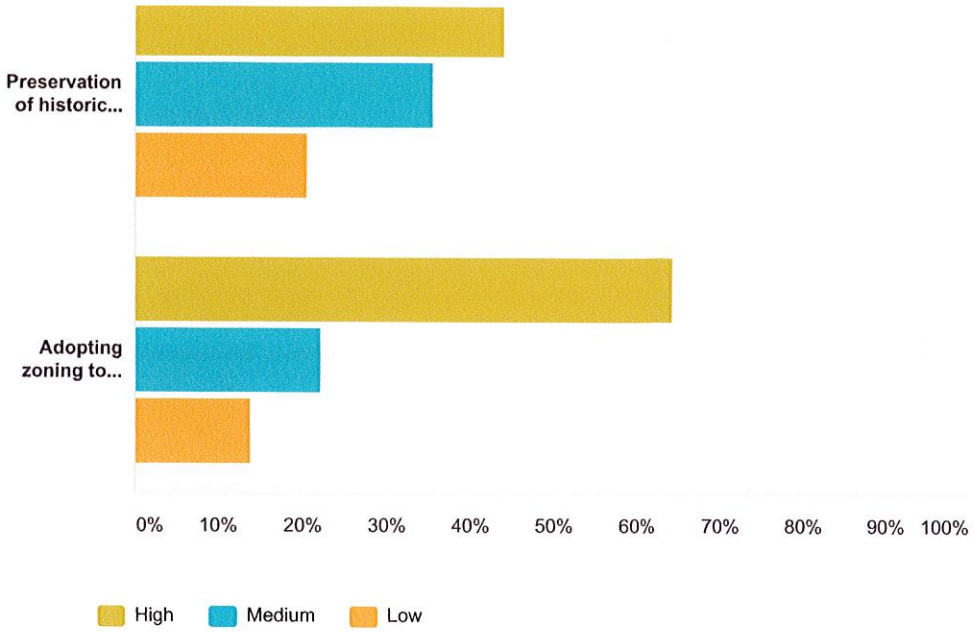
#	Comments:	Date
1	plenty of people donate their land	7/25/2015 12:15 PM
2	I appreciate all the accessible areas around to encourage outdoor recreation important in today's culture of technology & obesity.	7/25/2015 11:55 AM
3	Our land trust plus state & local efforts are sufficient.	7/24/2015 10:09 AM
4	I think there is enough tax exempt land in Rochester.	7/24/2015 9:54 AM
5	Once open space is lost it cannot be brought back.	7/24/2015 9:48 AM
6	Need to have a balance though	7/24/2015 9:32 AM
7	yes and no, in moderation. Every acre of land that goes into conservation comes off the tax roll and that makes it more expensive to live here because the difference has to be made up somewhere. My taxes have doubled in 10 years.	7/24/2015 9:04 AM
8	Very limited ok.	7/24/2015 8:57 AM
9	to a point	7/24/2015 8:35 AM
10	wildlife habitat	7/24/2015 8:16 AM
11	Hopeful it will help keep taxes down!	7/23/2015 6:02 PM
12	limited - be real	7/23/2015 5:49 PM
13	Must maintain open land	7/23/2015 5:27 PM
14	Same as above has to be case by case - I think we own or control enough land already.	7/23/2015 5:24 PM
15	if open to all types of recreation.	7/23/2015 5:04 PM
16	Conserve all land parcels that will not hamper "necessary town growth".	7/23/2015 4:54 PM

17	we don't have the money (keep taxes low)	7/23/2015 4:39 PM
18	please preserve the land, to maintain its natural habitat...thank you	7/23/2015 4:35 PM
19	Within limits	7/23/2015 3:55 PM
20	Help control growth	7/23/2015 3:47 PM
21	Preserving the beauty & charm & history should be the most important goal of our town. It is a peaceful place you can almost feel it in the air.	7/23/2015 2:56 PM
22	What we have isn't utilized	7/23/2015 2:36 PM
23	out town is surrounded by commercialization and needs to maintain it's identity.	7/23/2015 2:12 PM
24	There's a lot of nature here that makes Rochester the place it is.	7/23/2015 2:01 PM
25	If $ is well spent and purchase supported by grants and other donors.	7/23/2015 1:54 PM
26	Keep down the building.	7/23/2015 1:14 PM
27	The less building the better.	7/23/2015 1:05 PM
28	This is BOTH a Yes & No. Only the open spaces that are not suitable for farming. I would prefer to see MUCH MORE Farming in this town vs, open space. All open space should be in the Rochester Land Trust. Any land considered for purchase by the town should be approved by town taxpayers. Lets NEVER make the mistake that was made with Hiller Farm. The property owner couldn't pay his taxes...but he could afford to pay a membership to both The Kittansett Club & N.B, Yacht Club and take trips to Tahiti???? NOW the Taxpayers are paying for his land...albeit it beautiful...whomever owns it should pay the taxes!!!!! I would prefer to attract more farmers to Rochester..this will make the town more diverse, support local farmers, give residents availability to purchase locally grown food and keep the rural beauty without lots of open lots that produce nothing....CSA's & farm stands will attract people who want healthy locally grown food.	7/8/2015 9:07 PM
29	We support this effort, but within reason and ONLY with minimal impact to our ever increasing real estate taxes. Town purchases for conservation should include thorough and accurate projection and anticipation of ongoing maintenance costs and needs of such properties, and not simply focus on short-sighted costs.	7/5/2015 12:13 PM
30	especially for watershed protection and wildlife habitat	6/28/2015 11:49 AM
31	Keeping wooded areas intact are a must in keeping Rochester beautiful.	6/28/2015 9:20 AM

Q5 How important are the following issues to you?

Answered: 95 Skipped: 0

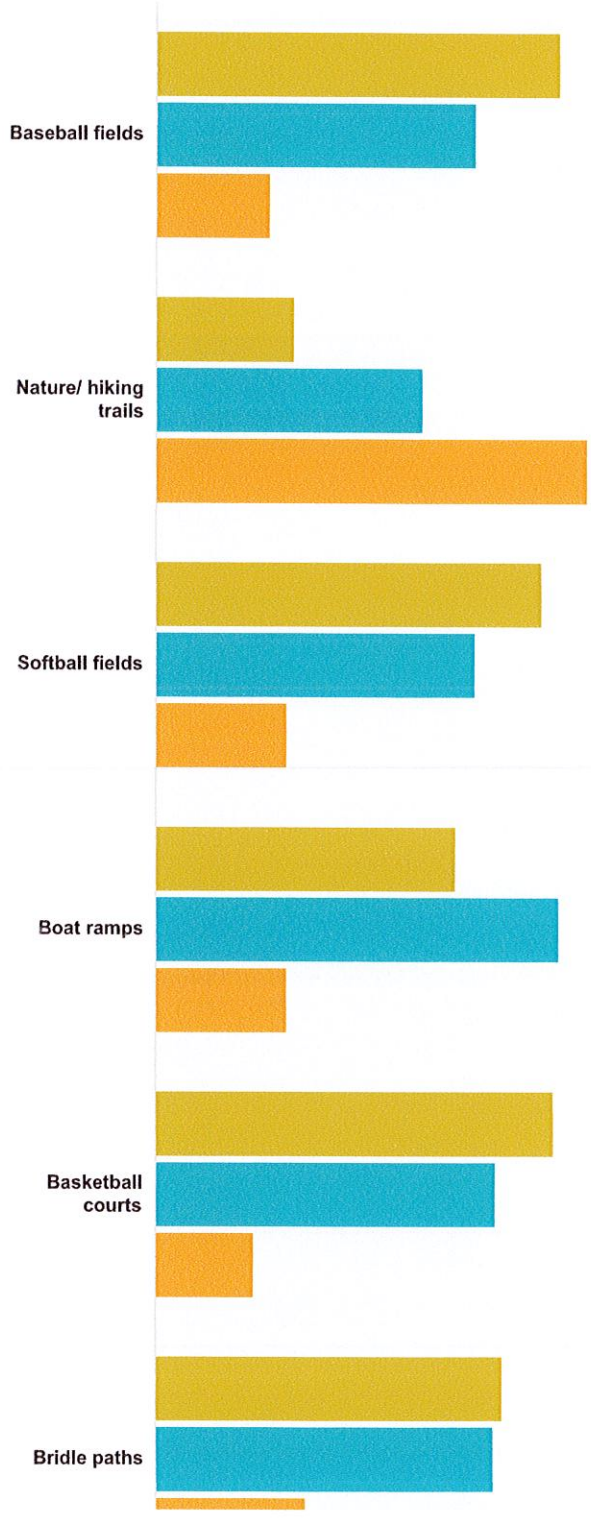


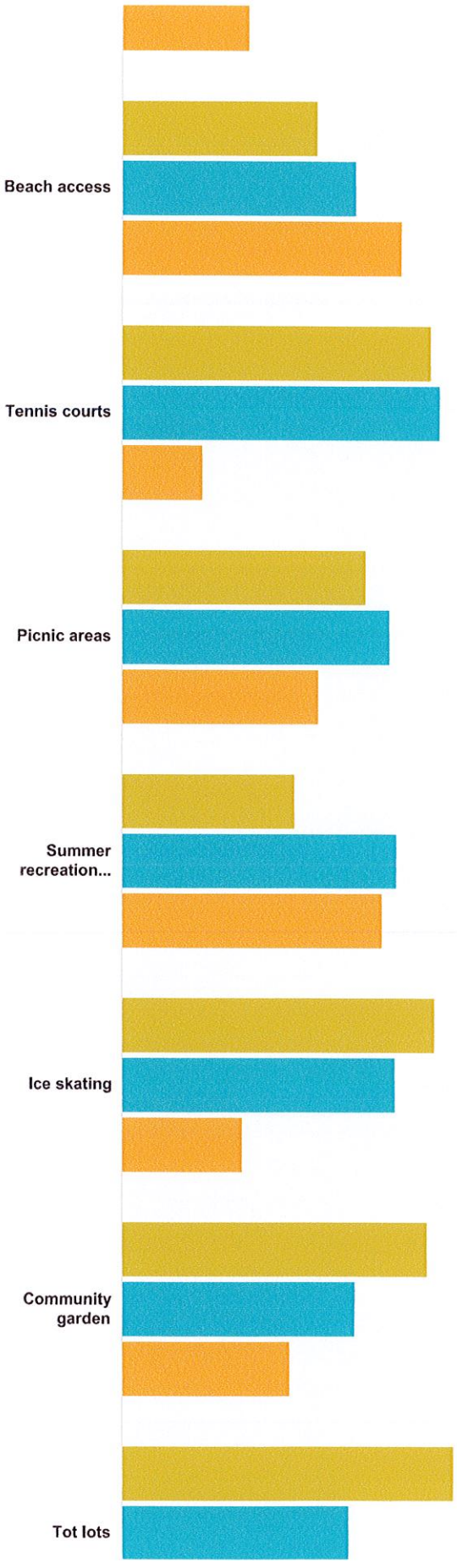


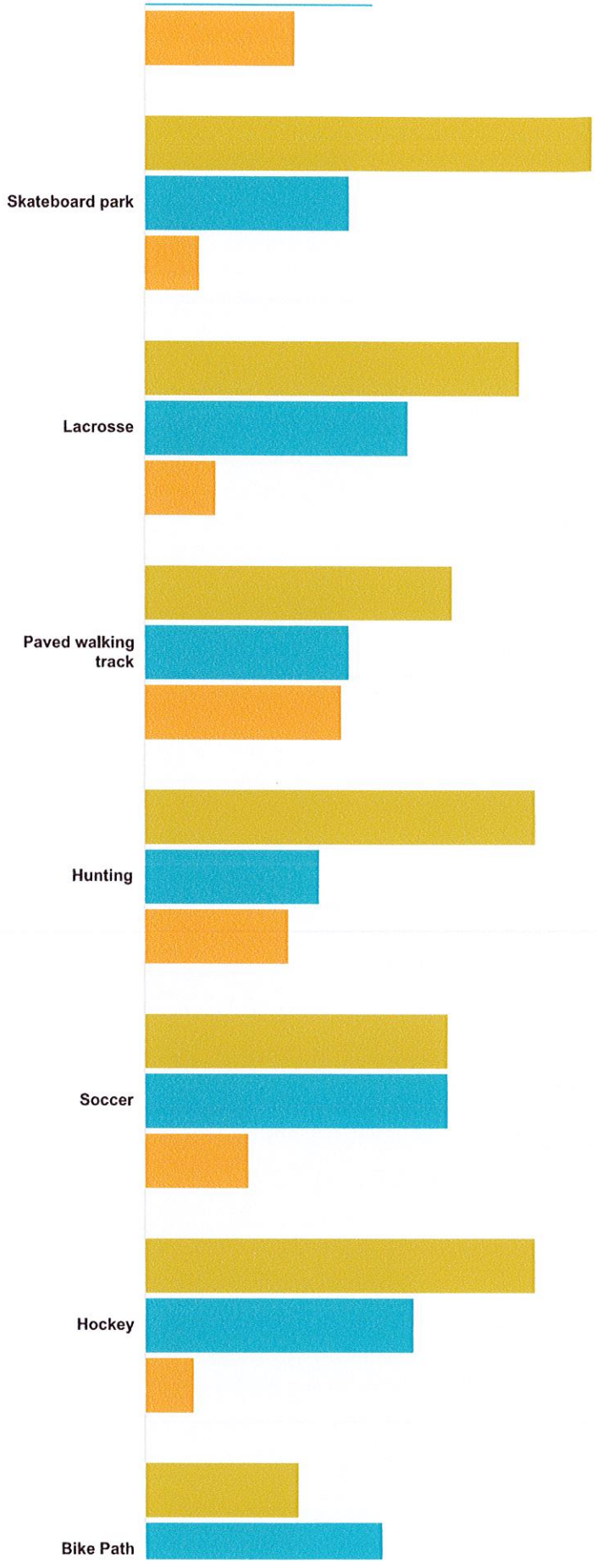
	High	Medium	Low	Total
Pollution of groundwater	**90.22%** 83	**9.78%** 9	**0.00%** 0	92
Loss of natural habitats	**69.57%** 64	**28.26%** 26	**2.17%** 2	92
Loss of rural qualities of the town	**86.96%** 80	**11.96%** 11	**1.09%** 1	92
Quality of surface water	**81.11%** 73	**16.67%** 15	**2.22%** 2	90
Loss of agricultural land	**61.70%** 58	**28.72%** 27	**9.57%** 9	94
Access to water based recreation	**38.04%** 35	**36.96%** 34	**25.00%** 23	92
Preservation of historic places	**44.09%** 41	**35.48%** 33	**20.43%** 19	93
Adopting zoning to protect open space	**64.21%** 61	**22.11%** 21	**13.68%** 13	95

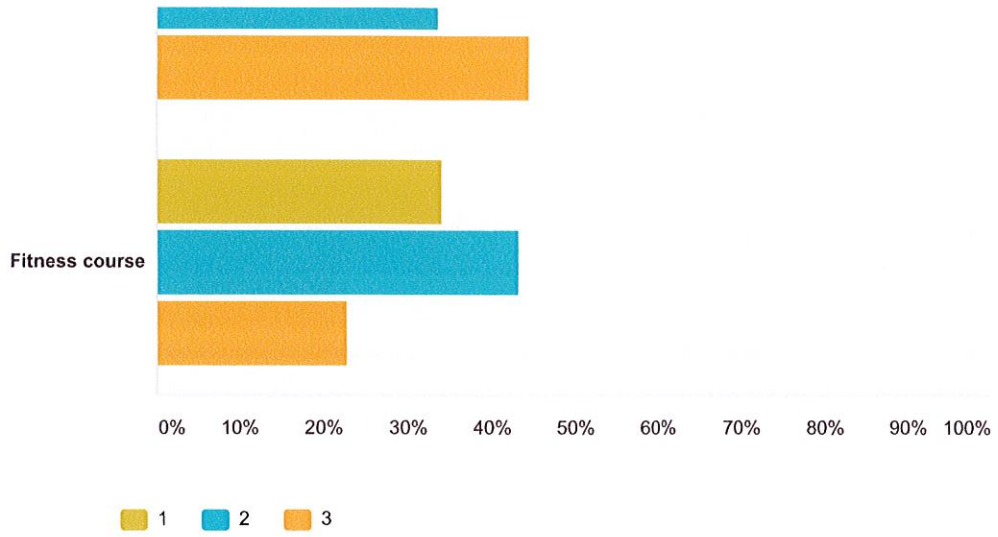
Q6 Do you think it is important that Rochester expand or develop the following? (Please circle the number that represents this importance: 3=great need; 2=moderate need; 1=no need)

Answered: 93 Skipped: 2




Beach access
Tennis courts
Picnic areas
Summer recreation...
Ice skating
Community garden
Tot lots


Skateboard park
Lacrosse
Paved walking track
Hunting
Soccer
Hockey
Bike Path

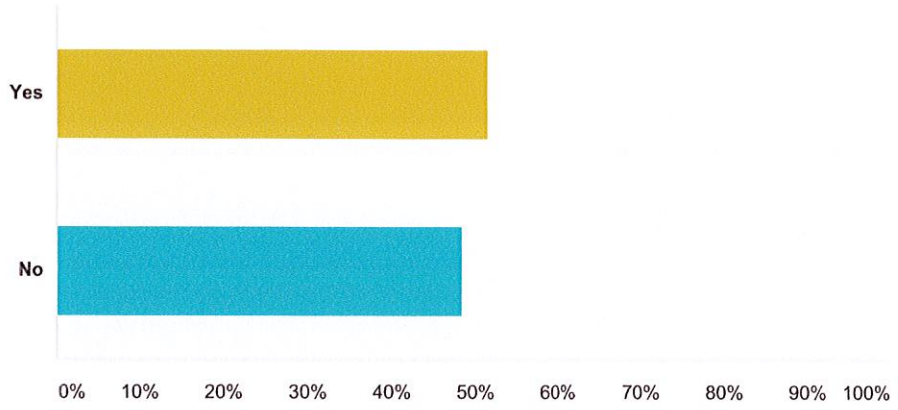


	1	2	3	Total
Baseball fields	**48.31%** 43	**38.20%** 34	**13.48%** 12	89
Nature/ hiking trails	**16.48%** 15	**31.87%** 29	**51.65%** 47	91
Softball fields	**46.07%** 41	**38.20%** 34	**15.73%** 14	89
Boat ramps	**35.96%** 32	**48.31%** 43	**15.73%** 14	89
Basketball courts	**47.67%** 41	**40.70%** 35	**11.63%** 10	86
Bridle paths	**41.57%** 37	**40.45%** 36	**17.98%** 16	89
Beach access	**27.47%** 25	**32.97%** 30	**39.56%** 36	91
Tennis courts	**43.68%** 38	**44.83%** 39	**11.49%** 10	87
Picnic areas	**34.44%** 31	**37.78%** 34	**27.78%** 25	90
Summer recreation program	**24.44%** 22	**38.89%** 35	**36.67%** 33	90
Ice skating	**44.32%** 39	**38.64%** 34	**17.05%** 15	88
Community garden	**43.18%** 38	**32.95%** 29	**23.86%** 21	88
Tot lots	**46.91%** 38	**32.10%** 26	**20.99%** 17	81
Skateboard park	**63.33%** 57	**28.89%** 26	**7.78%** 7	90
Lacrosse	**52.81%** 47	**37.08%** 33	**10.11%** 9	89

Paved walking track	**43.33%**	**28.89%**	**27.78%**	
	39	26	25	90
Hunting	**55.06%**	**24.72%**	**20.22%**	
	49	22	18	89
Soccer	**42.70%**	**42.70%**	**14.61%**	
	38	38	13	89
Hockey	**55.17%**	**37.93%**	**6.90%**	
	48	33	6	87
Bike Path	**21.74%**	**33.70%**	**44.57%**	
	20	31	41	92
Fitness course	**34.09%**	**43.18%**	**22.73%**	
	30	38	20	88

Q7 Should the Town create a Recreation Department to support the above activities?

Answered: 93 Skipped: 2



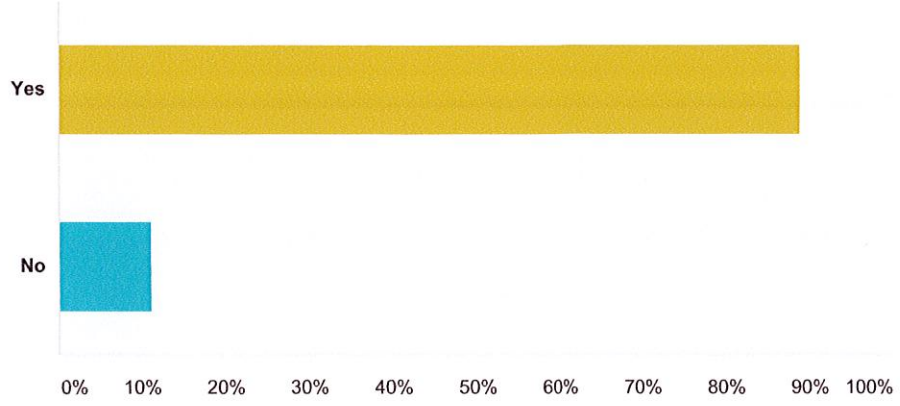
Answer Choices	Responses	
Yes	51.61%	48
No	48.39%	45
Total		93

#	Comments:	Date
1	But then do away with Park Commissioner	7/25/2015 12:15 PM
2	Enough bureaucracy now!	7/25/2015 12:00 PM
3	I'd rather it be done w/o paying an extra salary so the $ could go towards a project - couldn't these be treated like other town projects?	7/25/2015 11:55 AM
4	Not sure	7/25/2015 8:31 AM
5	I think it is important for the children in town.	7/24/2015 9:36 AM
6	If it's volunteer ok but where's the money going to come from?	7/24/2015 9:04 AM
7	Only if cost is minimal.	7/24/2015 8:57 AM
8	tax dollar need to spent more judiciously - the tax increases every year are ridiculous for no town service except trash and snow plowing	7/24/2015 8:40 AM
9	Conserve/save money, stop spending Enough bureaucracy now!	7/24/2015 8:27 AM
10	it seems necessary level of support	7/24/2015 8:16 AM
11	park dept ok	7/23/2015 6:08 PM
12	no the park department handles quite well.	7/23/2015 6:05 PM
13	Enough with the high pay and huge tax hikes on property owners.	7/23/2015 6:02 PM
14	waste of money	7/23/2015 5:49 PM
15	this way it could get organized and	7/23/2015 5:39 PM
16	On a part time basis - not a full time town employee	7/23/2015 5:24 PM
17	very necessary to have a control department.	7/23/2015 4:54 PM

18	would be helpful	7/23/2015 4:45 PM
19	keep town government small	7/23/2015 4:39 PM
20	Expand Dexter & Raynor & maintain grounds, current rec. options are plenty & well attended.	7/23/2015 4:35 PM
21	Not if we must pay them	7/23/2015 3:47 PM
22	Should be volunteer w/paid for summer rec. program	7/23/2015 3:21 PM
23	If these things are created someone needs to care for, schedule & maintain.	7/23/2015 2:56 PM
24	Some but not all	7/23/2015 2:33 PM
25	we have too many bikes riding on tight curvy roads, they need a space to ride for the safety of all.	7/23/2015 2:12 PM
26	I would love for Rochester to have some of those things.	7/23/2015 2:01 PM
27	Keep the kids busy.	7/23/2015 1:14 PM
28	Provided a "fee" is charged and the department relies on the use of the "fee" for at least 1/2 to 60% of its budget.	7/23/2015 1:05 PM
29	Sounds like your looking to create another position that will collect a high salary for not doing much. People live in this town because it does not attract a lot of people...and most like it this way. When you attract people from out of town you increase crime, traffic, litter etc. Take a visit to Long Pond and see the traffic at that boat ramp. Living on Snipatuit..I like it just the way it is LIMITED access...I do NOT want to live in Rochester and listen to Jet Ski's all day long...and people who DON"T SPEAK ENGLISH...that is why I moved to Rochester from New Bedford!	7/8/2015 9:07 PM
30	These services are adequately offered by other adjacent towns in the tri-town area and serve their purpose very well. Rochester does NOT need to offer recreation activities on par with Mattapoisett and Marion. This would entail hiring more town staff, with pay raises and ongoing maintenance which equates to more burden to tax payers. We do NOT need to follow everything those towns do. Rochester is unique in our own right and current real estate taxes are not comparably supplemented by Commercial businesses like those other towns have to help offset real estate tax implications.	7/5/2015 12:13 PM

Q8 Should the Town website have on-line information about recreational activities in Rochester?

Answered: 90 Skipped: 5



Answer Choices	Responses	
Yes	88.89%	80
No	11.11%	10
Total		90

#	Comments:	Date
1	Also posted in Wanderer	7/25/2015 12:15 PM
2	where else would one look? That's the #1 place to go.	7/25/2015 11:55 AM
3	They could publicize acceptable uses and restrictions.	7/24/2015 9:48 AM
4	Not necessarily, the Wanderer's a good source.	7/24/2015 9:07 AM
5	bring outsiders for law suits to the town tax hikes	7/23/2015 6:02 PM
6	overseeing rec. dept. a different need	7/23/2015 4:54 PM
7	Online info is the new normal	7/23/2015 2:56 PM
8	Grandparents other family like to know	7/23/2015 2:33 PM
9	it's an easy way to give the community information.	7/23/2015 2:01 PM
10	Should not cost too much.	7/23/2015 1:23 PM
11	Information highway.	7/23/2015 1:14 PM
12	People ask questions and its up to the town to give accurate information and stay current.	7/23/2015 1:05 PM
13	For limited recreational activities. Lots of professional cyclers come to Rochester because the roads are safe and residents respect bicycle riders. It's always a pleasure to see people on horseback...with ALL the Horses in town...riding trails would be wonderful, and these people respect the land...would not be destructive, noisy, littering creating a mess.	7/8/2015 9:07 PM
14	The website should refer to currently available recreational activities that Rochester residents can benefit from in OTHER towns. We do NOT need to create a new Rochester Recreational Dept. and offer services currently available less than 10 miles away.	7/5/2015 12:13 PM

15	Nowadays everyone utilizes the internet.	6/28/2015 9:20 AM

Q9 What suggested improvements do you have for any parks and recreational facilities now available? (Raynor Gifford Park, Dexter Lane Recreational Area)

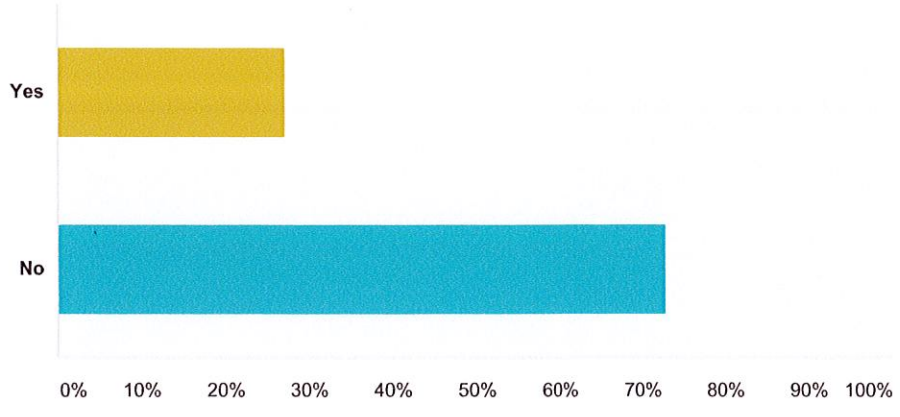
Answered: 46 Skipped: 49

#	Responses	Date
1	Post info on baseball/softball field use availability - there are probably people interested in adult leagues or pick up games Clean up basketball area @ Gifford Also suggest boat (row) rental @ public boat ramp @ Snow's Pond	7/25/2015 12:15 PM
2	It's great now -	7/25/2015 12:00 PM
3	The parking lot at Dexter needs some help - if there could be another park like Dexter somewhere else in Rochester too maybe near another shopping area like Plumb Corner (or on the other side of it?) That would bring even more commerce into our town.	7/25/2015 11:55 AM
4	Town doesn't seem to work very well w/baseball & field activities coasches & reps. Town makes it very hard to get improvements done to fields!	7/24/2015 9:58 AM
5	Better organized and safer parking.	7/24/2015 9:48 AM
6	Dexter Lane basket ball courts need better rims and backboards	7/24/2015 9:42 AM
7	a paved walking track - be great for parents to walk babies.	7/24/2015 9:36 AM
8	None	7/24/2015 9:07 AM
9	Fine as they are now.	7/24/2015 8:45 AM
10	Clean up the playgrounds	7/24/2015 8:43 AM
11	None - I don't really utilize them. However those that do should do their own upkeep.	7/24/2015 8:35 AM
12	it's great now -	7/24/2015 8:27 AM
13	none	7/24/2015 8:24 AM
14	Maintain what we have to a high level	7/24/2015 8:16 AM
15	lighting at Dexter to have the ability to do more at night.	7/23/2015 6:05 PM
16	Parks look great to me. I never see kids using these parks. They have large yards to play in on their own property.	7/23/2015 6:02 PM
17	keep clean	7/23/2015 5:49 PM
18	keep them maintained - to avoid costly repairs	7/23/2015 5:39 PM
19	maintain what we have	7/23/2015 5:27 PM
20	none	7/23/2015 5:24 PM
21	Maintenance of grounds & facilities and improvements to existing play areas & skate park is supported.	7/23/2015 5:18 PM
22	rest room available in off seasons	7/23/2015 5:10 PM
23	none	7/23/2015 5:07 PM
24	Park group is doing an ok job.	7/23/2015 5:04 PM
25	No comment. Not that familiar with needs.	7/23/2015 4:54 PM
26	More than adequate: space well used.	7/23/2015 4:45 PM

27	Dexter Lane - add skateboard park, basketball courts, fitness course in surrounding woods; add community garden to COA.	7/23/2015 4:35 PM
28	Better maintain them	7/23/2015 3:47 PM
29	Bring back 4th of July fire works.	7/23/2015 3:37 PM
30	None	7/23/2015 3:02 PM
31	No suggestions	7/23/2015 2:56 PM
32	Don't know	7/23/2015 2:33 PM
33	snack bar @ Dexter Lane fields; playgrounds for small children.	7/23/2015 2:18 PM
34	Add bicycle paths wherever possible to keep riders off main roads.	7/23/2015 2:12 PM
35	none	7/23/2015 2:05 PM
36	Make updates to change or add things, the same thing can get boring.	7/23/2015 2:01 PM
37	Tennis courts at Dexter.	7/23/2015 1:54 PM
38	continue to maintain.	7/23/2015 1:49 PM
39	N/A	7/23/2015 1:23 PM
40	0	7/23/2015 1:20 PM
41	none	7/23/2015 1:17 PM
42	Maintenance/upkeep very important. Repair/replace old worn out devices and fixtures. If this is going to be a big part of Rochester, it has to be well kept and maintained.	7/23/2015 1:05 PM
43	I've never stepped foot in any so I have no comment.	7/8/2015 9:07 PM
44	Continue to work toward creative maintenance solutions for all existing facilities. Bathrooms located at Dexter Lane Recreational Field are well maintained and cleaned and we would support continuing this. Improving the basketball courts at Gifford Park would be another suggestion, but again, any and all improvements should be considered for ongoing maintenance needs and the future implications to town staff (hiring needs, salaries, etc.) which all impact our real estate taxes, beach sticker and dump costs, etc.	7/5/2015 12:13 PM
45	Don't really use either area. Didn't contemplate whether they are available for general use or limited to organized sports teams.	6/27/2015 5:52 PM
46	More accessibilty for the handicap, more information on activities and availabilty, more inclusion for ALL the residents, young or old. disabled or able bodied	6/26/2015 3:25 PM

Q10 Rochester currently has limited cemetery space; do you expect to be buried in Rochester?

Answered: 85 Skipped: 10



Answer Choices	Responses	
Yes	27.06%	23
No	72.94%	62
Total		85

#	Comments:	Date
1	would like to get information first on cost and availability	7/25/2015 12:04 PM
2	What about the forest burial like in Marion on Point Rd (I think it is on the way out to Kittansett its on the left)	7/25/2015 11:55 AM
3	cremation	7/24/2015 10:00 AM
4	I already have space in a family plot.	7/24/2015 9:48 AM
5	Being cremated	7/24/2015 9:40 AM
6	Because it is so limited we have already purchased 4 plots.	7/24/2015 9:36 AM
7	undecided	7/24/2015 8:21 AM
8	cremation	7/24/2015 8:16 AM
9	haven't decided	7/23/2015 6:05 PM
10	Yes bring more cemetery lots.	7/23/2015 6:02 PM
11	I have 4 plots purchased at the Center Cemetery.	7/23/2015 5:43 PM
12	ashes	7/23/2015 5:04 PM
13	have old family plots in neighboring town.	7/23/2015 4:54 PM
14	Dont know	7/23/2015 3:09 PM
15	I am born in Fairhaven - my family buried there. I will be too.	7/23/2015 2:56 PM
16	I'm not leaving	7/23/2015 2:40 PM
17	Vets cemetery	7/23/2015 2:36 PM

18	Have lot	7/23/2015 2:33 PM
19	Available contact info for Dexter Lane cemetery. We have been to reach anyone	7/23/2015 2:18 PM
20	don't know	7/23/2015 2:01 PM
21	don't know	7/23/2015 1:54 PM
22	not sure	7/23/2015 1:49 PM
23	Not sure.	7/23/2015 1:27 PM
24	If need create a new & bigger cemetery. Don't tell my Italian mother this secret.	7/23/2015 1:14 PM
25	We will likely be cremated, but I do have deceased relatives buried in our cemeteries that I visit regularly.	7/5/2015 12:13 PM
26	ashes.....	6/28/2015 11:49 AM
27	Great place to live and raise family but we do not anticipate living here in retirement.	6/28/2015 9:20 AM
28	Unsure	6/27/2015 5:52 PM
29	own 2 lots North Ave Cemetary	6/27/2015 3:53 PM
30	actually plan on cremation	6/26/2015 3:25 PM

Q11 Do you have any other comments or suggestions concerning open space and/or recreation in Rochester? If so please use the space below.

Answered: 45 Skipped: 50

#	Responses	Date
1	would love to see an indoor/outdoor huge sports complex which includes a pool and racquetball, batting cages, indoor soccer, basketball, outdoor lacrosse, soccer field & tennis courts.	7/25/2015 12:15 PM
2	Why are we not utilizing Mary's Pond? Would like a beach access there.	7/25/2015 12:04 PM
3	Note on #4 Adopting zoning to protect open space - No enough regulations Note on #5 Conserve/save money stop spending	7/25/2015 12:00 PM
4	Notes on #5 Picnic areas - more tables around the trails Ice skating - Lessons!! on frozen ponds Hockey - sure, but how? build a huge rink? it'd stand out like a sour thumb Skateboard park - don't we have one at Dexter? Please do not let those 60 acres on Rte 105 be developed!! It's ok if it becomes a park or athletic facility, but not a Connet Woods - like housing neighborhood!! That will hurt that traditional rural entrance into Rochester from Marion.	7/25/2015 11:55 AM
5	Move slowly -	7/24/2015 10:09 AM
6	Your welcome	7/24/2015 10:00 AM
7	Should have some areas for bow hunting only.	7/24/2015 9:58 AM
8	Note on question #5 none of the above - we currently have a budget as high as Mattap. with less population. Note on question #4 "Pollution of groundwater "- only for water used in Rochester" You keep increasing taxes & regulation on open land. This leads to people selling land and increased population.	7/24/2015 9:54 AM
9	Fines for unacceptable or irresponsible usage, and/or littering. I have some concerns about outsiders showing lack of respect.	7/24/2015 9:48 AM
10	Just continue outreach to residents, make them aware of the values of open space and educate for individual as well as community efforts to retain and maintain.	7/24/2015 9:32 AM
11	We continue to open new areas to build (Connet Woods for example). This destroys the rural value of tow, increases traffic, noise, need for fire & police & schools with no respit from higher taxes.	7/24/2015 8:40 AM
12	No	7/24/2015 8:24 AM
13	Create bike markings on roadways or signage for sharing the road to warn motorists about the presence of cycles on main roads.	7/24/2015 8:16 AM
14	increase building site acres to more needed not less	7/23/2015 6:08 PM
15	Most homeowners have huge acerage in Rochester. We don't need to burden our Senior's w/ anymore parks etc. Give us a brake. we're struggling to pay taxes, heat, food and keep our roofs over our heads! We even have to share the COA with all ages and out of towners.	7/23/2015 6:02 PM
16	I think you are doing a commendable job. We don't need uncontrolled development.	7/23/2015 5:43 PM
17	I enjoy the hiking paths - kayaking at Leonard's Pond. Would like to be able to enjoy kayaking on Snip but out of town boaters not curtious..	7/23/2015 5:39 PM
18	No more industrial bld. or businesses.	7/23/2015 5:27 PM
19	You need an adult rec. program in town the is fee based.	7/23/2015 5:24 PM
20	Support the local farmers in town.	7/23/2015 5:18 PM
21	not needed.	7/23/2015 5:07 PM

22	I would like to see more people get involved with the town for the towns sake and not personal gain or gripes.	7/23/2015 5:04 PM
23	I think people are attracted to Rochester because it is rural, not too developed. If this changes, we will all be disappointed.	7/23/2015 4:48 PM
24	Perhaps development of separate recreation area around Old Colony School.	7/23/2015 4:45 PM
25	Open space should be done by private entities like Dartmouth has done or thru MassWildlife	7/23/2015 4:39 PM
26	Please keep conservation as such. Thank you for allowing residents to share their input.	7/23/2015 4:35 PM
27	None	7/23/2015 3:47 PM
28	I vote to preserve the character of Rochester. Great town.	7/23/2015 3:24 PM
29	I would just like to see the commitment to open space continue. Keep the rural in our community.	7/23/2015 3:21 PM
30	I know Mr. Church & clean for him for several years before his death. Each time I pass his property I worry it might be developed - house is not maintained. Fields not cut - it will be a ruin soon. His wishes were to preserve it - not let it fall down. I love Rochester.	7/23/2015 2:56 PM
31	No more malls as Plumb Corner. No more houses, limit or make lots larger	7/23/2015 2:33 PM
32	Bathing beach @ Mary's Pond.	7/23/2015 2:18 PM
33	I love everything about our town except for all the riders on the road. I just think it is dangerous and they need a space to ride their bikes.	7/23/2015 2:12 PM
34	bring back the carnival that used to come - the one with rides!!	7/23/2015 2:01 PM
35	Let Marion & Mattapoisett lead on Rec, they offer enough programs and more would dilute what they have.	7/23/2015 1:54 PM
36	More growth will generate more growth and the town will lose its "country" feeling.	7/23/2015 1:49 PM
37	Anything health related we support. Would also support spraying for all bugs "mosqutos, ticks, etc.	7/23/2015 1:27 PM
38	0	7/23/2015 1:20 PM
39	none	7/23/2015 1:17 PM
40	Open up Mary's Pond to residents.	7/23/2015 1:14 PM
41	Since Rochester is now an Agricultural Community, I suggest attracting young farmers with tax incentives to launch ORGANIC Vegetable farms offering a local CSA, or farms to raise livestock, steers, goats, sheep, ducks etc.. Rochester has very few working farms compared to So. Dartmouth & Westport. The Open Space that is protected should be in the Rochester Land Trust to be preserved forever. Regarding my concern for groundwater in question #4, the amount of lawn fertilizers/pesticides is disturbing, especially since all homes have well water. I would like to see more information distributed to educate homeowners on the disastrous effect of pesticides on the environment. Also..more information on turning your yard into a Natural Habitat for wildlife...and becoming a certified Wildlife Habitat. The one thing I would like to see is a Gymnasium added to the Senior Center (like the Rec Center in Fairhaven). It would be an INDOOR facility incorporating the following activities in Question 5: basketball courts, fitness course/equipment, tennis courts, summer rec program, indoor walking track...great asset for Senior Citizens, soccer. Members pay a fee just like at a gym, this would cover operating expenses. Classes could be offered in Zumba, Tennis, Yoga etc. I think this would be a HUGE asset to the town and give residents a year round facility to socialize. Something that is lacking in Rochester.	7/8/2015 9:07 PM
42	I can't stress enough the need for our town to continue to try and operate as we have. Sometimes bigger is not better. I would much rather see us spend money to upgrade the condition of our roads or help maintain tax rates and avoid continual tax increases. Offering all the recreational services that other towns (with other dynamics) can offer, should NOT influence Rochester selectman and other key stakeholders to follow suit. I think it's great that this survey is being conducted to get honest opinions and feedback, so I am grateful for that opportunity. I just hope that others are able to read between the lines. These questions touch the surface of open space and recreation to consider offering MORE open space and MORE recreation activities and facilities, which might SEEM nice on the surface, but the impact and consequences from that and the feasibility perspective and budget perspective are not really captured in any of these questions. Grants are great if you continue to receive them! But, this town would be foolish to depend on them and not factor in the cost impact that town tax payers must absorb when the state or Fed cuts funds or when the Grant runs out. I hope these survey responses are used in a manner that puts into perspective all the overhead, cost and impact to other more critical areas of our town; such as the school budgets! Thank you!	7/5/2015 12:13 PM

43	Recently we heard that solar farms may be built in the Plum corner area. While we are not disputing that solar energy is good for the environment, aesthetically they have no business being installed in or near the center of town. If there was a place where they could be out of view from the road, that would be a better fit for the area.	6/28/2015 9:20 AM
44	NO	6/27/2015 3:53 PM
45	refer to item #9; also more transparent expectations for the use of these areas. Equal opportunity for all the residents regardless of financial standing, or lack thereof. Lets keep Rochester rural, quaint and affordable for its long time established residents. Some of us were born and raised here and would treasure the ability to continue to pass our property down to our family members to continue the tradition well after we have departed this earth.	6/26/2015 3:25 PM

20	17	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.LLC	Private landowner	Forestry	
21	5	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
21	20	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
21	20	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
21	21	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
21	22	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
21	22	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
22	4	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Forestry	
22	4	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Forestry	
22	5	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Forestry	
22	5	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Forestry	
22	7	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Forestry	
22	8	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Forestry	
MAP	**LOT**	**PROPERTY NAME**	**OWNERSHIP**	**MANAGING AGENCY**	**CURRENT USE**	**CONDITION**
22	9	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Forestry	
22	9	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Forestry	
22	10	Chapter 61 - Forestry	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Forestry	
25	10	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	10	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	10	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	10	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	11	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	11	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	11	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
28	5	Chapter 61 - Forestry	HARTLEY, HENRY A. & BONNIE, TRUSTEES	Private landowner	Forestry	
28	5	Chapter 61 - Forestry	HARTLEY, HENRY A. & BONNIE, TRUSTEES	Private landowner	Forestry	
28	5	Chapter 61 - Forestry	HARTLEY, HENRY A. & BONNIE, TRUSTEES	Private landowner	Forestry	
31	12	Chapter 61 - Forestry	TEAL, JOHN M. + SUSAN BLACKMORE TEAL	Private landowner	Forestry	
31	12	Chapter 61 - Forestry	TEAL, JOHN M. + SUSAN BLACKMORE TEAL	Private landowner	Forestry	
31	17	Chapter 61 - Forestry	TEAL, JOHN M. & SUSAN BLACKMORE TEAL	Private landowner	Forestry	
31	17	Chapter 61 - Forestry	TEAL, JOHN M. & SUSAN BLACKMORE TEAL	Private landowner	Forestry	
31	26	Chapter 61 - Forestry	TEAL, JOHN M. + SUSAN BLACKMORE TEAL	Private landowner	Forestry	
31	26	Chapter 61 - Forestry	TEAL, JOHN M. + SUSAN BLACKMORE TEAL	Private landowner	Forestry	
33	4	Chapter 61 - Forestry	RITTER, C., LLC;HAWE,P.,LLC&HAWE,M.,LLC	Private landowner	Forestry	

33	5	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
33	6F	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
33	9F	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
33	9A	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	
36	2B	Chapter 61 - Forestry	BERNIER, CONRAD & ANITA, LIFE ESTATE	Private landowner	Forestry	
36	2B	Chapter 61 - Forestry	BERNIER,CONRAD O + ANITA,LIFE EST.	Private landowner	Forestry	
36	2	Chapter 61 - Forestry	BERNIER,CONRAD O + ANITA,LIFE EST.	Private landowner	Forestry	
38	2	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
38	2	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
38	6	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
38	6	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
38	6	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
46	17A	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
46	18A	Chapter 61 - Forestry	ST. DON, CAROL + CAROLINE, LIFE	Private landowner	Forestry	
46	18	Chapter 61 - Forestry	ST. DON, CAROL + CAROLINE, LIFE	Private landowner	Forestry	
46	23	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
46	23	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
46	23	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
46	23	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
46	29	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
6	39	Chapter 61 - Forestry	SPERRY, STEPHEN C. & MAUREEN L., TRS.	Private landowner	Forestry	
25	3	Chapter 61 - Forestry	UNDERHILL FORESTRY & REALTY ENT., LLC.	Private landowner	Forestry	
25	10	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
25	11	Chapter 61 - Forestry	UNDERHILL REALTY ENTERPRISES	Private landowner	Forestry	
28	5F	Chapter 61 - Forestry	HARTLEY, HENRY A. & BONNIE, TRUSTEES	Private landowner	Forestry	
33	9A	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLC;HAWES,M.,LLC	Private landowner	Forestry	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
36	2	Chapter 61 - Forestry	BERNIER, CONRAD & ANITA, LIFE ESTATE	Private landowner	Forestry	
38	2	Chapter 61 - Forestry	HALL, JOHN A., TRUSTEE	Private landowner	Forestry	
46	18A	Chapter 61 - Forestry	ST. DON, CAROL + CAROLINE, LIFE	Private landowner	Forestry	
46	18	Chapter 61 - Forestry	ST. DON, CAROL + CAROLINE, LIFE	Private landowner	Forestry	
46	23	Chapter 61 - Forestry	RILEY, MAUREEN D.	Private landowner	Forestry	
48	35	Chapter 61 - Forestry	RITTER,C.,LLC;HAWES,P.,LLCHAWES,M.LLC	Private landowner	Forestry	
8	27A	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	

4	24	Chapter 61A - Agriculture	MCCARTY, SUSAN J	Private landowner	Agriculture
6	37	Chapter 61A - Agriculture	ROCHESTER FARMS, LLC	Private landowner	Agriculture
31	1	Chapter 61A - Agriculture	CERVELLI, ALAN E.	Private landowner	Agriculture
31	26	Chapter 61A - Agriculture	TEAL, JOHN M. + SUSAN BLACKMORE TEAL	Private landowner	Agriculture
32	6A	Chapter 61A - Agriculture	HOLDEN, LISA, TRUSTEE FOR THE	Private landowner	Agriculture
32	24	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture
33	37	Chapter 61A - Agriculture	MILLER, WALLIS-ANNE	Private landowner	Agriculture
33	40	Chapter 61A - Agriculture	FOUR C'S PROPERTIES, LLC	Private landowner	Agriculture
34	14B	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture
34	14	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture
35	42	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture
40	2	Chapter 61A - Agriculture	MOTTA, RYAN S., TRUSTEE	Private landowner	Agriculture
46	15	Chapter 61A - Agriculture	LADNER, RUSSELL A., ELIZABETH D. +	Private landowner	Agriculture
1	16	Chapter 61A - Agriculture	PAUL, MARK A. & LARSON, MICHELLE D.	Private landowner	Agriculture
1	18	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	19	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
2	1	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
3	4A	Chapter 61A - Agriculture	DENNIS MAHONEY + SONS, INC.	Private landowner	Agriculture
6	9	Chapter 61A - Agriculture	BESSEY, EDWARD & MARY	Private landowner	Agriculture
6	37	Chapter 61A - Agriculture	ROCHESTER FARMS, LLC	Private landowner	Agriculture
6	37A	Chapter 61A - Agriculture	ROCHESTER FARMS, LLC	Private landowner	Agriculture
9	1B	Chapter 61A - Agriculture	CLARK, DEBORAH + DANIEL L., TRUSTEES	Private landowner	Agriculture
9	1B	Chapter 61A - Agriculture	CLARK, DEBORAH CARR	Private landowner	Agriculture
9	1	Chapter 61A - Agriculture	CLARK, DEBORAH CARR	Private landowner	Agriculture
11	8	Chapter 61A - Agriculture	HILLER, ROBERT B. II, TRUSTEE	Private landowner	Agriculture
15	27	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	28	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
24	5A	Chapter 61A - Agriculture	GOLDMAN INDUSTRIES, LLC	Private landowner	Agriculture
26	20	Chapter 61A - Agriculture	CHARON, RICHARD J + JOANNE	Private landowner	Agriculture
26	21	Chapter 61A - Agriculture	LAWRENCE, R. & LAWRENCE A., TRUSTEES	Private landowner	Agriculture
26	21C	Chapter 61A - Agriculture	LAWRENCE, R. & LAWRENCE A., TRUSTEES	Private landowner	Agriculture
26	21C	Chapter 61A - Agriculture	LAWRENCE, R., TRUSTEE & LAWRENCE, A., TR	Private landowner	Agriculture
26	21	Chapter 61A - Agriculture	LAWRENCE, R., TRUSTEE & LAWRENCE, A., TR	Private landowner	Agriculture
28	2	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
28	2	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture	
28	3M	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture	
28	8	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M., JR.	Private landowner	Agriculture	
28	17	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M., JR. +	Private landowner	Agriculture	
28	18	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M.,JR.	Private landowner	Agriculture	
28	21	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M., JR.	Private landowner	Agriculture	
28	21	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M., JR.	Private landowner	Agriculture	
29	3	Chapter 61A - Agriculture	GILMORE, SUSAN A.	Private landowner	Agriculture	
29	5	Chapter 61A - Agriculture	SHERMAN, BRETT D. & MORRIS, DARREN, TRS	Private landowner	Agriculture	
29	5	Chapter 61A - Agriculture	SHERMAN, BRETT D. & MORRIS, DARREN, TRS	Private landowner	Agriculture	
31	1	Chapter 61A - Agriculture	CERVELLI, ALAN E.	Private landowner	Agriculture	
31	15	Chapter 61A - Agriculture	DAVOLL, ERNEST J. & ARABELLE B.	Private landowner	Agriculture	
31	15	Chapter 61A - Agriculture	DAVOLL, ERNEST J. & ARABELLE B.	Private landowner	Agriculture	
31	17	Chapter 61A - Agriculture	TEAL, JOHN M. & SUSAN BLACKMORE TEAL	Private landowner	Agriculture	
31	18	Chapter 61A - Agriculture	SMIGEL, CHESTER, TRUSTEE	Private landowner	Agriculture	
32	6B	Chapter 61A - Agriculture	HOLDEN, LISA, TRUSTEE FOR THE	Private landowner	Agriculture	
32	23	Chapter 61A - Agriculture	MACGREGOR, DANIEL R., TRUSTEE	Private landowner	Agriculture	
32	24	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
32	24A	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
32	24A	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
33	12	Chapter 61A - Agriculture	KOCZERA, MICHAEL J., JR. +	Private landowner	Agriculture	
33	19	Chapter 61A - Agriculture	GIROUARD, JOHN	Private landowner	Agriculture	
33	37	Chapter 61A - Agriculture	MILLER, WALLIS-ANNE	Private landowner	Agriculture	
33	40A	Chapter 61A - Agriculture	FOUR C'S PROPERTIES, LLC	Private landowner	Agriculture	
33	41A	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
33	41B	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
33	41C	Chapter 61A - Agriculture	SHERMAN, BRETT D. + DARREN MORRIS	Private landowner	Agriculture	
33	41D	Chapter 61A - Agriculture	SHERMAN, BRETT & MORRIS, DARREN, TRS.	Private landowner	Agriculture	
33	41D	Chapter 61A - Agriculture	MORRIS, DARREN M. & MELANIE	Private landowner	Agriculture	
33	41	Chapter 61A - Agriculture	MORRIS, DARREN M. & MELANIE	Private landowner	Agriculture	
34	14	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	15	Chapter 61A - Agriculture	CERVELLI, CHRISTINE, TRUSTEE	Private landowner	Agriculture	
35	8D	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture	

35	23D	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
35	23	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
35	42	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
35	44A	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
36	2	Chapter 61A - Agriculture	BERNIER, CONRAD & ANITA, LIFE ESTATE	Private landowner	Agriculture	
37	1	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	
37	1	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	
37	11	Chapter 61A - Agriculture	PERREAULT, LEONARD P., ET AL	Private landowner	Agriculture	
37	12	Chapter 61A - Agriculture	DIONNE, EMILY	Private landowner	Agriculture	
37	31	Chapter 61A - Agriculture	TRIPP, CATHERINE JOHNANN	Private landowner	Agriculture	
37	33	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	
38	16	Chapter 61A - Agriculture	ZYSKOWSKI, EDWARD J. & ZAK, ERIC	Private landowner	Agriculture	
38	35	Chapter 61A - Agriculture	MCCOMBE, SHAWN M.	Private landowner	Agriculture	
40	2	Chapter 61A - Agriculture	MOTTA, RYAN S., TRUSTEE	Private landowner	Agriculture	
41	8	Chapter 61A - Agriculture	PIERCE, ERNEST W. IV, THOMAS C. PIERCE +	Private landowner	Agriculture	
41	8	Chapter 61A - Agriculture	PIERCE, ERNEST W. IV, THOMAS C. PIERCE +	Private landowner	Agriculture	
41	10	Chapter 61A - Agriculture	PIERCE, ERNEST W.IV, THOMAS C. +	Private landowner	Agriculture	
46	15A	Chapter 61A - Agriculture	LADNER, RUSSELL A., ELIZABETH D. +	Private landowner	Agriculture	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
13	15	Chapter 61A - Agriculture	POTTEL, SHIRLEY J.	Private landowner	Agriculture	
33	37	Chapter 61A - Agriculture	MILLER, WALLIS-ANNE	Private landowner	Agriculture	
40	2	Chapter 61A - Agriculture	MOTTA, RYAN S., TRUSTEE	Private landowner	Agriculture	
41	10B	Chapter 61A - Agriculture	PIERCE, ERNEST W.IV, THOMAS C. +	Private landowner	Agriculture	
43A	29	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
46	15	Chapter 61A - Agriculture	LADNER, RUSSELL A., ELIZABETH D. +	Private landowner	Agriculture	
3	7B	Chapter 61A - Agriculture	MORRIS, GERARD W. + LUCILLE A., TRUSTEES	Private landowner	Agriculture	
4	24	Chapter 61A - Agriculture	MCCARTY, SUSAN J.	Private landowner	Agriculture	
6	9	Chapter 61A - Agriculture	BESSEY, EDWARD & MARY	Private landowner	Agriculture	
6	11D	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	11D	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	11D	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	11	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	40	Chapter 61A - Agriculture	GREAT BEAR FARMS, INC.	Private landowner	Agriculture	
6	40	Chapter 61A - Agriculture	GREAT BEAR FARMS, INC.	Private landowner	Agriculture	

6	41	Chapter 61A - Agriculture	MAKSY, BRUCE A., JR.,TRUSTEE	Private landowner	Agriculture	
6	49J	Chapter 61A - Agriculture	GREAT BEAR FARMS, INC.	Private landowner	Agriculture	
8	17	Chapter 61A - Agriculture	HARTLEY FAMILY, INC.	Private landowner	Agriculture	
8	28	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	4	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	5	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	6	Chapter 61A - Agriculture	BEATON'S, INC	Private landowner	Agriculture	
9	6	Chapter 61A - Agriculture	BEATON'S, INC	Private landowner	Agriculture	
9	9	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, LLC	Private landowner	Agriculture	
9	11	Chapter 61A - Agriculture	ROZENAS, BRONIE, JR. +	Private landowner	Agriculture	
9	12	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	13	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	16D	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	16	Chapter 61A - Agriculture	CLEMISHAW, DENNIS A.	Private landowner	Agriculture	
9	17	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	18	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	19	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, INC.	Private landowner	Agriculture	
10	1	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
10	1	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
10	2A	Chapter 61A - Agriculture	MATTAPOISETT CRANBERRY CO.	Private landowner	Agriculture	
11	2A	Chapter 61A - Agriculture	PORTER BOG CO., INC.	Private landowner	Agriculture	
11	2C	Chapter 61A - Agriculture	PORTER BOG CO., INC.	Private landowner	Agriculture	
11	9	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
12	1	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, INC.	Private landowner	Agriculture	
12	1	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, INC.	Private landowner	Agriculture	
12	7	Chapter 61A - Agriculture	DECAS CRANBERRY COMPANY, INC.	Private landowner	Agriculture	
12	7C	Chapter 61A - Agriculture	DECAS CRANBERRY COMPANY, INC.	Private landowner	Agriculture	
12	7	Chapter 61A - Agriculture	DECAS CRANBERRY COMPANY, INC.	Private landowner	Agriculture	
12	8A	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
12	8A	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
12	9	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
MAP	**LOT**	**PROPERTY NAME**	**OWNERSHIP**	**MANAGING AGENCY**	**CURRENT USE**	**CONDITION**
12	11	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP	Private landowner	Agriculture	
12	11A	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP	Private landowner	Agriculture	

12	11	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP	Private landowner	Agriculture
13	1	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	1	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	1A	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	1A	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	1A	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	1	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	6	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	8	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	8	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	8D	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	10	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	12	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	13	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
13	14	Chapter 61A - Agriculture	ASHLEY EXCAVATING, INC..	Private landowner	Agriculture
13	30	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture
14	4	Chapter 61A - Agriculture	FIELDING, DIANNE C.	Private landowner	Agriculture
14	10	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP.	Private landowner	Agriculture
14	19	Chapter 61A - Agriculture	FIELDING, DIANE C.	Private landowner	Agriculture
14	20	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP.	Private landowner	Agriculture
14	21	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP.	Private landowner	Agriculture
15	1A	Chapter 61A - Agriculture	DUBOIS, DONALD J. + FRANCES B., TRUSTEES	Private landowner	Agriculture
15	9	Chapter 61A - Agriculture	GOOD, WALTER J. III + KERRI M.	Private landowner	Agriculture
15	10C	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	10	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	11	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	22	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	22	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
15	28	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture
16	13	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture
16	13	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture
16	13	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture
16	14	Chapter 61A - Agriculture	PAQUIN, DAVID H. +	Private landowner	Agriculture
17	2	Chapter 61A - Agriculture	RIGGLE, HARRY M. +	Private landowner	Agriculture

17	9A	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
17	12	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture	
17	13	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
17	14	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
17	16	Chapter 61A - Agriculture	JOHNSON, DANA & PAULA, TRS.	Private landowner	Agriculture	
17	57	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
18	1	Chapter 61A - Agriculture	SLOCUM-GIBBS, CO.	Private landowner	Agriculture	
18	2	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
18	3	Chapter 61A - Agriculture	DOUBLE M CRANBERRY CO.	Private landowner	Agriculture	
18	5	Chapter 61A - Agriculture	DOUBLE M. CRANBERRY CO.	Private landowner	Agriculture	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
19	5A	Chapter 61A - Agriculture	A. D. MAKEPEACE	Private landowner	Agriculture	
19	5B	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
19	5B	Chapter 61A - Agriculture	BAPTISTE, THEODORE A.	Private landowner	Agriculture	
19	7	Chapter 61A - Agriculture	BAPTISTE, THEODORE A.,JR.+ SUZANNE L.	Private landowner	Agriculture	
19	19	Chapter 61A - Agriculture	PAQUIN, DAVID H. + LOIS A.	Private landowner	Agriculture	
19	20	Chapter 61A - Agriculture	BAPTISTE, THEODORE A. JR.	Private landowner	Agriculture	
19	29	Chapter 61A - Agriculture	LIFFERS, ROBERT C. & BECKY H.	Private landowner	Agriculture	
19	31	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
19	31	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
19	32A	Chapter 61A - Agriculture	BAPTISTE, THEODORE A JR. + SUZANNE L.	Private landowner	Agriculture	
19	42	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture	
19	43	Chapter 61A - Agriculture	SISU CRANBERRIES, LLC	Private landowner	Agriculture	
20	6	Chapter 61A - Agriculture	REYNOLDS, BRYAN A. & ROBBI, TRS	Private landowner	Agriculture	
20	7	Chapter 61A - Agriculture	DVORSKI, J. J. JR., & M. L. CO-TRUSTEES	Private landowner	Agriculture	
20	10B	Chapter 61A - Agriculture	REYNOLDS, BRYAN A. & ROBBI L., TRS.	Private landowner	Agriculture	
20	22	Chapter 61A - Agriculture	DOUBLE M. CRANBERRY	Private landowner	Agriculture	
20	24	Chapter 61A - Agriculture	DOUBLE M. CRANBERRY	Private landowner	Agriculture	
20	25	Chapter 61A - Agriculture	DOUBLE M. CRANBERRY	Private landowner	Agriculture	
21	2	Chapter 61A - Agriculture	N. H. T. CORPORATION	Private landowner	Agriculture	
21	2	Chapter 61A - Agriculture	N. H. T. CORPORATION	Private landowner	Agriculture	
21	17B	Chapter 61A - Agriculture	SOUZA, WILLIAM DAVID + LORI A.	Private landowner	Agriculture	
21	17	Chapter 61A - Agriculture	SOUZA, WILLIAM DAVID & LORI A.	Private landowner	Agriculture	
22	9	Chapter 61A - Agriculture	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Agriculture	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
24	5E	Chapter 61A - Agriculture	GOLDMAN INDUSTRIES, LLC	Private landowner	Agriculture	
26	28	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture	
26	30	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture	
27	2	Chapter 61A - Agriculture	DECAS CRANBERRY CO. INC.	Private landowner	Agriculture	
27	3	Chapter 61A - Agriculture	DECAS CRANBERRY CO. INC.	Private landowner	Agriculture	
27	3	Chapter 61A - Agriculture	DECAS CRANBERRY CO. INC.	Private landowner	Agriculture	
27	12	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture	
28	8G	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture	
28	8	Chapter 61A - Agriculture	ASHLEY, EDWARD P., TRUSTEE	Private landowner	Agriculture	
28	8S	Chapter 61A - Agriculture	ASHLEY, EDWARD P., TRUSTEE	Private landowner	Agriculture	
28	8S	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture	
28	8	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture	
29	1C	Chapter 61A - Agriculture	DOONAN, STEPHEN M. & LIZA M.	Private landowner	Agriculture	
29	7C	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
29	7	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
29	9B	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC	Private landowner	Agriculture	
32	23	Chapter 61A - Agriculture	MACGREGOR, DANIEL R., TRUSTEE	Private landowner	Agriculture	
33	19	Chapter 61A - Agriculture	GIROUARD, JOHN	Private landowner	Agriculture	
34	1	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	1	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
35	8	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture	
37	1	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	
37	13	Chapter 61A - Agriculture	SHERMAN, BRYAN E. + LAURENE A.	Private landowner	Agriculture	
37	20	Chapter 61A - Agriculture	DALBEC, LEO P.	Private landowner	Agriculture	
37	59A	Chapter 61A - Agriculture	BRILLON, THEODORE G + BRENDA C	Private landowner	Agriculture	
38	25	Chapter 61A - Agriculture	BERG, JOHN S.	Private landowner	Agriculture	
38	35B	Chapter 61A - Agriculture	MCCOMBE, SHAWN M.	Private landowner	Agriculture	
38	38	Chapter 61A - Agriculture	GILMORE CRANBERRY CO., INC.	Private landowner	Agriculture	
39	22A	Chapter 61A - Agriculture	AMARAL, ROBERT J. & SONIA C.	Private landowner	Agriculture	
39	22	Chapter 61A - Agriculture	AMARAL, ROBERT J. & SONIA	Private landowner	Agriculture	
40	3	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
40	3	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
40	10	Chapter 61A - Agriculture	GILMORE CRANBERRY CO., INC.	Private landowner	Agriculture	

40	10	Chapter 61A - Agriculture	GILMORE CRANBERRY CO., INC.	Private landowner	Agriculture
43	5E	Chapter 61A - Agriculture	MORRIS, DARREN & SHERMAN-MORRIS, MELANIE	Private landowner	Agriculture
43	5	Chapter 61A - Agriculture	MORRIS, DARREN M. + MELANIE L.	Private landowner	Agriculture
43A	34	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	34	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	65	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	65	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	66	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	66	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	68	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	68	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	71	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	71	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	72	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
43A	72	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture
46	15	Chapter 61A - Agriculture	LADNER, RUSSELL A., ELIZABETH D. +	Private landowner	Agriculture
1	9	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	9	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	10	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	10	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	11	Chapter 61A - Agriculture	ARENA, JONATHAN C. + MARGARET RILEY,ETAL	Private landowner	Agriculture
1	11	Chapter 61A - Agriculture	ARENA, JONATHAN C. + MARGARET RILEY,ETAL	Private landowner	Agriculture
1	13	Chapter 61A - Agriculture	ARENA, JONATHAN C. + MARGARET RILEY,ETAL	Private landowner	Agriculture
1	13	Chapter 61A - Agriculture	ARENA, JONATHAN C. + MARGARET RILEY,ETAL	Private landowner	Agriculture
1	18	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
1	19	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
2	1	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture
2	20	Chapter 61A - Agriculture	REUSCH, MARC + PAULA	Private landowner	Agriculture
4	20	Chapter 61A - Agriculture	FAUSTINO, CHRISTOPHER S. +	Private landowner	Agriculture
23	20	Chapter 61A - Agriculture	GERRIOR, CHRISTOPHER & JENNIFER	Private landowner	Agriculture
23	20	Chapter 61A - Agriculture	GERRIOR, CHRISTOPHER & JENNIFER	Private landowner	Agriculture
25	14	Chapter 61A - Agriculture	BAILEY, BENDRIX L., TRUSTEE	Private landowner	Agriculture
33	54	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS, TRUST	Private landowner	Agriculture
33	54	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS, TRUST	Private landowner	Agriculture

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
33	54	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS, TRUST	Private landowner	Agriculture	
33	54B	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS, TRUST	Private landowner	Agriculture	
43A	29B	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
43A	29	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
1	16	Chapter 61A - Agriculture	PAUL, MARK A. & LARSON, MICHELLE D.	Private landowner	Agriculture	
2	1B	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
2	8	Chapter 61A - Agriculture	MILKA, WILLIAM & ANITA	Private landowner	Agriculture	
9	11	Chapter 61A - Agriculture	ROZENAS, BRONIE, JR. +	Private landowner	Agriculture	
11	8A	Chapter 61A - Agriculture	HILLER, ROBERT B. II, TRUSTEE	Private landowner	Agriculture	
13	15	Chapter 61A - Agriculture	POTTEL, SHIRLEY J.	Private landowner	Agriculture	
15A	67	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
15A	67	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
15A	69	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
15A	69	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
15A	69	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
17	16	Chapter 61A - Agriculture	JOHNSON, DANA & PAULA, TRS.	Private landowner	Agriculture	
20	8	Chapter 61A - Agriculture	ENGEL, CHRISTOPHER J. +	Private landowner	Agriculture	
20	8	Chapter 61A - Agriculture	ENGEL, CHRISTOPHER J. +	Private landowner	Agriculture	
24	5	Chapter 61A - Agriculture	GOLDMAN INDUSTRIES, LLC	Private landowner	Agriculture	
31	8	Chapter 61A - Agriculture	DELOWERY, JOSEPH M. + DIANE A.	Private landowner	Agriculture	
31	8	Chapter 61A - Agriculture	DELOWERY, JOSEPH M. + DIANE A.	Private landowner	Agriculture	
31	17	Chapter 61A - Agriculture	TEAL, JOHN M. & SUSAN BLACKMORE TEAL	Private landowner	Agriculture	
32	24A	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
32	24B	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
32	24B	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
32	24	Chapter 61A - Agriculture	MACGREGOR, PETER S. & CAROLYN A.	Private landowner	Agriculture	
34	15C	Chapter 61A - Agriculture	CERVELLI, CHRISTINE, TRUSTEE	Private landowner	Agriculture	
35	42C	Chapter 61A - Agriculture	HARDING, HARRISON A. + KATHLEEN M.	Private landowner	Agriculture	
35	42	Chapter 61A - Agriculture	HARDING, HARRISON A. + KATHLEEN M.	Private landowner	Agriculture	
37	12	Chapter 61A - Agriculture	DIONNE, EMILY	Private landowner	Agriculture	
40	2	Chapter 61A - Agriculture	MOTTA, RYAN S., TRUSTEE	Private landowner	Agriculture	
41	10	Chapter 61A - Agriculture	PIERCE, ERNEST W.IV, THOMAS C. +	Private landowner	Agriculture	
43	4	Chapter 61A - Agriculture	ARCHER, BARBARA ANN	Private landowner	Agriculture	

43	4	Chapter 61A - Agriculture	ARCHER, BARBARA ANN	Private landowner	Agriculture	
43	4G	Chapter 61A - Agriculture	ARCHER, BARBARA ANN	Private landowner	Agriculture	
48	30A	Chapter 61A - Agriculture	TRACEY, JAMES P. + HEATHER G.	Private landowner	Agriculture	
13	15	Chapter 61A - Agriculture	POTTEL, SHIRLEY J.	Private landowner	Agriculture	
25	14B	Chapter 61A - Agriculture	BAILEY, BENDRIX L., TRUSTEE	Private landowner	Agriculture	
43A	29	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
1	16	Chapter 61A - Agriculture	PAUL, MARK A. & LARSON, MICHELLE D.	Private landowner	Agriculture	
1	16	Chapter 61A - Agriculture	PAUL, MARK A. & LARSON, MICHELLE D.	Private landowner	Agriculture	
1	18	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
1	18	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
1	19	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
1	20	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
1	20	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
2	1	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
2	20	Chapter 61A - Agriculture	REUSCH, MARC + PAULA	Private landowner	Agriculture	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
3	4B	Chapter 61A - Agriculture	DENNIS MAHONEY + SONS, INC.	Private landowner	Agriculture	
6	11B	Chapter 61A - Agriculture	MAKSY, BRUCE A., JR.	Private landowner	Agriculture	
6	11F	Chapter 61A - Agriculture	MAKSY, BRUCE A., JR.	Private landowner	Agriculture	
6	11F	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	11	Chapter 61A - Agriculture	MAKSY, BRUCE JR.	Private landowner	Agriculture	
6	37A	Chapter 61A - Agriculture	ROCHESTER FARMS, LLC	Private landowner	Agriculture	
6	41A	Chapter 61A - Agriculture	MAKSY, BRUCE A., JR., TRUSTEE OF THE	Private landowner	Agriculture	
6	41	Chapter 61A - Agriculture	MAKSY, BRUCE A., JR., TRUSTEE OF THE	Private landowner	Agriculture	
6	49	Chapter 61A - Agriculture	GREAT BEAR FARMS, INC.	Private landowner	Agriculture	
8	27A	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	1	Chapter 61A - Agriculture	CLARK, DEBORAH + DANIEL L., TRUSTEES	Private landowner	Agriculture	
9	5	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	11	Chapter 61A - Agriculture	ROZENAS, BRONIE, JR. +	Private landowner	Agriculture	
9	12	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	16D	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	16	Chapter 61A - Agriculture	CLEMISHAW, DENNIS A.	Private landowner	Agriculture	
9	17	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
10	1	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	

10	2A	Chapter 61A - Agriculture	MATTAPOISETT CRANBERRY CO.	Private landowner	Agriculture	
11	2C	Chapter 61A - Agriculture	PORTER BOG CO., INC.	Private landowner	Agriculture	
11	2C	Chapter 61A - Agriculture	PORTER BOG CO., INC	Private landowner	Agriculture	
11	2	Chapter 61A - Agriculture	PORTER BOG CO., INC	Private landowner	Agriculture	
12	1	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, INC.	Private landowner	Agriculture	
12	7	Chapter 61A - Agriculture	DECAS CRANBERRY COMPANY, INC.	Private landowner	Agriculture	
12	8	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
13	13E	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
13	15E	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
13	15	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
13	31	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
14	4	Chapter 61A - Agriculture	FIELDING, DIANNE C.	Private landowner	Agriculture	
14	19	Chapter 61A - Agriculture	FIELDING, DIANE C.	Private landowner	Agriculture	
15	1	Chapter 61A - Agriculture	DUBOIS, DONALD J. + FRANCES B., TRUSTEES	Private landowner	Agriculture	
15	15	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture	
15	22	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture	
15	27	Chapter 61A - Agriculture	SOL, STEVEN E.	Private landowner	Agriculture	
15A	69	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
15A	69	Chapter 61A - Agriculture	BOCK, DONALD E. + SANDRA J.	Private landowner	Agriculture	
16	13	Chapter 61A - Agriculture	A.D. MAKEPEACE CO.	Private landowner	Agriculture	
16	14	Chapter 61A - Agriculture	PAQUIN, DAVID H. +	Private landowner	Agriculture	
17	13	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
17	16	Chapter 61A - Agriculture	JOHNSON, DANA & PAULA, TRS.	Private landowner	Agriculture	
17	57	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
18	1	Chapter 61A - Agriculture	SLOCUM-GIBBS, CO.	Private landowner	Agriculture	
18	2	Chapter 61A - Agriculture	A. D. MAKEPEACE CO.	Private landowner	Agriculture	
18	3	Chapter 61A - Agriculture	DOUBLE M CRANBERRY CO.	Private landowner	Agriculture	
19	5	Chapter 61A - Agriculture	A. D. MAKEPEACE	Private landowner	Agriculture	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
19	29	Chapter 61A - Agriculture	LIFFERS, ROBERT C. & BECKY H.	Private landowner	Agriculture	
19	43	Chapter 61A - Agriculture	SISU CRANBERRIES, LLC	Private landowner	Agriculture	
20	6	Chapter 61A - Agriculture	REYNOLDS, BRYAN A. & ROBBI, TRS	Private landowner	Agriculture	
20	23	Chapter 61A - Agriculture	DOUBLE M. CRANBERRY CO., INC.	Private landowner	Agriculture	
21	2	Chapter 61A - Agriculture	N. H. T. CORPORATION	Private landowner	Agriculture	

21	17	Chapter 61A - Agriculture	SOUZA, WILLIAM DAVID + LORI A.	Private landowner	Agriculture
22	7	Chapter 61A - Agriculture	SLOCUM-GIBBS CRANBERRY CO., INC.	Private landowner	Agriculture
22	10	Chapter 61A - Agriculture	SLOCUM-GIBBS CRANBERRY CO.	Private landowner	Agriculture
24	5A	Chapter 61A - Agriculture	GOLDMAN INDUSTRIES, LLC	Private landowner	Agriculture
25	14A	Chapter 61A - Agriculture	LAWRENCE, R. & LAWRENCE, A., TRS	Private landowner	Agriculture
26	20A	Chapter 61A - Agriculture	CHARON, RICHARD J + JOANNE	Private landowner	Agriculture
26	20E	Chapter 61A - Agriculture	CHARON, RICHARD J + JOANNE	Private landowner	Agriculture
26	28	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture
26	30	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture
27	2	Chapter 61A - Agriculture	DECAS CRANBERRY CO. INC.	Private landowner	Agriculture
27	12B	Chapter 61A - Agriculture	GAYOSKI, THOMAS JR.	Private landowner	Agriculture
28	6B	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6B	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6C	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6C	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6C	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6D	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6D	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6D	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	6	Chapter 61A - Agriculture	HUDAK, KIM E.	Private landowner	Agriculture
28	8G	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture
28	8P	Chapter 61A - Agriculture	ASHLEY, EDWARD P., TRUSTEE	Private landowner	Agriculture
28	8P	Chapter 61A - Agriculture	LAWRENCE, POLLY P + MAXWELL M., JR	Private landowner	Agriculture
28	8S	Chapter 61A - Agriculture	LAWRENCE, POLLY P + MAXWELL M., JR	Private landowner	Agriculture
28	8S	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture
28	8	Chapter 61A - Agriculture	ASHLEY, EDWARD P.	Private landowner	Agriculture
28	18	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M.,JR.	Private landowner	Agriculture
29	1B	Chapter 61A - Agriculture	DOONAN, STEPHEN M. & LIZA M.	Private landowner	Agriculture
29	1B	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture
29	1B	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture
29	1	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture
29	3	Chapter 61A - Agriculture	GILMORE, SUSAN A.	Private landowner	Agriculture
29	5C	Chapter 61A - Agriculture	SHERMAN, BRETT D. & MORRIS, DARREN, TRS	Private landowner	Agriculture
29	7	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
29	9	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC	Private landowner	Agriculture	
31	1	Chapter 61A - Agriculture	CERVELLI, ALAN E.	Private landowner	Agriculture	
31	8B	Chapter 61A - Agriculture	DELOWERY, JOSEPH M. + DIANE A.	Private landowner	Agriculture	
32	23	Chapter 61A - Agriculture	MACGREGOR, DANIEL R., TRUSTEE	Private landowner	Agriculture	
33	12	Chapter 61A - Agriculture	KOCZERA, JOAN	Private landowner	Agriculture	
33	37	Chapter 61A - Agriculture	MILLER, WALLIS-ANNE	Private landowner	Agriculture	
33	40	Chapter 61A - Agriculture	FOUR C'S PROPERTIES, LLC	Private landowner	Agriculture	
33	40A	Chapter 61A - Agriculture	FOUR C'S PROPERTIES, LLC	Private landowner	Agriculture	
33	41A	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
33	41B	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
33	41B	Chapter 61A - Agriculture	SHERMAN, BRETT D. + DARREN MORRIS	Private landowner	Agriculture	
33	41D	Chapter 61A - Agriculture	SHERMAN, BRETT D. + DARREN MORRIS	Private landowner	Agriculture	
33	41D	Chapter 61A - Agriculture	MORRIS, DARREN M. & MELANIE	Private landowner	Agriculture	
33	41	Chapter 61A - Agriculture	MORRIS, DARREN M. & MELANIE	Private landowner	Agriculture	
33	42	Chapter 61A - Agriculture	SHERMAN, BRETT D & DARREN MORRIS,	Private landowner	Agriculture	
33	43	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS,	Private landowner	Agriculture	
33	43A	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS,	Private landowner	Agriculture	
33	46B	Chapter 61A - Agriculture	SHERMAN,BRETT D. & DARREN MORRIS, TRUSTE	Private landowner	Agriculture	
33	47A	Chapter 61A - Agriculture	SHERMAN, BRETT D. & DARREN MORRIS,TRUSTE	Private landowner	Agriculture	
33	54A	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture	
33	54	Chapter 61A - Agriculture	SHERMAN, BRETT &MORRIS, DARREN, TRUSTEES	Private landowner	Agriculture	
34	1	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	1	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	14	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	15	Chapter 61A - Agriculture	CERVELLI, CHRISTINE, TRUSTEE	Private landowner	Agriculture	
34	17	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	18D	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
35	23D	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
35	23	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
37	11	Chapter 61A - Agriculture	PERREAULT, LEONARD P., ET AL	Private landowner	Agriculture	
37	13	Chapter 61A - Agriculture	SHERMAN, BRYAN E. + LAURENE A.	Private landowner	Agriculture	
37	20	Chapter 61A - Agriculture	DALBEC, LEO P.	Private landowner	Agriculture	
37	33	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	

38	16	Chapter 61A - Agriculture	ZYSKOWSKI, EDWARD J. & ZAK, ERIC	Private landowner	Agriculture	
38	16	Chapter 61A - Agriculture	ZYSKOWSKI, EDWARD J. & ZAK, ERIC	Private landowner	Agriculture	
40	2	Chapter 61A - Agriculture	MOTTA, RYAN S., TRUSTEE	Private landowner	Agriculture	
40	3	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
40	10	Chapter 61A - Agriculture	GILMORE CRANBERRY CO., INC.	Private landowner	Agriculture	
41	8	Chapter 61A - Agriculture	PIERCE, ERNEST W. IV, THOMAS C. PIERCE +	Private landowner	Agriculture	
43	5B	Chapter 61A - Agriculture	MORRIS, DARREN & SHERMAN-MORRIS, MELANIE	Private landowner	Agriculture	
43A	29C1	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
19A	52	Chapter 61A - Agriculture	DOUBLE M CRANBERRY CO.	Private landowner	Agriculture	
1	16	Chapter 61A - Agriculture	PAUL, MARK A. & LARSON, MICHELLE D.	Private landowner	Agriculture	
1	19	Chapter 61A - Agriculture	OLAUSSEN, DAVID	Private landowner	Agriculture	
6	37	Chapter 61A - Agriculture	ROCHESTER FARMS, LLC	Private landowner	Agriculture	
9	4	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	5	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	9	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, LLC	Private landowner	Agriculture	
9	12D	Chapter 61A - Agriculture	BEATON'S, INC.	Private landowner	Agriculture	
9	16	Chapter 61A - Agriculture	CLEMISHAW, DENNIS A.	Private landowner	Agriculture	
10	1	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC.	Private landowner	Agriculture	
10	2	Chapter 61A - Agriculture	MATTAPOISETT CRANBERRY CO.	Private landowner	Agriculture	
10	2A	Chapter 61A - Agriculture	MATTAPOISETT CRANBERRY CO.	Private landowner	Agriculture	
MAP	**LOT**	**PROPERTY NAME**	**OWNERSHIP**	**MANAGING AGENCY**	**CURRENT USE**	**CONDITION**
11	2	Chapter 61A - Agriculture	PORTER BOG CO., INC.	Private landowner	Agriculture	
11	8	Chapter 61A - Agriculture	HILLER, ROBERT B. II, TRUSTEE	Private landowner	Agriculture	
12	1	Chapter 61A - Agriculture	EAGLE HOLT COMPANY, INC.	Private landowner	Agriculture	
12	7	Chapter 61A - Agriculture	DECAS CRANBERRY COMPANY, INC.	Private landowner	Agriculture	
12	8	Chapter 61A - Agriculture	BAYSIDE AGRICULTURAL, INC.	Private landowner	Agriculture	
12	10A	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP	Private landowner	Agriculture	
12	11	Chapter 61A - Agriculture	OLD TUCK CRANBERRY CORP	Private landowner	Agriculture	
17	16	Chapter 61A - Agriculture	JOHNSON, DANA & PAULA, TRS.	Private landowner	Agriculture	
19	5	Chapter 61A - Agriculture	A. D. MAKEPEACE	Private landowner	Agriculture	
20	6B	Chapter 61A - Agriculture	REYNOLDS, BRYAN A. & ROBBI, TRS	Private landowner	Agriculture	
20	7	Chapter 61A - Agriculture	DVORSKI, J. J. JR., & M. L. CO-TRUSTEES	Private landowner	Agriculture	
25	14A	Chapter 61A - Agriculture	BAILEY, BENDRIX L., TRUSTEE	Private landowner	Agriculture	
26	20	Chapter 61A - Agriculture	CHARON, RICHARD J + JOANNE	Private landowner	Agriculture	

28	17	Chapter 61A - Agriculture	LAWRENCE, MAXWELL M., JR. +	Private landowner	Agriculture	
29	3	Chapter 61A - Agriculture	GILMORE, SUSAN A.	Private landowner	Agriculture	
29	9	Chapter 61A - Agriculture	DECAS CRANBERRY CO., INC	Private landowner	Agriculture	
31	15	Chapter 61A - Agriculture	DAVOLL, ERNEST J. & ARABELLE B.	Private landowner	Agriculture	
31	18	Chapter 61A - Agriculture	SMIGEL, CHESTER, TRUSTEE	Private landowner	Agriculture	
32	6	Chapter 61A - Agriculture	HOLDEN, LISA, TRUSTEE FOR THE	Private landowner	Agriculture	
33	37	Chapter 61A - Agriculture	MILLER, WALLIS-ANNE	Private landowner	Agriculture	
33	40A	Chapter 61A - Agriculture	FOUR C'S PROPERTIES, LLC	Private landowner	Agriculture	
33	41	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
34	14	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
34	15D	Chapter 61A - Agriculture	CERVELLI, CHRISTINE, TRUSTEE	Private landowner	Agriculture	
35	23	Chapter 61A - Agriculture	SHERMAN, ROBERT & HARRIETT, TRUSTEES	Private landowner	Agriculture	
35	42	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
35	44	Chapter 61A - Agriculture	CERVELLI, FRANCESCO W., TRUSTEE	Private landowner	Agriculture	
37	1	Chapter 61A - Agriculture	PERREAULT, LEONARD P.	Private landowner	Agriculture	
37	31	Chapter 61A - Agriculture	TRIPP, CATHERINE JOHNANN	Private landowner	Agriculture	
39	22A	Chapter 61A - Agriculture	AMARAL, ROBERT J. & SONIA C.	Private landowner	Agriculture	
39	22	Chapter 61A - Agriculture	AMARAL, ROBERT J. & SONIA	Private landowner	Agriculture	
40	10	Chapter 61A - Agriculture	GILMORE CRANBERRY CO., INC.	Private landowner	Agriculture	
41	8B	Chapter 61A - Agriculture	PIERCE, ERNEST W. IV, THOMAS C. PIERCE +	Private landowner	Agriculture	
43A	29B	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
43A	29	Chapter 61A - Agriculture	BAILEY, BENDRIX L.,TRUSTEE OF EDGEWATER	Private landowner	Agriculture	
43A	65B	Chapter 61A - Agriculture	MORSE BROTHERS, INC.	Private landowner	Agriculture	
6	43B	Chapter 61B - Recreational Land	SIPPICAN ROD + GUN CLUB, INC.	Private landowner	Recreation	
6	43	Chapter 61B - Recreational Land	SIPPICAN ROD + GUN CLUB, INC.	Private landowner	Recreation	
36	14	Chapter 61B - Recreational Land	RYAN, VINCENT & PATRICIA	Private landowner	Recreation	
36	14	Chapter 61B - Recreational Land	RYAN, VINCENT & PATRICIA	Private landowner	Recreation	
36	14A	Chapter 61B - Recreational Land	RYAN, VINCENT & PATRICIA	Private landowner	Recreation	
38	40A	Chapter 61B - Recreational Land	DOUGALL REATY TRUST	Private landowner	Recreation	
38	40A	Chapter 61B - Recreational Land	DOUGALL REATY TRUST	Private landowner	Recreation	
38	40B	Chapter 61B - Recreational Land	DOUGALL REATY TRUST	Private landowner	Recreation	
38	40B	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation	
38	40B	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION

38	40C	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40C	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40C	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40C	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40D	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40D	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40D	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40D	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
38	40	Chapter 61B - Recreational Land	DOUGALL REALTY TRUST	Private landowner	Recreation
12	9	Chapter 61B - Recreational Land	MHC GATEWAY TO CAPE COD, LLC	Private landowner	Recreation
12	9	Chapter 61B - Recreational Land	MHC GATEWAY TO CAPE COD, LLC	Private landowner	Recreation
12	9	Chapter 61B - Recreational Land	MHC GATEWAY TO CAPE COD, LLC	Private landowner	Recreation
38	23	Chapter 61B - Recreational Land	JOHN A. HALL REVOCABLE TRUST-2006	Private landowner	Recreation
3	14	Chapter 61B - Recreational Land	CHURCH, FAMILY H.C.C.F.TRUST	Private landowner	Recreation
3	14E	Chapter 61B - Recreational Land	CHURCH, FAMILY H.C.C.F.TRUST	Private landowner	Recreation
11	5E	Chapter 61B - Recreational Land	VOGEL, JAMES E. & HOLLY	Private landowner	Recreation
11	5E	Chapter 61B - Recreational Land	VOGEL, JAMES E. & HOLLY	Private landowner	Recreation
11	5A	Chapter 61B - Recreational Land	VOGEL, JAMES E. & HOLLY	Private landowner	Recreation
27	2	Chapter 61B - Recreational Land	OUTOR, LOUIS L	Private landowner	Recreation
27	17	Chapter 61B - Recreational Land	OUTOR, LOUIS + VIRGINIA	Private landowner	Recreation
27	17	Chapter 61B - Recreational Land	OUTOR, LOUIS + VIRGINIA	Private landowner	Recreation
31	22	Chapter 61B - Recreational Land	ROUNSEVILLE FAMILY IRREV. TRUST	Private landowner	Recreation
31	22	Chapter 61B - Recreational Land	ROUNSEVILLE FAMILY IRREV. TRUST	Private landowner	Recreation
31	22	Chapter 61B - Recreational Land	ROUNSEVILLE FAMILY IRREV. TRUST	Private landowner	Recreation
39	11	Chapter 61B - Recreational Land	HOLDEN, JAMES F. + LISA A.	Private landowner	Recreation
40	12	Chapter 61B - Recreational Land	HOLDEN, LISA	Private landowner	Recreation
40	12A	Chapter 61B - Recreational Land	HOLDEN, LISA	Private landowner	Recreation
46	13A	Chapter 61B - Recreational Land	PELLETIER, ROGER A + LAURA	Private landowner	Recreation
46	13A	Chapter 61B - Recreational Land	PELLETIER, ROGER A + LAURA	Private landowner	Recreation
46	13	Chapter 61B - Recreational Land	PELLETIER, ROGER A + LAURA	Private landowner	Recreation
46	19	Chapter 61B - Recreational Land	GONCALVES, CLAUDIO L.	Private landowner	Recreation
46	19	Chapter 61B - Recreational Land	GONCALVES, CLAUDIO L.	Private landowner	Recreation
46	19	Chapter 61B - Recreational Land	GONCALVES, CLAUDIO L.	Private landowner	Recreation
46	24	Chapter 61B - Recreational Land	DUPONT, JUDITH A.	Private landowner	Recreation

47	11	Chapter 61B - Recreational Land	BESCH, FRED J. + KATHRYN L.	Private landowner	Recreation	
47	11A	Chapter 61B - Recreational Land	BESCH, FRED J. + KATHRYN L.	Private landowner	Recreation	
34	6A	Chapter 61B - Recreational Land	ROCHESTER GOLF CLUB, INC.	Private landowner	Recreation	
34	6A	Chapter 61B - Recreational Land	ROCHESTER GOLF CLUB, INC.	Private landowner	Recreation	
34	6C	Chapter 61B - Recreational Land	ROCHESTER GOLF CLUB, INC.	Private landowner	Recreation	
29	8	Chapter 61B - Recreational Land	SPIELDENNER,JAMES M.+CHARLOTTE M.	Private landowner	Recreation	
36	11	Chapter 61B - Recreational Land	MANN, DAVID L. & LISA M.	Private landowner	Recreation	
36	11	Chapter 61B - Recreational Land	MANN, DAVID L. & LISA M.	Private landowner	Recreation	
36	11	Chapter 61B - Recreational Land	MANN, DAVID L. & LISA M.	Private landowner	Recreation	
44	14	Chapter 61B - Recreational Land	CORREIA, GARY B. + ROBIN D.	Private landowner	Recreation	
44	14	Chapter 61B - Recreational Land	CORREIA, GARY B. + ROBIN D.	Private landowner	Recreation	
43A	28	Chapter 61B - Recreational Land	BAILEY, BENDRIX L.	Private landowner	Recreation	

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
6	44A	Chapter 61B - Recreational Land	SIPPICAN, ROD + GUN CLUB, INC.	Private landowner	Recreation	
34	6	Chapter 61B - Recreational Land	ROCHESTER GOLF CLUB, INC.	Private landowner	Recreation	
36	14	Chapter 61B - Recreational Land	RYAN, VINCENT & PATRICIA	Private landowner	Recreation	
38	23	Chapter 61B - Recreational Land	JOHN A. HALL REVOCABLE TRUST-2006	Private landowner	Recreation	
43A	28	Chapter 61B - Recreational Land	BAILEY, BENDRIX L.	Private landowner	Recreation	
44	14	Chapter 61B - Recreational Land	CORREIA, GARY B. + ROBIN D.	Private landowner	Recreation	

Unprotected Municipal Lands with Recreational/Conservation Potential

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
37	9	Fairgrounds	Town of Rochester	Town of Rochester	Fairgrounds	Good
37	8	Fairgrounds	Town of Rochester	Town of Rochester	Fairgrounds	Good
14	11	Sippican River Lots 1& 2	Town of Rochester	Town of Rochester	Undeveloped	Good
14	12	Sippican River Lots 1& 2	Town of Rochester	Town of Rochester	Undeveloped	Good
21	33	Gomes Lot	Town of Rochester	Town of Rochester	Undeveloped	Good
18	7	Lopes Lot	Town of Rochester	Town of Rochester	Undeveloped	Good
06	19	Dexter Lane Complex Bogs	Town of Rochester	Town of Rochester	Undeveloped	Good
39	3O	Open Space Lot, Bradford Lane	Town of Rochester	Town of Rochester	Undeveloped	Good
27	4	Cedar Swamp Lot - Should transfer to Con Comm	Town of Rochester	Town of Rochester	Undeveloped	Good
31	11C	Winslow Lots 1&2 - Should transer to Con Comm	Town of Rochester	Town of Rochester	Undeveloped	Good
31	11B	Winslow Lots 1&2 - Should transer to Con Comm	Town of Rochester	Town of Rochester	Undeveloped	Good

29A	1	Tax title, stormwater basin, access to trails	Town of Rochester	Town of Rochester	Undeveloped	Good
10	1A	"County Beach", Beach on Marys Pond	Town of Rochester	Town of Rochester	Undeveloped	Good
37	36	Memorial School & Accessory Lands	Town of Rochester	School Department	School	Good
42	2	Old Colony Regional Voc-Tech High School	Town of Rochester	Old Colony Regional Voc-Tech High School	School	Good
42	3	Old Colony Regional Voc-Tech High School	Town of Rochester	Old Colony Regional Voc-Tech High School	School	Good
31	31	Town Green (Town Hall Lot)	Town of Rochester	Town of Rochester	Town Green	Good
31	32	Church Green (Front of Church Lot)	Town of Rochester	First Congregational Church	Church Green	Good

Unprotected Private Lands with Recreational/Conservation Potential

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
41	10	Camp Snipatuit	Pierce, Ernest & Thomas	Private Landowner	Not presently used as a camp	Good
41	8	Camp Snipatuit	Pierce, Ernest & Thomas	Private Landowner	Not presently used as a camp	Good
38	38	YMCA Property	YMCA Southcoast, Inc.	YMCA Southcoast, Inc.	Boy Scout Camp	Good
24	1	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
25	4	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
25	5	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
25	6	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
25	7	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good

Unprotected Private Lands with Recreational/Conservation Potential Continued

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
25	12	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
25	16	Annie Maxium House Property	Annie Maxium House, Inc.	Annie Maxium House, Inc.	Assisted Living Community	Good
34	6A	Rochester Golf Course	Rochester Golf Club, Inc	Rochester Golf Club, Inc	Golf Course	Good

Unprotected Private Lands with Recreational/Conservation Potential Continued

MAP	LOT	PROPERTY NAME	OWNERSHIP	MANAGING AGENCY	CURRENT USE	CONDITION
06	44	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Rod & Gun Club	Good
06	43B	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Rod & Gun Club	Good
06	43A	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Sippican Rod & Gun Club	Rod & Gun Club	Good

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
N/A		Ag/Res	None	None	4.77
N/A		Ag/Res	None	None	3.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	12.90
N/A		Ag/Res	None	None	14.16
N/A		Ag/Res	None	None	5.60
N/A		Ag/Res	None	None	12.00
N/A		Ag/Res	None	None	3.15
N/A		Ag/Res	None	None	16.12
N/A		Ag/Res	None	None	9.23
N/A		Ag/Res	None	None	1.14
N/A		Ag/Res	None	None	13.46
N/A		Ag/Res	None	None	184.44
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	2.50
N/A		Ag/Res	None	None	8.85
N/A		Ag/Res	None	None	1.11
N/A		Ag/Res	None	None	43.70
N/A		Ag/Res	None	None	2.80
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	3.25
N/A		Ag/Res	None	None	7.25
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	30.30
N/A		Ag/Res	None	None	20.50
N/A		Ag/Res	None	None	17.00
N/A		Ag/Res	None	None	6.90
N/A		Ag/Res	None	None	5.99

N/A		Ag/Res	None	None	15.00
N/A		Ag/Res	None	None	2.77
N/A		Ag/Res	None	None	4.58
N/A		Ag/Res	None	None	4.58
N/A		Ag/Res	None	None	8.14
N/A		Ag/Res	None	None	8.74
N/A		Ag/Res	None	None	3.75
N/A		Ag/Res	None	None	30.00
N/A		Ag/Res	None	None	38.30
N/A		Ag/Res	None	None	27.81
N/A		Ag/Res	None	None	25.00
N/A		Ag/Res	None	None	131.50
N/A		Ag/Res	None	None	9.20
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	7.00
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	89.69
N/A		Ag/Res	None	None	22.05
N/A		Ag/Res	None	None	2.65
N/A		Ag/Res	None	None	9.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	9.73
N/A		Ag/Res	None	None	14.10
N/A		Ag/Res	None	None	17.31
N/A		Ag/Res	None	None	3.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	5.60
N/A		Ag/Res	None	None	14.25
N/A		Ag/Res	None	None	14.98
N/A		Ag/Res	None	None	20.90
N/A		Ag/Res	None	None	20.07
N/A		Ag/Res	None	None	5.00

N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	5.40
N/A		Ag/Res	None	None	6.00
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	16.60
N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	11.00
N/A		Ag/Res	None	None	15.75
N/A		Ag/Res	None	None	47.00
N/A		Ag/Res	None	None	11.21
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	3.80
N/A		Ag/Res	None	None	26.03
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	17.07
N/A		Ag/Res	None	None	11.00
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	16.10
N/A		Ag/Res	None	None	77.90
N/A		Ag/Res	None	None	35.70
N/A		Ag/Res	None	None	25.33
N/A		Ag/Res	None	None	22.31
N/A		Ag/Res	None	None	3.29
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	4.40
N/A		Ag/Res	None	None	66.40
N/A		Ag/Res	None	None	27.53
N/A		Ag/Res	None	None	15.50
N/A		Ag/Res	None	None	34.60
N/A		Ag/Res	None	None	40.00
N/A		Ag/Res	None	None	0.12

N/A	Ag/Res	None	None	4.50
N/A	Ag/Res	None	None	20.87
N/A	Ag/Res	None	None	45.50
N/A	Ag/Res	None	None	6.83
N/A	Ag/Res	None	None	1.80
N/A	Ag/Res	None	None	1.00
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	10.00
N/A	Ag/Res	None	None	63.67
N/A	Ag/Res	None	None	2.83
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	1.30
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	7.00
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	10.22
N/A	Ag/Res	None	None	8.22
N/A	Ag/Res	None	None	10.85
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	8.50
N/A	Ag/Res	None	None	2.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.80
N/A	Ag/Res	None	None	4.00
N/A	Ag/Res	None	None	1.76
N/A	Ag/Res	None	None	1.39
N/A	Ag/Res	None	None	8.00
N/A	Ag/Res	None	None	3.00
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	3.93
N/A	Ag/Res	None	None	2.77
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	4.84

N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.71
N/A		Ag/Res	None	None	4.11
N/A		Ag/Res	None	None	6.48
N/A		Ag/Res	None	None	9.00
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	5.47
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	11.94
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	41.52
N/A		Ag/Res	None	None	8.23
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	15.00
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	13.00
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	7.75
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	2.88
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	13.00
N/A		Ag/Res	None	None	3.00
N/A		Ag/Res	None	None	3.50
N/A		Ag/Res	None	None	1.63
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	30.73
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	4.45

N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	4.50
N/A		Ag/Res	None	None	30.27
N/A		Ag/Res	None	None	6.05
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	16.75
N/A		Ag/Res	None	None	7.70
N/A		Ag/Res	None	None	6.00
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	5.70
N/A		Ag/Res	None	None	6.00
N/A		Ag/Res	None	None	2.25
N/A		Ag/Res	None	None	6.84
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	4.40
N/A		Ag/Res	None	None	4.00
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	3.00
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	0.34
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	2.65
N/A		Ag/Res	None	None	0.98
N/A		Ag/Res	None	None	4.70
N/A		Ag/Res	None	None	16.98
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.55
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	27.80

N/A		Ag/Res	None	None	4.36
N/A		Ag/Res	None	None	56.90
N/A		Ag/Res	None	None	25.02
N/A		Ag/Res	None	None	5.82
N/A		Ag/Res	None	None	7.05
N/A		Ag/Res	None	None	6.75
N/A		Ag/Res	None	None	17.64
N/A		Ag/Res	None	None	5.97
N/A		Ag/Res	None	None	1.24
N/A		Ag/Res	None	None	8.25
N/A		Ag/Res	None	None	24.00
N/A		Ag/Res	None	None	1.40
N/A		Ag/Res	None	None	28.04
N/A		Ag/Res	None	None	5.40
N/A		Ag/Res	None	None	3.60
N/A		Ag/Res	None	None	8.15
N/A		Ag/Res	None	None	12.26
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	18.97
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	47.31
N/A		Ag/Res	None	None	0.29
N/A		Ag/Res	None	None	7.61
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	10.32
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.79
N/A		Ag/Res	None	None	11.15
N/A		Ag/Res	None	None	3.10
N/A		Ag/Res	None	None	2.23
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	32.30
N/A		Ag/Res	None	None	12.98

N/A	Ag/Res	None	None	2.98
N/A	Ag/Res	None	None	5.99
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	2.07
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	10.89
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	2.21
N/A	Ag/Res	None	None	11.01
N/A	Ag/Res	None	None	1.00
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	64.29
N/A	Ag/Res	None	None	30.24
N/A	Ag/Res	None	None	3.53
N/A	Ag/Res	None	None	16.92
N/A	Ag/Res	None	None	18.09
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	3.61
N/A	Ag/Res	None	None	18.95
N/A	Ag/Res	None	None	12.00
N/A	Ag/Res	None	None	5.34
N/A	Ag/Res	None	None	53.77
N/A	Ag/Res	None	None	5.80
N/A	Ag/Res	None	None	2.64
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	3.15
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	37.80
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	4.59
N/A	Ag/Res	None	None	10.70

N/A		Ag/Res	None	None	33.45
N/A		Ag/Res	None	None	3.40
N/A		Ag/Res	None	None	46.08
N/A		Ag/Res	None	None	2.09
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	6.07
N/A		Ag/Res	None	None	74.81
N/A		Ag/Res	None	None	28.60
N/A		Ag/Res	None	None	31.05
N/A		Ag/Res	None	None	13.95
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	62.70
N/A		Ag/Res	None	None	12.33
N/A		Ag/Res	None	None	2.94
N/A		Ag/Res	None	None	4.74
N/A		Ag/Res	None	None	1.64
N/A		Ag/Res	None	None	4.70
N/A		Ag/Res	None	None	3.00
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	4.20
N/A		Ag/Res	None	None	5.04
N/A		Ag/Res	None	None	0.53
N/A		Ag/Res	None	None	25.70
N/A		Ag/Res	None	None	2.91
N/A		Ag/Res	None	None	15.40
N/A		Ag/Res	None	None	21.85
N/A		Ag/Res	None	None	4.78
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	3.80
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	3.55
N/A		Ag/Res	None	None	38.00

N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	5.05
N/A		Ag/Res	None	None	8.31
N/A		Ag/Res	None	None	78.50
N/A		Ag/Res	None	None	1.60
N/A		Ag/Res	None	None	1.60
N/A		Ag/Res	None	None	18.00
N/A		Ag/Res	None	None	20.85
N/A		Ag/Res	None	None	53.25
N/A		Ag/Res	None	None	14.84
N/A		Ag/Res	None	None	3.90
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	10.68
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.51
N/A		Ag/Res	None	None	14.36
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	1.00
N/A		Ag/Res	None	None	8.10
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.53
N/A		Ag/Res	None	None	0.25
N/A		Ag/Res	None	None	0.97
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	8.20
N/A		Ag/Res	None	None	7.96
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	1.07
N/A		Ag/Res	None	None	0.15
N/A		Ag/Res	None	None	1.16
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	15.88
N/A		Ag/Res	None	None	1.50

N/A	Ag/Res	None	None	6.26
N/A	Ag/Res	None	None	5.76
N/A	Ag/Res	None	None	1.98
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	24.85
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.51
N/A	Ag/Res	None	None	1.20
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.51
N/A	Ag/Res	None	None	1.00
N/A	Ag/Res	None	None	15.00
N/A	Ag/Res	None	None	14.07
N/A	Ag/Res	None	None	5.40
N/A	Ag/Res	None	None	17.00
N/A	Ag/Res	None	None	28.00
N/A	Ag/Res	None	None	10.33
N/A	Ag/Res	None	None	13.29
N/A	Ag/Res	None	None	20.00
N/A	Ag/Res	None	None	10.50
N/A	Ag/Res	None	None	47.81
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	18.91
N/A	Ag/Res	None	None	8.68
N/A	Ag/Res	None	None	4.50
N/A	Ag/Res	None	None	4.50
N/A	Ag/Res	None	None	32.30
N/A	Ag/Res	None	None	8.50
N/A	Ag/Res	None	None	12.00

N/A		Ag/Res	None	None	10.00
N/A		Ag/Res	None	None	1.50
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	6.09
N/A		Ag/Res	None	None	11.88
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	4.81
N/A		Ag/Res	None	None	15.00
N/A		Ag/Res	None	None	6.47
N/A		Ag/Res	None	None	0.82
N/A		Ag/Res	None	None	1.30
N/A		Ag/Res	None	None	0.06
N/A		Ag/Res	None	None	0.08
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	0.16
N/A		Ag/Res	None	None	8.25
N/A		Ag/Res	None	None	7.00
N/A		Ag/Res	None	None	10.69
N/A		Ag/Res	None	None	6.00
N/A		Ag/Res	None	None	7.35
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	12.47
N/A		Ag/Res	None	None	4.94
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	0.47
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	7.00
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	3.00
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	6.10

N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	13.50
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	3.62
N/A		Ag/Res	None	None	10.56
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	4.98
N/A		Ag/Res	None	None	29.47
N/A		Ag/Res	None	None	0.90
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	1.76
N/A		Ag/Res	None	None	5.00
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	2.21
N/A		Ag/Res	None	None	0.01
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	30.00
N/A		Ag/Res	None	None	0.01
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	51.80
N/A		Ag/Res	None	None	18.08
N/A		Ag/Res	None	None	2.50
N/A		Ag/Res	None	None	2.36
N/A		Ag/Res	None	None	6.00
N/A		Ag/Res	None	None	24.13
N/A		Ag/Res	None	None	17.30
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	21.82
N/A		Ag/Res	None	None	1.52

N/A		Ag/Res	None	None	14.35
N/A		Ag/Res	None	None	36.92
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	11.08
N/A		Ag/Res	None	None	18.25
N/A		Ag/Res	None	None	13.00
N/A		Ag/Res	None	None	5.31
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	2.09
N/A		Ag/Res	None	None	6.38
N/A		Ag/Res	None	None	25.38
N/A		Ag/Res	None	None	4.16
N/A		Ag/Res	None	None	5.42
N/A		Ag/Res	None	None	7.49
N/A		Ag/Res	None	None	14.11
N/A		Ag/Res	None	None	2.50
N/A		Ag/Res	None	None	2.76
N/A		Ag/Res	None	None	3.80
N/A		Ag/Res	None	None	149.42
N/A		Ag/Res	None	None	9.01
N/A		Ag/Res	None	None	13.65
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	8.14
N/A		Ag/Res	None	None	28.00
N/A		Ag/Res	None	None	21.00
N/A		Ag/Res	None	None	14.54
N/A		Ag/Res	None	None	2.08
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	7.40
N/A		Ag/Res	None	None	3.30
N/A		Ag/Res	None	None	3.82
N/A		Ag/Res	None	None	0.80
N/A		Ag/Res	None	None	9.20

N/A	Ag/Res	None	None	10.93
N/A	Ag/Res	None	None	13.00
N/A	Ag/Res	None	None	37.00
N/A	Ag/Res	None	None	21.01
N/A	Ag/Res	None	None	3.46
N/A	Ag/Res	None	None	1.45
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	3.00
N/A	Ag/Res	None	None	1.80
N/A	Ag/Res	None	None	37.00
N/A	Ag/Res	None	None	43.00
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	2.61
N/A	Ag/Res	None	None	0.13
N/A	Ag/Res	None	None	1.96
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.03
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.20
N/A	Ag/Res	None	None	2.07
N/A	Ag/Res	None	None	3.60
N/A	Ag/Res	None	None	2.01
N/A	Ag/Res	None	None	11.85
N/A	Ag/Res	None	None	16.93
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.38
N/A	Ag/Res	None	None	0.61
N/A	Ag/Res	None	None	5.60
N/A	Ag/Res	None	None	0.95
N/A	Ag/Res	None	None	0.25
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	0.57
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	7.00

N/A		Ag/Res	None	None	34.87
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	0.93
N/A		Ag/Res	None	None	2.86
N/A		Ag/Res	None	None	4.13
N/A		Ag/Res	None	None	8.50
N/A		Ag/Res	None	None	20.00
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	25.20
N/A		Ag/Res	None	None	2.85
N/A		Ag/Res	None	None	13.88
N/A		Ag/Res	None	None	11.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	2.29
N/A		Ag/Res	None	None	11.28
N/A		Ag/Res	None	None	14.70
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	1.17
N/A		Ag/Res	None	None	0.74
N/A		Ag/Res	None	None	0.68
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.86
N/A		Ag/Res	None	None	4.00
N/A		Ag/Res	None	None	1.32
N/A		Ag/Res	None	None	43.66
N/A		Ag/Res	None	None	6.79
N/A		Ag/Res	None	None	2.86
N/A		Ag/Res	None	None	3.48
N/A		Ag/Res	None	None	1.97
N/A		Ag/Res	None	None	0.18
N/A		Ag/Res	None	None	7.70
N/A		Ag/Res	None	None	5.63
N/A		Ag/Res	None	None	4.60
N/A		Ag/Res	None	None	6.00

N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	4.20
N/A		Ag/Res	None	None	10.58
N/A		Ag/Res	None	None	94.77
N/A		Ag/Res	None	None	3.48
N/A		Ag/Res	None	None	1.68
N/A		Ag/Res	None	None	22.97
N/A		Ag/Res	None	None	7.72
N/A		Ag/Res	None	None	0.27
N/A		Ag/Res	None	None	34.60
N/A		Ag/Res	None	None	89.00
N/A		Ag/Res	None	None	60.87
N/A		Ag/Res	None	None	9.11
N/A		Ag/Res	None	None	18.16
N/A		Ag/Res	None	None	1.24
N/A		Ag/Res	None	None	450 FF
N/A		Ag/Res	None	None	72.30
N/A		Ag/Res	None	None	6.17
N/A		Ag/Res	None	None	2000 FF
N/A		Ag/Res	None	None	225 FF
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**
N/A		Ag/Res	None	None	3800 FF
N/A		Ag/Res	None	None	700 FF
N/A		Ag/Res	None	None	1550 FF
N/A		Ag/Res	None	None	2100 FF
N/A		Ag/Res	None	None	2400 FF
N/A		Ag/Res	None	None	520 FF
N/A		Ag/Res	None	None	230 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	450 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	450 FF
N/A		Ag/Res	None	None	1700 FF
N/A		Ag/Res	None	None	225 FF

N/A		Ag/Res	None	None	450 FF
N/A		Ag/Res	None	None	900 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	1125 FF
N/A		Ag/Res	None	None	2025 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	2025 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	2025 FF
N/A		Ag/Res	None	None	225 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	33 FF
N/A		Ag/Res	None	None	300 FF
N/A		Ag/Res	None	None	50 FF
N/A		Ag/Res	None	None	480 FF
N/A		Ag/Res	None	None	675 FF
N/A		Ag/Res	None	None	600 FF
N/A		Ag/Res	None	None	3350 FF
N/A		Ag/Res	None	None	2.3 FF
N/A		Ag/Res	None	None	65340 FF
N/A		Ag/Res	None	None	8.95
N/A		Ag/Res	None	None	2.52
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.50
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.27
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	0.50
PUBLIC ACCESS	**RECREATION POTENTIAL**	**ZONING**	**PROTECTION**	**DISABILITY ACCESS**	**ACRES**

N/A	Ag/Res	None	None	0.62
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	7.00
N/A	Ag/Res	None	None	1.58
N/A	Ag/Res	None	None	9.00
N/A	Ag/Res	None	None	55.00
N/A	Ag/Res	None	None	44.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	33.00
N/A	Ag/Res	None	None	14.26
N/A	Ag/Res	None	None	79.26
N/A	Ag/Res	None	None	5.70
N/A	Ag/Res	None	None	21.70
N/A	Ag/Res	None	None	6.30
N/A	Ag/Res	None	None	4.07
N/A	Ag/Res	None	None	2.94
N/A	Ag/Res	None	None	0.45
N/A	Ag/Res	None	None	13.60
N/A	Ag/Res	None	None	5.00
N/A	Ag/Res	None	None	20.95
N/A	Ag/Res	None	None	0.50
N/A	Ag/Res	None	None	2.50
N/A	Ag/Res	None	None	2.50
N/A	Ag/Res	None	None	5.30
N/A	Ag/Res	None	None	6.04
N/A	Ag/Res	None	None	2.50
N/A	Ag/Res	None	None	11.70
N/A	Ag/Res	None	None	4.20
N/A	Ag/Res	None	None	6.00
N/A	Ag/Res	None	None	3.50
N/A	Ag/Res	None	None	1.50
N/A	Ag/Res	None	None	5.00
N/A	Ag/Res	None	None	47.50

N/A		Ag/Res	None	None	8.00
N/A		Ag/Res	None	None	5.00
N/A		Ag/Res	None	None	52.00
N/A		Ag/Res	None	None	21.00
N/A		Ag/Res	None	None	27.00
N/A		Ag/Res	None	None	13.80
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	11.56
N/A		Ag/Res	None	None	0.93
N/A		Ag/Res	None	None	9.44
N/A		Ag/Res	None	None	1.50
N/A		Ag/Res	None	None	5.13

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
N/A		Ag/Res	None	None	7.50
N/A		Ag/Res	None	None	2.00
N/A		Ag/Res	None	None	12.97
N/A		Ag/Res	None	None	7.20
N/A		Ag/Res	None	None	6.63
N/A		Ag/Res	None	None	12.44

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
Yes		Ag/Res	None		18.20
Yes		Ag/Res	None		1.30
Yes		Ag/Res	None		1.22
Yes		Ag/Res	None		4.28
Yes		Ag/Res	None		4.10
Yes		Ag/Res	None		1.00
Yes		Ag/Res	None		14.50
Yes		Ag/Res	None		1.50
Yes		Ag/Res	None		7.50
Yes		Ag/Res	None		1.62
Yes		Ag/Res	None		2.47

Yes		Ag/Res	None		2.12
Yes		Ag/Res	None		0.67
Yes		Ag/Res	None		2.31
Yes		Ag/Res	None		72.50
Yes		Ag/Res	None		13.46
Yes		Ag/Res	None		0.30
Yes		Ag/Res	None		2.09
				TOTAL ACRES	**151.14**

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
No	Good	Ag/Res	None	None	14.24
No	Good	Ag/Res	None	None	10.02
Limited	Excellent	Ag/Res	None	None	25.13
No	Good	Ag/Res	None	Limited	13.31
No	Good	Ag/Res	None	Limited	13.70
No	Good	Ag/Res	None	Limited	12.60
No	Good	Ag/Res	None	Limited	8.30
No	Good	Ag/Res	None	Limited	0.25

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
No	Good	Ag/Res	None	Limited	53.00
No	Good	Ag/Res	None	Limited	10.80
Yes	High - Golf Course	Ag/Res	None	Limited	101.00

PUBLIC ACCESS	RECREATION POTENTIAL	ZONING	PROTECTION	DISABILITY ACCESS	ACRES
Yes	High - Shooting Range	Ag/Res	None	Limited	7.50
Yes	High - Shooting Range	Ag/Res	None	Limited	3.80
Yes	High - Shooting Range	Ag/Res	None	Limited	1.51
				TOTAL ACRES	**275.16**