

TOWN OF PLYMOUTH

# OPEN SPACE AND RECREATION PLAN

2017 UPDATE



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## Executive Summary

As the landing place of the Pilgrims, the Town of Plymouth is known as “America’s Hometown.” The amount of privately-owned undeveloped land in Plymouth is approximately 18,000 acres and there are also approximately 18,900 acres of protected open space. This land provides the town with a strong rural character. Plymouth contains the third highest per square mile occurrence of rare, threatened and endangered species of any community in Massachusetts. The town contains the third largest area of globally rare pine barren in the eastern United States, 36 miles of coastline, several anadromous fish runs and over 365 inland ponds including 32 globally rare coastal plain ponds. The town also sits on the second largest sole-source aquifer in the state.

Plymouth’s population has increased more than fourfold in the past fifty years. The continuing availability of large tracts of developable land, the rural character, high quality of community services, transportation improvements, and proximity to Boston will continue to spur this high growth rate. Many areas of rural landscape have been impacted by large residential developments, most often of large lot, single family homes. Additional large tracts of rural land, often outside of the established village centers, are constantly being targeted for additional development.

There are, therefore several compelling reasons for Plymouth to preserve open space:

- To maintain quality of the drinking water
- To maintain fiscal stability
- To lessen sprawl and traffic congestion
- To protect wildlife habitat
- To protect the beaches, harbor, ponds and rivers
- To fulfill recreational needs

Within this ***2017 Update of the Open Space & Recreation Plan (2009)*** town planners and citizens will find a variety of tools and action steps to help the town preserve open space:

- Maps showing areas already preserved and lands targeted for preservation
- Open Space Acquisition Ranking Criteria, for evaluating acquisition opportunities
- Funding suggestions for land acquisition and conservation restrictions
- Description of regulatory tools such as transfer of development rights and impact fees

## Section I - Plan Summary

The **2017 Update of the Plymouth Open Space and Recreation Plan** is in conformance with the *March 2008 Open Space and Recreation Planner's Workbook* as published by the Executive Office of Energy and Environmental Affairs Division of Conservation Services. This update includes:

- Updates of census, economics and other statistics;
- Review and re-endorsement of the goals and strategies outlined in Plymouth's 2006 Master Plan and the Open Space and Recreation Plan;
- Updates to the land development patterns throughout the Town, including maps of recently acquired land areas;
- Updated Open Space Inventory;
- Revised Open Space Action Plan Map, which now includes connectivity of trails throughout Plymouth and potential linkages to abutting communities;
- State-identified endangered species habitat maps were updated in the fall of 2008, and the Unique Features Map is updated to reflect this change;
- The Town of Plymouth mapped the sub-watersheds as listed in the 2009 Open Space and Recreation Plan;
- Results of the 2016 public survey pertaining to the Town's open space;
- Revised Environmental Justice considerations have been added; and
- The Open Space and Recreation Plan includes recommendations provided in the **Plymouth Public Space Action Plan** (June 2007).

The Open Space and Recreation Plan includes a compilation of information from several previously approved planning documents. The intent of this plan is not to recreate the work conducted by various town agencies, but to provide one consolidated report that directs the planning, conservation, acquisition, development and management of open space and recreational facilities in the twenty-first century.

The plan outlines a vigorous program for land acquisition and development of passive and active recreational facilities. The Town seeks to use this plan as a guideline for the investment of private, town, state, and federal funds through its Community Preservation Fund and its five-year Capital Improvement Program, and this plan will be used as a guide for grant-seeking opportunities by the Town and by land preservation and recreation-based organizations in the community.

## Section II - Introduction

### **The Plymouth Open Space Committee**

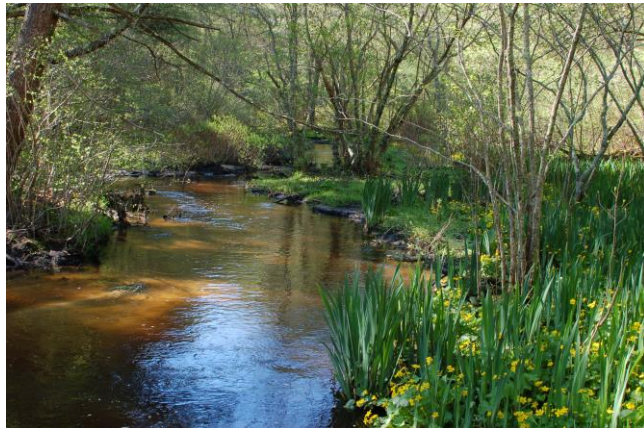
The Open Space Committee is comprised of volunteers appointed by the Planning Board, Board of Selectmen and Conservation Commission. They meet twice monthly to review open space opportunities in support of the Community Preservation Committee. The Open Space Committee worked on the plan revisions with support from staff from the Planning Department and input from the Parks & Recreation Department. All meetings of the Open Space Committee are public in accordance with open meetings regulations.

Current members of the Open Space Committee include:

Rick Barry  
Betsy Hall, Chair  
John Hammond  
Sharl Heller  
Malcolm MacGregor  
Nancy McSpadden  
Lois Post  
Dorie Stolley

### ***Statement of Purpose***

The purpose of this **2017 Update** to the ***Town of Plymouth Open Space and Recreation Plan (the “2017 Plan”)*** is to provide an overall comprehensive review of the Town of Plymouth's open space and recreation goals and objectives in the context of local and regional conditions and growth patterns. The 2017 Plan will help to identify tracts of land that will create links of open space, preserve environmentally sensitive areas, and allow for expanded recreational facilities throughout the town. Plymouth's planning process is ongoing, and the Open Space and Recreation Plan will be updated as additional information becomes available and regional and local conditions evolve.



Plymouth's planning process is ongoing, and the Open Space and Recreation Plan will be updated as additional information becomes available and regional and local conditions evolve.

In late 2016 – early 2017, the Open Space Committee amended and clarified their goals by drafting a document which clearly spells out their purpose and function, as directed by Town Meeting and Plymouth's Master Plan. This ***History and Charge*** document defines the Committee's goals as follows:

- Acquire natural open space to:
  - ✓ Ensure aquifer and surface water resources remain protected for future generations
  - ✓ Protect wildlife corridors, biodiversity and habitats of rare & endangered species

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- ✓ Safeguard natural character and scenic views
  - ✓ Increase public access for passive recreation
  - ✓ Continue to expand the trail system
- Increase public awareness of the importance of natural open space preservation.
  - Provide guidance and education to the community in becoming proactive stewards of natural open space.

In order to meet these goals, the Open Space Committee:

- Identifies land suitable to be set aside as open space, and finds ways and means to fund its acquisition.
- Researches and develops tools to preserve open space.
- Advocates for open space and participates in open space planning with other town committees, commissions and boards.

Works with interested citizens of Plymouth and conservation organizations such as Mass Audubon, Massachusetts Division of Fisheries & Game, The Nature Conservancy and the Wildlands Trust.

### ***Planning Process and Public Participation***

In preparation for the update of this Plan and to assess education needs, the Plymouth Open Space Committee allocated time during each of their bi-weekly meetings for public comment along with committee discussion. In addition, several outreach forums were initiated to gauge public knowledge and interest.

A preliminary outreach survey was facilitated during the Summer 2016 and was conducted in two formats. An online survey form was created using Survey Monkey. The survey URL was printed in the local newspaper with an invitation to all Plymouth residents to fill it out. And, it was shared using social media. The same survey was printed and given out to people to fill in by hand and return at community gatherings including Pine Fest 2016, a large outdoor festival held in Myles Standish State Forest and attracting hundreds of people from Plymouth. Both formats combined yielded 422 responses; all but 15 were submitted by Plymouth residents.

A draft of the revised plan was presented to the Open Space Committee at a regularly scheduled public meeting on April 6, 2017 with subsequent committee comments/discussion at their April 18, 2017 meeting. Comments have been included in the 2017 Update. The primary needs identified were to revisit goals, accurately map the ongoing land acquisitions throughout the Town and to further enhance the GIS mapping/inventory of open space and conservation land in the Town of Plymouth. Other minor revisions included mapping the scenic viewsheds as well as updating the open space planning map and updating action plan components of the plan.

The 2017 Update was presented at an advertised public hearing for public comment on May 25, 2017.

Subsequent public reviews of the 2017 Update were presented to the Conservation Commission on June 6, 2017 for comment and approval; the Board of Selectmen adopted the Update on June 13, 2017.

The final public hearing was held on June 22, 2017 to gain additional community insight of the Plan's goals and Seven Year Action Plan. Notifications of this meeting were posted at conspicuous areas within Plymouth's two Environmental Justice Neighborhoods.

Public outreach forums were advertised and posted at both Plymouth's Environmental Justice Areas, which included the Main Library along South Street (EJ-1) and the Manomet Post Office (EJ-2), to engage residents and respond to their comments pertaining to open space availability within their community. In addition, these postings were advertised in Plymouth's local paper (Old Colony Memorial) to capture a greater audience. Both forums were held on Saturday, September 9, 2017 for approximately three hours; Planning Staff and Open Space Committee members manned a table at a community art festival, located on the Library's front lawn while a second table was set up at the St. Catherine's Park, found within EJ-2. Questionnaires were distributed at each location during the forum. Participation results included over 70 attendees, all of which were neighborhood residents. Responses are included in Section VIII – Goals and Objectives of this Plan.

### ***Mapping***

Town staff, under the direction of the Office of Planning and Development, mapped scenic viewsheds and maintained and updated the GIS-based open space inventory. Substantial time was invested editing the GIS parcel maps and descriptive information in the database to accurately depict the Town's conservation and open space properties. Other accomplishments included: Mapping of existing and potential trails, new conservation land acquisitions by the public and private sectors, identification of private and public land with recorded conservation restrictions or private open space created through a special permit or other permit. Historic and recognized landmarks, including cemeteries were also added to the GIS database. Routine updates are cataloged as additional lands are accredited as Conservation or Open Space status.

### ***Parks and Recreation Planning***

The Office of Planning and Development requested updated information from the DPW Parks and Recreation Department and met with the DPW Parks Superintendent to review updates to the park and recreation planning objectives of the Town. These departments also contributed information to the mapping efforts noted above.

The Department of Marine and Environmental Affairs and Office of Planning and Development work cooperatively to acquire open space and conservation land, working in concert with the Community Preservation Committee, Open Space Committee, state/federal agencies, and local land trusts to actively implement aspects of the Open Space and Recreation Plan through grants and other opportunities as they arise.

### ***Plymouth Public Space Action Plan (PPSAP - June 2007)***

Measuring 103 square miles, the Town of Plymouth is the largest town in the Commonwealth. Plymouth recognizes the need to focus on the historic waterfront, where features of national

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historic significance are a key feature of the community. The PPSAP examines the Downtown/Harbor District with the specific purpose of better connecting and enhancing the existing social, environmental, historic and economic fabrics of the community with the following four underlying goals:

1. Increase the economic vitality and business climate of Downtown and the Harbor;
2. Identify capital improvement projects that serve as investments to attract private development;
3. Increase the attractiveness of major public spaces; and
4. Broaden public awareness and historical interpretation of all Plymouth eras.

The PPSAP was prepared through the services of a private sector consultant who coordinated with Town officials and a volunteer Stakeholder Committee. Several outreach meetings and walking tours with the Stakeholder Committee took place as the plan was developed, and presentations to the greater community for feedback took place prior to the Plan's adoption by the Board of Selectmen in 2007. Many of the capital improvement projects identified in this study supplement the goals of connecting pedestrian access to the various open spaces within the downtown, which then in turn, provide links to open space features outside of the downtown area.

### ***Regional Planning Agency Review***

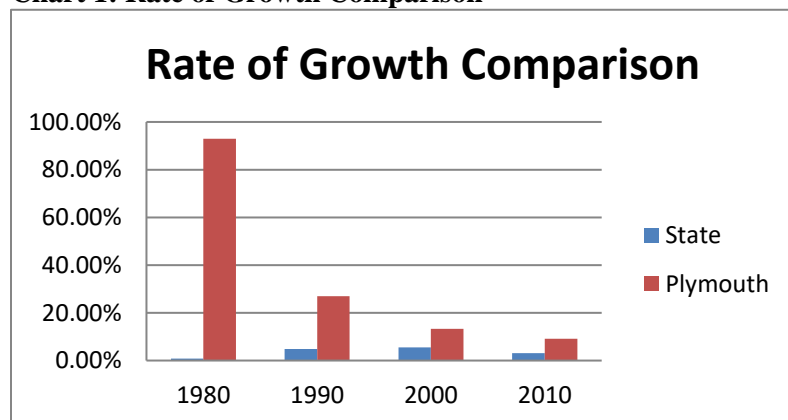
A draft of the Plan was sent to the Old Colony Planning Council (OCPC) for comment. A response letter, dated May 19, 2017, has been inserted in this update, Section X – Letters of Support.

## Section III - Community Setting

### Regional Context

The Town of Plymouth is a coastal community located in southeastern Massachusetts within Plymouth County. Plymouth is bounded by Kingston and Duxbury to the north, Cape Cod Bay to the east, Bourne and Wareham to the south and Carver to the west. Plymouth is the oldest continuously occupied English-speaking settlement in the United States. It is also the largest **town in Massachusetts containing some 103 square miles of land (Map 1)**. According to the 2010 U.S. Census, Plymouth is one of the largest towns by population in Massachusetts, and continues to be one of the fastest-growing towns in the state (see **Chart 1**).

**Chart 1: Rate of Growth Comparison**



Plymouth is accessed by three divided highways, Routes 3, 44, and 25 (to Interstate 495). It is also serviced by two secondary highways: Routes 80 and 3A. In addition, Routes 6, 195, 28, 6A, 58, and 106 are located nearby. The Town is located approximately 35 miles south of Boston and 2 miles north of the Cape Cod Canal.

### *History of the Community*

Plymouth for most of its existence was an isolated seacoast community whose economic fortunes were closely linked to the sea and shipping. The site of the original 1620 settlement is now a portion of today's Downtown/Harbor District. During the seventeenth and eighteenth centuries, the Town's primary sources of employment included fishing, shell fishing, shipbuilding and agriculture.

In the Nineteenth Century, numerous mills were in operation in Plymouth. The Plymouth Cordage Company was of particular importance. It began operations in North Plymouth in 1824. North Plymouth eventually became a sub-center of the shipbuilding industry on the east coast. Much of the housing in North Plymouth is old mill housing, originally constructed for the Cordage workers. The Cordage Company continued to prosper into the early 1900s. The Town's fishing fleet was also prosperous during this time.

After World War II, the Cordage Company's productivity dropped, primarily because of foreign competition. Plymouth Harbor could not accommodate the increased draft of the larger ships being built. The shipbuilding industry began its decline in the nineteenth century. This overall economic decline continued into the mid-1900s, producing severe unemployment in the entire Plymouth area. The Cordage facility was eventually closed in 1972.

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Throughout the 1800s and 1900s agriculture emerged as a significant source of employment for Plymouth. In particular, the cranberry industry developed into an active and lucrative sector of the economy. Conversely, Plymouth's non-cranberry agriculture has all but disappeared. During the recent decade, cranberry prices have dropped substantially resulting in many acres of farmed lands being developed with single-family homes throughout various areas of the town. In some cases, the cranberry bogs themselves remain in production while upland areas are being developed. More of this cranberry-related land remains vulnerable to development, including approximately 3,400 acres of the A.D. Makepeace land in southern and central parts of the Town.

Route 3, a limited access highway, was completed in 1963. Route 3 reduced the travel time to and from employment centers. The 1960s also brought the construction of the Pilgrim Nuclear Power Station and the construction of Plymouth's North Triangle and Camelot Industrial Parks. The construction of these projects brought employment and additional tax revenues to the Town. These factors coupled with Plymouth's natural beauty, made Plymouth an attractive location to live. Throughout the 1970s and 1980s the Town experienced an accelerated growth rate. Most of the development in the 1970s occurred in the West Plymouth area. Most of the development in the 1980s occurred in South Plymouth.

During the 1980s Plymouth was one of the fastest growing communities in Massachusetts. Plymouth's population increased by twenty-three percent from 45,608 in 1990 to 57,414 in 2014 (see **Table 1 and Chart 2**). Between the years of 2010 to 2015, an average of 497 building permits per year were issued for new dwelling units. Much of this new growth has occurred in the rural residential areas of South Plymouth. The town and surrounding areas continue to out-pace state averages for development.

**Table 1 - Population Projections**

Population Projections									
1980	1990	2000*	2005	2008	2010**	2011**	2012**	2013**	2014**
35,913	45,608	51,701	56,266	58,379	55,606	56,011	56,574	56,965	57,414
<b>Increase</b>	<b>27.0%</b>	<b>13.4%</b>	<b>8.8%</b>	<b>3.7%</b>	<b>-4.7%</b>	<b>0.7%</b>	<b>1.0%</b>	<b>0.7%</b>	<b>0.8%</b>

\* 2010 Census Information

\*\* American Community Survey 5-Year Estimates

**Map 1**

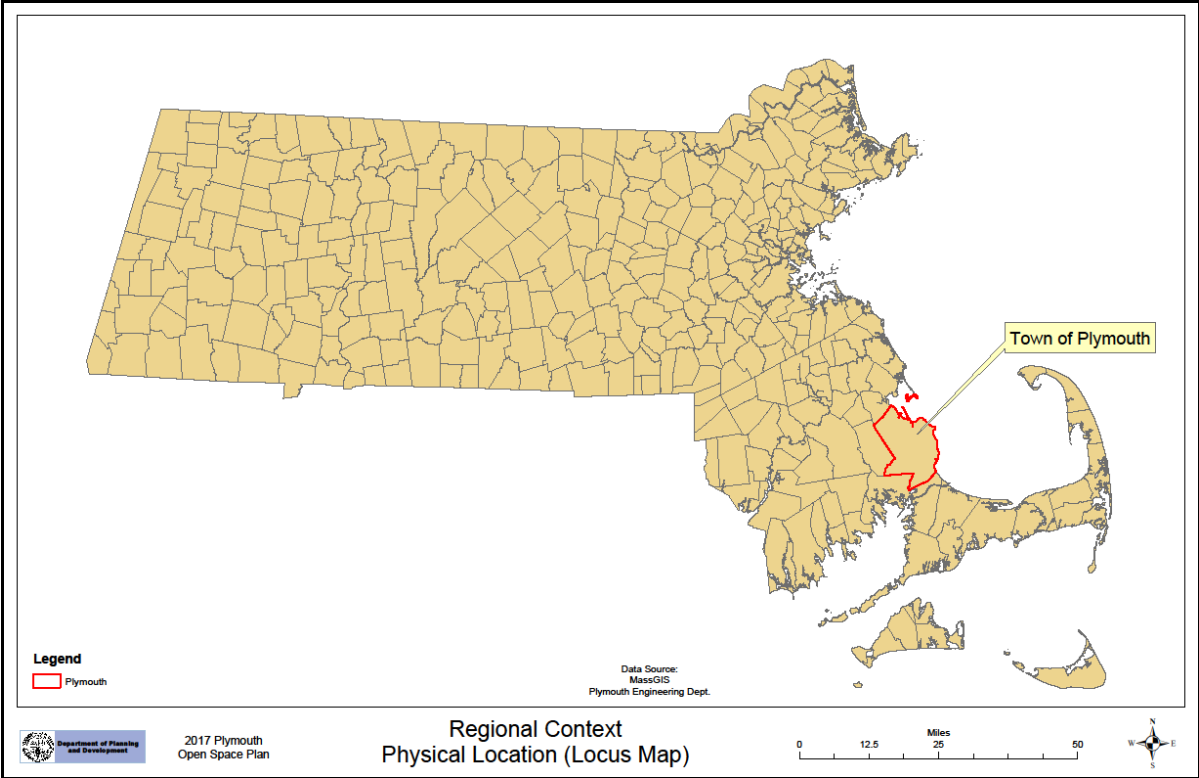
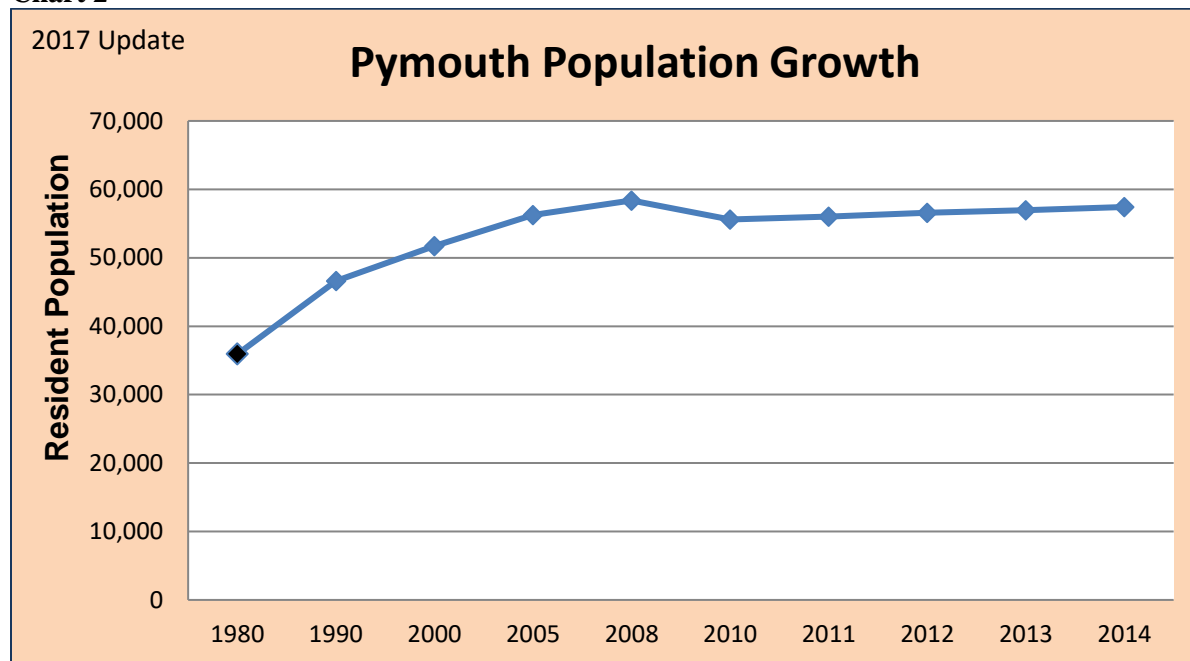


Chart 2



## Population Characteristics

Plymouth continues to experience a significant growth in population (**Table 1**). Most of the development growth was (and continues to be) in single-family, owner-occupied homes. The population projections (**Table 2**) predict continued residential growth in the coming decades. Forecasts (**Tables 3 and 4**) continue to predict a significant increase in the elderly population (age 65 and older), with increases of less significance for all other age groups through 2030.

**Table 2 - Plymouth Population Projections through 2035**

Population Projections		
Year	Population	% Change
2015	59,974	
2020	63,339	5.61%
2025	66,433	4.90%
2030	68,816	3.60%
2035	70,278	2.10%
2015 - 2035 Increase: 17%		

Source US Census & UMass Donahue Institute

**Table 3 - Household Population Forecast**

<b>FORECAST OF HOUSEHOLD POPULATION IN PLYMOUTH, MA: 2000-2030</b>								
Both Sexes By 5-Year Cohort	2000	FORECAST						CHANGE: 2005-2030
	CENSUS	2005	2010	2015	2020	2025	2030	
Under 5	3,477	3,556	3,630	3,932	4,306	4,588	4,758	1,202
5 - 9	3,844	3,754	3,839	3,920	4,246	4,649	4,954	1,200
10 - 14	3,715	3,846	3,756	3,842	3,922	4,248	4,652	806
15 - 19	3,138	3,536	3,661	3,575	3,657	3,734	4,045	509
20 - 24	2,224	2,769	3,121	3,231	3,156	3,229	3,298	528
25 - 29	2,940	2,602	3,241	3,649	3,778	3,698	3,782	1,179
30 - 34	4,069	3,595	3,180	3,961	4,461	4,620	4,521	925
35 - 39	4,453	4,370	3,863	3,416	4,255	4,794	4,966	596
40 - 44	4,273	4,682	4,596	4,066	3,590	4,474	5,044	362
45 - 49	3,917	4,043	4,430	4,351	3,851	3,404	4,243	201
50 - 54	3,850	4,460	4,607	5,053	4,966	4,398	3,890	-570
55 - 59	2,618	4,349	5,046	5,216	5,723	5,632	4,992	643
60 - 64	1,698	2,587	4,309	5,018	5,190	5,690	5,610	3,023
65 - 69	1,289	1,562	2,386	3,986	4,655	4,830	5,311	3,750
70 - 74	1,193	1,092	1,331	2,045	3,433	4,029	4,198	3,105
75 - 79	1,000	946	861	1,063	1,659	2,809	3,330	2,384
80 - 84	759	734	698	641	801	1,268	2,172	1,439
85 & Over	810	861	898	919	918	1,046	1,458	597
Total	49,267	53,343	57,452	61,882	66,568	71,140	75,223	21,880
By Sex:								
Male	23,812	25,812	27,687	29,667	31,733	33,698	35,436	9,624
Female	25,455	27,531	29,765	32,215	34,835	37,441	39,787	12,256
By Age Group:								
Under 20	14,174	14,692	14,886	15,269	16,131	17,219	18,410	3,718
20-35	9,233	8,967	9,541	10,841	11,395	11,547	11,600	2,633
35-45	8,726	9,052	8,459	7,481	7,845	9,268	10,010	958
45-65	12,083	15,438	18,392	19,638	19,730	19,123	18,734	3,296
65 & Over	5,051	5,194	6,173	8,654	11,467	13,982	16,469	11,275
Group Quarters	2432	2432	2432	2432	2432	2432	2432	0
Total Population	51,699	55,775	59,884	64,314	69,000	73,572	77,655	21,880

**Source: U.S. Bureau of the Census (2000); Urbanomics (2005-2030 forecast)**

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**Table 4 - Population by Age Group**

<b>POPULATION BY AGE GROUP</b>			
<b>Age</b>	<b>2000</b>	<b>2014</b>	<b>% Change</b>
Under 5	3,478	2,681	-23%
5 to 9	3,859	3,411	-12%
10to14	3,789	3,565	-6%
15to19	3,367	3,455	3%
20 to 24	2,513	3,020	20%
25 to 34	7,500	6,044	-19%
35 to 44	9,040	7,761	-14%
45 to 54	7,932	9,483	20%
55 to 59	2,664	4,120	55%
60 to 64	1,747	4,103	135%
65 to 74	2,672	6,063	127%
75 to 84	2,170	2,507	16%
85 and over	970	1,201	24%
<b>Total</b>	<b>51,701</b>	<b>57,414</b>	<b>11%</b>

As noted in **Table 5**, employment in Plymouth continued to grow at annual rate of approximately 6.75 percent from 2010 to 2016 with a total workforce of 30,514 people. As shown in **Table 6**, the number of people in the workforce with less than a high school degree dropped significantly (by 27%). Significant increases have occurred in the number of people in the workforce with college education.

**Table 5 - Employment**

<b>EMPLOYMENT</b>				
			<b>Unemployment Rate</b>	
<b>Year</b>	<b>Labor Force</b>	<b>Employed</b>	<b>Town</b>	<b>State</b>
2016	30,514	28,798	5.6	4.9
2015	30,681	28,684	6.5	5.8
2014	30,216	27,947	7.5	6.8
2013	30,071	27,556	8.4	7.6
2012	29,706	27,241	8.3	7.4
2011	30,108	27,121	9.9	8.5
2010	30,299	26,852	11	9.6

As of January 1st, of each year

Source: Massachusetts Dept. of Labor and Workforce Development

**Table 6 - Education Level Population**

EDUCATION	2010	2014	% Change
Less than High School	1,787	1,304	-27%
High School Graduate (includes equivalency)	8,309	8,613	4%
Some College or Associate's Degree	10,672	10,041	-6%
Bachelor's Degree or Higher	10,876	11,419	5%

***Regional Context - Socio-Economics***

The Town of Plymouth is a coastal community in southeastern Massachusetts. Its southern boundary runs roughly parallel to the Cape Cod Canal around two miles distant. It is the seat of Plymouth County and at 103 square miles contains the largest area of any town in the Commonwealth.

The South Shore's accessibility to the Boston metropolitan area has greatly influenced the growth rates of its communities. Desirability in terms of land prices, tax rates and residential amenities further influenced community growth as Plymouth's population grew from 18,606 in 1970 to 57,414 in 2014, an increase of 209% in 44 years. **Table 7** depicts the Town's general population demographic profile.

Also of significance during the period was the development of a healthy industrial and commercial base. The Town of Plymouth is committed to controlling its residential growth while welcoming industrial and commercial expansion, as mentioned in the 2006 Plymouth Master Plan.

**Table 7 - Demographic Profile**

2010 Census	
Population	56,271.0
Male	27,714.0
Female	28,557.0
Median Age	41.5
College Grad 2+ years	31.1%
Households	21,269
Ave. Household Size	2.6

Source: 2010 US Census

This socio-economic profile (**Tables 8a & 8b**) offers a brief snapshot of the Town of Plymouth as well as past trends and where Plymouth expects to be tomorrow. Plymouth is a vibrant and growing community within the South Shore. Its proximity to all major metropolitan areas north and west has made Plymouth an attractive place to live and work. Plymouth has a mature and experienced workforce ready to handle various workforce development needs.

Table 8a - Employment by Occupation

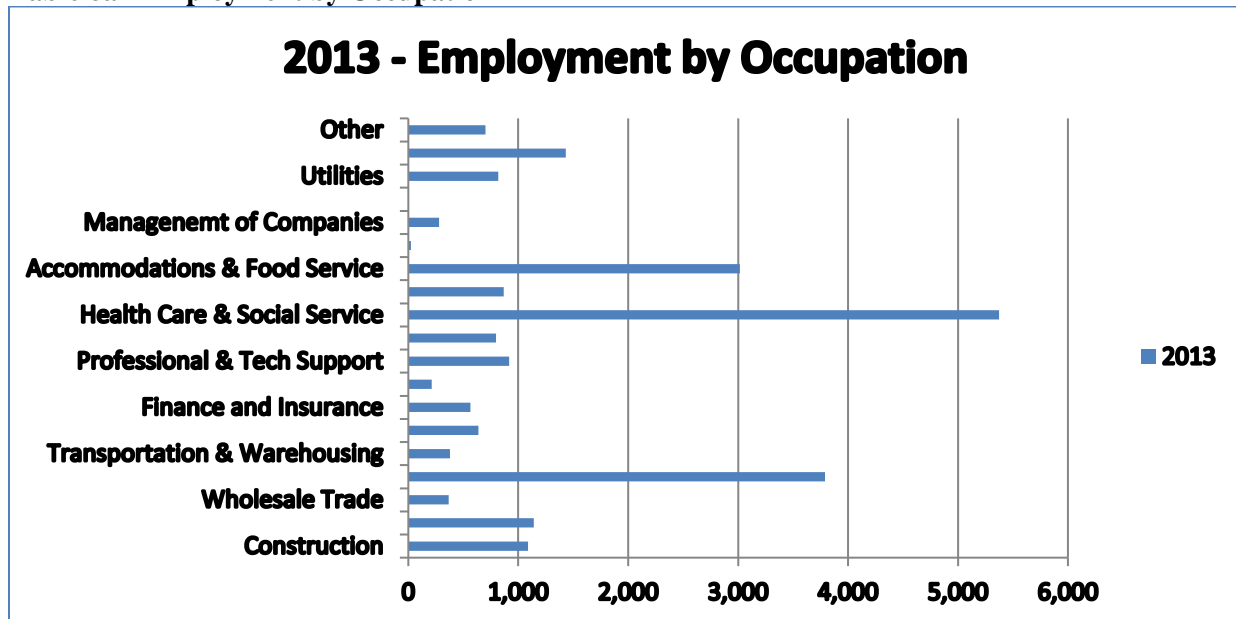
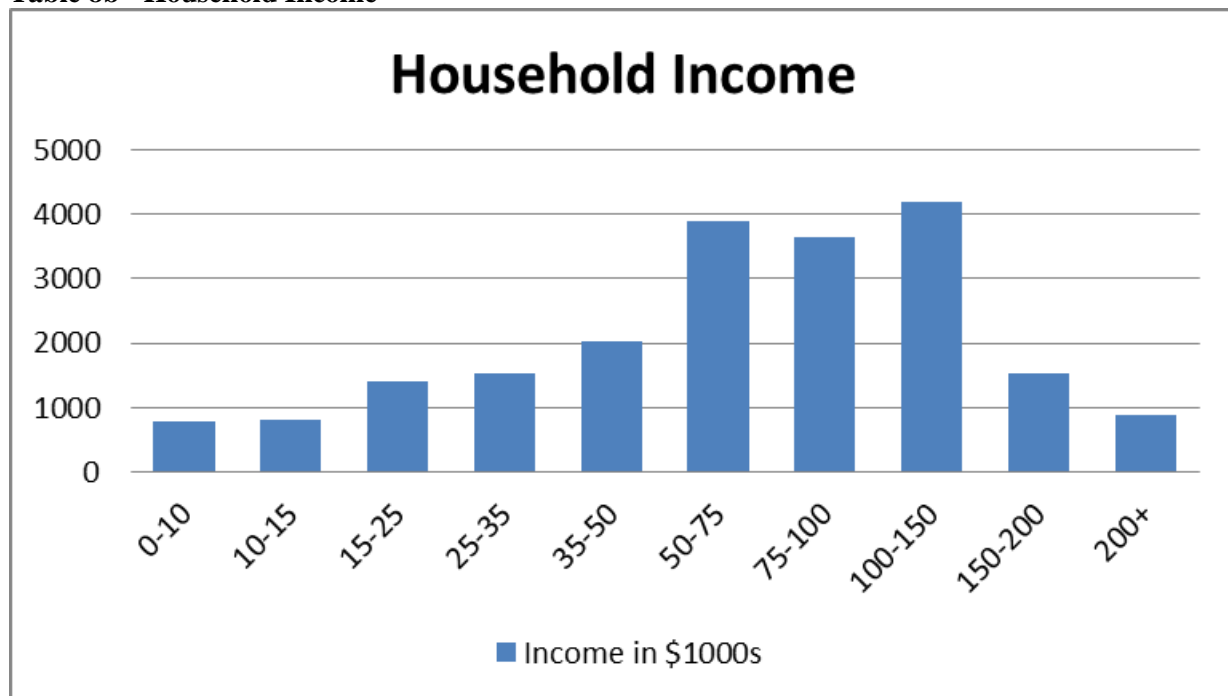


Table 8b - Household Income



Over the past few years the Town has seen significant growth and development in the number of retail businesses (**Table 9**). Plymouth's largest employment sector consists of both health care and social service sector. Over the past few years Plymouth has also seen significant growth in

the Management of Companies and Educational Service sectors.

**Table 9 - Community Employment**

<b>Community Employment and Wages</b>		
	2006	2013
Total Wages	\$888,170,721	\$1,095,066,016
Average Weekly Wage	758	876
Establishments	1,542	1,660
Average Employment	22,533	24,044
Construction	1,210	1,089
Manufacturing	1,356	1,142
Wholesale Trade	337	366
Retail Trade	3,149	3,789
Transportation & Warehousing	356	380
Information	411	638
Finance and Insurance	597	564
Real Estate	215	214
Professional & Tech Support	738	917
Administrative & Waste Services	783	798
Health Care & Social Service	4,524	5,374
Arts & Recreation	870	867
Accommodations & Food Service	2,543	3,016
Agriculture	23	23
Management of Companies	568	280
Educational Services	95	-
Utilities	-	817
Public Administration	-	1,432
Other	690	702

Source: Executive Office of Labor and Workforce Development

Nationally, manufacturing jobs have been on the decline. This decline is reflected in Plymouth's employment sectors (**Table 10**). Despite declines in manufacturing, Plymouth's overall employment continues to grow.

**Table 10 - Changes in Manufacturing**

<b>Changes in Manufacturing and Non-manufacturing Sectors</b>			
	1990	2000	2010
Manufacturing	1,856	1,500	1,142
Non-Manufacturing	14,198	17,419	22,902
Total	16,054	18,919	24,044

Source: Massachusetts Dept. of Labor and Workforce

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

As shown in **Table 11**, Plymouth saw increases in 38% of listed employment occupations with Management and Professional occupations and Arts, Entertainment, Recreation, Accommodation and Food Service occupations seeing the greatest increase. At -38.1%, Agriculture, Farming, Fishing and Forestry occupations experienced the largest decline over the past 15 years.

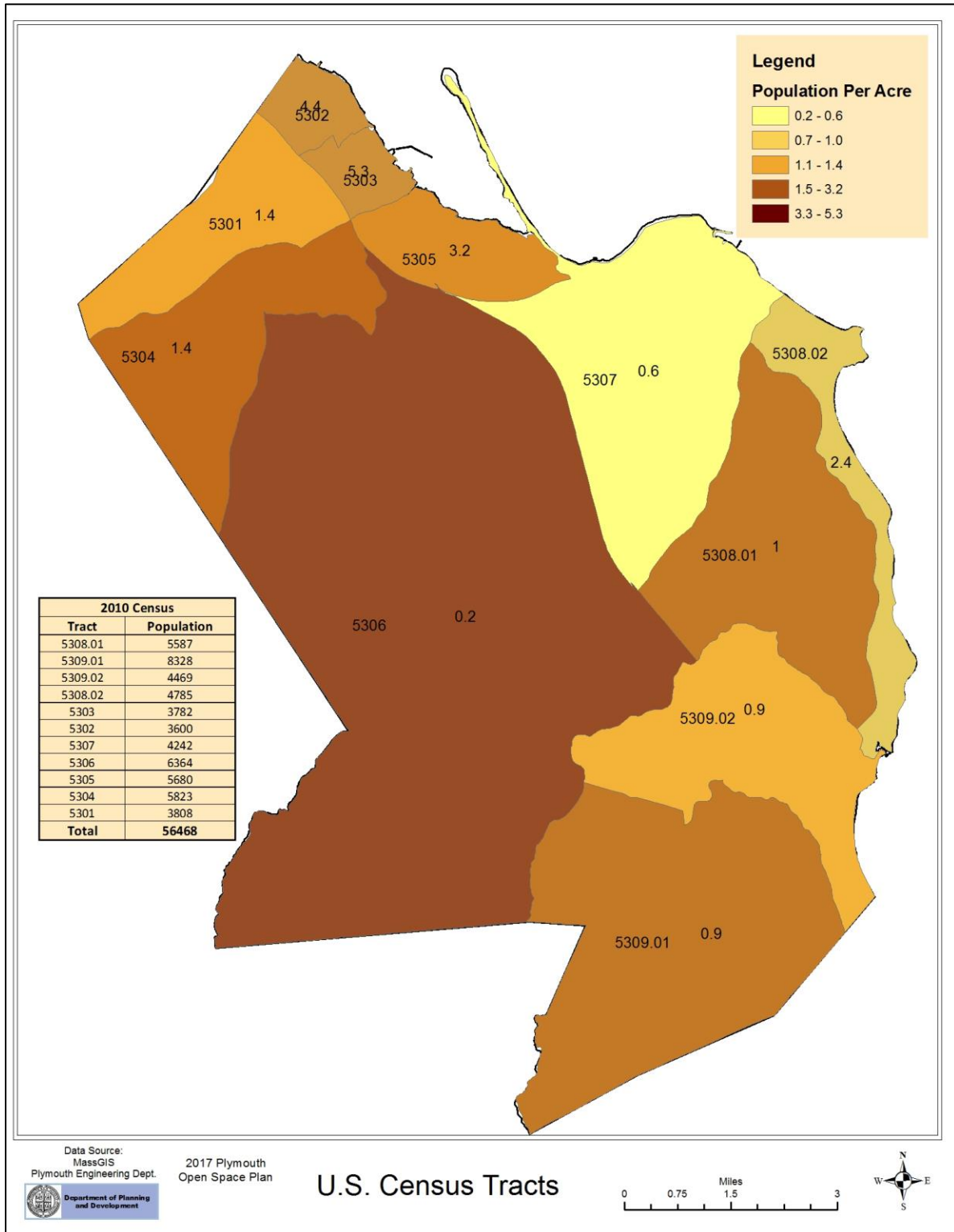
**Table 11 - Occupation of Residents**

<b>Occupation</b>	<b>2000</b>	<b>2015</b>	<b>Change</b>
Civilian employed population 16 years and over	27,104	29,409	8.5%
Agriculture, forestry, fishing and hunting, and mining:	176	109	-38.1%
Construction	1,988	2,209	11.1%
Manufacturing	2,070	2,229	7.7%
Wholesale trade	926	775	-16.3%
Retail trade	3,813	3,096	-18.8%
Transportation and warehousing, and utilities:	1,428	1,342	-6.0%
Finance and insurance, and real estate and rental and leasing:	2,419	2,152	-11.0%
Professional, scientific, and management, and administrative and waste management services:	2,456	3,455	40.7%
Educational services, and health care and social assistance:	5,484	6,905	25.9%
Arts, entertainment, and recreation, and accommodation and food services:	1,756	3,520	100.5%
Other services, except public administration	1,108	1,312	18.4%
Public administration	1,262	1,642	30.1%

Source 2000 & 2010 US Census & Executive Office of Labor and Workforce Development

Plymouth has an overall population density of 448 people per square mile. A breakdown of population densities by Census Tract (**Map 2**) shows that the two Census Tracts located in North Plymouth (5302 and 5303) have the highest densities at 4.4 people per acres and 5.3 people per acre respectively. The Plymouth Center area (Tract 5305) has the third highest density at 3.2 people per acre. At 1.4 people per acre the West Plymouth Tracts (5304 and 5301) represents the fourth highest density. These higher density tracts coincide with Plymouth's village centers. Tract 5306 which includes the Myles Standish State Forest has the lowest population density 0.2 people per acre.

**Map 2**



## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

There are two Environmental Justice areas (**Table 12 and Map 3a**) in Plymouth: Plymouth Center and in Manomet.

**Table 12 – Block Groups**

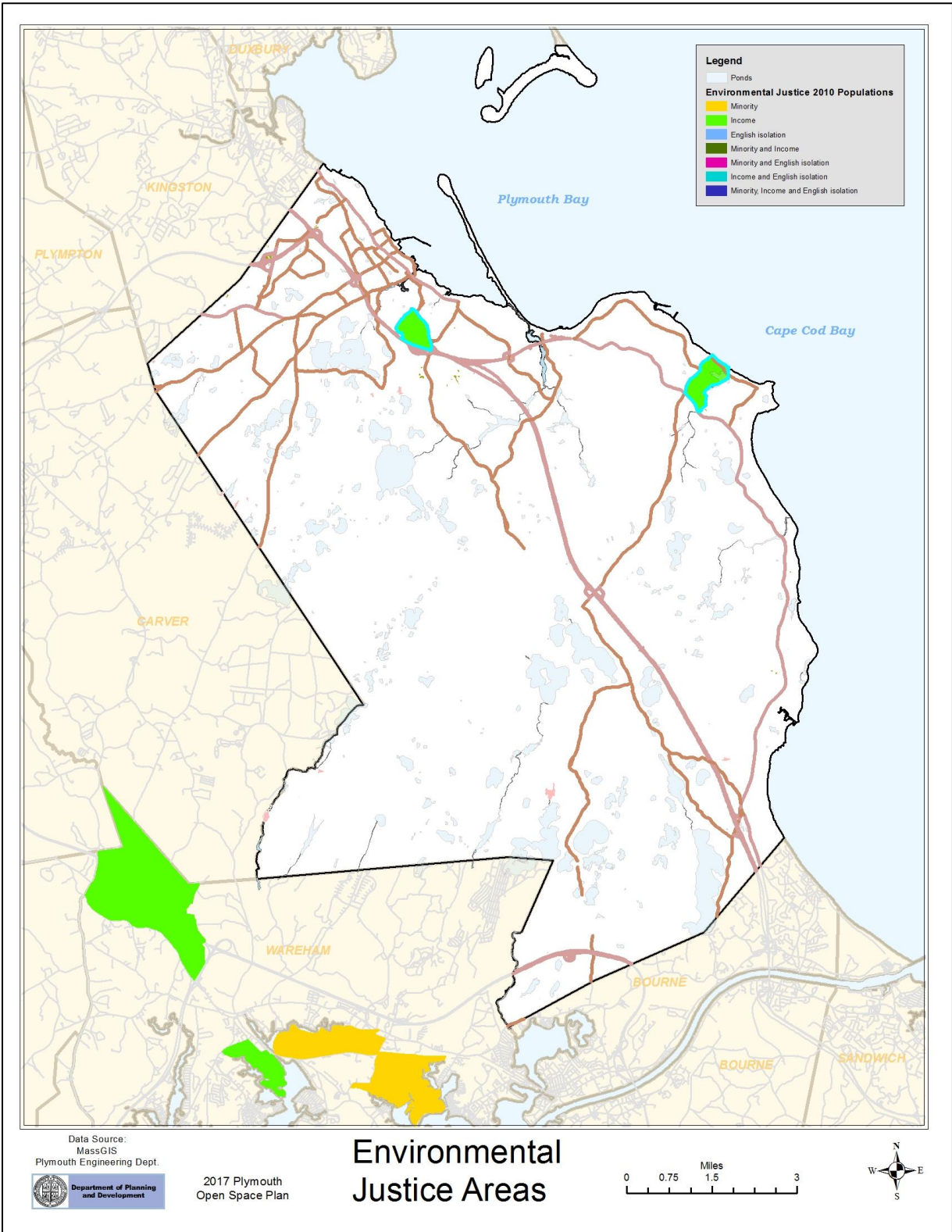
<b>Block Groups with 25% or more of household earn 65% or less than the median Massachusetts household income of \$62,072</b>	
<b>Census ID</b>	<b>Income</b>
250235305003	\$36,431
250235308021	\$32,969

These areas, depicted in Environmental Justice Map #3a, are due to household incomes that are 65% or less of the statewide median of \$62,072 (**Table 13**).

**Table 13 – Census Blocks**

<b>Area</b>	<b>Census Block Group</b>	<b>Track</b>
250235305003	3	5305
250235308021	1	5302

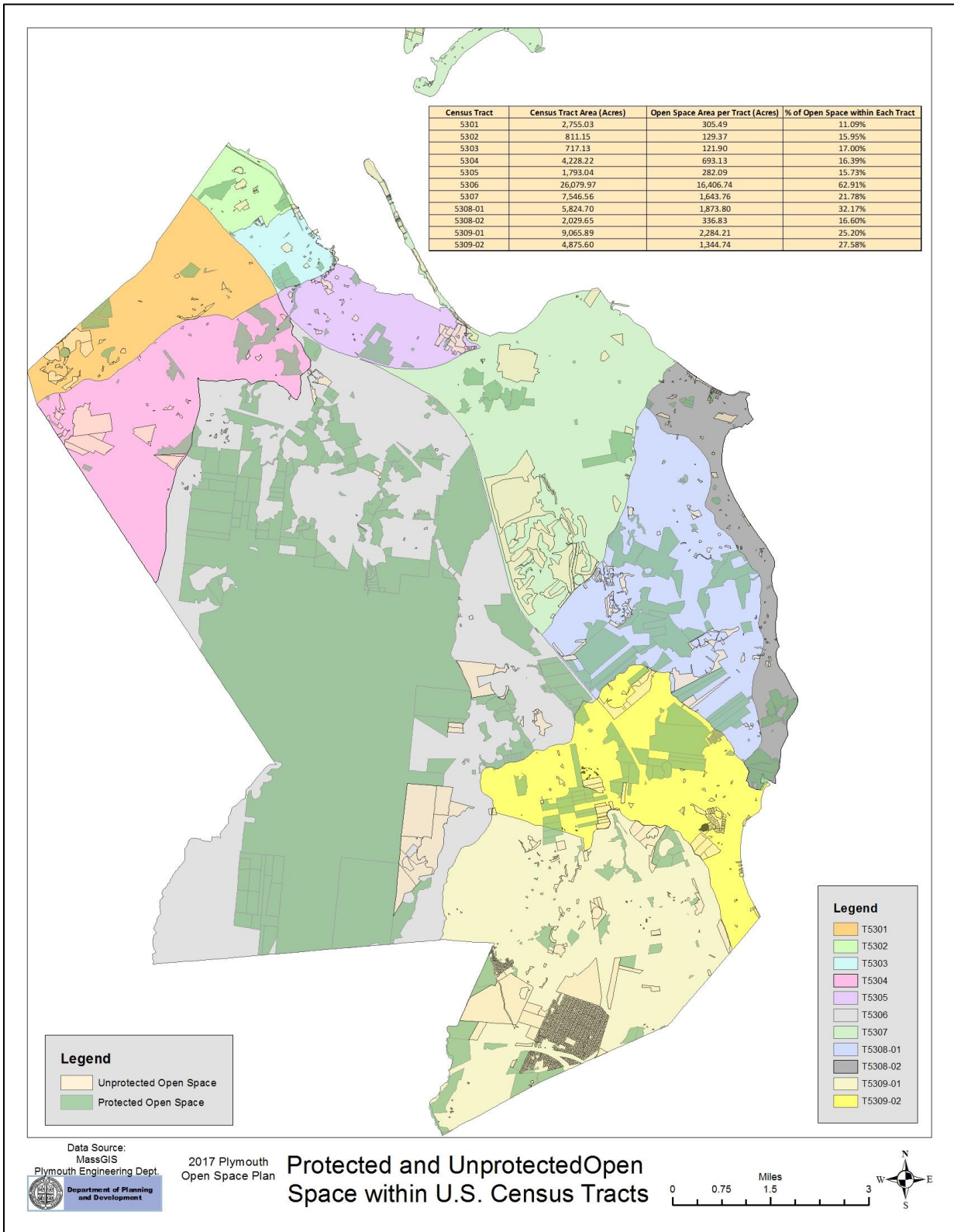
Map 3a



## Open Space within Census Tracts

The Town has 11 US Census Tracts. With the exception of Track 5306 (which includes the Myles Standish State Forest), open space is evenly distributed by track throughout the Town. The southern Census Tract (5308-1, 5308-2, 5309-1 and 5309-2) which include two Areas of Critical Environmental Concerns have slightly higher percentages of open space and the more urbanized areas (Tracts 5301 and 5302) have slightly lower percentages. Map 3b identifies the 11 Tracks and open space. The table included within the map provides a breakdown of open space in each Track and the percentage of open space per acre of land.

Map 3b



## **Growth and Development Patterns**

### ***Patterns and Trends***

Southeastern Massachusetts is the fastest-growing region in Massachusetts and one of the fastest-growing on the East Coast. Plymouth's population almost doubled between 1970 and 1980, and it grew another 26% during the 1980s. During the 1990s, growth moderated somewhat, but still increased another 13%. Since the 2009 Open Space & Recreation Plan, the Town has seen a more sustainable rate overall. In 2010 the population was 56,468 growing at a rate of 4% to a population of 58,763 in 2016. Based on current trends, regional planning agencies forecast consistent growth for at least 15-20 years. With residential parcels increasing at an average rate of 237 per year between 2010 and 2016, housing growth and values have outpaced business growth and values. The areas in red depict residential development growth occurring in years: 1990, 2000, 2010 and 2015 (**Maps 4a – 4d**).

Sprawling growth of single family homes on large lots brings higher costs in town services. Overall, residential development costs the Town \$1.14 for every \$1.00 in property tax collected. But averages disguise the difference between the costs of sprawl growth and smart growth. The average cost to service a single-family home in Plymouth's rural areas exceeded \$8,600 in Fiscal Year 2001, more than double the cost of servicing the higher-density homes in older village centers, where lot sizes are typically under ½ acre. Similarly, the average cost to service an "empty nester" (no dependent children) unit, such as at White Cliffs or the Pinehills, was roughly \$2,200, half the cost of higher-density village center development. A variety of factors contribute to these cost differentials. "Empty nester" homes cost less because these homes do not have school age children needing public school education. However, the differential between higher-density and large lot service costs relate more to infrastructure extension and maintenance costs. Currently, the average service costs are significantly higher than older rates, which were last estimated in 2001.

### ***Village Centers Plan***

In 1980, the Town of Plymouth released the Village Centers Plan, which established the boundaries of five village areas: North Plymouth, Plymouth Center, West Plymouth, Manomet, and Cedarville. The Village Centers Plan initiated Plymouth's efforts to encourage growth within the villages and restrict development in outlying areas. The 1980 plan stated that villages would develop uniquely but share common features. Each village would have a central village green and a central commercial and institutional core, surrounded by residential uses. The 1980 plan targeted infrastructure investments to villages, with limited extension of municipal infrastructure to rural areas. In 1999, the Town of Plymouth created a sixth growth area, the Pinehills. Rural areas are located outside of the villages. Rural areas are Federal Furnace, Bourne Road, and Ellisville.

Over the past 25 years, Plymouth has taken several important steps to implement the vision established in the Village Centers Plan. The town established a 3-acre minimum lot size for the Rural Residential Zoning District and created several cluster development types that allow flexibility in the design and creation of permanently-protected open space. The town also created a Transfer of Development Rights system to protect natural resources and set aside land for future municipal uses.

In 1998, as an interim measure, Plymouth established a building cap, limiting residential permits

to 155 annually; it expired in 2011.

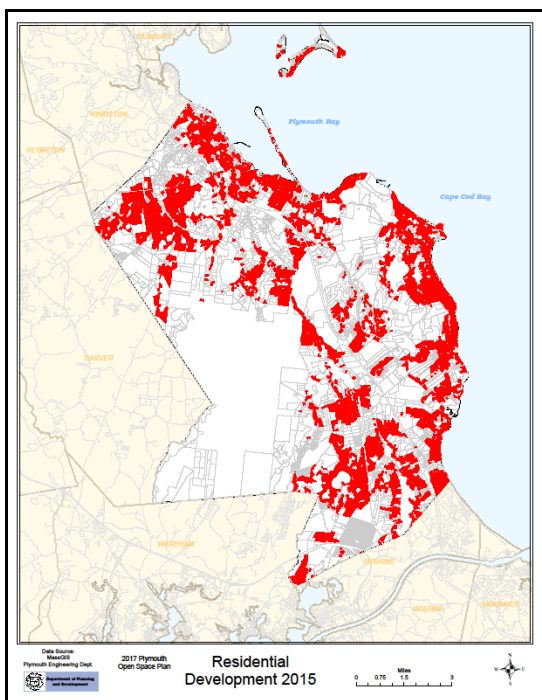
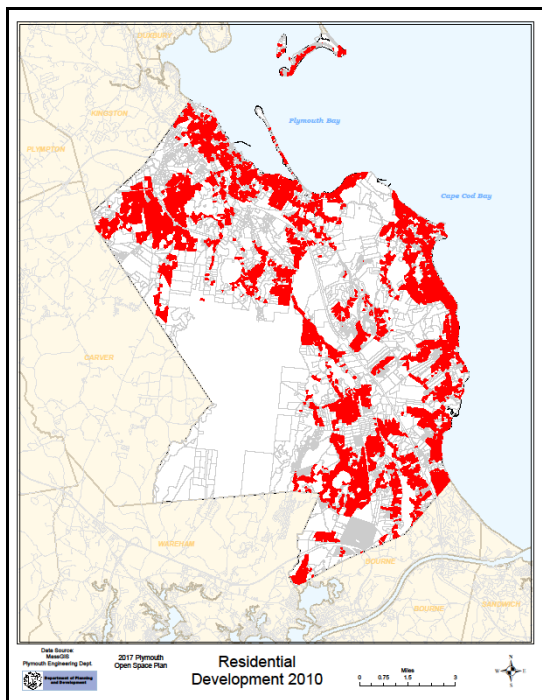
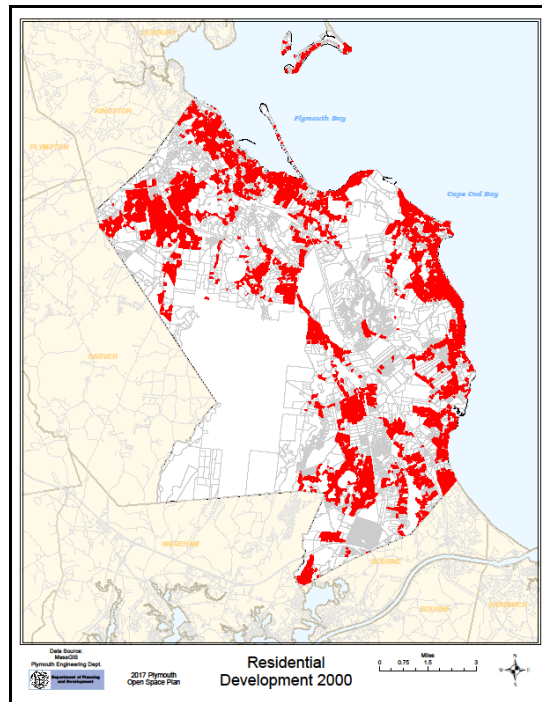
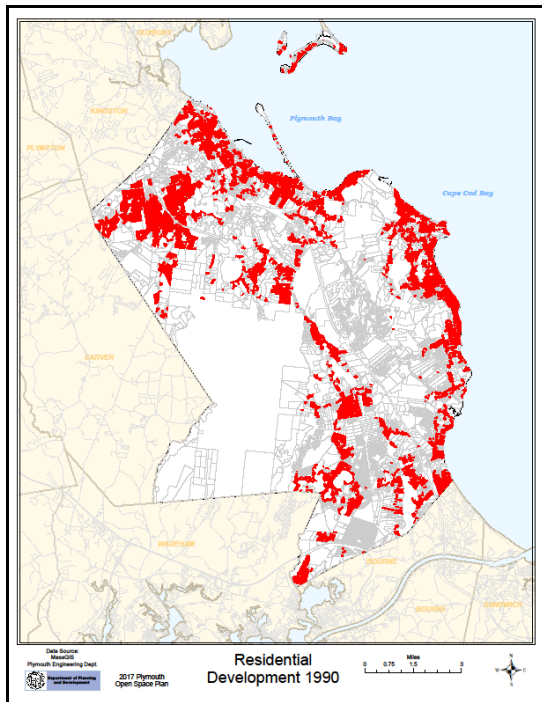
However, these land use policies have been less effective than hoped. Since 2010:

- Most of the new housing constructed in Plymouth has been single family homes;
- Sixty percent (60%) of all single-family homes have been built outside of the villages;
- Approximately 700 new single-family homes have been constructed on 300 acres of land.
- Average lot size has been reduced to 0.5 acre.

As housing development has spread outward from the Boston area, Plymouth's combination of beaches, open space, developable land, and relatively affordable housing prices have put the town near the top of the list in the number of new housing units produced in Massachusetts cities and towns.

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**Map 4(a-d)**



### ***Infrastructure***

According to the Town of Plymouth's updated Pavement Management Program report, prepared by BETA Group, dated January 2016, the Town contains 570.80 miles of roadway; 38% of roads are Town-owned, 49% are private, and 13% are State-owned. Plymouth owns approximately 200 miles of paved roads and 18 miles of gravel and stone roads. Few roads outside of Plymouth Center and North Plymouth have sidewalks.

Approximately 242 miles of road have received some form of attention, ranging from crack seal repairs to full reconstruction while maintenance along 49 miles of street surface was deferred. Plymouth performs annual inspections and updates of its roadways in keeping the Pavement Management System (OMS) current.

The Highway Division is responsible for maintenance of Town roads and for limited maintenance and repairs on private roads. Work includes plowing, sanding, minor patching, and re-surfacing. The Division also spends significant time dealing with repetitive maintenance filling and leveling of gravel roads.

Plymouth plans to earmark \$6 million dollars in FY2018 as a Road Improvement Initiative. Plymouth currently spends \$1.5 million per year on infrastructure upgrades, along with an additional \$1.5 million in State Chapter 90 funds.

Dams on Town Brook were analyzed and two dams have been removed. Other town dams are generally sound and will be left in place for the time being.

### ***Water Infrastructure***

The town continues to follow the recommendations of the Water Supply Master Plan prepared by Wright-Pierce, last updated in April 2006. The Water Plan projects the need for additional wells, pumps and other infrastructure to meet the expected water demand through 2025. Approximately 14,000 service connections have been established to date.

### ***Sewer Infrastructure***

The Sewer Division operates and maintains the Town's sewer collection and treatment infrastructure. Plymouth has 50 miles of sewer mains that collect and transport sewage to the new treatment plant behind the Camelot Drive Industrial Park. There are approximately 3,280 user accounts as of March 2017. The system serves the most densely developed portions of the town (about 10% of all homes) and certain major industrial and commercial facilities. The area includes everything north of Samoset Street and west of Route 3 (plus Cherry Street Industrial Park), east of Route 3 and south along Route 3A to Timothy Lane and Beth Israel Deaconess Hospital, and west along Long Pond Road to Plymouth Community Intermediate School (PCIS).

There are ten small-scale sewage treatment plants, often called "package plants" and "small community systems," now licensed and operating in Plymouth as follows:

- Plymouth South High School/Middle School—This system is designed for 40,000 gallons per day and has had a nitrogen removal upgrade.
- Pinehills—Plant for treating sewage for 3,000 homes.

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

- White Cliffs
- Marc Drive
- Ocean Point, Taylor Avenue
- Brookdale Plymouth Beach Senior Living Center, Warren Avenue
- Plymouth Municipal Airport—This system is designed for 40,000 gallons per day.
- Entergy Power Plant
- AD Makepeace - Red Brook
- Village Crossing

Such plants represent a viable way to prevent water pollution in discrete geographical areas because they can achieve cleaner discharge levels than individual "Title V" septic systems, which do nothing to remove nitrogen and phosphorus, the two main by-products of the septic system process that degrade water quality.

### ***Non-vehicular Transportation***

Sidewalks exist in many neighborhoods located within Plymouth's villages. In addition, other non-vehicular transportation options include:

- The 0.7-mile Seaside Rail Trail connecting North Plymouth to Downtown Plymouth,
- The Waterfront walkway connecting the Rail Trail to Plymouth's historic waterfront and Brewster Gardens,
- The Town Brook walkway connecting Brewster Gardens to Morton Park,
- An Extensive network of trails located throughout the Town, and
- Many miles of trails for bicycling, cross country skiing, snowshoeing and hiking within Myles Standish State Forest and the many conservation areas.

In addition, as noted on page 36, the Town has adopted a Complete Streets policy and continues to install sidewalks and bicycle lanes whenever possible.

### **Long-term Development Patterns**

#### ***Existing Distribution of Uses***

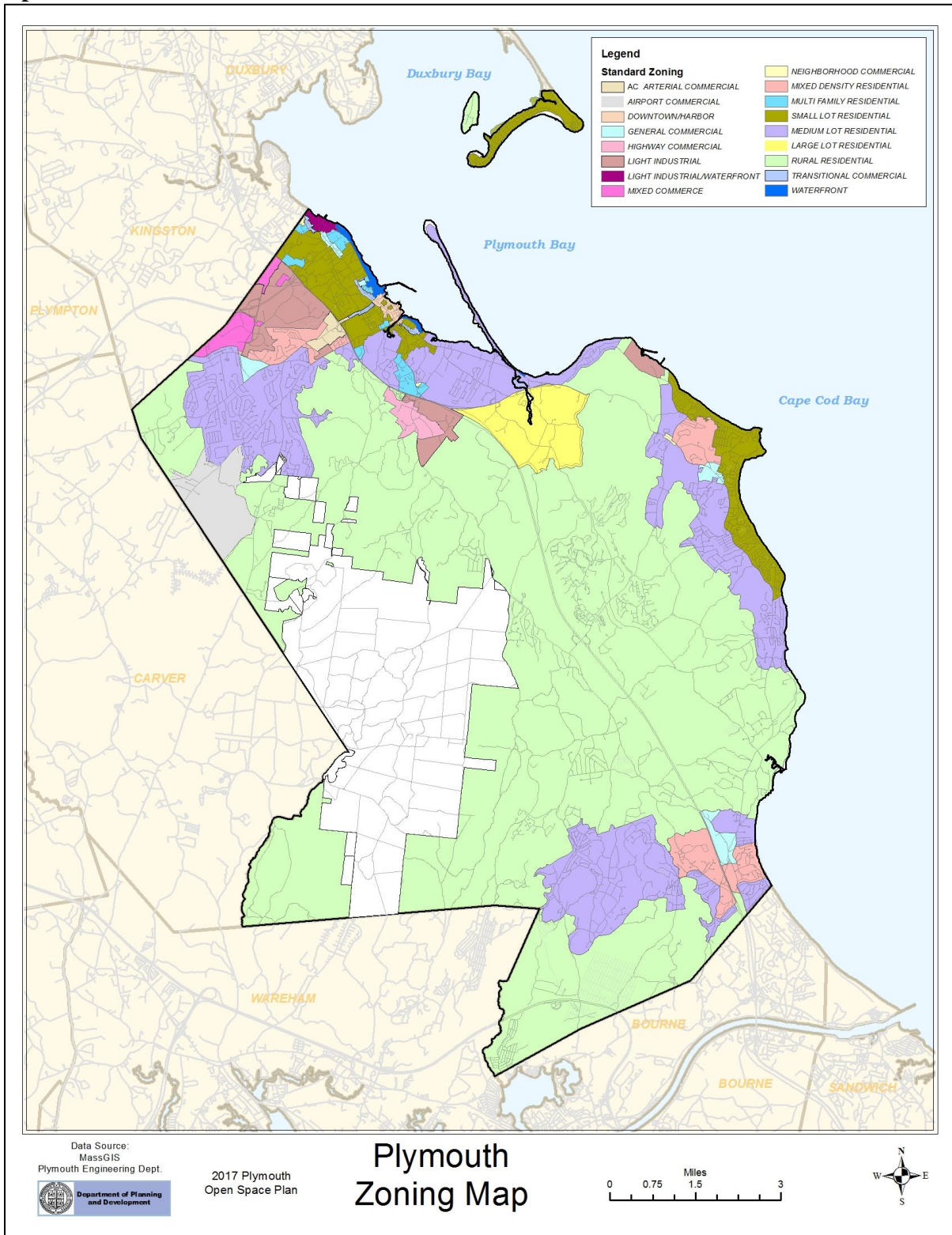
Plymouth has +/-65,920 acres of land, including surface water and road rights-of-way. Twenty-seven percent (27%) is developed. Of that, twenty-one percent (21%) is residential, just over 5% is commercial and industrial, and 3% is occupied by nonprofit uses. Seventy-three percent (73%) of Plymouth is undeveloped. Thirty-nine percent (39%) of Plymouth land is publicly-owned property and protected open space. Myles Standish State Forest, a 12,500-acre area owned by the Commonwealth of Massachusetts, represents about half of the publicly-owned property. Eighteen percent (18%) of Plymouth properties are privately held in Chapter 61, 61A, and 61B uses. These are privately-held lands currently utilized for agriculture, forestry, and outdoor recreation. However, they could be sold or converted to other uses in the future. Almost 11% of town land is vacant. Of this land, 8% is in a residential zone and almost 3% is in a commercial or industrial zone. Together, Chapter 61 properties and vacant residentially-zoned land constitute one third of the town's land area. These properties are of particular importance because they could potentially be developed with additional housing.

The Town's zoning (**Map 5**) has the following basic features:

- Zones to accommodate the Village Center concept by providing for a compact commercial center in the central areas of each village, and allowing high- and medium-density residential development in areas surrounding the General Commercial (GC) zones. Smaller Neighborhood Commercial (NC) zones within village residential areas are also provided to meet the needs of established residential areas;
- Arterial, Mixed Commerce and Highway Commercial Districts accommodate automobile-oriented commerce (shopping centers and regional scale commercial uses);
- Industrial zones for large-scale and smaller light industrial uses, including an airport zone at the Plymouth Airport. In addition to privately-owned land within the Airport District, Plymouth Airport consists of almost 770 acres total with 541 acres within the Town; approximately 120 acres of vacant land are still available for lease;
- Mixed-use zones such as the Downtown/Harbor District, Light Industrial/Waterfront District, and Waterfront District, all of which can support commercial and residential uses, including a significant amount of new multi-family residential uses; and
- Rural Residential Zones to minimize densities and concentrations of development outside of the village areas.

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**Map 5**



Approximately 60% of all new residential development is occurring in rural residential districts. Without significant zoning changes, single family detached housing is likely to continue to

dominate the Plymouth landscape. There are currently over 18,000 acres of developable land in zones which allow single family construction and less than 50 acres of developable land in areas which allow 2-3 family or multi-family uses (**Map 6**). Between 2010 and 2016, Plymouth issued approximately 960 single family home permits. Plymouth's current average single-family household size is 2.27 people per household.

The current zoning scheme also seeks to encourage smart growth and resource protection through a variety of mechanisms, including:

- Aquifer Protection Overlay District (use and density limits);
- Adequate facilities controls for accommodating growth within village service areas;
- Flood Plain Overlay Zone;
- Buttermilk Bay Overlay District (density limits);
- Rural Density Development option (open space development incentives);
- Village Open Space Development option (open space development incentives);
- Wetlands Overlay District (buffering/resource protection);
- OSMUD (open space, mixed-use development—the Pinehills);
- Recreational Development Overlay (recreational amenity/preservation incentives);
- Transferable development rights between parcels (rather than between large; designated sending and receiving zones);
- Miscellaneous regulations to limit specific uses, such as telecommunications towers, adult uses, a night sky protection initiative, etc.;
- TRVD (Traditional Rural Village Development- Redbrook); and
- CPSGD (Cordage Park Smart Growth District- 40R).

Prepared by Office of Planning & Development  
Town of Plymouth, Massachusetts

**Legend**

type

- Commercial
- Mixed Use
- Residential

[illegible]

Since the last Open Space Plan update in 2010, Plymouth has grown by approximately 3,250 people. Based on projections provided by both the Massachusetts Executive Office of Environmental Affairs and the Metropolitan Area Planning Council (MAPC), estimates of Plymouth's population growth range from 6% to 17%. In 2010, Plymouth's population was 56,468 with projections for 2020 ranging from 60,161 to 67,778. This wide range is reflective of the different criteria used in each study. The MAPC projections also include housing unit increases by 8-14% from 2010 to 2040.

### ***Land Available for Development***

Plymouth has a significant amount of open land (+/-18,000 acres) which could, under current zoning, be developed into large-lot single family housing. In fact:

- Thirty-four percent (34%) of Plymouth's total land area could be developed for new housing; and
- Eighty-eight percent (88%) of this developable land (28% of Plymouth's total land area) is located within the large-lot, Rural Residential zoning district.

Potentially developable land includes currently vacant properties as well as parcels which could be converted to residential development. For example, thousands of acres now used for agriculture, forestry, and outdoor recreation lie within zones which permit residential development. These properties are temporarily protected under Massachusetts General Laws, Chapters 61, 61A, and 61B, however; unless these properties are permanently protected, they could be converted to residential use. Land farmed by cranberry farmers presents unique challenges, particularly when fluctuating prices for cranberry crops put economic pressure on growers to sell their land. However, creative permitting has allowed for some grower/developers to develop portions of their property while permanently protecting other areas, such as A.D. Makepeace's Redbrook Master Planned Community. The Makepeace property is located in the Rural Residential District with some of it located within remote sections of Plymouth where no public services exist. The master plan clusters the development within a village setting with services on approximately 400 acres while preserving over 1600 acres of conservation lands in perpetuity.

Since 2010, 697 new homes have been built on 330 acres of land. A portion of this land is fragile Pine Barrens, a globally rare ecosystem. More sprawling development is likely to deplete the water table, increase pollution of ponds and streams, contaminate the aquifer, and require more suppression of the natural cycles of wildfire essential to this ecosystem. More houses create more demand to pave rural gravel roads, resulting in higher speeds and more traffic. Globally-rare coastal plain ponds situated in the Pine Barrens are likely to be negatively impacted by further development.

## **Transportation**

### ***Non-vehicular Transportation***

Plymouth has adopted a Complete Streets Policy (voted in 2013) whose sole purpose is to accommodate all users by creating a road network that meets the needs of individuals utilizing a variety of transportation modes. It is the intent of the Town to formalize the plan, design, operation and maintenance of streets so that they are safe for all users of all ages and abilities as a matter of routine. These policies direct decision-makers to consistently plan, design, and

construct ways to accommodate all anticipated users with an emphasis on pedestrians, bicyclists and horseback riders.

### ***Core Commitment***

The Town of Plymouth recognizes that all users of all modes, including, but not limited to, pedestrians, cyclists, horseback riders, transit and school bus riders, motorists, delivery and service personnel, freight haulers, and emergency responders, are legitimate users of streets and deserve safe facilities. “All Users” includes users of all ages and abilities. Projects comprising as new, maintenance oriented, or reconstruction, are included as opportunities to implement Complete Streets design principles. The town will, to the maximum extent possible, design, construct, maintain, and operate all streets to provide for a comprehensive and integrated street network of facilities for people of all ages and abilities.

### ***Best Practices***

The Town of Plymouth’s Complete Streets Policy focuses on developing a connected, integrated network that serves all road users. Complete Streets will be integrated into policies, planning, and design of all types of public and private projects, including new construction, reconstruction, rehabilitation, repair, and maintenance of transportation facilities on streets and redevelopment projects.

Implementation of the Plymouth’s Complete Streets Policy will be carried out cooperatively within all departments within the town with multi-jurisdictional cooperation, to the greatest extent possible, among private developers, and state, regional, and federal agencies.

The Town of Plymouth recognizes that “Complete Streets” may be achieved through single elements incorporated into a specific project or incrementally through a series of smaller improvements or maintenance activities over time.

Complete Streets principles include the development and implementation of projects in a context sensitive way project implementation is sensitive to the community’s physical, economic, and social setting. The context sensitive approach to process and design includes a range of goals by considering stakeholder and community values on a level plane with the project need. It includes goals related to livability with greater participation of those affected to gain project consensus. The overall goal of this approach is to preserve and enhance scenic, aesthetic, historical, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.

The latest design guidance, standards, and recommendations available will be used in the implementation of Complete Streets including, but not limited to:

- The National Association of City Transportation Officials (NACTO) Urban Street Design Guide and Urban Bikeway Design Guide.
- Documents and plans created for Plymouth, such as bicycle and pedestrian network plans.

Project selection criteria will be consistent for multi purposed pathway and pedestrian projects

utilized by the Town of Plymouth Department of Public Works:

- To point of destinations – A project will alleviate the problem and the facility will be part of an existing multi or walkway network and link, complete, or extend systems.
- Reason to come – The purpose of the non-vehicular link is to provide pedestrian links to destinations including transit stops shopping centers, playgrounds, open space and pedestrian oriented destinations.
- Highly populated area – The non-vehicular infrastructure can serve highly populated areas while providing a positive impact to motorist ways.

### ***Goals***

- Improve pedestrian and bicycle connections from residential neighborhoods to community centers, parks, ponds, and open space with bike lanes, sidewalks, and hiking /biking trails.
- Reduce vehicular traffic and the Town's carbon footprint.
- Implement a pedestrian and bicycle connection from the West Plymouth Village Center to Plymouth's Airport Complex.
- Improve pedestrian and bicycle access from Downtown to Morton Park and Myles Standish State Forest.
- Promote physical and social connections between neighborhoods such as sidewalks, bike paths, and trails.

### ***Policies/Actions***

- Identify potential routes for trail connections and enhance existing trails.
- Approach land owners for potential access easements that link trails.
- Organize groups to seek opportunities and support fundraising for trail establishment, maintenance and construction.
- The Town of Plymouth will maintain a comprehensive inventory of pedestrian and bicycle facility infrastructure that will prioritize projects to eliminate gaps in the sidewalk and bikeway network.

### ***Evaluation of Effectiveness***

Complete Streets implementation and effectiveness should be constantly evaluated for success and opportunities for improvements. The Director of Public Works and/or designee will develop performance measures to gauge implementation and effectiveness of Complete Streets policies using appropriate measures of effectiveness, which may include:

- Linear feet of new bicycle accommodations.
- Linear feet of new or rehabilitated pedestrian facilities.
- Improved Level of Service (LOS) for vehicles, public transportation, pedestrians, bicyclists and equestrians.
- Crash rates by mode of Transportation.
- Rate of children walking or bicycling to school, and/or number of trips by mode.

***The Future: Sprawl or Smart Growth***

Sprawl is a development pattern that is characterized by low-density residential development, exclusive reliance on automobile transportation, and rapid annual rates of land consumption.

- Sprawl depletes natural resources by fragmenting forests, destroying habitats, and increasing air and water pollution. Sprawl relies upon continuous extensions of infrastructure into rural areas with resultant increases in municipal service costs.
- Sprawl degrades water resources by increasing paved areas, limiting groundwater recharge, and increasing non-point source pollution. The septic systems of single family detached homes disperse pollutants over wide areas, making pollution management inefficient and largely ineffective. Continuation of sprawl development in Plymouth will mean loss of open space and rural character, reduction of critical habitat for rare species, encroachment on sensitive natural resources—*especially water*—and increase in traffic congestion. It will also undermine the village center concept by making the least, not the most, use of existing infrastructure.
- Sprawl is costlier to Plymouth taxpayers, because dispersed single-family houses on large lots cost more in town services than they provide in taxes. In 2000, the Town of Plymouth commissioned RKG Associates to conduct an economic development and cost of community services study. The study found that 56 % of municipal costs are associated with single-family dwellings. By contrast, smart growth emphasizes mixed-use development in existing village centers, increased residential density, and minimal extension of new infrastructure. Smart growth will preserve Plymouth's open spaces, facilitate greater diversity of transportation and housing options, and encourage the preservation of the town's historic and cultural character. It emphasizes infill development, adaptive reuse, and appropriately-scaled vertical growth. Smart growth maximizes the value of existing developed areas for economic opportunity before opening new greenfield areas. When development does occur on open lands, smart growth emphasizes the use of cluster zoning and small residential lots to protect natural resources and minimize infrastructure costs.

**Massachusetts Executive Office of Environmental Affairs (EOEA) Buildout Analysis**

In the late 1990's, (EOEA) developed buildout analyses and maps for all of the cities and towns in Massachusetts. These buildout studies showed what each town would look like if it fully developed its land according to existing zoning. EOEA completed a buildout analysis for Plymouth in 1999. The EOEA Plymouth buildout study estimates 29,043 developable acres in 1999. This estimate excludes developed property, water bodies, and protected open spaces. The study is based on an analysis of 1999 zoning conditions and does not include a detailed analysis of natural features. Therefore, the EOEA estimate does not exclude wetlands (which are subject to permanent protections under the Wetlands Protection Act), Title V buffer areas around water bodies, or floodplains. Since these areas have statutory development restrictions, the EOEA estimate of developable property is somewhat overstated.

## **Community Data Profile**

This data profile includes summary statistics that are a component of a buildout map and analysis series. The analysis starts with available land in each zoning district and makes projections of additional housing units and commercial/industrial space according to each district's minimum lot size and other regulations. The projections only account for as-of- right development and do not include development by special or comprehensive permit that may increase the amount of development. These buildout projections were combined with 2000 Census and other data to create a profile of each community at buildout according to its current zoning (**Tables 14 and 15**).

### **ANALYSIS SUMMARY**

**Table 14 - Buildout**

<b>DEMOGRAPHIC PROJECTIONS</b>	
<b>RESIDENTS</b>	<b>BUILDOUT</b>
1990	45,608
Current (2016)	58,763
Buildout	105,424
<b>STUDENTS (K-12)</b>	
1990	7,672
Current	8,726
Buildout	17,680
<b>RESIDENTIAL UNITS</b>	
1990	15,875
Current	21,250
Buildout	41,147
<b>WATER USE (gallons/day)</b>	
Current	5,037,482
Buildout	12,250,544

**Table 15 - Buildout Population Impacts**

<b>BUILDOUT IMPACTS</b>	
Additional Residents	53,723
Additional Students (K-12)	8,954
Additional Residential Units	19,897
Additional Developable Land Area (sq. ft.)	1,265,111,859

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Additional Developable Land Area (acres)	29,043
Additional Commercial/Industrial Buildable Floor Area (sq. ft.)	42,451,287
Additional Water Demand at Buildout (gallons/day)	7,213,062
Residential	4,029,215
Commercial and Industrial	3,183,847
Additional Solid Waste (tons/yr.)	27,560
Non-Recyclable	19,598
Recyclable	7,962
Additional Roadway at Buildout (miles)	245

Of the 29,043 acres identified by the EOE, 28,668 are located within zones which allow residential development. Eighty-two percent of the available land is in the Rural Residential (RR) District, which has a minimum density of development of one unit per 120,000 square feet.

However, because the minimum lot size is so large, only 42% of projected new lots could be created in this zone, with the remaining 58% carved out of zones which have one-acre, or smaller, minimum lot size. In fact, the total number of potential additional lots in the expansive RR Zone is exceeded by the combined future lot count in the R-25 and R-20 Zones, which have about 1/4 of the land area of the RR Zones.

Due to the ever-growing development impacts, Plymouth's daily water demand of 4.33 million gallons per day (GPD) in 2016, including 519 thousand GPD for commercial uses, creates a high burden on the Town's Water supply.

Many of the potentially-developable properties are environmentally-sensitive lands which should be protected to maintain water quality, preserve natural habitats, and minimize additional forest fragmentation. The Rural Residential District has a significant amount of priority protection land which is vulnerable to development.

### **Village Center Summaries**

#### ***North Plymouth Center***

Since the acknowledged successes of the original North Plymouth Master Plan drafted in 1992 and with respect to the 2009 Open Space and Recreation Plan, significant changes to the area include:

- A façade improvement program has been initiated through the Department of Community Development.
- The North Plymouth Steering Committee provided input to Town officials in developing plans to enhance Veteran's Field and to reconstruct Cordage in a way that will not only preserve community character but will also create public waterfront access as part of that development.
- In 2013, the Community Preservation Committee (CPC) acquired the property at 308 Court Street to create a pedestrian park for passage from Court Street to Veterans Memorial Field. The .23-acre park is currently under construction and is anticipated to be complete in the spring 2017.

- The Cordage complex has successfully renovated and re-allocated uses within the mill complex, creating retail, office and marina uses while working on the larger goal of housing, a possible hotel, and enhanced commercial uses within the site.
- Nelson Park, an area linking Plymouth Center to North Plymouth, was renovated in 2010, greatly improving the access and amenities of this beachfront town property.

### ***Plymouth Center***

Recognizing the need to focus on the historic waterfront, the ***Plymouth Public Space Action Plan*** was drafted to feature national historic significance as a key feature of the community. This plan was prepared through the services of a private sector consultant who coordinated with Town officials and a volunteer Stakeholder Committee. Several outreach meetings and walking tours with the Stakeholders Committee took place as the plan was developed, and presentations to the greater community for feedback took place prior to the Plan's adoption by the Board of Selectmen in 2007. Many of the capital improvement projects identified in this study supplement the goals of connecting pedestrian access to the various open spaces within the downtown, which then in turn now link to open space features outside of the downtown area.

This plan examines the Downtown/Harbor District with the specific purpose of better connecting and enhancing the existing social, environmental, historic and economic fabrics of the community with the following four underlying goals:

1. Increase the economic vitality and business climate of Downtown and the Harbor;
2. Identify capital improvement projects that serve as investments to attract private development;
3. Increase the attractiveness of major public spaces; and
4. Broaden public awareness and historical interpretation of all Plymouth areas.

Since the last Open Space Plan update in 2010, the restoration efforts along Town Brook all have been successfully undertaken. This project included a comprehensive renovation of Brewster Gardens, new bridge installation at Water Street which allows for fish passage, removal of 3 dams along Town Brook, reconstruction of a fish passage at the Jenney Pond Gristmill, and improvements to the stream flow characteristics for habitat. The Town is currently in the removal process of the Holmes Playground Dam. In conjunction with this project the adjacent Newfield Street Bridge will be replaced as it is also a hazardous structure with limited fish passage. A new site design of the playground / skate park is proposed. Nelson Park (located in both Plymouth Center and North Plymouth) improvements have been successfully completed. The park contains a splash-pad and beach area, picnic areas with parking and access to the rail trail, which are widely used by residents and tourists.

In 2013, the Town of Plymouth voted to appropriate funds for the CPC to construct a new recreational park at Stephens Field. In 2014 the Department of Marine and Environmental Affairs managed the removal of the old DPW barn and soil remediation. Currently, the park plans are 75% percent complete. A Notice of Intent was recently approved by the Conservation Commission due to revisions to the plan. The changes and revised cost estimate will require additional funding to be appropriated before the park renovations can commence.

***Manomet***

The Town continues to discuss opportunities for land preservation by large property owners surrounding the village areas for conservation and recreation purposes. Approximately 1,500 acres of land surrounding Manomet have been placed into protective status since the inception of the original Master Plan along with 540 acres conserved since the 2009 Open Space and Recreation Plan update, and is consistent with the 2014 ***Manomet Village Master Plan***.

***Cedarville***

At the 2015 Fall Town Meeting, the Town voted to acquire 43.6 acres of open space situated between Little Herring Pond and Triangle Pond. This property is under the care, custody and control of the Conservation Commission for purposes of passive recreational use, the protection of priority habitats of rare species and the protection of the water quality of Little Herring, Carters Brook, Great Herring, Pickerel Pond and the Herring run accessing the Cape Cod Canal. Acquisition of this land will enhance the land conservation and water protection in the Great Herring Pond watershed. The Boy Scouts Camp Massasoit property, which consists of 211 acres, is being sold for residential development. The proposed development alternative includes the preservation of 153 acres of open space.

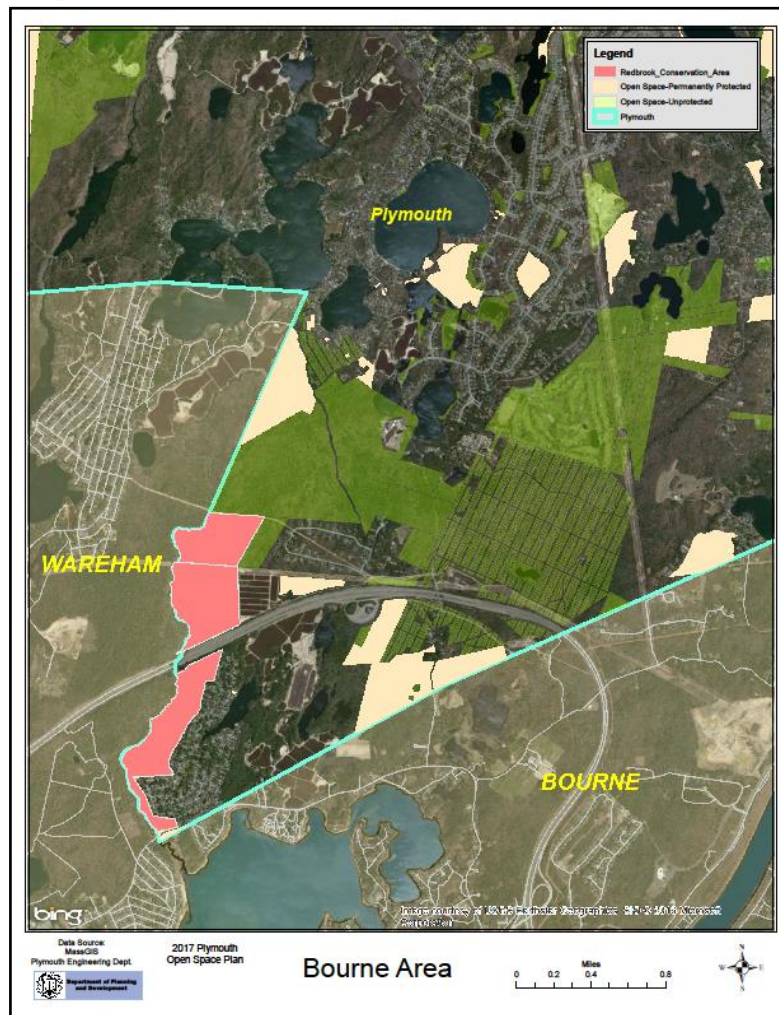
***West Plymouth***

With just over 10,000 people and 5,300+/- acres, West Plymouth is Plymouth's largest and most expansive village. Developed in the 1970s and 1980s as a residential suburb of downtown Plymouth; West Plymouth incorporated residential, commercial and industrial land uses that provide much of the Town's economic development with the Plymouth Industrial Park, the Airport, General and Arterial Commercial areas, as well as a Mixed Commerce area along Route 44.

The original West Plymouth Master Plan was created in 1993 with an amended version released late 2016. This update includes new core goals, a list of priority key actions and a proposed pilot project, all established by the West Plymouth Steering Committee. One of the key actions is to extend the Bay Circuit Trail that currently ends in Kingston through West Plymouth connecting to Myles Standish State Forest.

## Rural Area Summaries

Map 7a



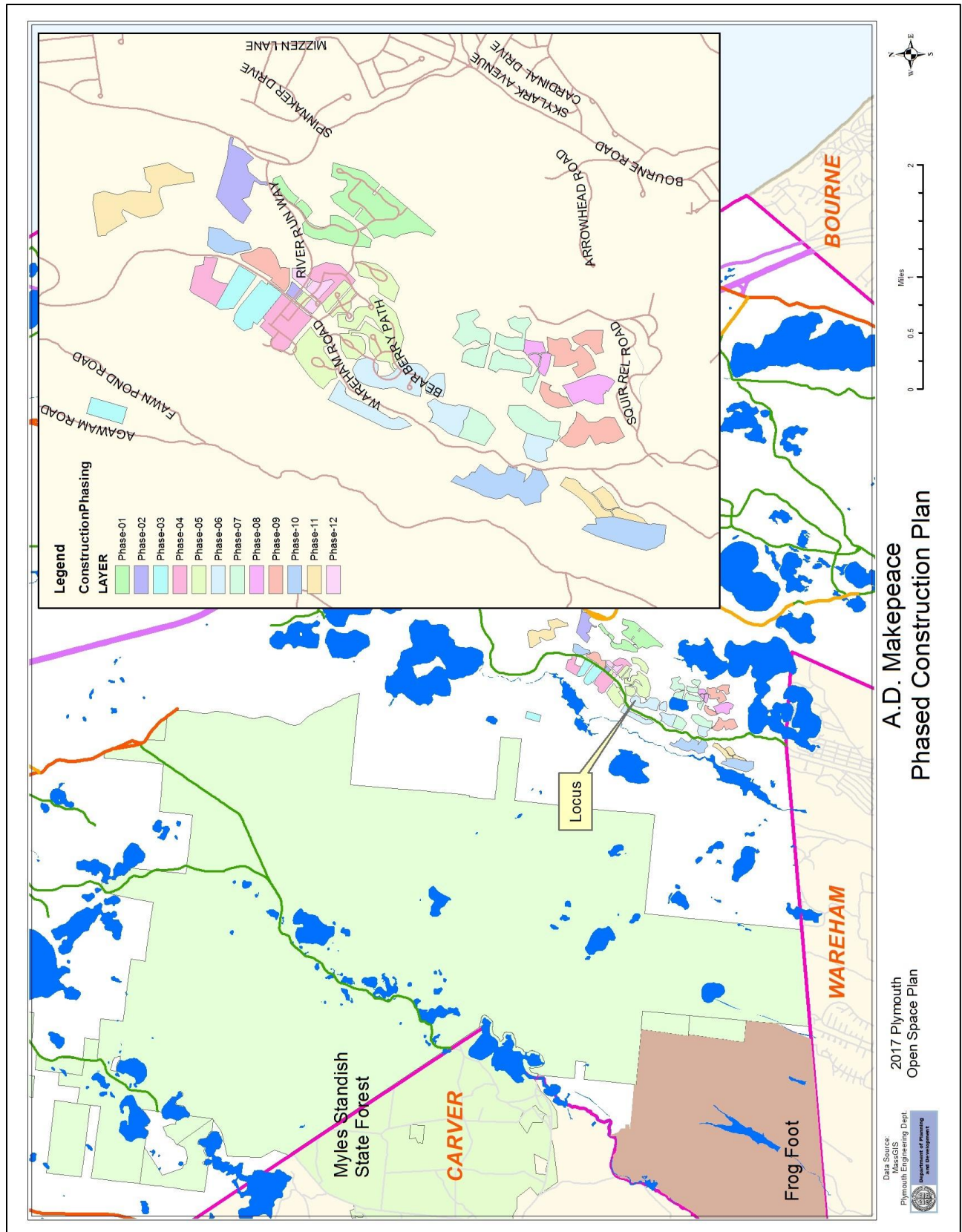
### ***Bourne Road Area***

An estimated 1,600 acres of land will be preserved, offering endangered species habitat and conservation land, along with walking trail links connecting Myles Standish State Forest to the Red Brook Conservation Area. (Since the last Open Space Plan update in 2010, the A.D. Makepeace ‘Redbrook’ (aka River Run) master planned community has constructed a portion of the village area- Use Area 1, which includes the Village Green, the Meeting House sales facility, Phase I of the YMCA and two residential neighborhoods containing 41 units. Use Areas 2 and 4 are under construction consisting of 165 single family residential homes within two neighborhoods. Very recently, A.D. Makepeace received permits to proceed with Use Area 5 containing 119 proposed single family residential home sites. Through the use of creative

zoning, River Run covers an estimated 959 acres of south central Plymouth, which allows clustered development up to 1,175 new dwelling units and 60,000 SF of commercially zoned areas, encompassing a minimum of 390 acres of developable land. There is potential for additional trails across land of A.D. Makepeace and the Wareham Land Trust in the abutting town of Wareham. The State has acquired the Red Brook Conservation Area in this region of Plymouth (**Maps 7a & 7b**).

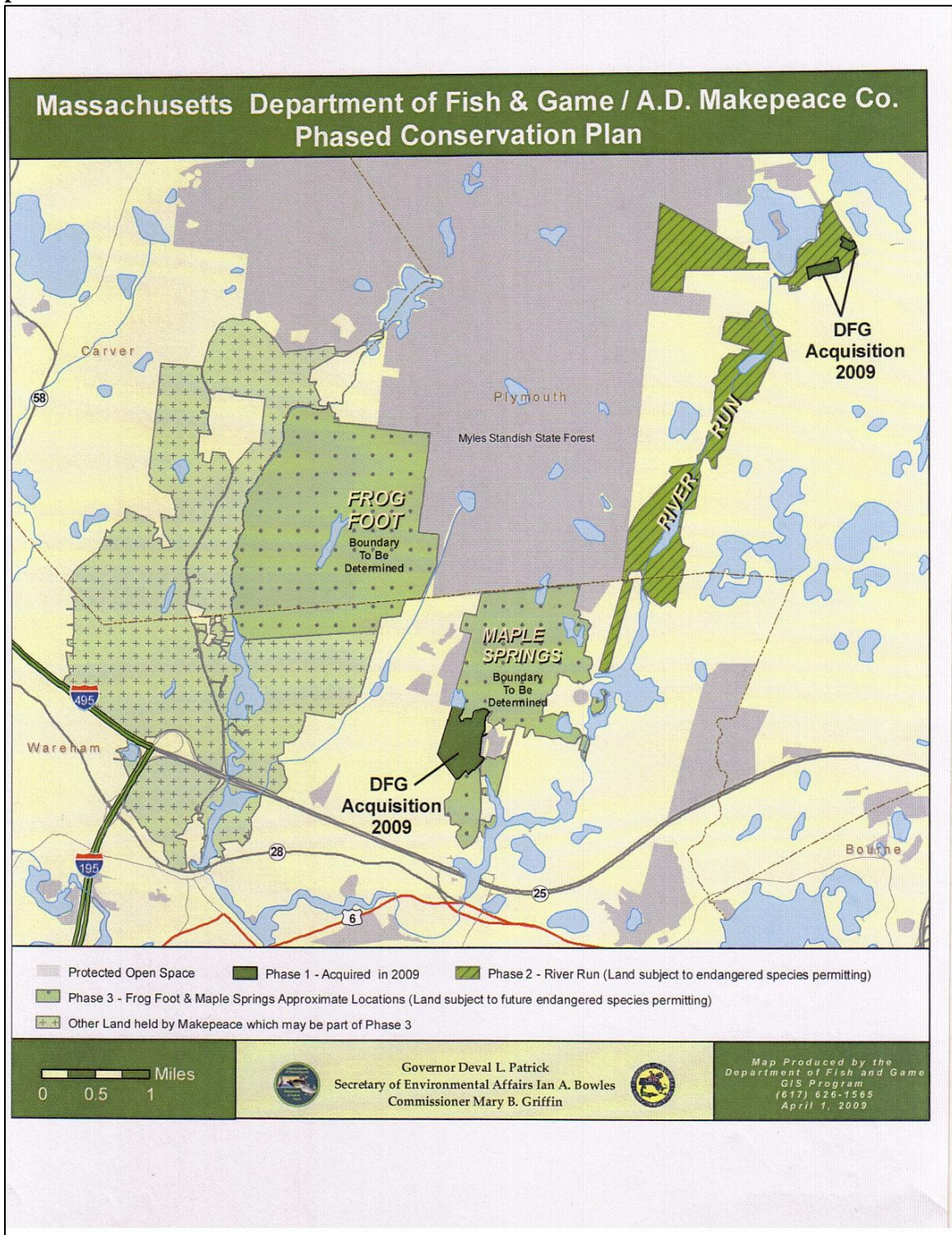
# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Map 7b



The following map (**Map 8**) depicts the State's land acquisition deal with A.D. Makepeace in April 2009.

**Map 8**



**Map 9**



### ***Ellisville Area***

Continue to look at open space acquisition possibilities to build on the existing Town open space (**Map 9**) located in this area which includes:

- The 760-acre Briggs Property (under Conservation Restriction) located off State and Old Sandwich Roads.
- A 188-acre parcel of Town-owned land located along Ship Pond Road and Old Sandwich Road and adjacent to property of The Wildlands Trust of Southeastern Massachusetts.
- The 98-acre Center Hill Preserve.

### ***Pine Hills Area***

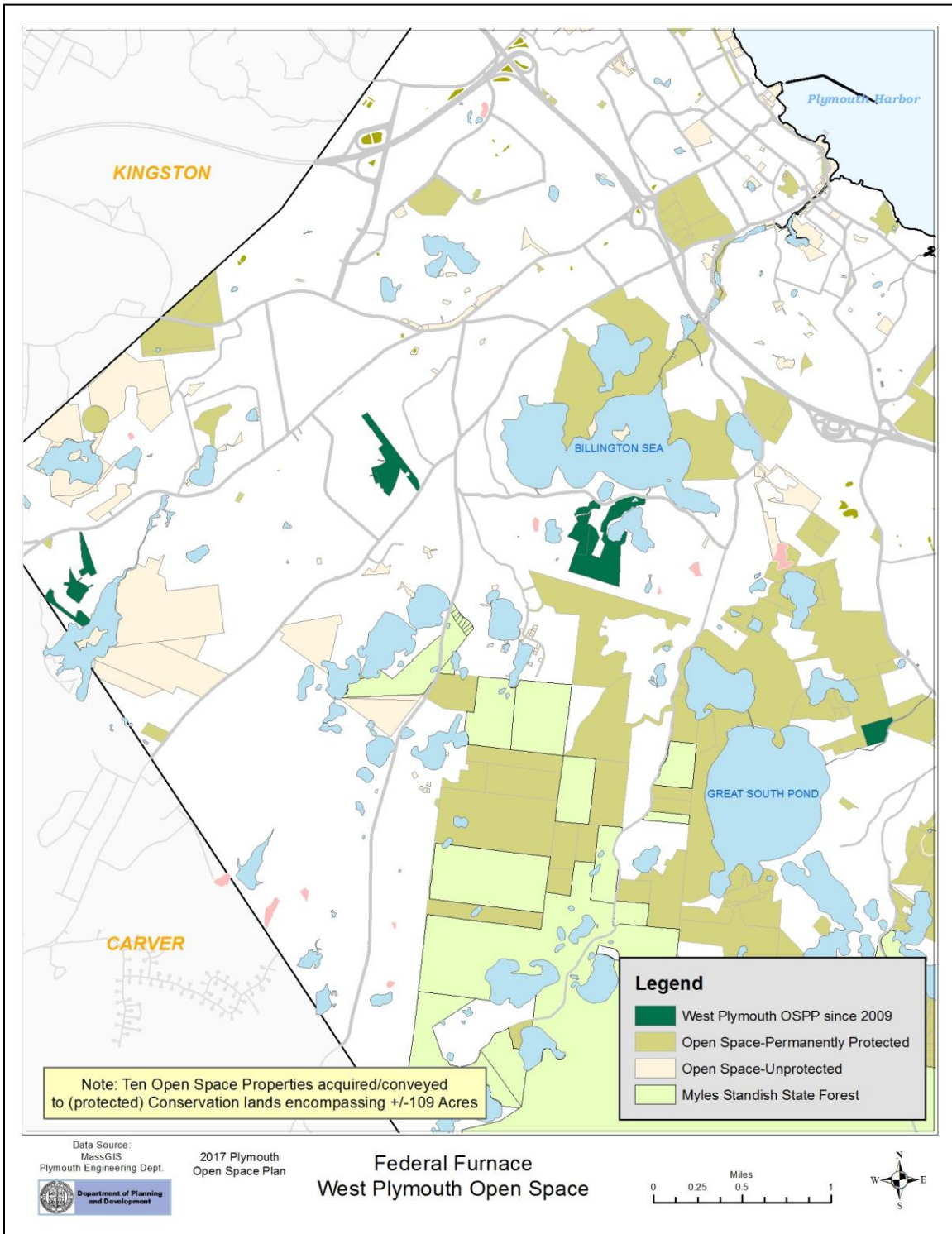
As of December 2016, the Pinehills Community has placed 1,444 acres of land within a Common Open Space and Facilities (COSF) Covenant with the Town of Plymouth as permanently protected open space. Overall,

Pinehills plans to preserve 2,279 acres. The overall community is permitted to build 3,065 residential units and 1,300,000 square feet of commercial development. Approximately 80% of the overall residential units are either sold, under agreement or rented; and 38% of the commercial development is currently built.

### ***West Plymouth – Federal Furnace Area***

With respect to the **2009 Open Space and Recreation Plan**, several open space and conservation activities have occurred. In 2015, Town Meeting voted to convey several tax title lands in West Plymouth, including 30 acres of common open space within the David Estates Subdivision and 14+ acres off South Meadow Road. Town Meeting also acquired 55 acres off Black Cat Road and 11 acres abutting the Town Forest through (CPC) funded initiatives (**Map 10**).

Map 10



## Section IV - Environmental Inventory and Analysis

### **Geology, Soils and Topography**

Outwash plains and moraines, particularly two southwest trending moraines in West Plymouth, are the predominant geologic features in Plymouth. During the Pleistocene Epoch which began approximately 2 million years ago, glaciers repeatedly advanced from the north. Evidence indicates that at least four advances and subsequent retreats occurred. The last glacial advance reached its maximum extent about 25,000 years ago, thereafter retreating to a position north of Boston by 14,000 years ago (Hansen and Lapham, 1992). The retreating glacier deposited the unconsolidated surficial deposits (sands and gravels) that comprise the Plymouth-Carver aquifer and characterize the geology of Plymouth (Hansen and Lapham, 1992). The Pine Hills of Plymouth, which are the high points in Plymouth's topography, visible from down Cape, are comprised of thin till deposits (mixed boulders to fines) underlain by glaciofluvial (glacial meltwater stream) deposits. The coastal area from White Horse Beach down to Manomet is primarily till deposits, making these areas unique among the geologic setting of the area (Hansen and Lapham, 1992).

Ninety to ninety-five percent of the Town of Plymouth is located on well-drained sandy Carver associated soils with an average depth to bedrock over 100 feet. Sandy soils allow for rapid infiltration rates that provide beneficial recharge to the Plymouth-Carver aquifer. These sandy soils also facilitate septic system installation in most areas of Plymouth, such that soil conditions do not limit new developments.

The entire Town consists primarily of six soil associations, as described below:

- The Carver-Gloucester association occupies 45 percent of the Town and is the most frequently occurring association in Plymouth. These soils typically cover moraine hills in southern and central sections of Town. Fifty percent of the association consists of Carver soils, forty percent consists of Gloucester soils, and ten percent consists of small patches of wet Enfield soils. The coarse sandy underlying material is where Plymouth's extensive sole source aquifer is located.
- The Carver-Hinckley association is the second most frequently occurring association occupying 28 percent of the Town. The association can be found in the northern and southern sections of Plymouth. Eighty-five percent of the association consists of Carver soils. Five percent of the association consists of Hinckley soils and the remaining ten percent consists of Muck and Peat soils found in kettle hole depressions. Cranberry bogs can often be found in these kettle hole areas.
- The Carver-Merrimac association can be found on twenty percent of the Town. Areas with this association are scattered throughout the Town. However, they are most common in the southwestern section of Plymouth. Ninety percent of this soil

consists of Carver soils. Five percent of the soils are Merrimac soils. The remaining area consists of Muck and Peat soils found in depressions and potholes.

- The Sanded Muck-Scarboro-Peat association can be found on five percent of the land in Town. This association is found in low lying areas such as streams and brooks. Approximately 65 percent of the soils are Sanded Muck. Ten percent are Scarboro soils and ten percent are Peat soils.
- The Dune Land-Coastal Beach Association occupies slightly more than one percent of the Town, consisting of coastal beaches. These areas are constantly shifting due to wave action.
- The Essex-Scituate association also occupies approximately one percent of the Town. These soils are stony, well drained soils that are typically associated with high water tables.

Plymouth is a relatively low-lying community, with most of the town between zero elevation and two hundred feet above sea level. West of the near coastal areas, the town is pocked by kettle hole ponds, which intercept the ground water table and provide a well-used recreational outlet for adjacent residents.

### **Landscape Character**

Many diverse natural landscapes are found in Plymouth. This diversity is due in part to the sheer size of the Town (103 square miles), its coastline, its predominately sandy soils, and its undulating terrain.

Plymouth has approximately 36 miles of coastline. Of this, a major portion of the coastline possesses limited access to many Plymouth residents, primarily due to two factors. The first is the limited amount of publicly owned coastal land (Long Beach near Plymouth Center, White Horse Beach in Manomet, Plymouth Rock State Park in Plymouth Center, and Ellisville Harbor State Park in Ellisville). The second factor is the geography of the coastline. Plymouth is known for its coastal bluffs, which exceed 150 feet in some locations, making beach access almost impossible.

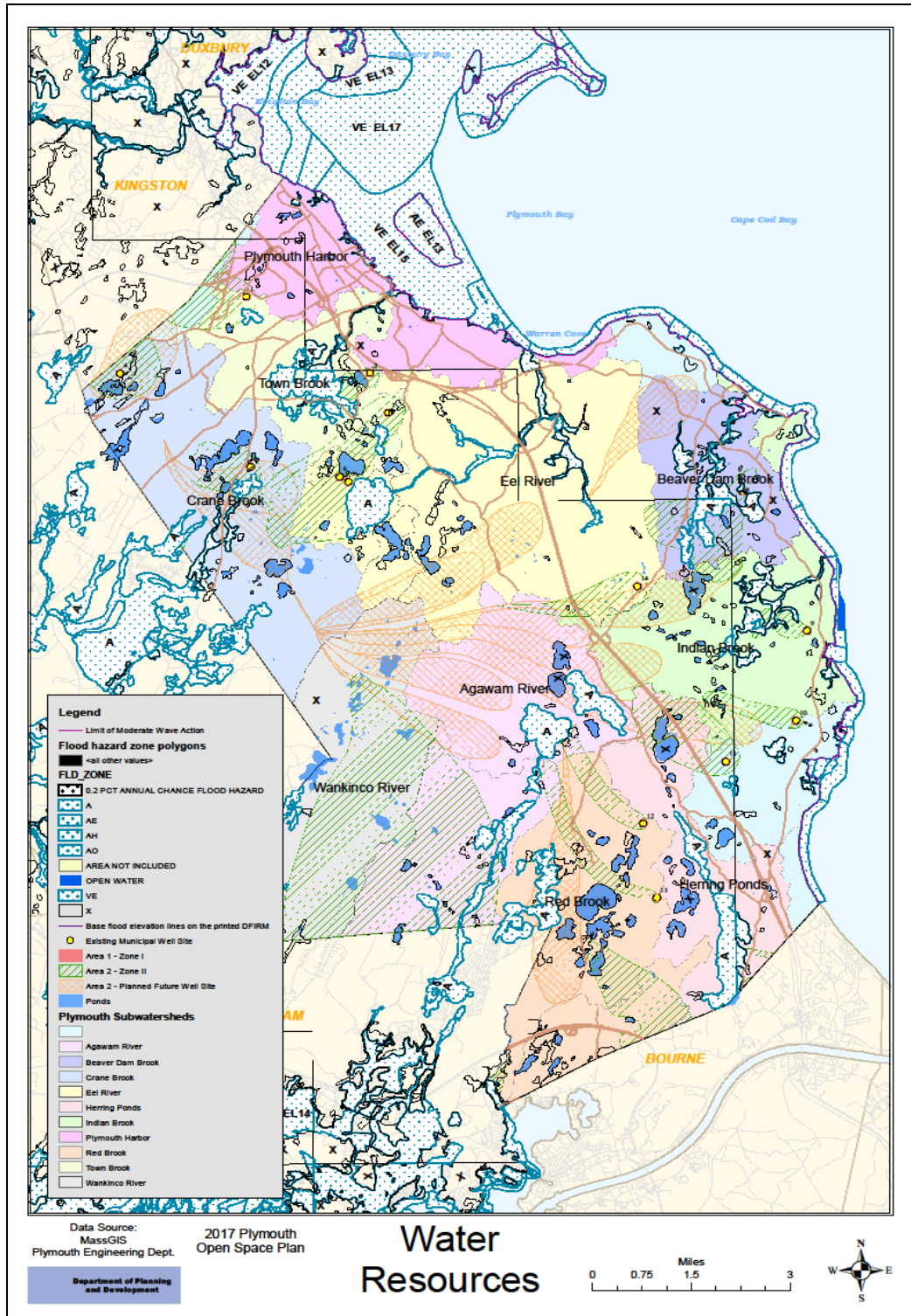
The Pine Hills are the most dominant landscape features in the Town. These geological features rise from the coastline at zero elevation to an elevation of 395 feet. They are the highest points on the Atlantic Coast outside of Maine. The Pine Hills have served as a geologic landmark for navigation for hundreds of years.

A rare natural wooded community with a distinctive character known as “pine barrens” can be found throughout the southern sections of Plymouth. Plymouth’s landscape is also characterized by its ponds, many of which are coastal plain ponds that support a globally rare natural community. The lakes and ponds add diversity to Plymouth’s landscape character. A significant number of cranberry bogs are located within Plymouth. Cranberry bogs provide important economic and historic benefits to the Town. The prevalence of cranberry farming is a significant reason why

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Plymouth retains its rural character, and the downturn of the cranberry industry presents potential new threats to this rural character.

Map 11a



## **Water Resources**

Plymouth is home to significant freshwater and saltwater resources that both characterize Plymouth since its founding, and have allowed Plymouth to grow over the past three centuries. The coastal beaches, bays and wetlands have drawn visitors for years because of their beauty. The extensive groundwater resources have provided a lifeline for residents and businesses to prosper. The freshwater ponds throughout Plymouth (where there is a different one for nearly every day of the year) have traditionally been a summer destination for seasonal residents, but more recently (in the mid-20th century to the present) have begun to be the focus of significant year-round communities. Plymouth's water resources are all intimately interconnected. These water resources are described further in the following paragraphs.

### ***Sole-Source Aquifer***

Plymouth is underlain by the regionally extensive Plymouth-Carver aquifer, which is designated as a Sole Source Aquifer, and is the sole source of drinking water in Plymouth and Carver, and a significant source of drinking water for the neighboring communities of Kingston, Bourne, Wareham and Middleborough. The Plymouth-Carver aquifer extends across much of southeastern Massachusetts. The aquifer is estimated to contain 500 billion gallons of potable water. A groundwater divide, from which water flows either east to Plymouth Bay or southwest toward Buzzards Bay and the Taunton River, runs north-south approximately along the western side of Route 3.

Town and private wells tap the groundwater throughout the town, primarily for residential and irrigation uses, and this water is largely returned to the aquifer through discharge to the ground in septic systems or infiltration of irrigation waters. In sewered areas of the town, primarily North Plymouth and Downtown Plymouth, the wastewater is treated at the wastewater treatment facility in Camelot Park. Per permitting requirements, the treated effluent is discharged via the ocean outfall (1.75mgd) with remainder (0.1mgd) to the infiltration beds at the wastewater treatment facility. The Town is currently exploring the potential of updating permits to maximize aquifer recharge vs discharging to the ocean outfall. The recharge of the groundwater is an important concept in Plymouth because the numerous kettle ponds and freshwater wetland resources depend on groundwater to maintain the necessary water elevation to support their existence; however, intensive development can result in the nitrification of groundwater, a serious public health concern.

The recharge areas that contribute to the public drinking water wells are especially important to protect to maintain potable water. These areas are designated as Zone II wellhead protection areas under the Source Water Assessment and Protection Program of the Commonwealth and the Federal Safe Drinking Water Act. The Town's Zoning Bylaw works in conjunction with the development and protection of these well fields. Roughly eighty percent of the Town is located within its Aquifer Protection Zoning District. Strict density, use, and wastewater discharge requirements are imposed in this area. The district will be expanded as additional wells are added to the system.

### ***Harbors, Estuaries & Cape Cod Bay***

Plymouth has approximately 36 miles of coastline, including beaches, inlets and salt marsh. However, most of the coastline is currently inaccessible to the public, including both residents and

visitors. Plymouth Long Beach offers approximately 3 miles of beach access. Individual coastal resources include Plymouth Harbor, Plymouth Bay, the Eel River tidal estuary, and Ellisville Harbor, and the various coastal beaches. Plymouth Harbor is heavily used in the summer as a landing for commercial fishing and shell fishing boats, as well as a base for significant private recreational boating. It is also the focus of much of Plymouth's tourism industry. Re-construction of the T-Wharf at Plymouth Harbor will be completed in 2017 offering additional space and amenities for commercial and recreational boating.

***Plymouth Bay and Plymouth Harbor***

Plymouth Bay comprises the waters southeast of a line drawn from Saquish Head to the tip of Plymouth Beach, and west of a line from Gurnet Point, to Rocky Point. Plymouth Harbor consists of waters south of a line drawn from the tip of Plymouth Beach to High Cliff. Plymouth Bay MA 94-17 has come off EPA's Office of Water, Listed Impaired Waters (303 D) for pathogens due to improvement in water quality from various projects listed below. The Harbor currently remains on the list for nitrogen impairments. However, several of the projects listed below also improve water quality from nitrogen pollution. In addition, future stormwater and wastewater implementation projects will aid in removing the waterbody from the 303d List. The Town has been actively involved in the development of a comprehensive program to address pathogen pollution in the Plymouth Harbor /Bay, and in the Kingston & Duxbury Harbor areas, including writing proposals, receiving project awards, and implementing pathogen reduction BMPs to improve water quality in coastal estuary areas in the region. Following the completion of several projects, Plymouth Harbor/Bay, as well as the other surrounding estuary areas mentioned above, have experienced substantial improvement in pathogen and other water quality elements. For instance, as of 2014, over 1,100 acres of previously closed shellfish beds in Plymouth Harbor and Bay areas have been re-opened to shell fishing.

Ellisville Harbor is designated as an Area of Critical Environmental Concern (ACEC), which provides for restrictions in the area, including a more detailed development review process than under normal conditions for developments that fall under state jurisdiction. The purpose of ACEC designation is to promote environmental stewardship and preservation of critical environmental areas within the Commonwealth. Some of the resources found in the harbor area include; a salt pond, freshwater ponds, saltwater marshes, barrier beaches, freshwater springs, sand dunes, and ocean bluffs. Harlow Farm, a 125-acre, fallow farm, located in Ellisville Harbor is the largest undeveloped tract of coastal land in the area. A tavern operated by Joseph Harlow (circa 1889) was located on this site. Daniel Webster was a frequent visitor and boarder of this tavern.

Several water bodies in Plymouth are currently listed on Massachusetts' Clean Water Act, Section 303(d) list of impaired water bodies requiring that a Total Maximum Daily Load (TMDL) be developed for remediation. The following table (**Table 16**) presents the Plymouth water bodies that are listed for TMDL as of 2014, and the pollutants that are causing the water quality impairment. Protection of these water bodies, through the use of open space conservation within the contributing areas to these water bodies, may help to improve the water quality in these areas, or at least help to limit further impairment.

**Table 16 - Impaired Water Bodies in Plymouth Requiring a TDML**

<b>Name/Segment</b>	<b>Pollutant Causing Impairment(s)</b>	<b>TMDL Required</b>	<b>TMDL Complete</b>
Billington Sea	Excess Algal Growth / Turbidity	X	
Ellisville Harbor	Fecal Coliform	X	
Plymouth Harbor	Fecal Coliform - Nutrient/Eutrophication Biological Indicators	X	
Russell Millpond	(Fish-Passage Barrier) Excess Algal Growth	X	
White Island Pond East and West Basin	Chlorophyll-a, Excess Algal Growth, Dissolved Oxygen, Phosphorus (Total), Secchi Disk Transparency		X

***Ponds and Lakes***

The Town of Plymouth has an abundance of ponds and lakes that rival any area in the United States. The groundwater in Plymouth presents itself at the land surface throughout the Town in approximately 365 ponds, many of which are used for recreation and which have development along their shores. Within the Town there are 64 ponds over 10 acres in size, of which 46 range in size from 20 to 376 acres, totaling 3,272 acres of freshwater (Natural Resource Program). The state of Massachusetts Department of Environmental Protection identifies nineteen (19) Great Ponds in the Town of Plymouth, which are over 10 acres in size without man-made impoundments: Big Sandy Pond, Billington Sea, Big West Pond, Boot Pond, College Pond, Darby Pond, Five Mile Pond, Great Herring Pond, Grassy West Pond, Gunners Exchange Pond, Hathaway Pond, Little Long Pond, Little Herring Pond, Little South Pond, Little West Pond, Long Pond, North Triangle Pond, Ship/Savoy Pond, and White Island Pond.

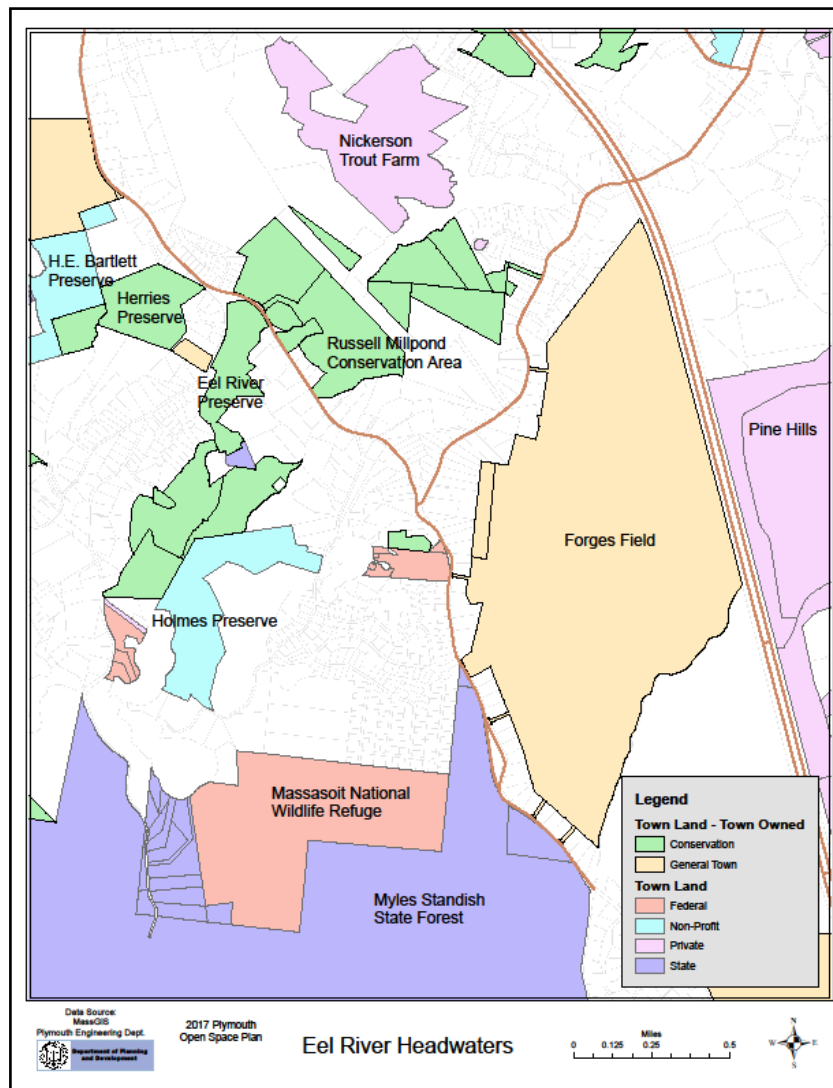
Roughly two thirds (or fifty) of the large ponds lack public access, based on data extracted from the Town of Plymouth Draft Comprehensive Master Plan, 2003. There is developed public access to Billington Sea (in Morton Park), Long Pond (Long Pond boat ramp), and Fresh Pond. In addition, there are several accessible ponds in the Myles Standish State Forest. The Town and the Commonwealth of Massachusetts own property on several ponds; however, access to these sites is limited and facilities are almost non-existent.

Coastal plain ponds are of special conservation significance in Massachusetts, as these natural communities are both regionally and globally rare because of the abundance of fragile threatened plant species located on their shores (Swain and Kearsley, 2000). These ponds are shallow, highly acidic groundwater ponds in glacial outwash, usually with no inlet or outlet. The water level in coastal plain ponds fluctuates due to changes in the water table, which typically exposes a gently-sloping shoreline in late summer. In wet years, the pond shore may remain inundated. An assessment of natural communities in the Plymouth Pine Barrens and aquifer area was completed in 2002, which recommends against using coastal plain ponds for most recreational activities (Natural Resources Assessment, Buzzards Bay Coalition, 2002).

### ***Rivers, Brooks & Watersheds***

Several watersheds have their headwaters originating within the Town of Plymouth, including the Eel River, Beaver Dam Brook, Indian Brook, Town Brook, Herring River, Agawam River, Wankinco River, Red Brook and the Crane Brook portion of the Weweantic River. These areas detain water in times of flooding and store water during periods of drought. They also provide an excellent wildlife habitat (**Map 11a**).

**Map 11b**



### ***Eel River Watershed***

The Eel River watershed is located within central coastal Plymouth, extending through the Pine Hills region and northwesterly in the Federal Furnace rural area to the Camelot Industrial Park. The headwaters of the Eel River originate within Town Conservation Land, south of Long Pond Road and continues downstream to Russell Mill Pond (dam), past Route 3 to Hayden Pond (dam) and converges with a tributary from the Pinehills and onward to the outlet at Plymouth Harbor.

This Eel River Watershed is of significant interest to the Town, as the wastewater treatment plant is located within the watershed. The Town's unique discharge permit requires a watershed-wide nutrient management plan which has been in implementation since 1998.

The plan includes surface and groundwater water quality sampling, land acquisition, stream restoration including dam removals, stormwater improvements and education (**Map 11b**).

### ***Beaver Dam Brook Watershed***

The Beaver Dam Brook watershed lies within the Greater Manomet Region of Plymouth. Its headwaters include Presidents Pond, Warner Pond (Wannos Pond), Fresh Pond, and Long Island Pond. Beaver Dam Brook Headwater originates from groundwater springs at the Tidmarsh Farms Restoration Site. This area was originally impounded from an agricultural dam. In 2016, a comprehensive ecological restoration of Beaver Dam Brook included approximately 250 acres of

surrounding wetlands. Encompassing a significant portion of the South Coastal Watershed, the project restored 3.5 miles of high-quality cold-water sinuous stream and wetland habitat including the length of Beaver Dam Brook from its spring-fed headwaters to the point at which the brook exits the property at Route 3A. Much of this watershed is developed with residential single-family homes, although there is some town conservation land. In addition, hundreds of acres are soon to be reserved for conservation land and at the headwaters of the brook.

### ***Indian Brook Watershed***

The Indian Brook Watershed is located in the southern section of Manomet. Its headwaters include Morey Hole, Briggs Reservoir, Great Island Pond, and Shallow Pond. The brook empties into Cape Cod Bay at Manomet Beach. The Town holds significant amounts open space in the headwaters of this watershed.

### ***Town Brook Watershed***

Town Brook is a 1.67-mile first order stream that originates from the 269-acre Billington Sea and flows into historic Plymouth Harbor. Town Brook was the source of freshwater that prompted Pilgrims to settle in Plymouth. Later, Town Brook became the first center of industrialization as its water was used to power numerous mills along its course. Industries along Town Brook had a major impact on Plymouth's nineteenth century history and each of the seven potential industrial sites along the brook was used to a maximum extent. The construction of the historic dams along Town Brook has significantly degraded fish passage and impacted ecological processes in the river system. In 2002, the first coastal dam in Massachusetts was removed along Town Brook at the Billington Street Dam site. A short distance upstream of this site, the Town removed Off-Billington Street Dam in 2013. Upstream of this site was the Plymco Dam which was also removed by the Town in 2014. The Town is currently in the permitting phase of the last major impediment on Town Brook, Holmes Playground Dam removal. It is anticipated this dam will be removed prior to the 400<sup>th</sup> anniversary in 2020.

Near the mouth of the river, a major renovation of Brewster Gardens was completed which included enhancements to the river habitat for the anadromous fish run located in Town Brook. In addition, in 2015 the Water Street Bridge was replaced, allowing increased fish passage during tidal ranges.

### ***Herring River Watershed***

The Herring River upper watershed occupies an area in southern Plymouth. Its headwaters include Little and Great Herring Ponds. The river is an active herring run which empties into Cape Cod Canal, south of Bournedale in the Town of Bourne. In Plymouth, much of this watershed has been developed with single-family residences.

This watershed was designated as an Area of Critical Environmental Concern (ACEC) in 1991, and is one of the largest herring runs in Massachusetts. Public access includes a shallow gravel ramp. There is a public health fish consumption advisory for mercury in some fish species sampled here.

### ***Agawam River Watershed***

The Agawam River upper watershed is located in southwestern Plymouth, and its headwaters include Halfway Pond and Fawn Pond. The Agawam flows through Wareham and Plymouth for

approximately nine miles into Buzzard's Bay. It is primarily used for flooding cranberry bogs. It empties into the Wareham River in the Town of Wareham. Much of this watershed is held by the A.D. Makepeace Company for its cranberry bogs, and many efforts to focus the proposed development of this land away from environmentally sensitive areas are being undertaken through discussions with representatives of Makepeace.

***Wankinco River Watershed***

The Wankinco River upper watershed is located in the southwestern part of Plymouth. Its headwaters include several ponds in the Myles Standish State Forest. The Wankinco joins the Agawam River in Wareham Center. The river is fed by springs and runs through cranberry bogs for the most part.

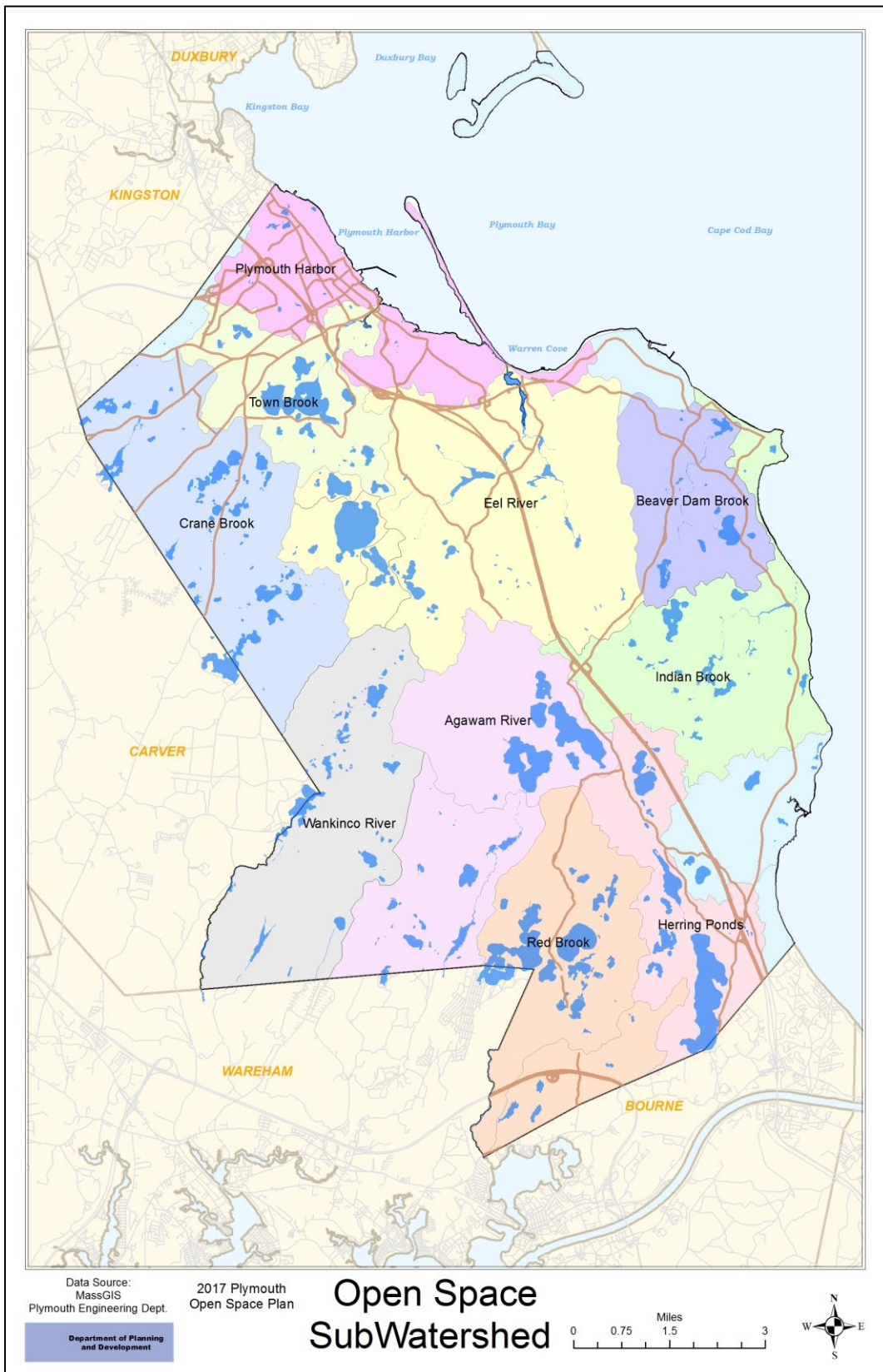
***Crane Brook Watershed***

The Crane Brook upper watershed is found in western Plymouth. Its headwaters include Federal Pond and several ponds in the Town of Carver and joins the Weweantic River below South Carver.

***Red Brook Watershed***

Red Brook is a narrow, shallow perennial stream flowing north to south for almost 4.5 miles through an outwash channel carved by melting glacial water 15,000 years ago (Robinson, 1997). The brook originates in White Island Pond in Plymouth, flows through the Century Bogs and further south until it turns brackish near Red Brook Road and discharges into Buttermilk Bay. The state has made significant acquisitions in this area for open space as well as future restoration efforts at Century Bogs.

Map 12



## **Flood Hazard Areas**

The Town of Plymouth's Special Flood Hazard Areas (SFHAs) are currently mapped on the most recent revision of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). FIRMs (updated in 2016) are used to identify flood hazard areas under the Plymouth Zoning Bylaw.

The Federal Disaster Management Act of 2000 (DMA 2000) established a national program for regional mitigation and streamlined the federal administration of disaster relief. DMA 2000 also mandated that all localities must review and revise their local natural hazard mitigation plans every five years to reflect changes in development, progress in mitigation efforts and changes in priorities. Actively updating the region's plan on a five-year cycle will maintain the region's eligibility for specific types of federal funds to implement mitigation activities under the Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA) and Hazard Mitigation Grant (HMGP) programs. To ensure that each community in the state develops a hazard mitigation plan, the Massachusetts Emergency Management Agency (MEMA) partners with the 14 Regional Planning Agencies (RPAs) throughout the state to develop and implement regional and local multi-hazard mitigation plans by providing technical assistance.

This plan is the update of the 2006 Old Colony Planning Council Regional Multi-Hazard Pre-Disaster Mitigation Plan, which included 15 communities in the Old Colony region. The 2006 Old Colony Regional Multi-Hazard Pre-Disaster Mitigation Plan has been converted into a multi-jurisdictional plan during this update. The Natural Hazard Mitigation Plan for the Old Colony Region, May 2015 was adopted by the Town of Plymouth on September 8, 2015.

## **Flooding**

There are two types of floodplain areas in Plymouth, inland and coastal. Inland floodplains are associated with isolated kettle ponds or with one of the six major river watersheds. Riverine flood risks are limited, but coastal flooding is a concern for the Town.

Flooding of Plymouth's coastal areas is a result of the combination of high tides and wind driven water in storm surges. These conditions generally occur during hurricanes, "nor'easters" and severe winter storms. The FEMA mapped areas most susceptible to velocity wave action and coastal flooding (Special Flood Hazard Areas; SFHAs) within Plymouth include; Plymouth Long Beach, Saquish Beach, and White Horse Beach.

Plymouth participates in the Community Rating System (CRS) program, which enables residents who own property within flood zones, to receive a discount on their flood insurance. Additionally, the Town maintains a Natural Hazard Mitigation Plan (May 2015) which is on file with the Planning Office. The Town provides annual educational outreach to all residents who own property within flood zones as well as real estate and insurance agencies and lending institutes.

## **Vegetation**

Plymouth holds a special place in the ecology of Massachusetts and that place is best characterized by the uncommon natural communities that occur within the Town. Please note: **Table 17** depicts current listed species as established through the Massachusetts Endangered Species Act and Natural Heritage.

The Town's vegetation is dominated by plant communities that reflect its geologic origins of sandy glacial deposits. Oak woodlands and pine barrens dominate, with limited occurrences of other forest types. Myles Standish State Forest, vast areas of woodlands and bogs, and lands in the Chapter 61 program contribute to the rural character of the town. Saltmarsh, dune and pond shores add scenic diversity to the landscape.

### ***Tree City***

Plymouth has been designated as a "Tree City for the past 26 years. The Tree City USA® program, sponsored by the Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters, provides direction, technical assistance, public attention, and national recognition for urban and community forestry programs in thousands of towns and cities that more than 135 million Americans call home.

To qualify for Tree City USA, a town must meet four standards established by The Arbor Day Foundation and the National Association of State Foresters. These standards were established to ensure that every qualifying community would have a viable tree management plan and program. It is important to note that they were also designed so that no community would be excluded because of size.

- A Tree Board or Department
- A Tree Care Bylaw
- A Community Forestry Program with an Annual Budget of at Least \$2 Per Capita
- An Arbor Day Observance and Proclamation

### ***Town Shade Tree Bylaw***

The Town of Plymouth adopted a Shade Tree Bylaw, through Town Meeting in 2006. The Parks and Forestry Department maintains an index on approximately 3,000 inventoried trees. The inventoried trees range in age from 300 years old to newly planted.

The following is Plymouth's Public Shade Tree Bylaw:

#### ***§ 162-2. Protection of Trees.***

- ***Public Shade Trees; Definition***

All trees within a public way or on the boundaries thereof, including trees planted in accordance with the provisions of section 7 of G.L. c. 87, shall be public shade trees; and when it appears in any proceeding in which the ownership of or rights in a tree are material to the issue, that, from length of time or otherwise, the boundaries of the highway cannot be made certain by records or monuments, and that for that reason it is doubtful whether the tree is within the highway, it shall be taken to be within the highway and to be public property until the contrary is shown.

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

- ***Powers of the Tree Warden***

Tree Wardens are guardians of municipal public trees. Decisions made by the tree warden can have an impactful consequence on the character of the community. They are continually called upon to balance the needs of tree preservation against the need of public safety. Tree Wardens have the authority to decide when and where to plant new trees and whether to allow alteration of the current municipal landscape by permitting trimming, cutting or outright removal of existing public shade trees.

The tree warden may appoint and remove deputy tree wardens, and each shall receive such compensation as the town determines or, in default thereof, as the selectmen allow. The tree warden shall have the care and control of all public shade trees, shrubs and growths in the town, except those within a state highway, and shall have care and control of the latter, and shall enforce all the provisions of law for the preservation of such trees, shrubs and growths. He shall expend all money appropriated for the setting out and maintenance of such trees, shrubs and growths, and no tree shall be planted within a public way without the approval of the tree warden, until a location therefor has been obtained from the selectmen. The tree warden may make regulations for the care and preservation of public shade trees and establish fines and forfeitures of not more than twenty dollars in any one case for violation thereof; which, when posted in one or more public places, and when approved by the selectmen, shall have the effect of town by-laws. **[Added 5-20-2006 ATM by Art. 32]**

**Table 17 - Massachusetts Division of Fisheries & Wildlife, MESA and Federal Status**

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
PLYMOUTH	Vascular Plant	Calamagrostis pickeringii	Reed Bentgrass	E		2001
PLYMOUTH	Vascular Plant	Carex striata	Walter's Sedge	E		2003
PLYMOUTH	Vascular Plant	Eupatorium novae-angliae	New England Boneset	E		2008
PLYMOUTH	Vascular Plant	Isoetes acadiensis	Acadian Quillwort	E		1989
PLYMOUTH	Vascular Plant	Lachnanthes caroliana	Redroot	SC		2004
PLYMOUTH	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC		2001
PLYMOUTH	Vascular Plant	Lipocartha micrantha	Dwarf Bulrush	T		2011

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
PLYMOUTH	Vascular Plant	<i>Persicaria puritanorum</i>	Pondshore Knotweed	SC		1988
PLYMOUTH	Vascular Plant	<i>Rhynchospora inundata</i>	Inundated Horned-sedge	T		2008
PLYMOUTH	Vascular Plant	<i>Rhynchospora nitens</i>	Short-beaked Bald-sedge	T		2002
PLYMOUTH	Vascular Plant	<i>Rhynchospora scirpoides</i>	Long-beaked Bald-sedge	SC		2002
PLYMOUTH	Vascular Plant	<i>Sabatia kennedyana</i>	Plymouth Gentian	SC		2008
PLYMOUTH	Vascular Plant	<i>Sagittaria teres</i>	Terete Arrowhead	SC		2008
PLYMOUTH	Vascular Plant	<i>Scleria pauciflora</i>	Papillose Nutsedge	E		2013
PLYMOUTH	Vascular Plant	<i>Sphenopholis pensylvanica</i>	Swamp Oats	T		2000
PLYMOUTH	Vascular Plant	<i>Utricularia resupinata</i>	Resupinate Bladderwort	T		2002
PLYMOUTH	Vascular Plant	<i>Utricularia subulata</i>	Subulate Bladderwort	SC		2001

## **Forests**

A significant portion of Plymouth's forest comprises of Pine Barrens. This forest type occurs in only three major assemblages globally: Southeastern Massachusetts, Long Island and New Jersey. More specifically, the natural community type is coastal pitch pine and scrub oak barren, and is a fire-dependent community. Pine barrens are characterized by an open canopy of plants that are tolerant of very well drained soils and dry conditions. The understory consists of blueberry species, huckleberry, bracken fern and bearberry. This is a rare natural community and supports a host of rare plants and animals. Wildfire maintains the successional stage of these forests.

Native Americans were present in the Plymouth area at the time of European settlement in the early 1600s, and as much as 10,000 years prior to that (Epsilon, 2001). The land that now comprises and surrounds Myles Standish State Forest was gradually settled by Europeans from north to south in the late 1700s and early 1800s. Bog iron production was an important industry in this area and cordwood from Plymouth's southern woodlots was used to fuel the many furnaces that operated in the region.

Sediment studies from two ponds within Myles Standish State Forest in 1984 attempted to identify forest composition and fire regime changes pre-and post-European settlement (Epsilon, 2001). The ecology of the landscape evolved with naturally-occurring periodic forest fires. The results indicated Native American use of frequent, low-intensity fires to improve hunting and agriculture as well as the existence of white pine-oak forest cover. During the 1800s, as a result of land clearing activities, and fuel-wood cutting without maintenance brush fires, more destructive and

intense wildfires altered the forest composition dramatically. These fires eliminated the more mesic forest species such as hickory, beech, and hemlock, increased the importance of white pine relative to arboreal oaks and allowed pitch pine and scrub oak to predominate in severely burned portions of the landscape, thus contributing to formation of pine barren ecosystems, likely enlarging the area occupied by this forest-type. These fires were also responsible for destroying leaf litter and duff and its moisture-holding capacity as well as soil fertility. The creation and regeneration of Pine Barrens is still strongly dependent on fires as the fires reduce competition and create sunny areas of bare mineral soil that the seedlings need to sprout and grow.

Within the broad expanses of pine barren are frost bottoms (also called frost pockets) which generally consist of depressions in the landscape created, primarily due to melting ice blocks deposited by retreating glaciers. This natural community possesses significant habitat value for a suite of rare insects and is characterized by low and sparse vegetation with no (or very few) trees. These areas occur, due to the fact that frost can occur in literally any month of the year and top-kill the foliage. These frost events are fostered by the radiant cooling of the sandy soils and by escaping wind currents at depressions in the landscape. Scrub oak, huckleberry, bearberry, grasses and lichens commonly occur in frost bottoms, and can provide habitat for rare and common moths. It is thought that fire plays an important role in the maintenance of this community.

The occurrence of pine barren, oak barren, pine woodland and oak woodland are due to several factors such as disturbance (fire), soil conditions, microclimate and pests that may alter composition. Outside of the true coastal Pine Barrens, oak woodland dominates the forests of Plymouth. Consisting mainly of white oak, these forests may also support other oaks such as black oak, scarlet oak and chestnut oak, pitch and white pines and, in wetter sections, red maple. Oak woodlands share many of the same understory species with the Pine Barrens but typically have slightly higher diversity in the shrub and herbaceous layers. The sandy, well-drained soils limit forest productivity and dilute the forest products potential of our forests. These forests are home to game species such as white-tailed deer and wild turkey.

Myles Standish State Forest is the largest contiguous block of forest land in town comprising about 12,500 acres in total; over 10,000 acres reside in Plymouth. Much of the state forest is pine barren and represents a tremendous opportunity to maintain a mosaic of Pine Barrens and other fire dependent forest types. Several private clubs own large tracts of hundreds of acres, and several individual landowners own hundreds or thousands of acres of forest land. The Wildlands Trust of Southeastern Massachusetts holds over 1,000 acres of land in Plymouth as conservation land. The Town owns nearly 3,000 acres of conservation area in full fee interest or by conservation restriction.

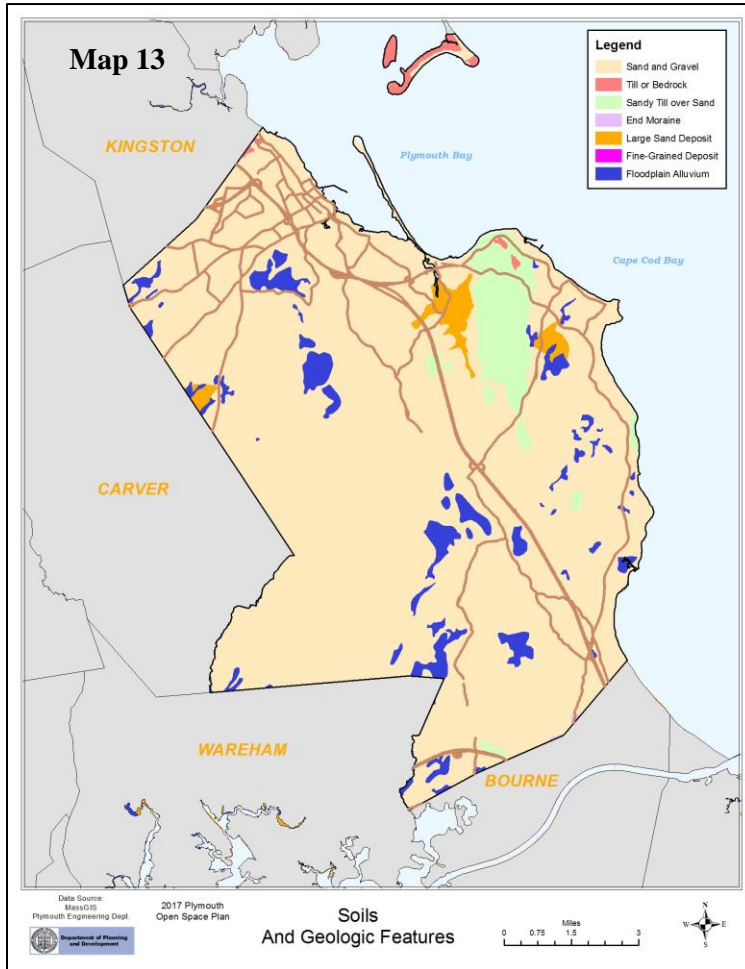
### **Agricultural Lands**

By far the dominant agricultural use of land in Plymouth is cranberry cultivation, and the extent of agricultural soils is very limited. The cranberry growers have a practice of retaining roughly two to three acres of upland for each acre of bog, which has preserved much of Plymouth's rural character and adds significantly to the wildlife values in Plymouth. Cranberry bogs are distributed across the entire town, excluding only the village centers and some of the concentrated subdivisions.

**Map 13** shows the mapped agricultural soils and the following lists active non-cranberry agricultural lands in Plymouth: the County Farm on Obery Street; the Barengo's Farm on Route 44; and the hayfields along the Eel River, Jordan Road, Clifford Road and Old Sandwich Road.

Cranberry bogs and other agricultural uses provide an important component to the visual identity of Plymouth and should be retained. Despite fertilizer and pesticide uses, cranberry bogs can

provide habitat to wildlife – notably turtles, including the spotted turtle, which is listed as a Special Concern species in Massachusetts. Other agricultural uses in town do not provide significant habitat values due to their limited extent. Cranberry growing has become less profitable in recent years and many growers are faced with difficult financial situations leading some to sell their land for development, or to mine their land for sand and gravel. These conversions may have significant impacts to the wildlife values of the extensive cranberry ownership in Plymouth unless proper planning for wetland and/or habitat restoration is reviewed and acted on. Cranberry farmers can participate in the USDA Wetlands Reserve Program which allows for compensation to the farmer as well as restoration funding on the property.



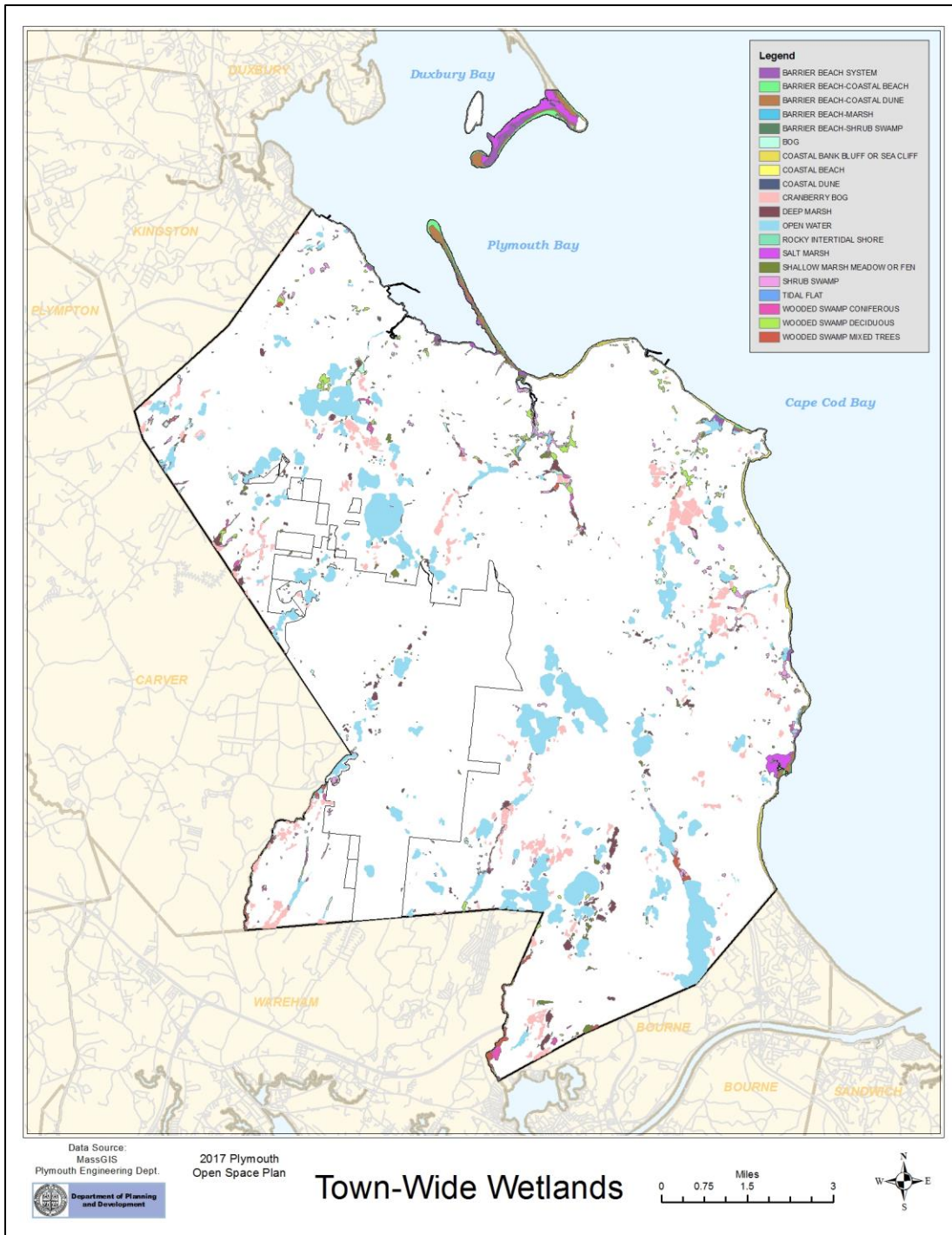
Plymouth's excessively well-drained sandy soils tend to limit the occurrence of wetlands as compared to areas of the state with more glacially compacted soils. This accentuates the outstanding habitat values of wetlands that are present in the town. Wetland vegetation tends to occur around pond shores, along stream and river corridors, in depressions (where the land may contact the groundwater) and in salt marshes. Wetland vegetation in Plymouth supports a host of otherwise scarce plants and animals.

## **Wetland Vegetation**

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**Map 14** displays the extent of mapped wetlands in Plymouth. Seven significant wetland areas occur in Plymouth. These include tracts located: southwest of King's Pond; south of Billington Sea; in the Eel River floodplain; in the floodplain of Beaver Dam Brook; in wetlands north of Great Herring Pond; in salt marshes in Ellisville Harbor; and in wetland areas between White Island Pond and Fawn Ponds. Other larger wetlands occur in the Indian Brook watershed and on the shores of Plymouth Harbor.

**Map 14**



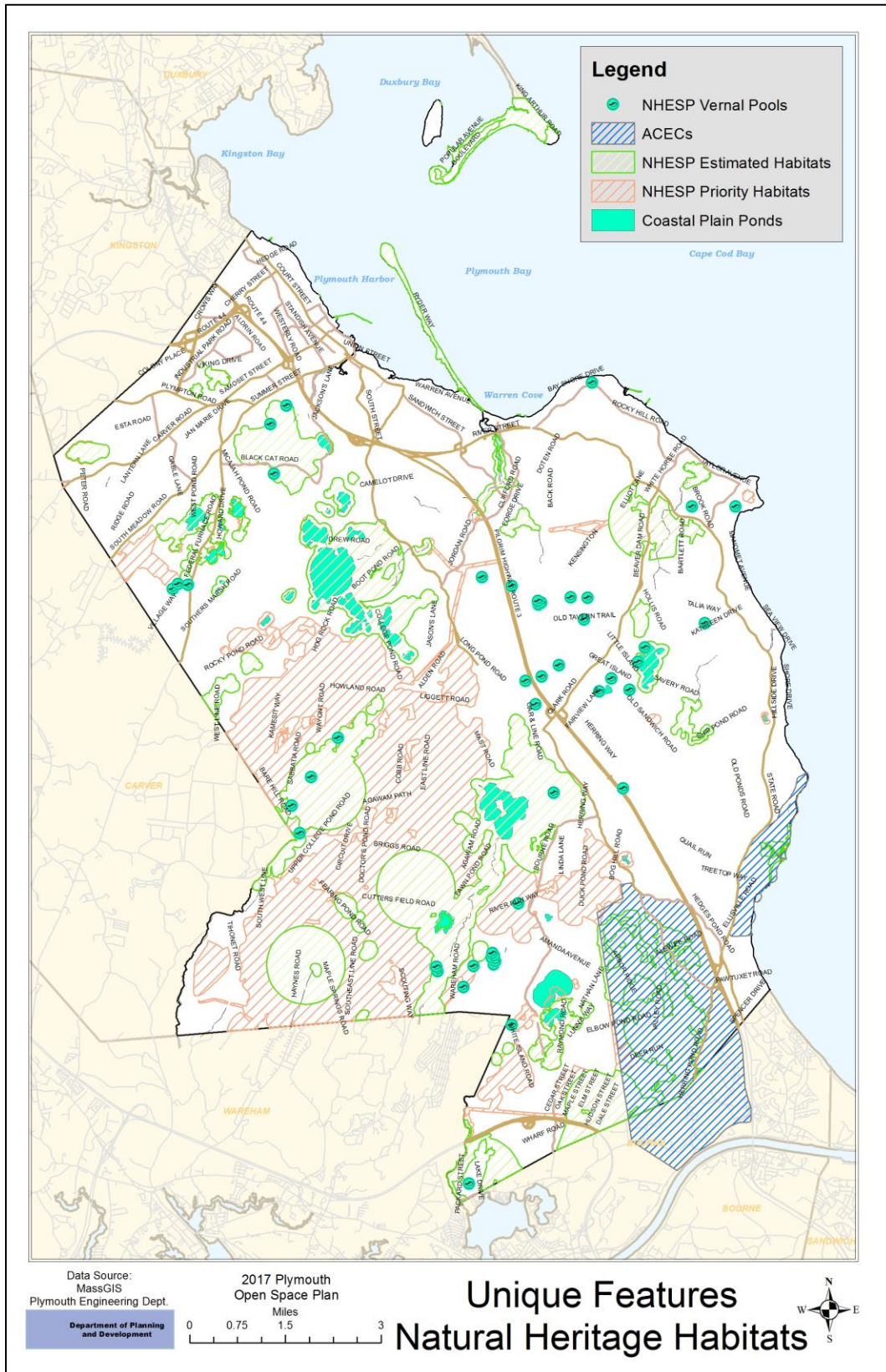
## **Vernal Pools**

Vernal pools are seasonally flooded bodies of water that provide vital habitat for a specific set of animals. Most are filled by spring rains and snowmelt and some are refilled in the fall. In Plymouth, with highly permeable soils, some vernal pools may be the result of groundwater interfacing with the land – as opposed to being perched over a clay soil. These pools usually lack fish thereby eliminating the predation of eggs of breeding amphibians. Spotted salamanders, wood frogs and spring peepers rely almost exclusively on vernal pools as breeding sites and will migrate in large numbers from hundreds of yards around the pools to breed.

The Massachusetts Natural Heritage Program has identified 395 potential vernal pools in the Town through aerial photography and reviews of large-scale maps, but to date only approximately 46 have been certified in Plymouth. The town should pursue the certification of as many vernal pools as can be accomplished.

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Map 15a



## **Fisheries and Wildlife**

Just as the physical conditions affect the distribution of natural communities of vegetation, natural communities are a determinant of the occurrence of wildlife. Plymouth has vast areas of open space in Myles Standish State Forest, town lands, conservation organization preserves and private holdings. These lands support a vibrant and increasingly significant assemblage of wildlife species. From a suite of endangered moths and butterflies that occur in the pine barrens to the deer, gray fox and wild turkey that range across town, Plymouth is blessed with tremendous wildlife assets.

The coastal areas of town provide outstanding wildlife values. Among the best-known species of wildlife in town are the terns and plovers that nest at Plymouth Long Beach and at Ellisville Harbor State Park. These beach/dune habitats provide significant habitat for migratory shorebirds as well. The Town Marine and Environmental Affairs Department has been working to accommodate the dual purposes of nesting habitat and recreation. The mudflats and submerged areas of Plymouth Harbor provide tremendous habitat for shellfish such as scallops, oysters and clams. These shellfish and other invertebrates provide prey for a host of species such as striped bass and common eiders. These are popular game species and provide a recreational benefit to anglers and hunters. The bird abundance and diversity in the coastal areas of Plymouth make it a destination for birdwatchers, too. Four anadromous fish runs (such as the Eel River, Wellingsly Brook, Stone Brook and Town Brook), are critical in supporting the Plymouth harbor ecosystem.

The pine barrens support an exemplary invertebrate community. Virtually no other town in Massachusetts has the benefit of hosting such a significant portion of the biological diversity of the Commonwealth. The barrens buck moth is perhaps the hallmark species but is by no means the rarest. Indeed, some of the species that occur in the pine barrens are found in only a handful of places on Earth. The pine barrens also support large populations of whippoorwill – a nocturnal species that is, unfortunately, declining across its range due to the sprawling development that has occurred since the early 1970s.

Coastal plain ponds and their shores provide habitat for at least 43 rare animal and plant species, over 45 species of dragonflies and damselflies, and painted, musk, spotted, snapping and the federally endangered Plymouth red belly turtles (Swain and Kearsley, 2000). (Taxonomists recently changed the common name of Plymouth Red Belly Turtle to “Northern Red-Bellied Cooter.”) Migrating and wintering waterfowl such as common and hooded mergansers, goldeneyes, and buffleheads also utilize this habitat. In addition, coastal plain ponds support warm-water fish and freshwater mussels, and can function as vernal pool habitat when fish are absent. Associated rare animals include the Triangle Floater, Blue-Spotted Salamander, Comet Darner, Spotted Turtle, New England Bluet, Pine Barrens Bluet, Walker’s Limpet, Tidewater Mucket, Eastern Pond mussel, Osprey, Red-belly Turtle, and Smooth Branched Sponge.

Other animal species include fish and shellfish. A range of fish can be found throughout the numerous ponds, lakes and streams located in Plymouth. Some of the more common species include: largemouth bass, small mouth bass, pickerel, alewife (during migration, spawning and juveniles), white perch, yellow perch, blueback herring, rainbow smelt, and brook, brown and rainbow trout. Typical ocean species include: Bluefish, Cod, Flounder, Mackerel, Pollock, Shad,

Smelt, and Striped Bass. Near-shore shellfish species include clams, crabs, mussels, and mollusks, while lobsters and scallops are present farther from the shoreline. Shell-fishing and lobstering are managed through licensing of harvesters and regulation of harvesting areas.

### **Wildlife Corridors**

Plymouth's varied habitat supports many animals, including both common species and those considered rare and endangered. The State of Massachusetts Natural Heritage and Endangered Species Program lists 34 rare animals in Plymouth (**Table 18**). Virtually no other town in Massachusetts has the benefit of hosting such a significant portion of the biological diversity of the Commonwealth.

Gray fox, deer, and wild turkey are fairly abundant throughout Plymouth while other species are associated with particular habitats (**Table 19**).

Rare species habitat is concentrated in the western, central, and southern parts of Plymouth, where significant un-fragmented Pine Barrens forest exist. Un-fragmented areas are critical to the viability of many rare species.

Shell fishing and lobstering are managed through licensing of harvesters and regulation of harvesting areas.

Land development threatens rare and common animal species. Common species which have previously thrived in Plymouth are increasingly being displaced by subdivisions and wildlife corridors for animal movement are increasingly less viable as sprawl continues.

#### **Wildlife Corridors (see **Map 15b**)**

Identifying wildlife corridors in a community as large and complex as Plymouth is challenging. However, the more significant corridors include:

- West Plymouth – Darby Pond
- Myles Standish State Forest to the Town Forest
- Myles Standish State Forest to the Pine Hill
- Herring Pond to the Indian Brook
- Herring Pond to Ellisville Harbor State Park

#### **West Plymouth – Darby Pond**

The West Plymouth Darby Pond corridor extends from Carver to Kingston and passes through the Darby Pond public well site, the Anawon Council Boy Scout camp and Parting Ways. This corridor includes significant areas of unfragmented private and public woodland, Coastal Plain Ponds and cranberry bogs.

#### **Myles Standish State Forest to the Town Forest**

A second wildlife corridor extends from the 16,000-acre Myles Standish State Forest, through the Eel River Preserve and terminates at the Town Forest. This corridor includes significant areas of unfragmented public woodland, vernal pools, Coastal Plain Ponds and habitat for rare and

endangered species.

### **Myles Standish State Forest to the Pine Hill**

This corridor extends through the Myles Standish State Forest, the Forges Field recreation land and ends in the privately owned yet undeveloped portion of the Pine Hills. This corridor includes significant areas of unfragmented woodland, vernal pools and habitat for rare and endangered species.

### **Herring Pond to the Indian Brook**

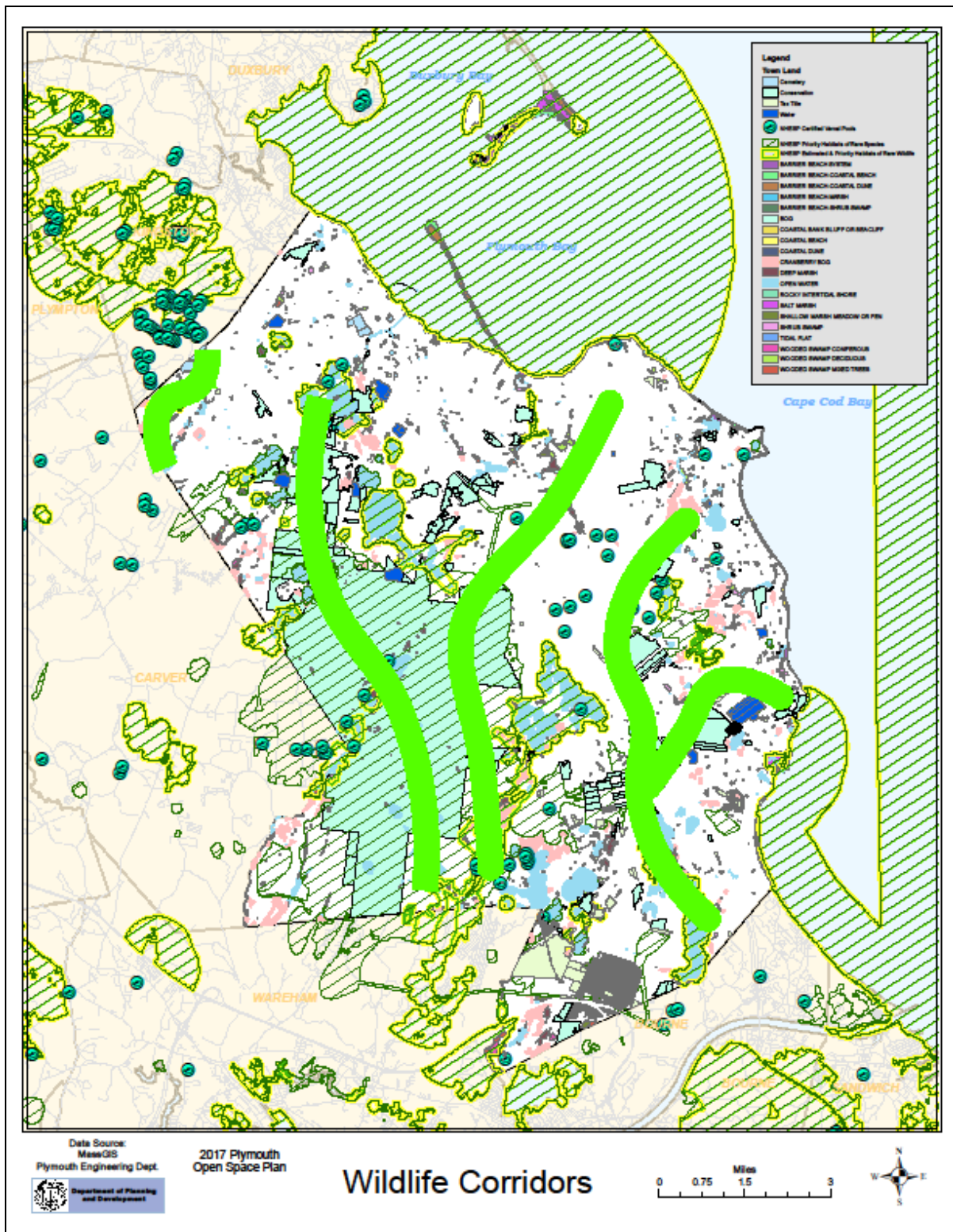
A forth corridor extends for the Herring Pond Area of Critical Environmental Concern through Old Sandwich Road and terminates in the 760-acre Briggs Property (under Conservation Restriction). This corridor includes significant areas of unfragmented private and public woodland, cranberry bogs, vernal pools and habitat for rare and endangered species.

### **Herring Pond to Ellisville Harbor State Park**

The final corridor extends from Herring Pond Area of Critical Environmental Concern through permanently protected open space on Old Sandwich Road and terminates at the Ellisville Harbor State Park. This corridor includes significant areas of unfragmented private and public woodland, cranberry bogs and salt marsh.

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Map15b



**Table 18 - Massachusetts Division of Fisheries & Wildlife, MESA and Federal Status**

Town	Taxonomic	Scientific	Common	MESA	Federal	Most Recent
	Group	Name	Name	Status	Status	Observation
PLYMOUTH	Beetle	Cicindela purpurea	Purple Tiger Beetle	SC		2004
PLYMOUTH	Bird	Ammodramus savannarum	Grasshopper Sparrow	T		2008
PLYMOUTH	Bird	Bartramia longicauda	Upland Sandpiper	E		2008
PLYMOUTH	Bird	Charadrius melodus	Piping Plover	T	T	2006
PLYMOUTH	Bird	Gavia immer	Common Loon	SC		1815
PLYMOUTH	Bird	Haliaeetus leucocephalus	Bald Eagle	T		2011
PLYMOUTH	Bird	Poocetes gramineus	Vesper Sparrow	T		2008
PLYMOUTH	Bird	Sterna dougallii	Roseate Tern	E	E	2008
PLYMOUTH	Bird	Sterna hirundo	Common Tern	SC		2008
PLYMOUTH	Bird	Sterna paradisaea	Arctic Tern	SC		2007
PLYMOUTH	Bird	Sternula antillarum	Least Tern	SC		2007
PLYMOUTH	Butterfly/Moth	Acronicta albarufa	Barrens Dagger Moth	T		2003
PLYMOUTH	Butterfly/Moth	Apamea inebriata	Drunk Apamea Moth	SC		2002
PLYMOUTH	Butterfly/Moth	Callophrys irus	Frosted Elfin	SC		2008
PLYMOUTH	Butterfly/Moth	Catocala herodias gerhardi	Gerhard's Underwing Moth	SC		2008
PLYMOUTH	Butterfly/Moth	Catocala pretiosa pretiosa	Precious Underwing Moth	E		2007
PLYMOUTH	Butterfly/Moth	Cicinnus melsheimeri	Melsheimer's Sack Bearer	T		2008
PLYMOUTH	Butterfly/Moth	Hemaris gracilis	Slender Clearwing Sphinx Moth	SC		2008
PLYMOUTH	Butterfly/Moth	Hemileuca maia	Barrens Buckmoth	SC		2008
PLYMOUTH	Butterfly/Moth	Speranza exonerata	Pine Barrens Speranza	SC		2015

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PLYMOUTH	Butterfly/Moth	Lithophane viridipallens	Pale Green Pinion Moth	SC		2005
PLYMOUTH	Butterfly/Moth	Metarranthis pilosaria	Coastal Swamp Metarranthis Moth	SC		2008
PLYMOUTH	Butterfly/Moth	Papaipema sulphurata	Water-willow Borer Moth	T		2005
PLYMOUTH	Butterfly/Moth	Psectraglaea carnosa	Pink Sallow Moth	SC		2005
PLYMOUTH	Butterfly/Moth	Zale sp. 1 nr. lunifera	Pine Barrens Zale	SC		2008
PLYMOUTH	Butterfly/Moth	Zanclognatha martha	Pine Barrens Zanclognatha	T		2008
PLYMOUTH	Dragonfly/Damselfly	Enallagma daeckii	Attenuated Bluet	T		2012
PLYMOUTH	Dragonfly/Damselfly	Enallagma pictum	Scarlet Bluet	T		2004
PLYMOUTH	Dragonfly/Damselfly	Enallagma recurvatum	Pine Barrens Bluet	T		1999
PLYMOUTH	Fish	Notropis bifrenatus	Bridle Shiner	SC		2006
PLYMOUTH	Mussel	Leptodea ochracea	Tidewater Mucket	SC		2007
PLYMOUTH	Mussel	Strophitus undulatus	Creeper	SC		1995
PLYMOUTH	Reptile	Pseudemys rubriventris pop. 1	Northern Red-bellied Cooter	E	E	2008
PLYMOUTH	Reptile	Terrapene carolina	Eastern Box Turtle	SC		2008

**Table 19 - Habitat and Species**

<b>HABITAT</b>	<b>COMMON SPECIES</b>	<b>RARE/ENDANGERED SPECIES</b>
<b>COASTAL AREA</b>	Migratory shorebirds, including Terns and Plovers	
<b>PLYMOUTH LONG BEACH</b>	Migratory shorebirds, including Terns and Plovers	
<b>ELLISVILLE HARBOR</b>		
<b>PINE BARRENS FORESTS</b>		Barrens Buck Moth, Whippoorwill, Insects and moths
<b>RIVERS</b>	Anadromous Fish: Alewives, Herring, White Perch, Rainbow Trout, Rainbow Smelt, Fresh Water Fish: Brook, Brown, and Rainbow Trout	
<b>COASTAL PLAIN PONDS</b>	45 species of dragonflies & damselflies, turtles	Blue Spotted Salamander, Plymouth Red Belly Cooter, Triangle Floater, Comet Darner, Spotted Turtle, New England Bluet, Pine Barrens Bluet, Walker's Limpet, Tidewater Mucket, Eastern Pond Mussel, Osprey, Smooth Branched Sponge
<b>OCEAN</b>	Bluefish, Cod, Flounder, Mackerel, Pollock, Shad Smelt, Striped Bass, Mussels, Crabs, Clams, Mollusks, Lobsters and Scallops	

## **Scenic Resources and Unique Environments**

As the landing place of the Pilgrims, the Town of Plymouth is unique, and is known as “America’s Hometown.” The amount of open undeveloped land is unique for the region and provides the town with a very rural character, although current transportation improvements will quickly erode this asset. The Town contains two Areas of Critical Environmental Concern, acres of globally rare Pine Barrens, 36 miles of coastline, 8 anadromous fish runs and 365 inland ponds (including 32 globally rare coastal plain ponds).

The Town also contains Myles Standish State Forest, one of the oldest, largest, and most diverse properties in the State Forest and Park system. It is the second largest state park, with a total of 12,500 acres, containing 16 ponds. Purchased in 1916, it has become an extremely popular area for many recreational uses including camping (470 sites), swimming, picnicking, fishing and boating. There are many miles of trails for bicycling, cross country skiing, snowmobiles, horses, and hiking. This combination of resources is a unique set of circumstances not matched elsewhere.

## **Rare, Threatened and Endangered Species**

Plymouth has the third highest occurrence of rare, threatened and endangered species per square mile of any town in Massachusetts. Considering that Plymouth also has the largest land mass of any town in the Commonwealth, this speaks to the outstanding biodiversity values of the Town. Many of the rare plant species are associated with Pine Barrens and coastal plain pond shores. Indeed, of the 23 state listed plant species in Plymouth, 14 occur in the coastal plain pond shore plant communities. It is important to note that the natural community itself is considered rare, with some of the best global occurrences in Plymouth. In fact, Plymouth and, to a lesser extent Cape Cod, are the only places on Earth where these plant communities occur in complexes of 5 or more adjacent ponds. These pond complexes are identified as a global priority for conservation.

Six of the remaining state listed plants that occur in Plymouth are associated with the Pine Barrens community. In Massachusetts, Pine Barrens mainly occur in Plymouth, on Cape Cod, Martha's Vineyard and in small isolated ridgetops in the Berkshires. Plymouth supports one of the largest occurrences with approximately 13,100 acres of Pine Barrens with over 8,000 acres located within the Myles Standish State Forest. This fire dependent natural community supports rare insects (see wildlife section) as well as plants. The remaining state listed species are associated with freshwater wetlands or saltmarsh.

Through habitat protection, some of the plant species that are among the rarest in Massachusetts can become safely established in Plymouth for future generations. This places the town in a special seat of responsibility in protecting a portion of the Commonwealth's natural heritage.

## **Scenic Resources**

The Town of Plymouth's highest quality views (and their orientation) are listed for various portions of Town, and are mapped on **Map 16**. In every case, Plymouth's high-quality views are those along existing public roads from which the Town's most attractive landscapes, and therefore that representative of Plymouth's visual quality and Town character, can be viewed.

### ***North Plymouth***

*Cordage Park:* provides an expansive view of Duxbury, Kingston and Plymouth Bays. Edged by sandy and rocky beachfront, that is dotted with various species of beach grasses, the park also offers views of Kingston's estuary to the north and marshes to the south.

*Castle Street in North Plymouth:* overlooks a large meadow at the base of High Cliff and overlooks Plymouth Bay.

*Holmes Field:* views of the meadow, Clarks Island, Saquish, Gurnet Light House and Duxbury and Plymouth Bays.

### ***Plymouth Downtown Waterfront and Harbor***

- *Nelson Memorial Park:* provides sweeping views of the marshes to the north,

Plymouth Bay, Clarks Island, Saquish and Long Beach to the east.

- *The State Boat Ramp and Break Water:* provide views of the inner harbor and of the hills that frame down town Plymouth.
- *Town Wharf and State Pier:* Inner harbor views are also accessible from these locations, and the entire waterfront area is linked on mapped walking tours of historic sites.
- *The walking trails of Brewster Gardens and Jenney Pond:* provide views of the Town Brook, Jenney Pond and restoration of Town Brook upstream of Holmes Playground Dam. The views of this trail open into Morton Park along Billington Street.
- *Stephens Field:* includes views of Long Beach, Plymouth Harbor and depending on the tides, views of the mussel beds and beach grasses of the Plymouth Harbor coastline.

***Plymouth Center***

*Burial Hill:* looking south over the first Church towards the Training Green and east over the bay.

*Coles Hill:* looking south over Brewster Gardens and east over Plymouth Harbor.

*Forefathers Monument:* provides an open, grassy area and focal point for a heavily developed residential area, with some views of the harbor at this site. This monument is also very visible from the Harbor and Long Beach, creating a dramatic impact from the water.

*Little Pond:* wooded views from its public beaches and trails.

***Additional Coastal Areas from North to South***

- *Saquish Beach and the Gurnet Point:* both scenic from the waterfront itself and providing outstanding views of the coastline. Gurnet lighthouse is a historic landmark.
- *Hobs Hole:* provides views of Plymouth Bay and Long Beach. Natural springs in the area provide fresh water to the fish farm on Nook Road and the estuary of Hobs Hole.
- *Holmes Point:* vistas of Long Beach and the entrance of Plymouth Harbor and at low tide a view of the natural channel formed by the Eel River cutting through Plymouth Harbor's tidal flats can be seen.
- *Warren Avenue:* easterly views of Plymouth Bay, Long Beach and Cape Cod Bay.

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- *Manter's Point*: provides views of the mouth of the Eel River and Plymouth Beach looking south toward Warren's Cove.
- *Views of Eel River*: from Plymouth Beach, Clifford Road, River Road and the Plimoth Plantation highway.
- *Plimoth Plantation*: views from the Pilgrim village and fort, overlooking Cape Cod Bay.
- *Plymouth Beach*: views of Cape Cod Bay, to the south Rocky Point, to the north Long Beach and Saquish.
- *Warren's Cove*: provides sweeping views of Plymouth Bay, Long Beach, Saquish, and Cape Cod Bay.
- *Rocky Hill Road*: provides views of Cape Cod Bay, Warren's Cove, the Gurnet and Plymouth and Long Beaches.
- *Priscilla Beach*: views of White Horse Beach, Manomet Point and Cape Cod Bay.
- *White Horse Beach*: sandy barrier beach with dunes and views of Cape Cod Bay and Manomet Point.
- *Manomet Point and Manomet Beach*: to the south, views across Cape Cod Bay to the dunes of Race Point, the Pilgrim's Monument, Provincetown and the dunes of Truro.
- *Scenic Roads*: Strand Avenue, Manomet Avenue and Old Beach Road loop are classified as Scenic Roads under the Scenic Roads Act (MGL Ch.40, S15C).<sup>1</sup>
- *Center Hill Preserve on Center Hill Road at Lookout Point (Joslin Diabetes Center)*: offers views of Center Hill Pond and Cape Cod Bay.
- *Ellisville State Park Beach*: vista of Ellisville Harbor and the field and meadows of the old Ellisville farm.
- *Ellisville Road*: provides views of Cape Cod Bay, the mouth of the Cape Cod Canal and the coastline of Sandwich. Ellisville Road contains several meadows and freshwater spring-fed ponds and is designated as a Scenic Road under the Scenic Roads Act.
- *White Cliffs*: high cliffs and sandy beaches offer panoramic views of Cape Cod Bay and the Plymouth coast line.

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<sup>1</sup> Massachusetts General Laws, Chapter 40, Section 15C allows communities to designate roads in a community as scenic. This section of the M.G.L. requires the Planning Board to hold a public hearing and review all work proposed within the right-of-way of a designated Scenic Road. State roads cannot be designated as Scenic Roads.

- *The Centerville hills to the west of State road approaching Bruno's Corner:* provide views of the Pine Barrens.

### ***West Plymouth***

- *Billington Sea:* hills surrounding to the west provides views of the entire pond.
- *Route 44, Carver Road off of Pinewood Road:* views of Narragansett Pond and its stream, valley with meadow, river and mature vegetation patterns.
- *Route 44 Farm:* attractive landscapes of farmlands and meadows trimmed by forest. The location also provides a view of the farmhouse, barn and silo.
- *Federal Furnace Road:* a planted red pine grove and small pond provide an attractive view.
- *Little and Big West Ponds:* long-range views northwest provide important landscape quality along Federal Furnace Road.
- *Darby Pond:* forested with views of the pond and cranberry bogs.
- *Black Cat Road:* views of forested area, cranberry bogs and several ponds.
- *Rocky Pond Road/Watercourse/Billington Street/Lout Pond Road:* views of Little South Pond, Lout Pond and well-maintained cranberry bogs.

### ***Obery Heights***

- *County Farm from Obery Street and the Route 3 Highway:* provides an agrarian and meadow view from busy travel corridors.

### ***Chiltonville***

- *Views up into the Eel River landscape:* From Warren Avenue, Sandwich Street, River Street and the Route 3 bypass are of a rural landscape. Retention of mature vegetation patterns on surrounding hillsides. Well-maintained, restored colonial buildings are dotted throughout the area.
- *Warren Cove along State Road south and above Eel River Valley:* Excellent and unique panoramic view of Plymouth Bay is available to the public.
- *Doten, Clifford and Sandwich Roads:* A landscape of meadow and pastureland, mature vegetation and the enclosing Pine Hills creates an agrarian landscape of regional significance.
- *Forges Pond and Howland Pond along Old Sandwich Road:* Landscape of meadow, pastureland creates an agrarian landscape of regional significance.
- *On Rocky Hill Road:* a long-range view of Plymouth and harbor is important to the

visual quality of the Town.

- *Old Sandwich Road:* provides numerous views of fields, meadows and forested areas. Beginning in Chiltonville and running through the Pine Hills into Manomet, ending at Ellisville State Park. Portions of the road are designated as a Scenic Street under a town charter by-law. A historic rye meadow across from a historic tavern, with the evergreen white pines behind it, and a 200-foot buffer on either side have been preserved along the Pinehills development on Old Sandwich Road.

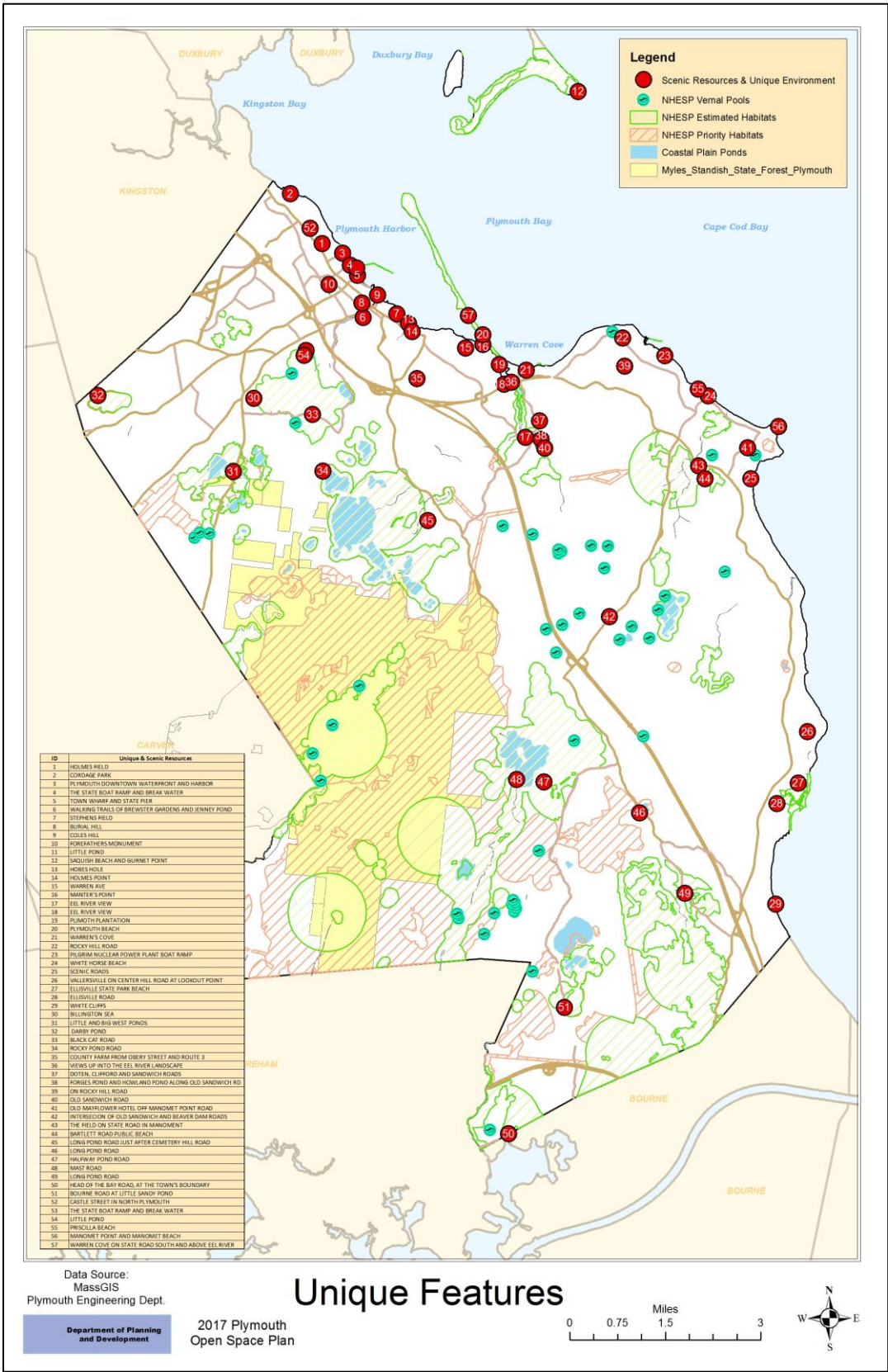
### ***Manomet***

- *Manomet Point off Manomet Point Road:* 270-degree views of Cape Cod Bay Point Road and scenic vistas of White Horse Beach.
- *Intersection of Sandwich and Beaver Dam Roads:* a stand of mature white pines is an important landscape feature and provides a foreground contrast to views of the Pine Hills.
- *Bartlett Road public beach:* views of Fresh Pond.

### ***South Plymouth***

- *Long Pond Road just after Cemetery Hill Road:* view of cranberry bogs at the headwaters of the Eel River, portions of the Eel River Preserve.
- *Long Pond Road:* short-range views of marsh areas near Bloody Pond provide a quality landscape element to the increasingly developed residential area.
- *Halfway Pond Road:* views of forested landscapes south of Halfway Pond.
- *Mast Road:* views of Halfway Pond, winding through forested landscape.
- *Long Pond Road:* views of Little Herring Pond add visual contrast to an enclosed, wooded landscape along this road.
- *Head of the Bay Road, at the Town's boundary with Wareham:* a landscape view unified by the Red Brook.
- *Bourne Road at Little Sandy Pond:* changing topography, a curving road alignment, irregularly shaped, with well-maintained bogs and views of Sandy Pond.
- *Herring Pond Road:* views across Great Herring Pond area an important feature to visual quality in this portion of Plymouth.

Map 16



## **Geologic Features**

The major geologic events which influence the development and behavior of the soils in Plymouth County are; the formation of basement rock during the late Precambrian (Proterozoic) and Paleozoic era, the Pleistocene glaciation, and post glacial Holocene deposition.

The land in Plymouth contains extensive low-lying shoreline and coastal bluffs, and the tidal shoreline within the town is 36.9 miles. Both southern and southeastern portions of the land are fairly level with elevations ranging from 100 to 200 feet in the central and western portions of Plymouth. Elevations extend over 300 feet in the Pine Hills area. Soils are mostly sandy loam with some rough and stony soils in the eastern and northeastern portions of town.

Kettle ponds are kettle holes created by glaciers and filled with water. Kettle hole ponds are frequent and the commonly coarse sandy soils cause much rain to be absorbed quickly. In most cases the kettle pond floodplains are within a few feet of an actual water body. The water level of these ponds is also the level of the area's water table. In other words, these ponds are exposed portions of Plymouth's aquifer. They generally do not have inlets or outlet. The level of the ponds fluctuates with the level of the aquifer.

## **Historic and Cultural Resources**

### ***Plymouth's History and Historic Sites***

Plymouth, Massachusetts is internationally known as the site of the first Pilgrim settlement. Plymouth attracts thousands of tourists annually, and most Massachusetts schoolchildren take at least one school field trip to see Plymouth Rock, Plimoth Plantation, and the Mayflower II. However, Plymouth's colonial heritage is only one aspect of the town's rich and unique history. The following section gives a broad overview of Plymouth history and describes some of the important historic sites in Plymouth. It is based upon the Public Archaeology Lab's *Town of Plymouth Narrative History Comprehensive Survey, Phase IV, 1997*.

### ***Wampanoag Settlement***

Plymouth was originally settled by the Wampanoag people. Archaeological evidence suggests that Wampanoag tribes lived near the coast during warm months, planting corn, beans, and squash, and fishing from the ocean and streams. The Wampanoag were part of a larger confederation of Native Americans who lived throughout southeastern Massachusetts. A network of trails connected the Plymouth-area residents to communities north, west and south. Route 3A, Summer Street, and Long Pond Road all are laid out along trails originally defined by the Wampanoag. Historians believe that Sandwich Road, Old Sandwich Road, and Ellisville Road also probably echo earlier Native American trails, as do River Street in Chiltonville and Brook Road in Manomet. A major settlement called Comassukaumet was located adjacent to Great Herring Pond in Cedarville. Smaller settlements were located at Town Brook, Billington Sea, Eel River, Watson's Hill, Great South Pond, Long Pond, Halfway Pond, Little Herring Pond, Beaver Dam Brook, Fresh Pond, and Hobshole Brook. Prior to the permanent settlement by the English, the Wampanoag people endured three epidemics, which destroyed the local population, in some cases wiping out entire villages.

### ***Early Colonization***

The Pilgrims arrived in 1620 on the Mayflower, stopping first in Provincetown, and then traveling up the coast to choose a permanent place to stay. Like the Wampanoag, they were attracted to the spring-fed Town Brook, which emptied into the ocean at Plymouth Harbor and provided fresh water and abundant fish, along with reeds useful for thatching roofs. The colonists built Plymouth's first street, Leyden Street, just north of Town Brook. Of the 102 Mayflower passengers who disembarked in Plymouth in 1620, half died during the first winter and were buried at Cole's Hill. The hill was planted over to hide the deaths from the Native American population.

In 1621, the Pilgrims laid out North Street, Middle Street, Carver Street, Court Street, and Market Street. Most of the Mayflower passengers remained concentrated along these streets just north of Town Brook or moved south into what is now known as the Training Green area. However, some ventured beyond, staking claim to lands near Hobshole Brook and Eel River as early as 1623. Later, as the population expanded, the town laid out Sandwich Street, traveling south along the coast and Spring Lane and Summer Street, traveling westward. English colonists were granted lands in Manomet in 1638 and in Cedarville in 1654. Each of these areas was still occupied by the Wampanoag people when the English began staking their claims.

Colonization of these outlying lands was limited until the 1675-6 King Philip's War and the subjugation of the Native American population. While both Wampanoag and English settlers continued to coexist peacefully in Cedarville throughout the 18th century, the Native American presence in other parts of Plymouth was greatly reduced after the war. By contrast, the colonial population grew, increasing from 600 in 1676 to 2,655 by 1776.

### ***Plymouth Downtown/Town Brook***

Town Square, at the head of Leyden Street, was the original civic and commercial center for Plymouth. The Pilgrims built their first church, market, and fort/meeting house adjacent to the square. Burial Hill, the site of the original fort, remains. The original church was destroyed by fire, and, in 1892, the congregation rebuilt First Parish Church on the same site. The former County Courthouse (1749) is adjacent to Town Square, as is the Church of the Pilgrimage. The Church of the Pilgrimage was built in 1802 by a group of First Parish congregants who split off when the First Parish Church converted from Congregationalism to Unitarianism.

The oldest remaining house identified in Plymouth is the Richard Sparrow House (ca. 1649) at 42 Summer Street. No homes, which originally stood on Plymouth's first six streets, remain. These streets are now lined with historic residences from the Colonial (1700-1776) and Federal (1776-1830) periods. Other significant buildings in the downtown area include Pilgrim Hall (1824) at 75 Court Street, which was commissioned by the Pilgrim Society as a monument to the first settlers, and the Spooner House, built as a residence in 1809 but later converted to its current use as a museum for the Plymouth Antiquarian Society.

Plymouth's early economy was oriented to the sea and relied heavily on shipbuilding, fishing, and trade. Cottage industries, such as shoemaking and tailoring, also developed to support the local population. As the colonies grew, Plymouth developed into a major port, and maritime activities were predominant throughout the eighteenth century. In the nineteenth century, the importance of maritime trade declined, and Plymouth's economy became more industrial. Town Brook supported

a succession of mills and factories, first grain mills, then fulling and tanning mills, followed by cordage factories, iron forges, and textile mills.

The first mill for grinding corn, Jenney's Grist Mill, was built adjacent to Town Brook in 1632. Later acquired by Robbins Cordage Company, the mill was operational until 1847, when it was destroyed by fire. The current Jenney's Grist Mill is a reconstruction which was built in the 1970s.

The first iron forge was built along Town Brook in 1790 but metal products did not become a major Plymouth industry until the nineteenth century. Using bog iron from local kettle holes, iron manufacturers created nails, tacks, rivets and wires and forged bells and tools. Many different iron mills and forges were built along Town Brook in the nineteenth century and the successful growth of the iron industry contributed to a period of prosperity which lasted until the Great Depression.

Textile manufacturing was another important Plymouth industry in the nineteenth century. The Plymouth Woolen Mill company, later acquired by the American Woolen Mill company, was a major mill, operating from 1863 to 1955. A Sheraton Inn now stands on the site of the former American Woolen Mill factory buildings but some workers' housing built by the mill remains. Twenty-five units of workers' housing are on Murray Street, Sawyer Place, and Eaton Street and nine two-family units are on Nelson and Shaw Courts. A number of mills operated along Town Brook. During urban renewal in the 1960s, most of these industrial buildings were demolished. The only partially-remaining factory from Plymouth's industrial period is Edes Manufacturing Company at 222 Water Street.

The late nineteenth and early twentieth centuries were prosperous times for Plymouth. The town's prosperity is reflected in the many institutional structures built during this time, including the Plymouth Public Library, National Guard Armory, Post Office, Probate Court Building, and Memorial Hall. Brewster Gardens was first laid out in 1920. During this period, the Pilgrim Society was active in establishing many of Plymouth's historic attractions including the Plymouth Rock Monument (1880), National Monument to the Forefathers (1889), and the commemorative park on Cole's Hill.

### ***Training Green***

In the late seventeenth century, the land south of Town Brook was allocated to the descendants of several of Plymouth's founding families. Four of the oldest houses in Plymouth are in the Training Green area. These are the William Harlow House (1649) at 8 Winter Street, the Harlow Old Fort House (1677) at 119 Sandwich Street, the Jabez Howland House (1666) at 33 Sandwich Street, and the Doten Home at 131 Sandwich Street. Many of these early Training Green families either worked in the maritime trade or were active in Plymouth public affairs. As their children came of age, these families subdivided their properties and passed them along to their descendants, many of whom remained in the area for generations. In 1711, the area bounded by Sandwich, Pleasant, North, Green, and South streets was retained as common land and labeled the Training Green. The Training Green was later converted into an ornamental park. Entrepreneurs and sea captains developed wharves in the Bradford/Union area, and the Training Green has many examples of eighteenth- and nineteenth-century residential architecture, including the Carpenter Gothic homes at 27-37 Bradford Street.

### ***Wellingsley***

Many of Plymouth's first families also moved to Wellingsley (or Hobshole), an area just south of Training Green along Sandwich Street. Some prominent families, such as the Churchills, Bartletts, Mortons, Holmes, Rickards, and Manters, remained in Wellingsley for generations and many of their early homes still stand. Wellingsley was primarily residential until the mid-1800s, when industries began to develop along Hobshole Brook. Of these, only the Plymouth Rock Trout Company, established in 1895, remains. In the mid-nineteenth century, Jabez Churchill opened a general store at the intersection of Sandwich and Warren Street. This corner became known as Jabez's Corner in honor of the store.

The development of Wellingsley and Manomet to the south was facilitated by the construction of rail lines in the late nineteenth century. The Old Colony Railroad first linked Plymouth and Boston in 1845, and the development of the coastal areas of Plymouth was spurred by the construction in 1889 of an electric streetcar which traveled from Kingston through Plymouth Center and along Sandwich Street, Warren Avenue, and Rocky Hill Road to the Manomet Shore. The trolley lines were abandoned in the 1920s.

### ***Chiltonville/Eel River***

European families began settling in Chiltonville in the early 1600s. However, Chiltonville was the site of a major battle in King Philip's War; all of the first homes were destroyed. After the war, increasing numbers of families began settling here again, with major expansion in the early 1800s. Prominent early families included the Dotens, Clarks, and Churchills, and their homes remain at 4, 11, 22, and 51 Doten Road, Clifford-Warren House, 3 Clifford Road, 131 Sandwich Road. Other important sites are Chiltonville Congregational Church (1840) and Bramhall's Store at 2 Sandwich Street. (ca. late Nineteenth Century). For most of its history, Chiltonville remained a vibrant fishing and farming community, with several important fish hatcheries still in service. In the mid-nineteenth century, Shingle Brook was dammed to create Forge Pond and factories producing cotton duck cloth and zinc products were built along the Eel River and Shingle Brook. Most of the Hayden Duck Cloth Mill buildings are gone, although the power canal and some structures remain.

In 1895, Eben Jordan, son of the founder of Boston's Jordan Marsh Department Store, developed the Forges, a luxurious 1,300-acre estate in Chiltonville. Most of the buildings on the estate have been torn down but some of the land has been preserved as open space. Jordan also donated funds for Plymouth's first hospital, Jordan Hospital. On Obery Street, the County operated the Plymouth County Correctional Facility from the 1920s to the 1980s. For many years, the prison farm was one of the largest working farms in Massachusetts.

### ***Warren Avenue/Manter's Point***

In the late 1700s, fishermen and shipbuilders began moving to the coastal area at the base of Plymouth Beach near Eel River. David Manter was one of the first fishermen to locate on the point, and he was followed by other seamen, carpenters, and farmers. By the late 1800s, with the establishment of the trolley line and the paving of roads around Warren Avenue, the Manter's Point area became an increasingly popular vacation spot. Cottages were built along with inns and hotels.

### ***Manomet***

Farmers began building houses in Manomet south of the Pine Hills in the seventeenth century and by 1739, the area had enough families to support its own church, the Second Church of Plymouth Congregational. The original burial ground for this church, White Horse Cemetery, still exists, but the original church building was replaced in 1826 with a new building. The Holmes family was one of the first families in Manomet and their descendants continue to live in the area.

For most of its history, Manomet has been relatively isolated from the rest of Plymouth due to the physical barrier created by the Pine Hills. Development in the area accelerated rapidly at the turn of the twentieth century when transportation routes were extended through the Pine Hills. These included the State Road, the State Highway, and the electric rail line. The new roads and electric rail helped transform Manomet into a summer resort community. Developers built large homes and hotels on Manomet Bluffs and Manomet Point while smaller-scale cottages were built in the area around White Horse Beach. White Horse Beach was itself established in 1917 with the transfer of land to the town. The adjacent Priscilla Beach was developed ten years later, on a portion of the old Taylor Farm. In the 1930s and 1940s, Priscilla Beach was an attractive destination for famous actors who often performed at the Priscilla Beach Theater and stayed in surrounding homes.

### ***North Plymouth***

Holmes Reservation was a mustering ground in the Revolutionary War. Commercial uses began to develop along Court Street in the Colonial Period, and by 1800 some houses began appearing on period maps. However, North Plymouth was not significantly developed until Bourne Spooner founded the Plymouth Cordage Company in 1824. A Mayflower descendant, Spooner built the Plymouth Cordage Company into Plymouth's dominant business. At its peak, the company employed 3,000 workers. The Plymouth Cordage Company constructed ropewalks, factories, workers' housing, a company store, dining hall, school and recreation buildings, and a library. Remaining mill buildings are part of the Plymouth Cordage Company Commercial Area. From 1824-1920, the company built 351 units of housing in 125 buildings, with the aim of creating a planned community. Some of the housing developed by the company includes 413-23 Court Street, 6 Ropewalk Court, Spooner House, 289 Court Street, 22-24, 46-52, and 54-68 Spooner Street. Workers housing is clustered in several areas in North Plymouth: the Plymouth Cordage Company Workers Housing Area, Cherry Street-Cordage Terrace Area, and Holmes Terrace Area (housing for management). The Plymouth Cordage Company ceased operations in 1971.

### ***Cedarville***

Cedarville is notable for its remote location and the relatively peaceful coexistence between Native American and European populations. Before the arrival of the Colonists, Cedarville was populated by Wampanoag Indians living along Great Herring Pond. When Europeans arrived in Cedarville, they intermarried with Native Americans. Some freed African slaves also moved to the area and were able to live harmoniously and intermarry. From 1700-1869, there was a 3,000-acre Herring Pond Reservation along Great Herring Pond. In 1850, two-thirds of the reservation land was divided and each reservation resident received an individual house lot and wood lot. Many current Cedarville families can trace their lineage to the original Herring Pond Indians. The village's population has remained small and stable up until the late twentieth century.

The early European settlers established mission churches, the First and Second Indian

Meetinghouses, on the Reservation. The Second Meetinghouse later became Pondville Baptist Church and is now Pilgrim Evangelical Church. The first known school, the Cedarville Schoolhouse, was built in 1830. There are five historic cemeteries in Cedarville, four of which are Native American cemeteries. These are the Indian Cemetery, Lower Herring Pond Cemetery, Cedarville Cemetery, Lakewood Cemetery, and Nightingale Cemetery. Cedarville's cranberry bogs have been commercially harvested for over 115 years.

### ***South Pond/Six Ponds Area***

The first house built in this area was the Richmond-Burgess-Daley House (1769) at 125 Boot Pond Road. The Holmes, Burgess, Sampson and Wright families lived in this area, which was associated with farming and cranberry cultivation. In 1857, the original house at 125 Boot Pond Road was converted into a hotel. The area remained sparsely settled until the nineteenth century, when small clusters of houses were built in the South Pond and Boot Pond areas. A school (now converted into a residence) and church, Union Chapel (1870-4) were built on Long Pond Road. From the late nineteenth through the early twentieth centuries, area owners began to sell land around Boot Pond and Six Ponds for summer cottages. Many of the cottages in Six Ponds were destroyed in a 1900 fire which began in the Myles Standish Forest. At the turn of the century, Le Baron Barker established the Barker Estate near Halfway Pond and developed the largest independent cranberry farm in the country. Along Morgan Road, Howland Davis established the Davis Estate.

### ***Ellisville***

Ellisville is named for William Ellis, the first known European settler who established a farm here around 1709. For the next 200 years, the Ellis family was active in farming, cranberry cultivation, and timber harvesting. In the early 1800s, the Harlow family established their farm near the Ellis family. Ellisville remained an isolated agricultural community until the late twentieth century, when Ellisville and the larger South Plymouth area began to experience intense development pressure. The Town of Plymouth, area neighbors, and the State of Massachusetts worked together to create Ellisville Harbor State Park, which includes open fields, a cemetery, the former Harlow Farm, and other lands along the coast.

### ***West Plymouth***

After the Revolutionary War, the Town of Plymouth granted freedom to four African-American slaves who had fought in the war. The four men—Quamony Quash, Plato Turner, Cato How, and Prince Goodwin—were given 94 acres of land along the Kingston/Plymouth border. This land, which had previously been cleared for use as a communal sheep pasture, was occupied and farmed by these men and their families, making it the first free settlement of African-Americans in the United States. Excavated in the 1970s, the land is now called the Parting Ways Archaeological District. It includes burial sites, building foundations, and household relics. A nonprofit group, Parting Ways, Inc., is working to reconstruct the settlement, which at its largest had 30-40 residents. The group also plans to build a Museum of African-American and Cape Verdean History adjacent to the reconstructed settlement.

Carver Road (Route 44) and Federal Furnace Road were two of the earliest roads in West Plymouth. Dunham Farm was the only occupied land along Federal Furnace Road until the twentieth century. Cranberries were cultivated at the farm and Dunham family members lived nearby at 317 and 329 Carver Road. These lands are still in use for cranberry farming.

A small settlement of houses was built in the mid-nineteenth century along Carver Road in what is now known as Darby Station Village. In 1892, the Old Colony Railroad Company extended a rail line from North Plymouth to Middleboro and Carver, with the tracks running for three miles parallel to Carver Road. A station was built along Darby Pond and later abandoned. The railroad tracks were torn up for scrap metal during World War II.

Plymouth's water supply system at Billington Sea and aqueducts were originally constructed in the mid-nineteenth century, with upgrades over the years. Morton Park was established in 1889.

### ***Historic Designations***

From 1993-1997, the Massachusetts Historical Commission (MHC) and the Town of Plymouth worked with the Public Archaeology Laboratory (PAL) to identify the historic and cultural resources of Plymouth. In its final report, ***Town of Plymouth Narrative History Comprehensive Survey, Phase IV***, the Public Archaeology Laboratory identified 1,045 historic structures and sites in Plymouth. All of these were added to the MHC Inventory of the Historic Assets of the Commonwealth. As of September 2009, the Massachusetts Cultural Resource Information Service listed 1,768 historic resources in Plymouth. These are 1,594 buildings, 85 structures (gates, dams, herring ladders, cranberry bogs, mill ponds, parks, and lighthouses), 55 historic districts, 22 cemeteries, and 12 statues or monuments.

### ***Massachusetts Register of Historic Places***

The Massachusetts Historical Commission maintains a more selective list, the Massachusetts Register of Historic Places, which includes historic sites and structures.

Sites which are placed on the Massachusetts Register of Historic Places receive some limited protections. In some circumstances, the Massachusetts Historical Commission (MHC) reviews proposed alterations to properties on the Massachusetts and National Registers of Historic Places, but this review can only be triggered if state or federal funding, permitting, or licensing is involved. Most private development does not require state or federal action and therefore does not trigger MHC review.

In addition, Massachusetts has a small Massachusetts Preservation Project Fund which provides matching grants for the renovation of historic properties. Municipalities and nonprofits may apply for MPPF matching grants from the fund, which is subject to annual legislative appropriation. The State has extended the Historic Rehabilitation Tax Credit until December 31, 2022 for up to 20% of the costs of the rehabilitation of a qualified structure (QRE). Qualified structures are those that are on the National Register of Historic Places or structures which the Massachusetts Historical Commission deems eligible for National Register status. The State Historic Rehabilitation Tax Credit is authorized a program (January 2006 to December 2022) with an annual cap of \$50 million in credits. (830 CMR63.8R1).

### ***Preservation of Historically Significant Buildings***

In keeping with Plymouth's desire for historic structure preservation, a Demolition Delay Bylaw was enacted at Town Meeting (Fall 2014) for the purpose of preserving and protecting significant buildings and other structures (barns or out-buildings which are generally associated with the significantly historic building) within the Town. Preservation criteria is established by determining

the distinctive features of architectural, cultural, economic, political or social history of said structure and to limit the detrimental effect of demolition on the character of the town. Through this Bylaw, owners of Preferably Preserved buildings are encouraged to seek out alternative options that will preserve, rehabilitate or restore such buildings and residents of the town are alerted to impending demolitions of significant buildings. By preserving and protecting significant buildings, streetscapes and neighborhoods, this bylaw promotes the public welfare by making the town a more attractive and desirable place in which to live and work. To achieve these purposes the Plymouth Historic Commission is authorized to advise the Building Commissioner with respect to demolition zoning permit applications.

**Table 20 - Plymouth's Designated Historic Properties**

<b>Location</b>	<b>Name</b>	<b>Register Individual</b>	<b>Register District</b>	<b>Thematic Area</b>	<b>Historic Landmark</b>	<b>Historic District</b>	<b>Historic Property</b>
32 Court St.	Hedge House	X				X	
6 Sever St.	Bethal African Meth. Epis. Church	X					
Bradford St.	Bradford Historic District		X				
3 Clifford Rd.	Clifford/Warren House	X					
Carver St.	Cole's Hill	X	X		X	X	X
Duxbury Bay	Duxbury Pier Lighthouse	X		X			
19 Town Square	First Parish Church of Plymouth	X				X	
119 Sandwich St.	Harlow Fort House	X					
8 Winter St.	Sgt. W. Harlow Homestead	X					
230 Summer St.	Hillside	X					
33 Sandwich St.	Howland, Jabez House	X					
Bug Light	Lighthouse of New England			X			
Allerton St.	Forefathers Monument	X					
Church, School & S. Russell	Old Burial Hill	X				X	
Plympton Rd.	Parting Ways		X				
75 Court St.	Pilgrim Hall	X				X	X
80 Cornish Field Rd.	Pinewoods Camp		X				
126 Water St.	Plymouth Antiquarian Society	X					X
Downtown	Plymouth Historic District						X
Gurnet	Plymouth Light Station	X		X			
Leyden St.	Old Court House	X	X				X
5 Main St.	Post Office Building	X					X
Water St.	Plymouth Rock	X					X
Village District	35 North/Carver/Leyden St.		X				X
29 Manomet Pt. Rd.	Simes, Joseph House						
42 Summer St.	Sparrow, Richard House	X	X				X
Off Summer St.	Town Brook		X				

### ***National Register of Historic Places***

Twenty-seven Plymouth sites and four districts are on the National Register of Historic Places (**Table 20**). In addition to national recognition, the National Register provides many of the same potential benefits and limited protections as the Massachusetts Register. A federal tax incentive program is available for National Register properties which are used for commercial, industrial, or residential rental purposes. The incentive provides up to 20% of the costs of rehabilitating a qualified structure according to Department of Interior standards. Plymouth sites on the National Register are listed in the chart above. The four districts are described below:

### **NATIONAL REGISTER OF HISTORIC PLACES (36 CFR 60)**

#### ***Historic Districts:***

- **Plymouth Village Historic District:** North, Middle, Leyden, Winslow, and Carver Streets. This district includes the streets originally laid out as the first Pilgrim settlement in 1620 which includes Brewster Park, Cole's Hill and approximately 60 residences, many built during the seventeenth and eighteenth centuries.
- **Town Brook Historic and Archaeological District:** Directly adjacent to the Plymouth Village Historic District, this district includes the 1.25 mile stretch of Town Brook from Plymouth Harbor to the south side of Billington Street. The area includes Brewster Gardens, the brook, four mill ponds, seven mill privileges, dams, five herring ladders, and the sites of former mill buildings.
- **Bradford-Union Street Historic District:** Bradford/Union/Emerald/Water-cure/Freedom Streets. From the eighteenth century through the early nineteenth century, this area just south of Town Brook was a residential and commercial district housing for seamen and their families. Much of the area's later development is attributed to Captain Samuel Doten, who erected the town wharf, now the site of the Plymouth Yacht Club.
- **Parting Ways Archaeological District:** Located adjacent to the Plymouth/Kingston Line in West Plymouth, this area was cleared for use as a common sheep pasture and later granted to four slaves who fought in the Revolutionary War and were granted their freedom in return. The site is a burial ground with archaeological remains.

#### ***Local Historic District: Plymouth Downtown District***

Massachusetts state law allows municipalities to establish local historic districts. Once a local historic district is established, development in the area is overseen by a local historic district commission, which has the authority to review, and approve or deny, changes to the exterior of structures within the district. The commission may review and approve materials, colors, mass, siting, and signage for all governed structures. Landscaping may also be reviewed to assure compatibility with the historic preservation context.

Plymouth has one local historic district: the Plymouth Downtown Historic District. This district is roughly bounded by Water Street, North Park Avenue, Burial Hill, and Summer Street. It includes six of the twelve sites on the National Register for Historic Places and includes the Plymouth Village. Several of the town's earliest and best-known historic sites are located in the Downtown

Historic District.

## **ACECs**

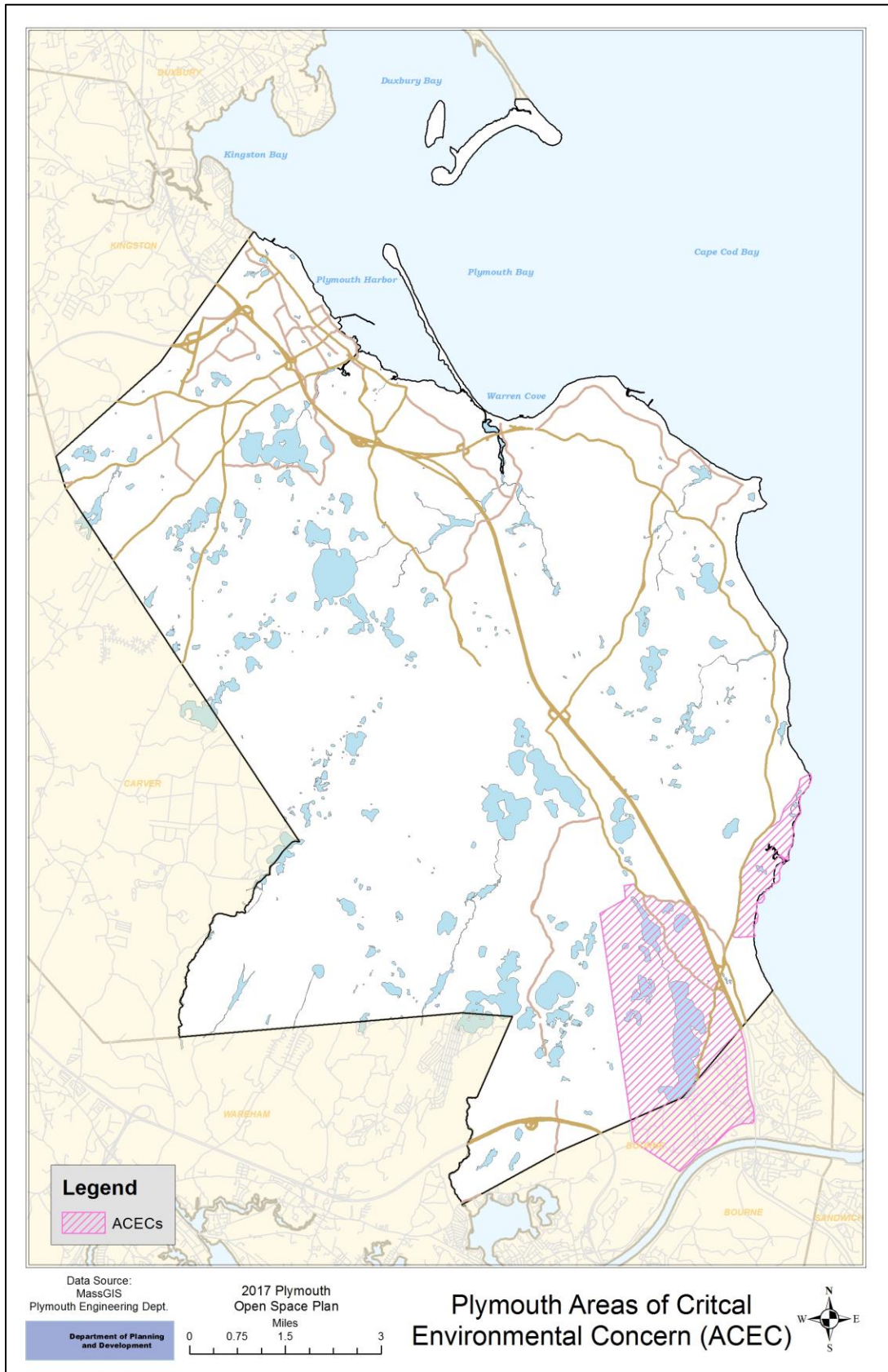
An Area of Critical Environmental Concern (ACEC) provides for restrictions in the area, including a more detailed development review process than under normal conditions for developments that fall under state jurisdiction. The purpose of ACEC designation is to promote environmental stewardship and preservation of critical environmental areas within the Commonwealth. Two Areas of Critical Environmental Concern are located in Plymouth.

The Herring River ACEC is 4,450 acres in size and located in southern Plymouth. It was designated as an ACEC in 1991. Its headwaters include Little and Great Herring Ponds. The herring river empties into Cape Cod Canal, south of Bournedale in the Town of Bourne. In Plymouth, much of this watershed has been developed with single-family residences. This watershed is one of the largest herring runs in Massachusetts. Public access includes a shallow gravel ramp. There is a public health fish consumption advisory for mercury in some fish species sampled here.

Designated in 1980, the Ellisville Harbor is an Area of Critical Environmental Concern (ACEC), consisting of 600 acres in size. A number of resources found in the harbor area include; a salt pond, freshwater ponds, saltwater marshes, barrier beaches, freshwater springs, sand dunes, and ocean bluffs. Harlow Farm, a 125-acre, fallow farm, located in Ellisville Harbor is the largest undeveloped tract of coastal land in the area. A tavern operated by Joseph Harlow (circa 1889) was once located on this site; Daniel Webster was a frequent visitor and boarder of this tavern.

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Map 17



## **Environmental Challenges**

### ***Sprawl and Fragmentation***

The development of Plymouth's recent comprehensive Master Plan update has identified sprawl as the number one concern of residents. Sprawl destroys habitat, negatively affects the character of the community and presents new threats to the aquifer. It is apparent that the citizens of Plymouth are increasingly concerned about sprawl and its effects on their quality of life.

Sprawl also presents a variety of development related environmental concerns. The prevalence of septic system disposal of wastewater and the impacts to the aquifer is one of the principal concerns. Destruction and fragmentation of the significant habitats in Plymouth is another. Traffic affects the quality of life, and light pollution changes the rural feel of the community. These concerns in aggregate add up to a strong rationale for aggressive growth management and open space protection.

### ***Sewage Disposal Methods***

Methods of sewage disposal in Plymouth, both existing and proposed, should be acknowledged in Conservation/Recreation Planning. Disposal methods will have an impact on the general quality of surface, ground and sea water and their recreation potential. The availability of public sewer connection and the requirements for private disposal systems will be determinants to Plymouth's rate and pattern of growth, and therefore the town population's future open space needs.

### ***Existing Town Sewage System***

Until 1962, wastewater was discharged directly into Plymouth Harbor through six outlets. In 1962, three sewage interceptors were constructed. In 1970 the Town opened a wastewater treatment plant on the waterfront. These three interceptors collected sewage from the sanitary sewer system and conveyed it to the Town Sewage Treatment Plant on Water Street. The existing public sewer system accommodates one sewer district. This district contains Plymouth's urban area from the Kingston town line in the north, south to Chiltonville and west to Route 3 and the Industrial Park.

The Water Street treatment plant was designed to handle 1.75 million gallons per day (MPD) of waste water. By 1977 the average flows exceeded the capacity of the plant. The Town of Plymouth was ordered by the Massachusetts Division of Water Pollution Control to abate water problems caused by its Municipal Sewage System. In 1987 the Department of Environmental Protection (DEP) filed suit against the Town to force corrective action. This suit resulted in the signing of a consent decree.

As a result of this process, a new Wastewater Treatment Plant was constructed in Camelot Park in 2002. Per permitting requirements; the treated effluent is discharged via the ocean outfall (1.75mgd) with remainder (0.1mgd) to the infiltration beds at the wastewater treatment facility. The Town is currently exploring the potential of updating permits to maximize aquifer recharge vs discharging to the ocean outfall. The permit requires the Town to develop a nutrient management plan to address non-point-source pollution throughout the entire Eel River watershed.

This plan has been in implementation since 1998. The plan includes surface and groundwater water quality sampling, land acquisition, stream restoration including dam removals, stormwater improvements and education.

**Legend**

**Pump Stations**

**Sewer Pipes**

**Diameter, Material, Type**

**Scale:** 0 to 0.8 Miles

**North Arrow**

**Map Labels:** Plymouth Harbor, Plymouth Bay, Hwy. Route 3, Exit 5, WWTF, PS (Pump Stations)

Individual sewage disposal systems currently service residential, commercial, and industrial uses outside the Plymouth Urban area. Approximately 90 percent of Plymouth's 21,000 residences depend on private cesspools, septic tanks or seepage pits for disposal of domestic wastes. Between 2010 to March 2017, 341 new Title V septic systems have been permitted and installed in Town. Problems attributed to individual septic systems in Plymouth are paradoxical and not easily solved. On the one hand, excellent draining capacities of Plymouth's soils are conducive to the proper operation of septic systems and the filtering of wastewater. As well, the use of individual septic systems helps to recharge the groundwater aquifer in Plymouth and to maintain existing stream

flows. Yet the use of individual septic systems can also endanger the water quality of the Plymouth Aquifer and town surface waters.

The following problems associated with individual sewage disposal systems in Plymouth have been identified:

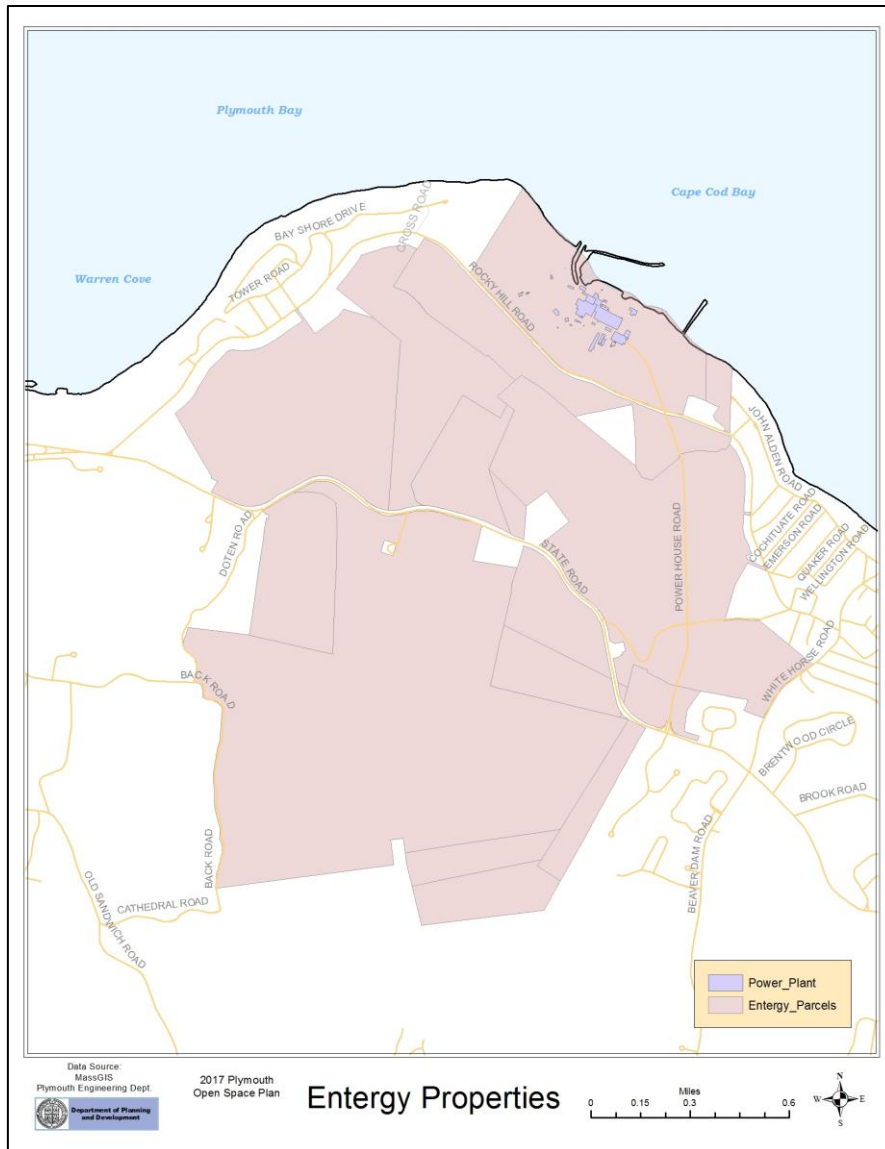
- Percolation capabilities of even well drained soils are exhausted within a period of 10 to 15 years, at which time relocation of the system and its leaching field or hook-ups to the public system is often needed.
- There is no practical way of monitoring the capabilities of existing septic systems. A domestic disposal system may be draining directly into a ground or surface water source without the owner's being aware of this condition.
- The use of individual disposal systems near Plymouth's ponds can lead to their premature eutrophication (filling in with weeds, algae and eventually sediment). Highly permeable soils do not always allow for the removal of nutrients, such as nitrate. The result is a substantial increase of algae, fertilization, and eutrophication of water bodies. Importantly, this is occurring at many of Plymouth's best recreation water bodies.
- Disposal systems, especially those built upon fill areas, are often too close to, or within the water table, particularly during seasonally wet periods, and thus are polluting ground water. Cumulative failures of septic systems intensify pressure for sewer extension, increase municipal cost, and ironically increase pressure for development in newly sewered areas.

### ***Stormwater Pollution***

Plymouth Center and North Plymouth have stormwater impacts to Plymouth Harbor. Stormwater is a significant source of nutrient and bacteria pollution to coastal waters and remediation of these non-point sources is costly. The Town has set an exemplary course through attracting state and federal monies to remediate these problems. With the implementation of these stormwater improvements, Plymouth Bay was removed from the 303d List for bacteria contamination and hundreds of acres of shellfish area was opened in 2015 due to water quality improvements in the harbor. Continued focus is warranted to work towards a cleaner healthier harbor. This will improve Plymouth Harbor as a recreational destination.

### ***Pilgrim Nuclear Power Plant***

In 2016, Entergy announced the Pilgrim Nuclear Power Plant, located in Plymouth, MA, would close no later than May 31, 2019. Approximately 600 employees work at the plant, with almost 200 living within Plymouth. The closure of the Plant is expected to have a large fiscal impact, including a loss of tax revenue, as well as indirect impacts at the local and regional level. The Town is focused on ensuring safety and security through the Plant closure and decommissioning, as well as afterwards when spent fuel rods will be stored on the site. In addition, the Town is also focused on employment, lost tax revenue and land use.

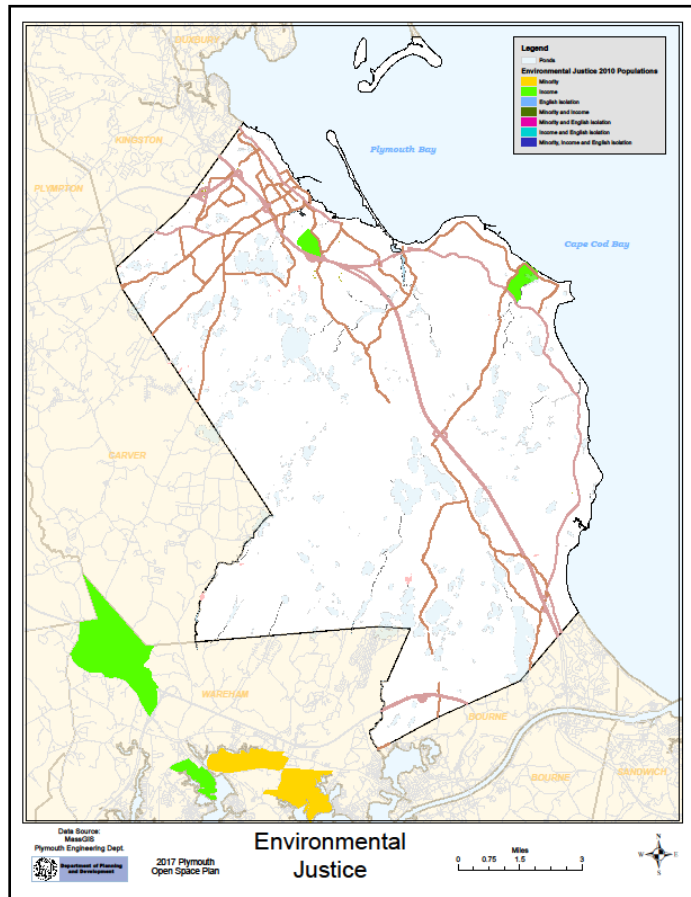
**Map 19**

The Pilgrim Nuclear Power Plant sits on approximately 1,700 acres of land, with water access. It is anticipated that approximately 200 acres will be retained by the Plant after closure for spent fuel rod storage and other infrastructure. As seen with other Plant closures in the United States, excess land is sold -- in this case, approximately 1,500 acres may be sold. Although there is no firm plan in place for the 1,500 acres, the Town of Plymouth does have the right of first refusal for the purchase of the land. If the Town were able to purchase the 1,500 acres there is an opportunity to balance open space initiatives as well as development projects (**Map 19**).

### ***Landfills***

Plymouth has three capped municipal landfills located on Long Pond Road near Route 3, Beaver Dam Road in Manomet and Hedges Pond Road in Cedarville.

**Map 3a**



the Town (See Environmental Justice Map 26) as an Environmental Justice population of concern.

The Town contains only two Environmental Justice Areas. Should opportunities arise to create recreation facilities in or near these two areas, small pocket parks could provide affordable solutions.

## **Environmental Justice**

The concept behind the term "Environmental Justice or Equity" is that all people – regardless of their race, color, nation or origin or income – should have the access and ability to enjoy equally high levels of environmental protection. Environmental Justice Communities are commonly identified as those where residents are predominantly minorities or low-income and may have been excluded from the environmental policy setting or decision-making process. These residents are typically subjected to disproportionate impacts from one or more environmental hazards and experience disparate implementation of environmental regulations, requirements, practices and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities.

Plymouth acknowledges that the Commonwealth has mapped a portion of

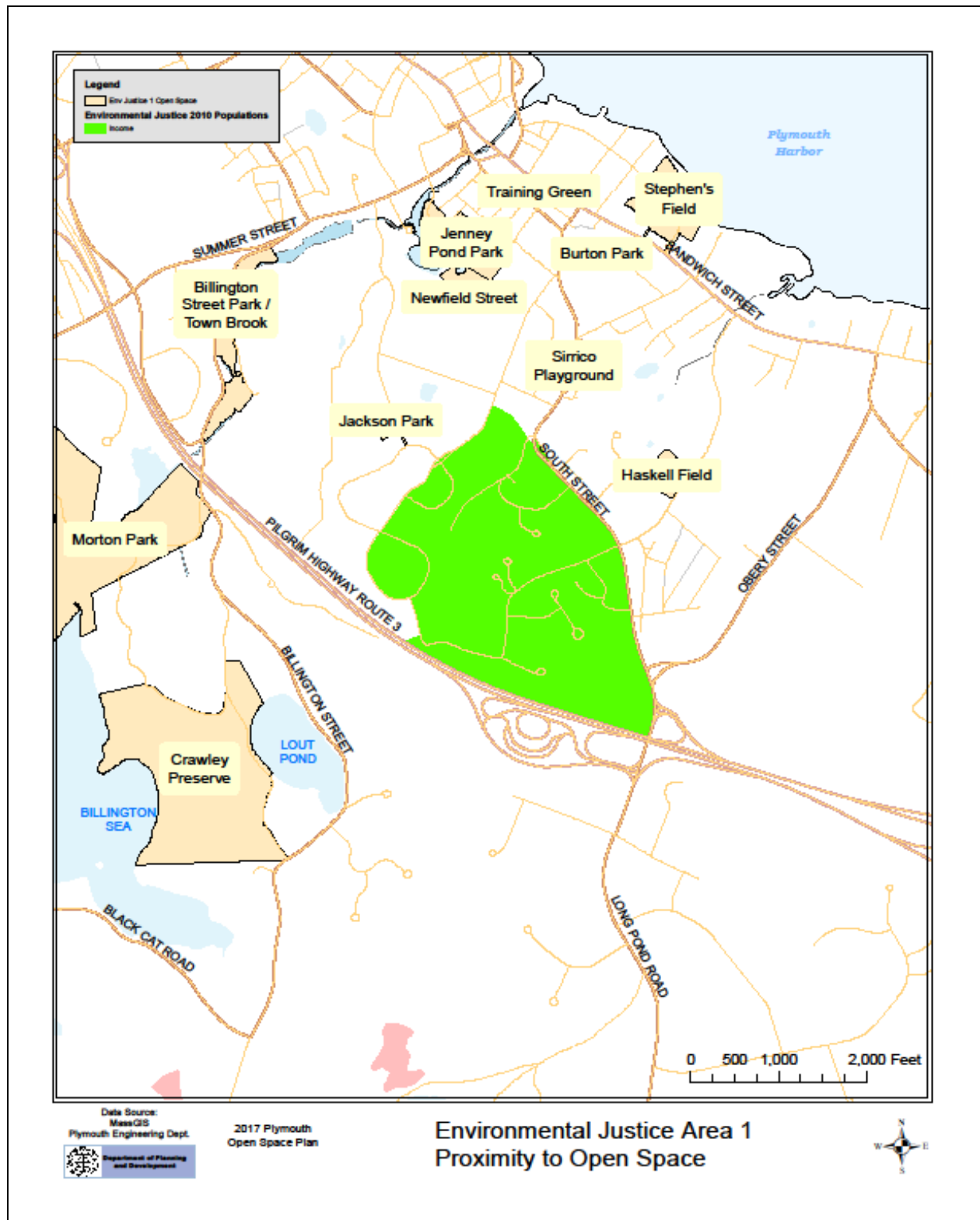
***Environmental Justice/Equity Area 1 (EJ1)***

EJ1 is located along the southerly side of South Street and north of State Highway 3 (Exit 5), consisting of approximately 168 acres. Eleven publicly-held open space areas lie within 2,500 linear feet from EJ1 with three recreational facilities (Haskell Field, Jackson Park and Sirrico Playground) within walking distance of less than 1,500 feet (Map 20a).

- **Haskell Field:** Located at 43 Nook Road, this 32 - acre park offers several recreational activities including baseball, basketball and features a playground area.
- **Jackson Park:** A one-acre plot of land currently underutilized for its intended purpose. Although the area is wooded with thick underbrush, it features suitable public access and parking for at least three vehicles. Residents may identify the natural setting as an incentive to visit this site.
- **Sirrico Playground:** Located opposite 71 South Street, this one-acre park provides residents with a basketball court and playground equipment.

Based on the proximity to these facilities, EJ1 appears to be well served with sufficient green space and recreational opportunities nearby although additional playground potential may prove advantageous.

Map 20a



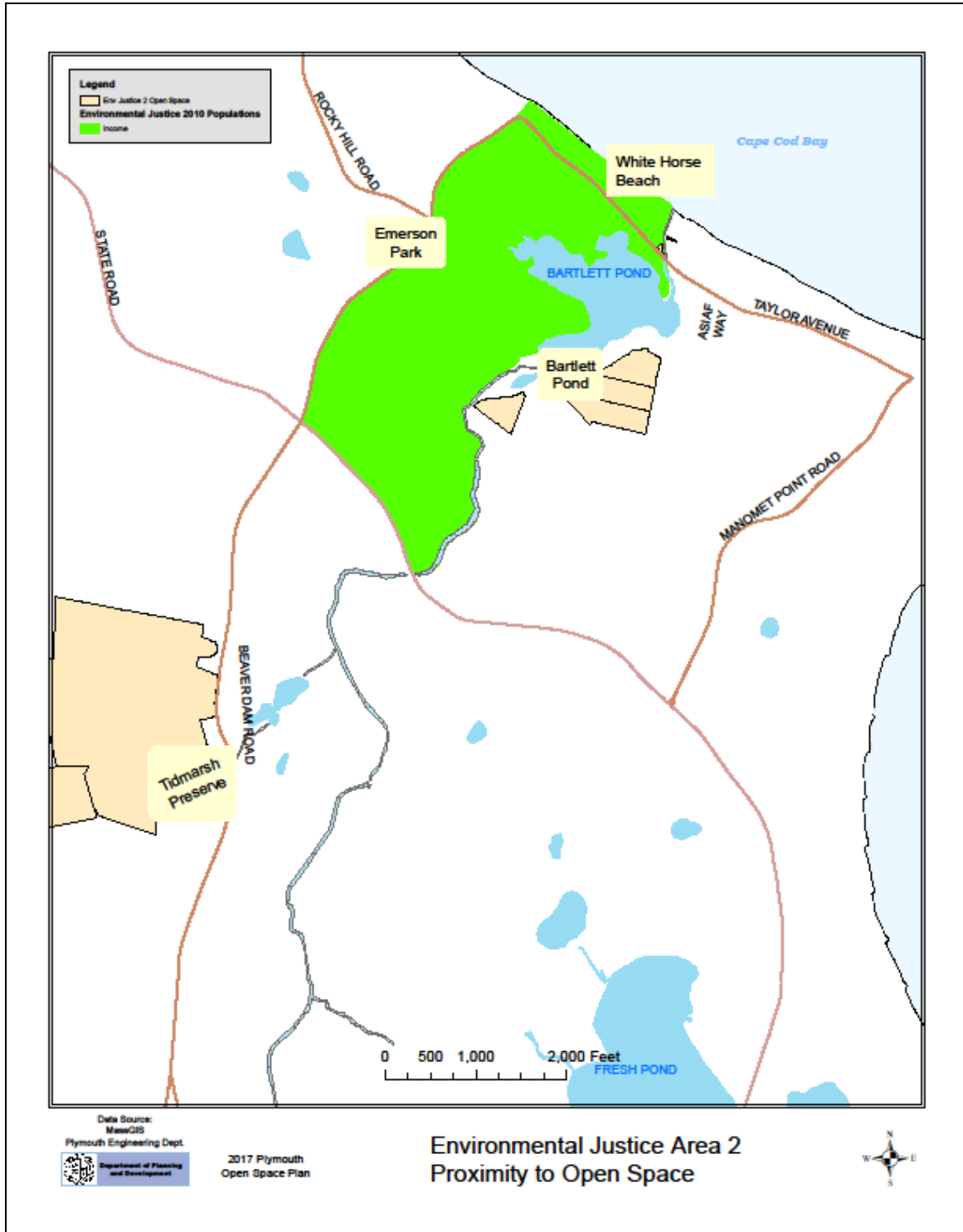
***Environmental Justice/Equity Area 2 (EJ2)***

EJ2 lies within the Manomet Village Center of Plymouth, with boundaries along Beaver Dam Road, State Road and White Horse Beach (**Map 20b**). Encompassing +/-225 acres, EJ2 lies in close proximity to three open space sites as well as the newly acquired Tidmarsh Preserve, located approximately 3,000 feet away.

- **Bartlett Pond Conservation Area:** Four parcels consisting of +/-16 acres located off Brook Road lies near Bartlett Pond; a 30.5- acre freshwater body that empties into Cape Cod Bay via Bartlett Brook.
- **Emerson Park:** Located at 48 White Horse Road, the one-half acre parcel of land for this facility is under a long-term lease from Boston Edison and was built in 1976. Included at this site is a junior league baseball field.
- **White Horse Beach:** A three-quarter mile length of direct beachfront located northeast of Taylor Avenue. Swimming, picnicking and walking are popular family activities here. Limited parking is available.

EJ2 also appears to have adequate recreational open space facilities, particularly within White Hoarse Beach although existing hiking trail infrastructure is available at the Tidmarsh property.

Map 20b



### **Hazardous Waste Site Historical Listing**

DEP lists eight Response Action Outcome (RAO) incidents in Plymouth (**Map 21**).

- **62 Long Pond Road** reported in 2005. A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
- **106 Obery Street** reported in 1997. Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more Activity and use Limitations (AULs) that have been implemented.
- **14 Union Street** reported in 1998. A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
- **17 Court Street** reported in 1997. Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more Activity and use Limitations (AULs) that have been implemented
- **Town Wharf** reported in 2001 (Remediated).
- **Aldrin Road** reported in 1994. Remedial actions have not been conducted because a level of No Significant Risk exists.
- **Water Street** reported in 2008. A temporary cleanup. Although the site does not present a "substantial hazard", it has not reached a level of no significant risk. The site must be evaluated every five years to determine whether a Class A or Class B RAO is possible. All sites are expected eventually to receive a Class A or B RAO.
- **Cordage Park** reported in 1997. A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

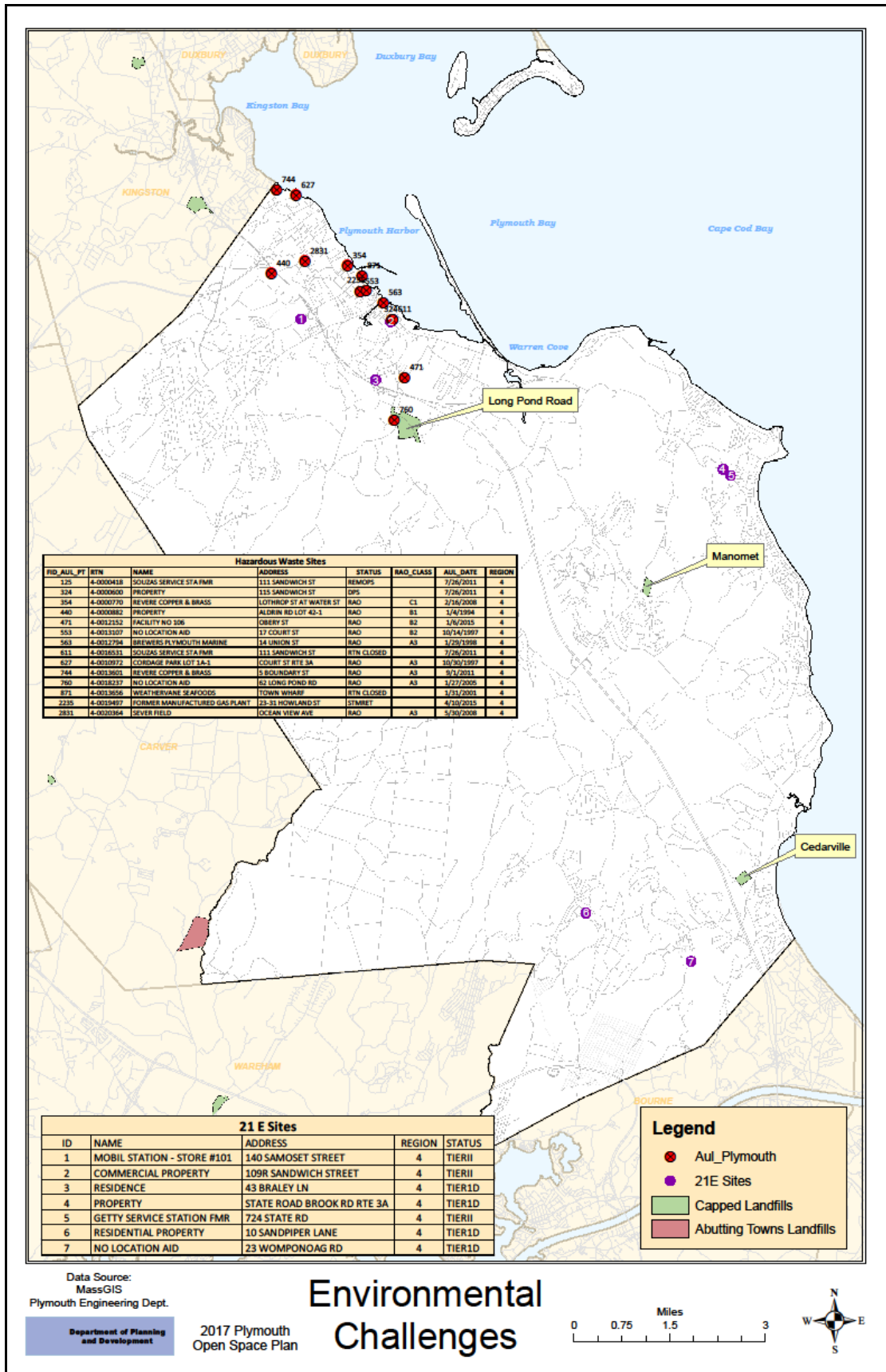
## **Chapter 21E**

DEP has identified seven 21E sites in Plymouth. Massachusetts General Law, Chapter 21E, the state Superfund law, was originally enacted in 1983 (and amended in 1992, 1995, and 1998), and created the waste site cleanup program. Contaminated properties regulated under this law are often called “21E sites” (**Map 21**).

- **23 Womponoag Road TIER ID**  
A site where the responsible party fails to provide a required submittal to MassDEP by a specified deadline
- **State Road and Brook Road TIER ID**  
A site where the responsible party fails to provide a required submittal to MassDEP by a specified deadline
- **43 Braley Lane TIER ID**  
A site where the responsible party fails to provide a required submittal to MassDEP by a specified deadline
- **10 Sandpiper Lane TIER ID**  
A site where the responsible party fails to provide a required submittal to MassDEP by a specified deadline
- **724 State Road TIER II**  
Permits are not required at Tier 2 sites and response action may be performed under the supervision of a Licensed Site Professional, without prior Departmental approval.
- **140 Samoset Street TIER II**  
Permits are not required at Tier 2 sites and response action may be performed under the supervision of a Licensed Site Professional, without prior Departmental approval.
- **109R Sandwich Street TIER II**  
Permits are not required at Tier 2 sites and response action may be performed under the supervision of a Licensed Site Professional, without prior Departmental approval.

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Map 21



## **Other Issues**

### ***Erosion***

As previously mentioned, Plymouth maintains 36 miles of coastal shoreline of both low-lying shoreline as well as coastal bluffs. A significant environmental challenge is protecting the coastal banks from erosion, due to run off and storm events. The coastal banks provide a natural barrier to dangerous storm surges and provide valuable habitat to many species of birds and reptiles, including those that are rare. Development pressures onto the shoreline further threaten to erode the coastal dunes and barrier beaches. Providing an adequate buffer around these coastal resources, as required by the Massachusetts Wetlands Protection Act, is crucial.

### ***Flooding***

There are two types of floodplain areas in Plymouth, inland and coastal. Inland floodplains are associated with isolated kettle ponds or with one of the six major river watersheds. Riverine flood risks are limited, but coastal flooding is a concern for the Town.

Flooding of coastal areas is a result of the combination of high tides and wind driven water in storm surges, generally during hurricanes, nor'easters or blizzards. The FEMA mapped areas most susceptible to velocity wave action and coastal flooding (Special Flood Hazard Areas; SFHAs) within Plymouth include; Plymouth Long Beach, Saquish Beach, and White Horse Beach.

Plymouth participates in the Community Rating System (CRS) program, which enables residents who own property within flood zones, to receive a discount on their flood insurance. Additionally, the Town maintains a Natural Hazard Mitigation Plan (May 2016) which is on file with the Planning Office. The Town provides annual educational outreach to all residents who own property within flood zones as well as real estate and insurance agencies.

### ***Sedimentation***

Sedimentation is not a major challenge within the Town largely due to the commonly coarse sandy soils which allows rainwater to absorb more rapidly thereby preventing excessive siltation. However; the town does require best management practices for all new development. Additionally, in 2009 the town adopted new Low Impact Development Stormwater design guidelines which further require applicants to design development projects that retrofit existing structures to improve water quality.

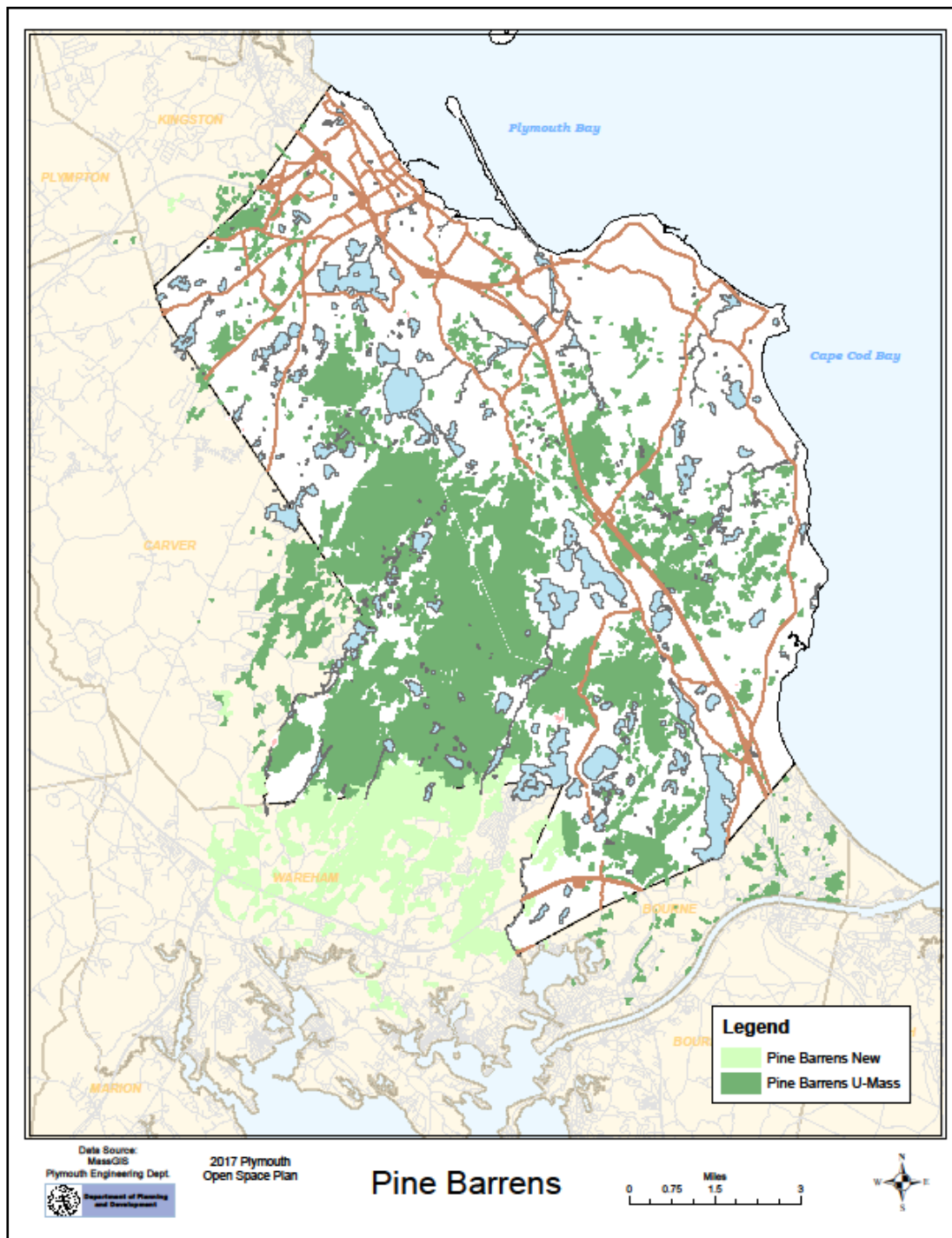
### ***Pine Barrens & Forest Issues***

According to Massachusetts Natural Heritage Endangered Species Program data, approximately 13,171 acres of Plymouth's forests consist of Pine Barrens, with over 8,000 acres within Myles Standish State Forest. The Pine Barrens are characterized by coastal pitch pine and scrub oak trees coupled with low lying berries and bracken fern. Plymouth's Pine Barrens forests are especially important because there are only three major concentrations of such forests in the world: Plymouth's Pine Barrens and the pine barren forests in New Jersey and Long Island. The sandy, well-drained soil in the Plymouth area provides the basis for the Pine Barrens. The Plymouth Pine Barrens contain several frost pockets, which are landscape depressions which can develop frost conditions throughout the year. Because frost is possible at any time, the depressions have few trees and support only low-lying vegetation such as scrub oak, huckleberry, bearberry and grasses.

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

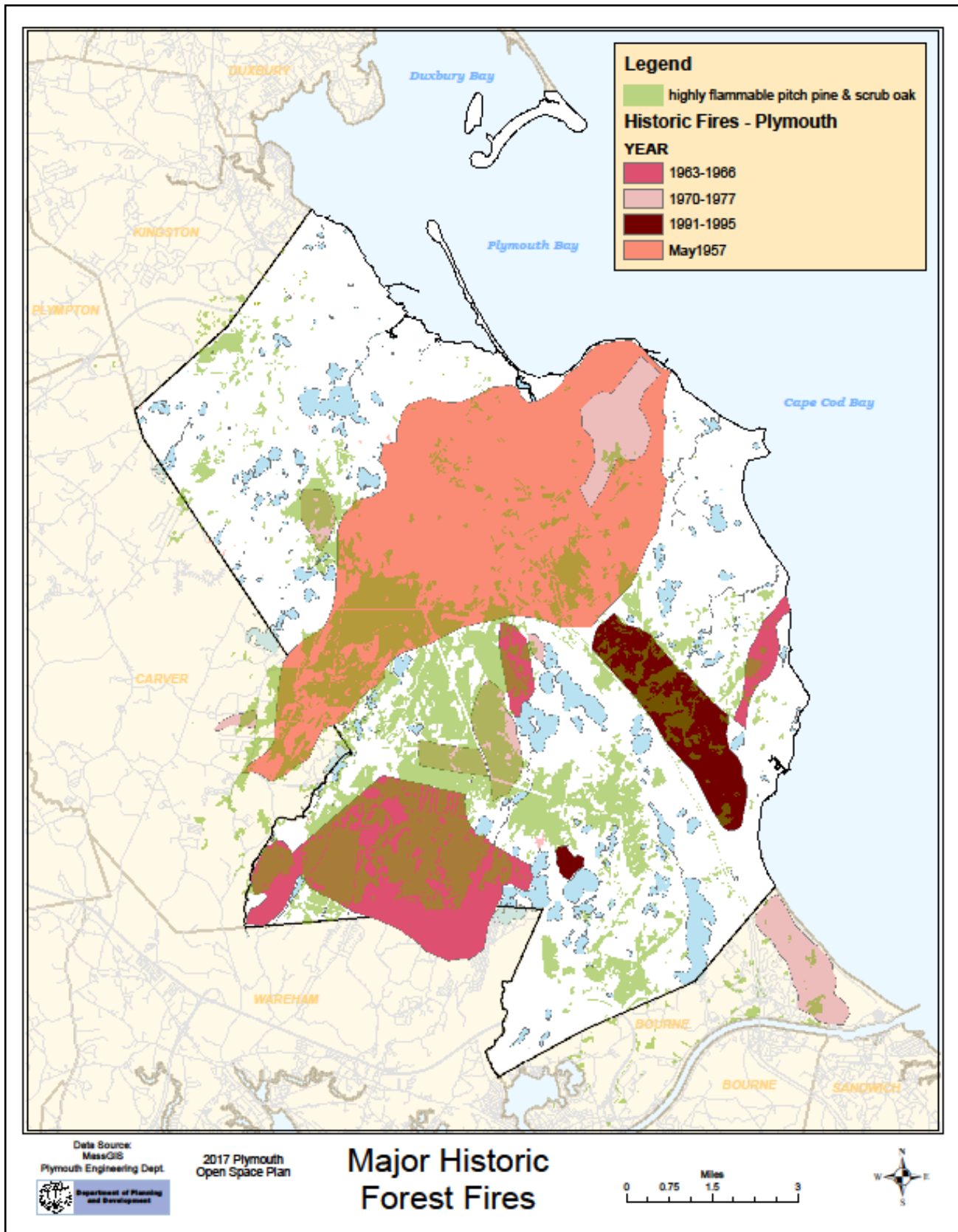
The Pine Barrens support six rare and endangered plant species and numerous common and rare animal species (**Map 22**).

**Map 22**



Fires play a critical role in maintaining the Pine Barrens communities, which have evolved to be fire dependent. The continued encroachment of residential development into pine barrens forest puts such homes at risk of destruction from wind-driven forest fires. It also increases the suppression of fires, which would otherwise burn out naturally. This effectively increases the intensity of catastrophic fires when they do occur because of the natural build-up of forest duff layers which burn at much higher temperatures and with more intensity than if they build up over time. The largest assemblage of pine barrens forest in Plymouth is Myles Standish State Forest. The oldest and largest public park in Massachusetts, Myles Standish has 12,500 acres of forestland with 16 ponds and a variety of recreational facilities. When Massachusetts originally acquired Myles Standish, much of the forest area had recently burned (**Map 23**).

Map 23



## **Section V - Inventory of Lands of Conservation and Recreation Interest**

Plymouth's abundance of open space presents both a threat and an opportunity. Substantial development of currently vacant lands would create unacceptably high densities in Plymouth, straining the Town's ability to provide services, maintain rural character, and protect natural resources. However, successful open space planning, including acquisition of key sites, strengthening of regulatory controls, and improvement of management and maintenance, will facilitate Plymouth's efforts to control sprawl, maintain water quality, and protect natural resources. Open space preservation is also a key component of Plymouth's efforts to attract tourism and provide recreational opportunities.

### **Definition of Open Space**

Land which may include the area within a water body and is dedicated or restricted either as a functional or visual Buffer or for outdoor use and/or for recreation, excluding areas reserved for vehicular travel or parking, other than parking accessory to the Open Space Use, and shall be designated as follows:

- Natural Open Space: areas of naturally existing fields, wooded areas and wetlands or other open areas, gardens and lawns;
- Recreational Open Space: areas containing playgrounds, swimming pools, tennis courts or similar recreational structures or facilities;
- Agricultural Open Space: areas in use for cultivation of forest and Farm products or any combination of the above;
- Utility Open Space: areas used for drainage.

### **Status of Protection as defined in the Open Space and Recreation Land Inventory**

*Myles Standish State Forest* represents approximately half of the publicly-owned open space in the Town of Plymouth (10,000 acres within Plymouth). In 2006, Myles Standish was designated a 'forest reserve' by the Commonwealth by the Executive Office of Energy and Environmental Affairs, changing the management of the forest from traditional land use and forestry practices to that of management of a rare natural resource. Identified resources include coastal plain ponds, globally rare pine barrens, the Plymouth-Carver Aquifer and two rivers. The Town of Plymouth, for the purposes of this inventory, has included Myles Standish as 'permanently protected' status. For the purposes of this study, lands held by the state and federal government that are managed as open space, including lands adjacent to Myles Standish State Forest, are considered 'permanently protected' status. Privately or publicly held lands with conservation restrictions or owned by a non-profit land trust are also listed as 'permanently protected' status, although the level of protection here may vary by individual parcel. Land under the care and custody of the Conservation Commission of the Town of Plymouth, currently at just over 2,800 acres, are also listed as 'permanently protected' status, due to their protection under Article 97 of the Articles of Amendment to the Constitution of the Commonwealth of Massachusetts.

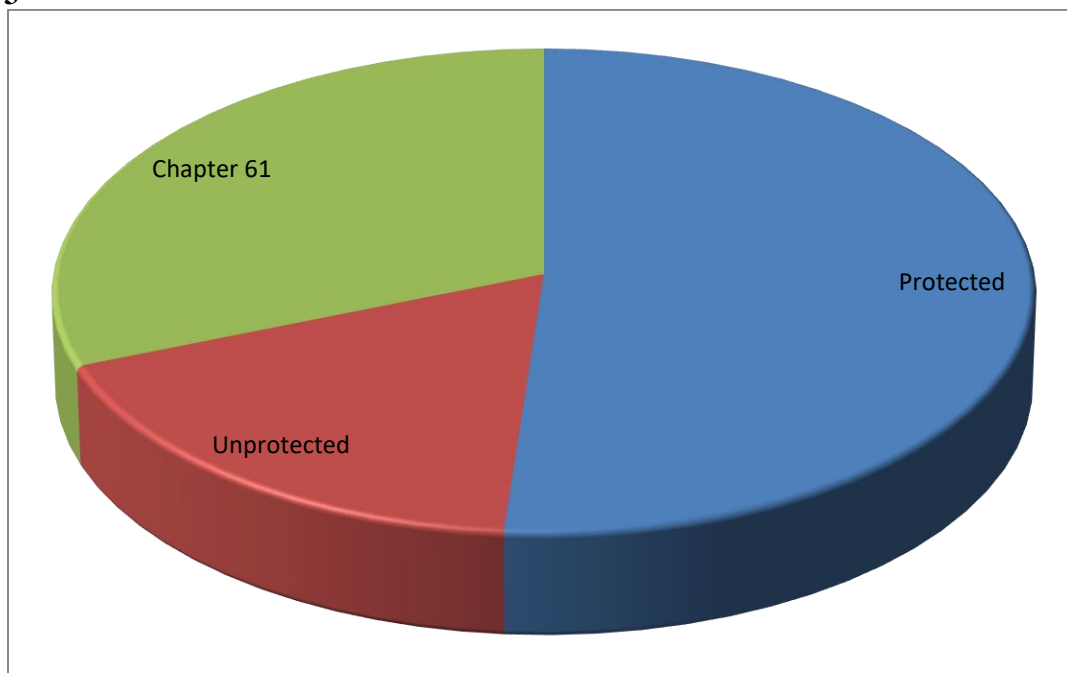
## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

*Tax title lands used primarily for drainage, but of significant size or proximity to a pond, may be listed as open space. Major cemeteries are included, such as Burial Hill in downtown Plymouth, in the inventory. Schools are not included in the open space inventory but are shown on the Planning map. Large tracts of land owned by the Town but currently used only as wooded land are designated as open space (such as large areas of tax title land) – these areas are not ‘named’, including the so-called ‘thousand acres’ in southern Plymouth.*

There are two major designations in the Town land inventory map: OS, which is not permanently protected, but used as open space, and OSPP, which designates permanently protected status as defined above.

There are approximately 36,891 acres of publicly and privately held open space located within the Town of Plymouth (**Chart 3 and Table 21**) which include protected, unprotected and land held under Chapter 61. The breakdown is as follows:

**Chart 3**



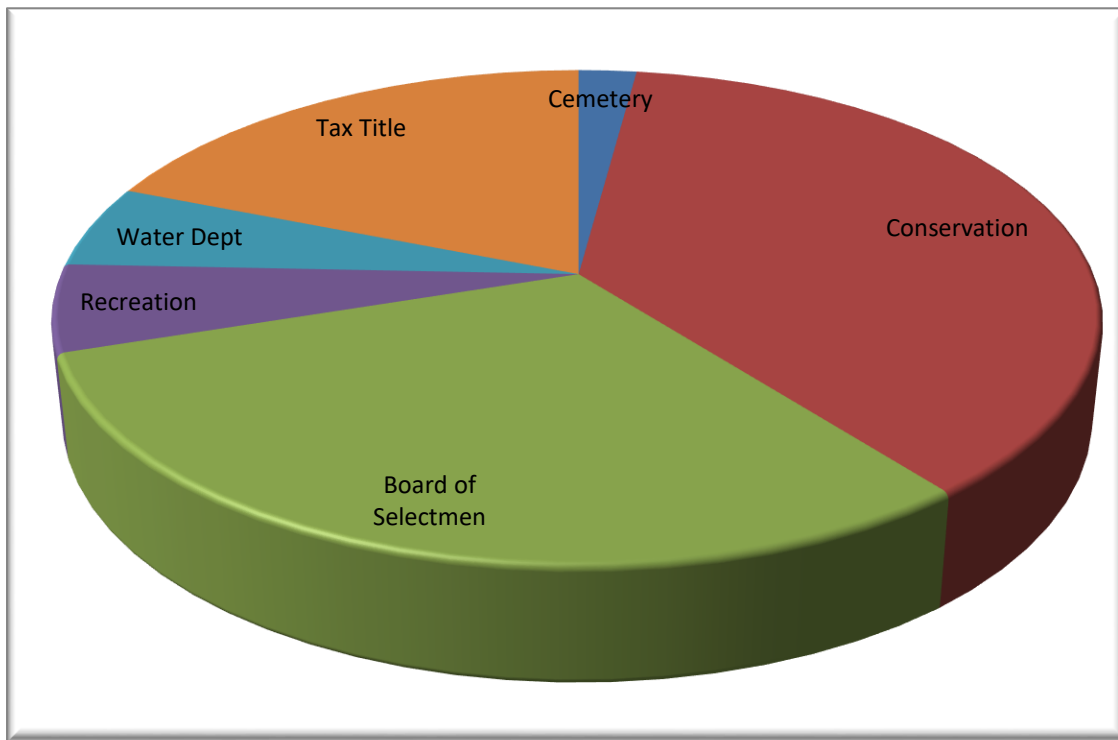
**Table 21 – Open Space in Plymouth**

DESIGNATION	ACREAGE
Protected	18,895
Unprotected	6,529
Chapter 61	11,467
Total Acreage	36,891

7,505 open space acres fall under the care and custody of the Town of Plymouth (**Chart 4 and**

**Table 22)** breakdown as follows:

**Chart 4**



**Table 22 – Town Department Open Space**

DEPARTMENT	ACREAGE
Cemetery	158
Conservation	2,801
Board of Selectmen	2,291
Recreation	428
Water	404
Tax Title	1,423
Total Acreage	7,505

## **Chapter Land**

The Town of Plymouth, according to late 2016 Assessor's Office data, has 472 parcels listed in the Chapter 61, 61A and 61B programs, totaling 11,467 acres of land in rural areas of town and broken down as follows:

**Table 23a – Chapter Lands**

<b>Plymouth Chapter Land</b>	
<b>Designation</b>	<b>Acreage</b>
Ch. 61	4,411
Ch. 61A	5,238
Ch. 61B	1,818
<b>Total</b>	<b>11,467</b>

Source: Plymouth Assessors Office - September 2016

A significant portion of these Chapter lands are associated with two large land owners within the Town of Plymouth. The Pinehills community, with approximately 1,110+/- acres and 2,655+/- acres of Chapter land is owned by the A.D. Makepeace Company, primarily known as the Frogfoot region of Plymouth. Approximately 125 acres of the remaining 7,702 acres is under permanent conservation status through various conservation restrictions. There are approximately 125 Chapter land property owners outside of the Pinehills Development, A.D. Makepeace and Entergy properties.

The Town's Community Preservation Committee and other non-profit groups distribute annual mailings and sponsor workshops on land preservation techniques to larger land-holders. These organizations engage those who have expressed interest in preserving their lands through one of several protective status strategies. In addition, the Town's TDR Bylaw allows parcels in these areas of town to transfer development rights, allowing other protection options as an alternative to outright purchase.

**Table 23b – Chapter Land List**

<b>Parcel ID</b>	<b>Location</b>	<b>LUC</b> 600: Forestry 700: Agricultural 800: Recreation	<b>Acres</b>	<b>Appraised Value</b> <b>Land Price</b>	<b>Assessed Value</b>
002-000-022-000	CRAN BOG	710A	1.42	\$21,300	\$4,473
002-000-022-000	CRAN BOG	720	1.17	\$10,530	\$47
004-000-050-000	12 SO CHERRY ST	803	3.26	\$65,200	\$16,300
005-000-031A-000	SAVERY AV	803	10.35	\$207,000	\$51,750
027-000-058-006	BILLINGTON ST	713	13.15	\$263,000	\$2,104
027-000-154-000	31 NOOK RD	803	2.06	\$41,200	\$10,300
027-000-154-000	31 NOOK RD	803	6.00	\$54,000	\$13,500
035-000-009C-004	0 SANDWICH ST	803	0.46	\$175,000	\$43,750
035-000-009C-004	0 SANDWICH ST	803	2.80	\$55,940	\$13,985
035-000-009C-005	SANDWICH ST	803	0.46	\$175,000	\$43,750

035-000-009C-005	SANDWICH ST	803	1.51	\$30,280	\$7,570
037A-000-003-000	RYDER WAY	803	11.34	\$227,800	\$56,950
042-000-019D-000	221 WARREN AV	805	172.60	\$2,588,955	\$647,239
042-000-043-006	57 DOTEN RD	713	9.08	\$181,600	\$1,453
042-000-043-006	57 DOTEN RD	717	10.70	\$214,000	\$535
042-000-052-000	DOTEN RD	713	19.74	\$177,660	\$3,158
042-000-052A-000	OLD SANDWICH RD	713	0.46	\$175,000	\$73
042-000-052A-000	OLD SANDWICH RD	713	3.60	\$72,000	\$576
042-000-055A-000	OFF DOTEN RD	601	11.00	\$220,000	\$550
042-000-055A-001	DOTEN RD	713	28.15	\$253,350	\$4,504
042-000-055A-001	DOTEN RD	717	9.38	\$84,420	\$469
043-000-011-000	159 ROCKY HILL RD	601	0.46	\$140,000	\$20
043-000-011-000	159 ROCKY HILL RD	601	1.84	\$78,400	\$80
043-000-011-000	159 ROCKY HILL RD	601	193.67	\$1,954,823	\$9,684
043-000-011D-000	STATE RD	601	0.46	\$140,000	\$20
043-000-011D-000	STATE RD	601	40.54	\$810,800	\$2,027
043-000-011E-000	STATE RD	601	0.46	\$140,000	\$20
043-000-011E-000	STATE RD	601	0.92	\$39,200	\$40
043-000-011E-000	STATE RD	601	91.42	\$2,813,557	\$4,571
043-000B-124-000	189 ROCKY HILL RD	601	0.33	\$6,600	\$17
044-000-001A-000	680 ROCKY HILL RD	601	8.45	\$169,000	\$423
044-000-002-000	ROCKY HILL RD	601	84.57	\$1,333,543	\$4,229
044-000-002-000	ROCKY HILL RD	601	1.38	\$294,000	\$60
044-000-013-000	423 STATE RD	601	20.26	\$405,200	\$1,013
044-000-027-000	STATE RD	601	0.46	\$140,000	\$20
044-000-027-000	STATE RD	601	4.90	\$98,000	\$245
044-006-525-000	769 ROCKY HILL RD	601	277.94	\$2,364,725	\$13,897
044-006-527-000	379 STATE RD	601	40.06	\$801,200	\$2,003
045-000-045B-000	20 BARTLETT RD	713	6.74	\$135,800	\$1,078
045-000-045B-000	20 BARTLETT RD	713	0.46	\$130,000	\$73
045-000-045B-000	20 BARTLETT RD	720	8.32	\$166,400	\$333
045-000-065-580	STATE RD	717	6.93	\$139,600	\$347
045-000-066-000	549 STATE RD	717	0.34	\$7,800	\$17
045-000-067-000	545 STATE RD	717	0.45	\$9,000	\$23
045-000-079C-000	36 BEAVER DAM RD	601	14.70	\$294,000	\$735
045-000-079C-001	BEAVER DAM RD	601	0.68	\$6,570	\$34
047-000-014-001	66 SANDWICH RD	803	17.40	\$348,000	\$87,000
047-000-014-002	64 SANDWICH RD	803	0.46	\$175,000	\$43,750
047-000-014-002	64 SANDWICH RD	803	1.99	\$17,910	\$4,477
047-000-021-000	80 -94 SANDWICH RD	601	0.46	\$175,000	\$20
047-000-021-000	80 -94 SANDWICH RD	601	42.54	\$850,800	\$2,127

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048-049-000B-001	OFF MANOMET AV	811	0.46	\$35,750	\$8,938
048-049-000B-001	OFF MANOMET AV	811	17.89	\$177,111	\$44,278
050-000-003-000	SHIP PD MARSH	803	0.46	\$113,750	\$28,438
050-000-003-000	SHIP PD MARSH	803	5.10	\$55,080	\$13,770
050-000-004K-001	21 CENTER HILL RD	710B	2.75	\$41,250	\$7,425
050-000-004K-001	21 CENTER HILL RD	715	1.63	\$32,600	\$176
050-000-004K-001	21 CENTER HILL RD	716	2.25	\$20,250	\$360
050-000-004K-002U	25 -47 CENTER HILL RD	710E	7.00	\$105,000	\$9,450
050-000-004K-002U	25 -47 CENTER HILL RD	716	5.82	\$52,380	\$931
051-000-012E-000	1320 OLD SANDWICH RD	601	24.46	\$490,200	\$1,223
051-000-012E-000	1320 OLD SANDWICH RD	718	10.54	\$210,800	\$1,686
052-000-020A-003	OFF CENTER HILL RD	717	0.46	\$143,000	\$22
052-000-020A-003	OFF CENTER HILL RD	717	6.47	\$58,230	\$324
052-000-043-009	STATE RD	710C	4.89	\$73,335	\$11,000
052-000-044-059	1646 STATE RD	710C	9.10	\$136,500	\$20,475
052-000-044-059	1646 STATE RD	716	0.46	\$130,000	\$74
052-000-044-059	1646 STATE RD	716	4.03	\$36,270	\$645
055-000-044-000	1060 -1070 LONG POND RD	601	0.46	\$120,000	\$20
055-000-044-000	1060 -1070 LONG POND RD	601	0.46	\$24,000	\$20
055-000-044-000	1060 -1070 LONG POND RD	601	14.74	\$294,800	\$737
055-000-052A-001	143 HEDGES POND RD	710D	9.20	\$138,000	\$16,560
055-000-052A-001	143 HEDGES POND RD	716	9.20	\$82,800	\$1,472
055-000-052A-001	143 HEDGES POND RD	720	9.64	\$86,760	\$386
055-000-053-000	MT HILL RD	710D	9.12	\$136,800	\$16,416
055-000-053-000	MT HILL RD	716	9.12	\$82,080	\$1,459
055-000-053-000	MT HILL RD	720	27.00	\$243,000	\$1,080
057-000-035-012	6 CEDAR OAK DR	718	9.00	\$81,000	\$1,440
058-000-032-001	450 LITTLE SANDY POND RD	805	173.69	\$1,302,649	\$325,662
059-000-017B-000	103 HASKELL RD	803	7.00	\$63,000	\$15,750
059-000-018-000	HERRING POND	803	1.67	\$4,008	\$4,000
059-000-018-000	HERRING POND	803	0.40	\$3,600	\$900
059-000-019-000	GREAT HERRING POND	803	2.00	\$4,800	\$4,800
059-000-019-000	GREAT HERRING POND	803	0.75	\$6,750	\$1,687
059-000-027-048	ISLAND POND	601	11.14	\$222,800	\$557
060-000-003-036	44 MOUNTAIN HILL RD	717	35.45	\$709,000	\$1,773
061-000-020B-000	63 R QUAIL RUN	717	6.89	\$137,800	\$345
061-000-023A-000	158 MOUNTAIN HILL RD	601	16.36	\$327,200	\$818
061-000-026A-000	168 MOUNTAIN HILL RD	601	0.30	\$6,000	\$15
061-000-033-001	121 MOUNTAIN HILL RD	710D	16.22	\$243,300	\$29,196
061-000-033-001	121 MOUNTAIN HILL RD	716	24.33	\$154,820	\$3,893
061-000-033-001	121 MOUNTAIN HILL RD	717	23.94	\$338,530	\$1,197

061-000-033-001	121 MOUNTAIN HILL RD	720	44.91	\$285,778	\$1,796
063-000-005A-000	OFF SANDWICH RD	601	1.10	\$10,350	\$55
063-000-005A-000	OFF SANDWICH RD	716	0.90	\$8,100	\$144
063-000-006A-000	OFF SANDWICH RD	601	0.78	\$7,020	\$39
063-000-006A-000	OFF SANDWICH RD	716	4.22	\$38,430	\$675
063-000-006B-000B	OFF SANDWICH RD	710B	2.48	\$37,200	\$6,696
063-000-010-000U	1079 R OLD SANDWICH RD	601	50.67	\$399,431	\$2,534
063-000-010-000U	1079 R OLD SANDWICH RD	710B	5.00	\$75,000	\$13,500
063-000-010-000U	1079 R OLD SANDWICH RD	716	3.11	\$24,516	\$498
063-000-010-000U	1079 R OLD SANDWICH RD	720	4.00	\$11,211	\$160
063-000-011-000	NR DUGWAY POND	601	10.62	\$96,030	\$531
063-000-012-000	DUGWAY POND	601	4.12	\$37,530	\$206
063-000-014-000U	DUGWAY POND	717	56.40	\$479,250	\$2,820
063-000-015-000	BLOODY POND	716	3.43	\$25,150	\$549
063-000-015-000	BLOODY POND	717	76.28	\$549,298	\$3,814
063-000-015-000	BLOODY POND	720	3.59	\$9,192	\$144
063-000-018-001	1067 OLD SANDWICH RD	716	2.56	\$23,040	\$410
063-000-018-001	1067 OLD SANDWICH RD	717	23.56	\$471,200	\$1,178
063-000-018-001	1067 OLD SANDWICH RD	718	19.00	\$380,000	\$3,040
064-000-012A-000	838 -858 LONG POND RD	803	7.00	\$63,000	\$15,750
064-000-012A-000	838 -858 LONG POND RD	803	9.13	\$182,600	\$45,650
064-000-013A-000	878 LONG POND RD	803	26.00	\$234,000	\$58,500
064-000-013A-000	878 LONG POND RD	803	5.62	\$17,984	\$4,496
064-000-013A-000	878 LONG POND RD	803	9.00	\$180,020	\$45,005
065-000-007-000	963 OLD SANDWICH RD	601	0.46	\$130,000	\$20
065-000-007-000	963 OLD SANDWICH RD	601	39.84	\$796,820	\$1,992
066-000-001-086	240 MAST RD	713	10.81	\$216,200	\$1,730
066-000-001-087	220 MAST RD	601	11.08	\$221,600	\$554
066-000-001-105	9 RIESLING RD	713	5.20	\$46,800	\$832
066-000-001-105	9 RIESLING RD	717	9.46	\$85,140	\$473
066-000-001-106	22 RIESLING RD	601	0.46	\$189,000	\$20
066-000-001-106	22 RIESLING RD	601	1.26	\$11,340	\$63
066-000-001-106	22 RIESLING RD	601	18.30	\$366,000	\$915
066-000-001-107	20 RIESLING RD	601	11.40	\$102,600	\$570
066-000-001-108	7 STEEPLE CHASE	601	10.34	\$93,060	\$517
067-000-001-088	190 MAST RD	601	10.89	\$217,800	\$545
070-000-004-000U	THRASHER RD	717	82.80	\$598,050	\$4,140
070-000-005-001	305 INDIAN BROOK RD	716	2.00	\$18,000	\$320
070-000-005-001	305 INDIAN BROOK RD	720	1.17	\$23,400	\$47
070-000-005-002	311 INDIAN BROOK RD	716	3.63	\$32,670	\$581
070-000-009-000	922 OLD SANDWICH RD	601	36.15	\$723,000	\$1,808

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070-000-014A-001U	1030 OLD SANDWICH RD	710B	11.00	\$165,000	\$29,700
070-000-014A-001U	1030 OLD SANDWICH RD	716	0.50	\$4,950	\$80
070-000-014A-001U	1030 OLD SANDWICH RD	716	3.50	\$11,200	\$560
070-000-014A-001U	1030 OLD SANDWICH RD	717	12.71	\$254,200	\$636
070-000-014A-001U	1030 OLD SANDWICH RD	720	10.29	\$205,800	\$412
070-000-014A-002	1004 OLD SANDWICH RD	716	1.11	\$10,440	\$178
070-000-014A-002	1004 OLD SANDWICH RD	717	2.22	\$44,400	\$111
070-000-016-000	BRIGGS RESERVOIR	716	19.10	\$172,350	\$3,056
070-000-017-000	900 OLD SANDWICH RD	601	10.10	\$202,000	\$505
072-000-001A-000U	INDIAN BROOK RD	710D	46.83	\$702,450	\$84,294
072-000-001A-000U	INDIAN BROOK RD	716	45.01	\$313,266	\$7,202
072-000-001B-001	310 INDIAN BROOK RD	716	3.63	\$32,670	\$581
072-000-005-000U	1253 R STATE RD	710C	4.00	\$60,000	\$9,000
072-000-005-000U	1253 R STATE RD	714	4.00	\$36,000	\$2,944
072-000-005-000U	1253 R STATE RD	716	4.00	\$36,000	\$640
072-000-005-000U	1253 R STATE RD	720	2.00	\$6,400	\$80
072-000-005-000U	1253 R STATE RD	720	7.15	\$64,350	\$286
072-000-006-000U	1251 R STATE RD	710E	8.00	\$120,000	\$10,800
072-000-006-000U	1251 R STATE RD	714	2.00	\$14,000	\$1,472
072-000-006-000U	1251 R STATE RD	716	2.00	\$4,978	\$320
072-000-006-000U	1251 R STATE RD	716	10.00	\$70,000	\$1,600
072-000-006-000U	1251 R STATE RD	720	20.00	\$140,000	\$800
073-000-001A-000U	INDIAN BROOK RD	710D	47.72	\$715,800	\$85,896
073-000-001A-000U	INDIAN BROOK RD	716	47.76	\$801,575	\$7,642
073-000-002-000	OFF INDIAN BROOK RD	716	18.11	\$399,520	\$2,898
073-000-003-000	OFF INDIAN BROOK RD	716	9.77	\$272,210	\$1,563
075-000-004-000	BARTLETT RD	717	10.73	\$215,600	\$537
075-000-006-004	OFF BARTLETT RD	717	7.44	\$67,410	\$372
075-000-009-029	264 BEAVER DAM RD	716	0.46	\$150,150	\$74
075-000-009-029	264 BEAVER DAM RD	716	1.56	\$14,040	\$250
075-000-009-032	BOGSIDE DR	716	0.46	\$17,550	\$74
075-000-009-032	BOGSIDE DR	716	0.66	\$5,940	\$106
075-000-009-032	BOGSIDE DR	720	0.12	\$109	\$5
075-000-009-035	HIGHVIEW RD	716	0.46	\$143,000	\$74
075-000-009-035	HIGHVIEW RD	716	0.23	\$2,070	\$37
075-000-009-035	HIGHVIEW RD	720	0.41	\$367	\$16
075-000-009-040	HOLLIS RD	710C	2.34	\$35,100	\$5,265
075-000-009-040	HOLLIS RD	716	3.26	\$29,790	\$522
075-000-009-041	HIGHVIEW RD	803	8.54	\$81,176	\$20,294
075-000-009-044	BOGSIDE DR	710C	5.86	\$87,900	\$13,185
075-000-009-044	BOGSIDE DR	716	4.15	\$37,350	\$664

075-000-017-001	168 BEAVER DAM RD	806	5.80	\$116,000	\$29,000
076-000-003-000	STATE RD	601	0.46	\$130,000	\$20
076-000-003-000	STATE RD	601	21.42	\$428,420	\$1,071
076-000-004-000	STATE RD	601	0.46	\$130,000	\$20
076-000-004-000	STATE RD	601	24.70	\$494,000	\$1,235
076-000-005-000	4 STATE RD	601	0.46	\$130,000	\$20
076-000-005-000	4 STATE RD	601	34.56	\$691,200	\$1,728
076-000-006-000A	OFF BEAVER DAM RD	717	26.40	\$496,969	\$1,320
076-000-031A-000	70 MINUTEMAN LN	717	10.36	\$93,240	\$518
077A-000-000A-001	444 LONG POND RD	805	181.11	\$2,716,650	\$679,162
077A-000-000S-006	PEBBLE BEACH DR	805	25.06	\$225,540	\$56,385
077A-000-000S-007	PEBBLE BEACH DR	805	15.83	\$142,470	\$35,617
077B-000-000S-158	0 OLD SANDWICH RD	601	110.52	\$698,670	\$5,526
077C-000-000G-003	0 OLD SANDWICH RD	805	9.09	\$194,753	\$48,688
077C-000-000G-004A	0 OLD SANDWICH RD	805	1.00	\$402,930	\$100,733
077C-000-000G-004A	0 OLD SANDWICH RD	805	23.70	\$370,756	\$92,689
077C-000-000G-005A	0 OLD SANDWICH RD	805	1.00	\$402,930	\$100,733
077C-000-000G-005A	0 OLD SANDWICH RD	805	13.08	\$240,568	\$60,142
077C-000-000G-006	0 STONEBRIDGE RD	805	1.00	\$402,930	\$100,733
077C-000-000G-006	0 STONEBRIDGE RD	805	19.44	\$318,877	\$79,719
077C-000-000S-097	HEARTHSTONE	803	1.84	\$16,560	\$4,140
077C-000-000S-145	0 STONEBRIDGE RD	803	1.04	\$9,360	\$2,340
077C-000-000S-147	3 CHIPPING HILL	803	0.36	\$3,240	\$810
077C-000-000S-148	OLD SANDWICH RD	601	11.59	\$104,310	\$580
077C-000-000S-157	0 STONEBRIDGE RD	803	5.39	\$48,510	\$12,127
077C-000-000S-162	0 STONEBRIDGE RD	803	2.07	\$18,630	\$4,657
077C-000-000S-163	OFF STONEBRIDGE RD	601	71.14	\$522,488	\$3,557
077C-000-000S-163	OFF STONEBRIDGE RD	803	7.96	\$58,462	\$14,616
077C-000-000S-179	BOULDER RIDGE	803	0.34	\$3,060	\$765
077C-000-000S-180	STONEBRIDGE RD	803	1.03	\$9,270	\$2,317
077D-000-000A-060	53 STONEBRIDGE RD	803	9.03	\$81,270	\$20,317
077D-000-000A-061	0 STONEBRIDGE RD	803	1.50	\$13,500	\$3,375
077D-000-000G-007A	54 CLUB HOUSE DR	805	99.75	\$1,496,320	\$374,080
077D-000-000G-008	0 SUMMER HOUSE DR	805	3.00	\$1,087,911	\$271,978
077D-000-000G-008	0 SUMMER HOUSE DR	805	97.21	\$1,458,150	\$364,537
077D-000-000S-053	BRIDGE GATE	803	0.35	\$3,150	\$787
077D-000-000S-054	BRIDGE GATE	803	2.55	\$22,950	\$5,737
077D-000-000S-057	BRIDGE GATE	803	1.27	\$11,430	\$2,857
077D-000-000S-149	0 OLD SANDWICH RD	601	19.15	\$172,350	\$958
077D-000-000S-151	0 CLARK RD	601	1.66	\$14,940	\$83
077D-000-000S-159	0 PINEHILLS DR	601	11.88	\$106,920	\$594

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077D-000-000S-164	0 CLARK RD	601	5.30	\$47,700	\$265
077D-000-000S-207	0 CLARK RD	601	1.46	\$13,140	\$73
077D-000-000S-211	PINEHILLS DR	601	9.31	\$186,200	\$466
077E-000-014-002	CLARK RD	601	25.55	\$511,000	\$1,278
078A-000-000A-261	248 OLD SANDWICH RD	601	150.44	\$1,015,470	\$7,522
078A-000-000A-261	248 OLD SANDWICH RD	601	52.10	\$781,500	\$2,605
078A-000-000S-210	0 OLD SANDWICH RD	601	5.71	\$51,390	\$286
078A-000-001-040G	OLD SANDWICH RD	601	35.38	\$707,600	\$1,769
078B-000-000S-106	SACRIFICE ROCK RD	601	6.45	\$58,050	\$323
078C-000-000G-001A	0 OLD SANDWICH RD	805	1.00	\$402,930	\$100,733
078C-000-000G-001A	0 OLD SANDWICH RD	805	9.98	\$201,563	\$50,391
078C-000-000G-001C	0 OLD SANDWICH RD	805	1.00	\$402,930	\$100,733
078C-000-000G-001C	0 OLD SANDWICH RD	805	18.73	\$310,198	\$77,550
078C-000-000G-002D	0 OLD SANDWICH RD	805	45.54	\$683,087	\$170,772
078C-000-000S-126	RYECROFT	601	4.97	\$44,730	\$248
078C-000-000S-153	0 BEAVER DAM RD	601	17.73	\$159,570	\$887
078C-000-000S-155	0 OLD SANDWICH RD	803	2.13	\$19,170	\$4,793
078C-000-000S-161	0 BEAVER DAM RD	601	2.74	\$24,660	\$137
078C-000-000S-177	0 OLD SANDWICH RD	601	11.39	\$102,510	\$570
078C-000-000S-194	0 OLD SANDWICH RD	803	9.03	\$81,270	\$20,317
078C-000-011-004	431 BEAVER DAM RD	601	11.50	\$99,363	\$575
078D-000-000S-104	0 BEAVER DAM RD	601	2.97	\$26,748	\$149
078D-000-000S-152	400 BEAVER DAM RD	803	6.63	\$51,955	\$12,989
078D-000-000S-176	GREAT ISLAND	601	13.99	\$125,910	\$700
078D-000-000S-188	0 GREAT ISLAND	601	1.08	\$9,720	\$54
078D-000-000S-189	0 BEAVER DAM RD	601	17.62	\$158,580	\$881
079A-000-001A-002	OFF JORDAN RD	601	24.00	\$480,000	\$1,200
079A-000-001A-009	91 BUMP ROCK RD	601	10.20	\$204,000	\$510
079A-000-001A-011	50 - 60 FORGE DR	717	0.46	\$210,000	\$22
079A-000-001A-011	50 - 60 FORGE DR	717	2.36	\$21,240	\$118
079A-000-001A-012	66 FORGE DR	717	3.71	\$74,200	\$186
079A-000-001A-014	76 FORGE DR	717	14.00	\$336,000	\$700
079A-000-001A-017	BUMP ROCK RD	601	10.47	\$209,400	\$524
079A-000-001A-018	BUMP ROCK RD	601	14.95	\$299,000	\$748
079A-000-001A-019	150 BUMP ROCK RD	601	28.48	\$256,320	\$1,424
079A-000-004-000	173 -177 JORDAN RD	601	0.46	\$175,000	\$20
079A-000-004-000	173 -177 JORDAN RD	601	10.67	\$213,420	\$534
080-000-001-004	122 OLD SANDWICH RD	601	48.57	\$883,820	\$2,429
080-000-001-004	122 OLD SANDWICH RD	716	0.10	\$1,820	\$16
080-000-001-004	122 OLD SANDWICH RD	718	11.87	\$215,996	\$1,899
080-000-001-004	122 OLD SANDWICH RD	718	0.46	\$175,000	\$74

080-000-001A-000	74 OLD SANDWICH RD	718	38.50	\$731,228	\$6,160
080-000-001A-000	74 OLD SANDWICH RD	720	15.25	\$289,642	\$610
080-000-003-001	OLD SANDWICH RD	710E	7.15	\$107,250	\$9,653
080-000-003-001	OLD SANDWICH RD	716	5.60	\$50,400	\$896
080-000-003B-003	OLD SANDWICH RD	710E	3.80	\$57,000	\$5,130
080-000-003B-003	OLD SANDWICH RD	716	10.83	\$97,470	\$1,733
080-000-003B-003	OLD SANDWICH RD	720	3.41	\$30,690	\$136
080-000-004A-002B	OLD SANDWICH RD	720	0.68	\$6,120	\$27
080-000-008-004	OLD SANDWICH RD	713	0.46	\$210,000	\$73
080-000-008-004	OLD SANDWICH RD	713	5.19	\$103,800	\$830
080-000-008-004	OLD SANDWICH RD	720	2.10	\$42,000	\$84
080-000-008A-000	OLD SANDWICH RD	716	9.00	\$180,000	\$1,440
080-000-014B-000	227 JORDAN RD	713	3.90	\$78,000	\$624
080-000-014C-000	233 JORDAN RD	713	9.00	\$180,000	\$1,440
080-000-014C-000	233 JORDAN RD	718	9.07	\$181,400	\$1,451
081-000-013-002	70 JORDAN RD	806	7.50	\$67,500	\$16,875
082-000-004-005	0 E RUSSELL MILLS RD	601	5.46	\$49,140	\$273
082-000-004-006	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-006	0 E RUSSELL MILLS RD	601	1.29	\$11,610	\$65
082-000-004-007	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-007	0 E RUSSELL MILLS RD	601	1.47	\$13,230	\$74
082-000-004-008	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-008	0 E RUSSELL MILLS RD	601	0.46	\$4,140	\$23
082-000-004-009	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-009	0 E RUSSELL MILLS RD	601	0.68	\$6,120	\$34
082-000-004-010	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-010	0 E RUSSELL MILLS RD	601	1.31	\$11,790	\$66
082-000-004-011	0 E RUSSELL MILLS RD	601	0.46	\$17,500	\$20
082-000-004-011	0 E RUSSELL MILLS RD	601	0.49	\$4,450	\$25
082-000-004-012	0 E RUSSELL MILLS RD	601	0.46	\$175,000	\$20
082-000-004-012	0 E RUSSELL MILLS RD	601	1.81	\$16,290	\$91
082-000-004-013	0 E RUSSELL MILLS RD	601	0.12	\$14,885	\$5
082-000-004-014	0 E RUSSELL MILLS RD	601	0.11	\$14,831	\$5
082-000-012-047	50 HAYDEN HOLLOW	601	11.59	\$231,800	\$580
082-000-012-047	50 HAYDEN HOLLOW	718	15.00	\$300,000	\$2,400
082-000-018-000	OFF SANDWICH RD	720	2.37	\$47,400	\$95
082-000-020-000	127 -129 SANDWICH RD	720	3.24	\$64,800	\$130
082-000-023-000	135 -139 SANDWICH RD	713	9.67	\$193,400	\$1,547
082-000-023-000	135 -139 SANDWICH RD	806	29.00	\$580,000	\$145,000
082-000-026C-000	222 JORDAN RD	717	7.31	\$146,200	\$366
082-000-028A-000	OFF JORDAN RD	601	1.02	\$22,440	\$51

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082-000-045B-004	RUSSELL MILLS RD	717	7.00	\$63,000	\$350
082-000-052B-000	RUSSELL MILLS RD	601	6.56	\$59,040	\$328
082-000-053A-000	RUSSELL MILLS RD	601	3.64	\$32,760	\$182
082-000-058A-001	0 RUSSELL MILLS RD	601	5.40	\$108,000	\$270
082-000-058A-002	0 RUSSELL MILLS RD	601	3.46	\$69,200	\$173
082-000-058A-003	0 RUSSELL MILLS RD	601	1.44	\$28,800	\$72
082-000-059-003	23 RUSSELL MILLS RD	717	11.39	\$227,800	\$570
083-000-019L-000	RUSSELL MILLS RD	601	94.00	\$1,156,131	\$4,700
083-000-019L-000	RUSSELL MILLS RD	601	43.00	\$237,991	\$2,150
084-000-020-002	GUNNERS EXCHANGE RD	601	0.46	\$140,000	\$20
084-000-020-002	GUNNERS EXCHANGE RD	601	0.46	\$140,000	\$20
084-000-020-002	GUNNERS EXCHANGE RD	601	12.81	\$256,200	\$641
084-000-020-002	GUNNERS EXCHANGE RD	601	0.85	\$7,650	\$43
084-000-030A-002	100 BOOT POND RD	717	0.46	\$140,000	\$22
084-000-030A-002	100 BOOT POND RD	717	0.92	\$8,280	\$46
084-000-031A-000	31 CEMETERY HILL RD	717	9.93	\$198,600	\$497
085-000-022-000	178 GUNNERS EXCHANGE RD	715	0.60	\$12,000	\$65
085-000-022-000	178 GUNNERS EXCHANGE RD	717	10.26	\$205,200	\$513
085-000-022-000	178 GUNNERS EXCHANGE RD	718	2.00	\$40,000	\$320
086-000-002A-000	151 COLLEGE POND RD	601	32.41	\$648,200	\$1,621
086-000-002H-000	147 COLLEGE POND RD	601	13.94	\$278,800	\$697
086-000-007-001	KNOTTY PINES RD	717	0.46	\$140,000	\$22
086-000-007-001	KNOTTY PINES RD	717	0.92	\$8,280	\$46
086-000-007-001	KNOTTY PINES RD	717	6.63	\$132,600	\$332
086-000-007-020A	COLLEGE POND RD	601	15.58	\$311,600	\$779
086-000-015-002	105 GUNNERS EXCHANGE RD	710E	19.37	\$290,550	\$26,150
086-000-015-002	105 GUNNERS EXCHANGE RD	716	8.01	\$70,335	\$1,282
086-000-015-002	105 GUNNERS EXCHANGE RD	720	20.71	\$181,852	\$828
087-000-008-000U	SO, POND RD	710C	8.74	\$131,100	\$19,665
087-000-008-000U	SO, POND RD	716	13.11	\$117,990	\$2,098
087-000-008-000U	SO, POND RD	720	0.92	\$8,280	\$37
087-000-033-000	84 OLD BOG RD	717	43.86	\$877,200	\$2,193
087-000-045-000	KNOTTY PINES RD	601	0.63	\$12,600	\$32
087-000-054-000	DOGWOOD DR	717	0.46	\$19,600	\$22
087-000-054-000	DOGWOOD DR	717	0.32	\$2,880	\$16
087-000-056-006	SHALLOP RD	803	0.46	\$140,000	\$35,000
087-000-056-006	SHALLOP RD	803	2.39	\$21,510	\$5,378
087-000-056-007	SHALLOP RD	803	0.46	\$140,000	\$35,000
087-000-056-007	SHALLOP RD	803	2.66	\$23,940	\$5,985

088-000-001-000U	80 SO TRIANGLE POND RD	710D	2.66	\$39,900	\$4,788
088-000-001-000U	80 SO TRIANGLE POND RD	716	2.50	\$22,500	\$400
088-000-001-000U	80 SO TRIANGLE POND RD	720	5.09	\$45,810	\$204
088-000-015A-000	120 R DREW RD	717	6.22	\$124,400	\$311
088-000-023-005	15 FOX WOODS RD	717	13.33	\$266,600	\$667
088-000-023-005	15 FOX WOODS RD	718	2.42	\$48,400	\$387
088-000-023-008	18 FOX WOODS RD	715	0.78	\$7,020	\$84
088-000-023-008	18 FOX WOODS RD	717	9.52	\$190,400	\$476
088-000-042-001	144 R LONG POND RD	601	0.46	\$140,000	\$20
088-000-042-001	144 R LONG POND RD	601	2.51	\$22,590	\$126
088-000-042-002	144 LONG POND RD	601	2.34	\$21,060	\$117
088-000-042-003	142 LONG POND RD	601	0.46	\$140,000	\$20
088-000-042-003	142 LONG POND RD	601	6.99	\$62,910	\$350
089-000-004-001B	BILLINGTON ST	710A	20.66	\$309,900	\$65,079
089-000-004-001B	BILLINGTON ST	710B	3.31	\$49,650	\$8,937
089-000-004-001B	BILLINGTON ST	710D	4.45	\$66,750	\$8,010
089-000-004-001B	BILLINGTON ST	716	11.47	\$103,230	\$1,835
089-000-005-010	420 BILLINGTON ST	716	2.50	\$22,500	\$400
089-000-005-010	420 BILLINGTON ST	720	0.85	\$7,650	\$34
089-000-005-011	420 BILLINGTON ST	716	11.94	\$107,451	\$1,910
089-000-018-000	UPLAND COOKS POND	710A	1.12	\$16,800	\$3,528
089-000-018-000	UPLAND COOKS POND	716	6.00	\$54,000	\$960
089-000-018-000	UPLAND COOKS POND	720	6.95	\$22,240	\$278
089-000-022A-000U	COOKS POND	710D	6.75	\$101,250	\$12,150
089-000-022A-000U	COOKS POND	716	6.57	\$59,130	\$1,051
090-000-017-001	BLACK CAT RD	720	0.46	\$145,000	\$18
090-000-017-001	BLACK CAT RD	720	2.28	\$20,520	\$91
090-000-017-005	57 BLACK CAT RD	710C	10.75	\$161,250	\$24,188
090-000-017-005	57 BLACK CAT RD	716	12.42	\$186,300	\$1,987
090-000-017-005	57 BLACK CAT RD	720	18.23	\$123,052	\$729
090-000-020-004	81 BLACK CAT RD	803	1.60	\$5,120	\$1,280
090-000-020-004	81 BLACK CAT RD	803	10.30	\$92,700	\$23,175
090-000-035D-000	WATERCOURSE RD	710C	7.06	\$105,900	\$15,885
090-000-035D-000	WATERCOURSE RD	720	2.97	\$26,730	\$119
090-000-036A-000	WATERCOURSE RD	710C	10.80	\$162,000	\$24,300
090-000-036A-000	WATERCOURSE RD	716	16.20	\$145,800	\$2,592
090-000-036A-000	WATERCOURSE RD	720	2.50	\$50,000	\$100
090-000-036A-000	WATERCOURSE RD	720	2.50	\$8,000	\$100
090-000-040-001	195 BLACK CAT RD	601	10.19	\$203,800	\$509
090-000-043-001	BLACK CAT RD	720	1.77	\$35,400	\$71
090-000-043A-000	BLACK CAT RD	710A	7.47	\$112,050	\$23,531

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090-000-043A-000	BLACK CAT RD	710A	3.35	\$50,250	\$10,553
090-000-043A-000	BLACK CAT RD	710A	6.34	\$95,100	\$19,971
090-000-043A-000	BLACK CAT RD	716	14.89	\$134,010	\$2,382
090-000-043A-000	BLACK CAT RD	720	0.46	\$145,000	\$18
090-000-043A-000	BLACK CAT RD	720	0.92	\$8,280	\$37
090-000-043A-000	BLACK CAT RD	720	7.98	\$71,820	\$319
090-000-044-000	OFF BLACK CAT RD	710A	1.94	\$29,100	\$6,111
090-000-044-000	OFF BLACK CAT RD	710C	13.86	\$207,900	\$31,185
090-000-044-000	OFF BLACK CAT RD	716	10.68	\$34,176	\$1,709
090-000-044-000	OFF BLACK CAT RD	716	0.46	\$65,250	\$74
090-000-044-000	OFF BLACK CAT RD	720	15.06	\$135,540	\$602
090-000-045-000	BLACK CAT RD	710B	4.31	\$64,650	\$11,637
090-000-045-000	BLACK CAT RD	710E	4.60	\$69,000	\$6,210
090-000-045-000	BLACK CAT RD	716	0.92	\$8,280	\$147
090-000-046-000	BLACK CAT RD	710A	2.40	\$36,000	\$7,560
090-000-046-000	BLACK CAT RD	716	0.34	\$3,060	\$54
090-000-046-000	BLACK CAT RD	720	2.46	\$22,140	\$98
091-000-004B-000	ROCKY POND RD	710A	2.74	\$41,100	\$8,631
091-000-004B-000	ROCKY POND RD	710C	4.53	\$67,950	\$10,193
091-000-004B-000	ROCKY POND RD	710D	7.19	\$107,850	\$12,942
091-000-004B-000	ROCKY POND RD	716	21.03	\$179,800	\$3,365
091-000-004B-000	ROCKY POND RD	720	20.07	\$171,592	\$803
092-000-018-000	POWDER HORN POND	601	2.17	\$43,400	\$109
092-000-019-000	308 ROCKY POND RD	601	0.38	\$3,420	\$19
092-000-020-000	POWDER HORN POND	601	3.91	\$78,200	\$196
093-000-002-002K	0 FEDERAL FURNACE RD	710D	6.98	\$104,700	\$12,564
093-000-002-002K	0 FEDERAL FURNACE RD	716	9.80	\$88,200	\$1,568
093-000-002-002K	0 FEDERAL FURNACE RD	720	12.16	\$38,912	\$486
093-000-006A-000U	FEDERAL FURNACE RD	710B	0.09	\$1,350	\$243
093-000-006A-000U	FEDERAL FURNACE RD	716	15.55	\$139,950	\$2,488
093-000-006A-000U	FEDERAL FURNACE RD	717	20.66	\$413,200	\$1,033
093-000-006B-000	FEDERAL FURNACE RD	716	15.70	\$141,300	\$2,512
093-000-007-000	NR CARVER LINE	716	8.11	\$162,200	\$1,298
093-000-007-000	NR CARVER LINE	720	33.07	\$297,630	\$1,323
093-000-008-000U	FEDERAL POND	720	50.26	\$451,170	\$2,010
093-000-011-000	571 ROCKY POND RD	802	76.24	\$1,259,407	\$314,852
094-000-001-000	427 STATE RD	601	0.46	\$140,000	\$20
094-000-001-000	427 STATE RD	601	572.15	\$7,719,897	\$28,608
094-000-002-000	PINE HILLS	601	0.46	\$140,000	\$20
094-000-002-000	PINE HILLS	601	67.92	\$1,175,843	\$3,396
094-000-003-000	PINE HILLS	601	0.46	\$140,000	\$20

094-000-003-000	PINE HILLS	601	38.55	\$771,000	\$1,928
095-000-001-004	170 SO MEADOW RD	717	25.08	\$376,200	\$1,254
095-000-059A-000	OFF FEDERAL FURNACE RD	802	5.46	\$120,120	\$30,030
095-000-060-000	531 FEDERAL FURNACE RD	802	27.86	\$557,200	\$139,300
095-000-061-000	GREAT WEST POND	802	40.50	\$891,000	\$222,750
095-000-062A-000	531 FEDERAL FURNACE RD	802	4.91	\$129,306	\$32,326
097-000-006-007	176 SO MEADOW RD	717	23.23	\$396,030	\$1,162
097-000-006-007	176 SO MEADOW RD	802	20.20	\$344,374	\$86,093
097-000-006-007	176 SO MEADOW RD	802	13.41	\$102,877	\$25,719
097-000-006-007	176 SO MEADOW RD	811	7.80	\$59,839	\$14,960
097-000-006-007	176 SO MEADOW RD	812	4.80	\$81,831	\$20,458
097-000-010-002	703 FEDERAL FURNACE RD	716	0.46	\$139,764	\$74
097-000-010-002	703 FEDERAL FURNACE RD	716	13.60	\$217,651	\$2,176
097-000-013-000	735 R FEDERAL FURNACE RD	710A	21.80	\$327,000	\$68,670
097-000-013-000	735 R FEDERAL FURNACE RD	716	17.94	\$358,800	\$2,870
097-000-016-000U	737 R FEDERAL FURNACE RD	710A	1.90	\$28,500	\$5,985
097-000-016-000U	737 R FEDERAL FURNACE RD	710D	5.50	\$82,500	\$9,900
097-000-016-000U	737 R FEDERAL FURNACE RD	716	11.78	\$106,020	\$1,885
097-000-016-000U	737 R FEDERAL FURNACE RD	720	9.23	\$29,536	\$369
098-000-101-005	BILLINGTON ST	716	4.87	\$116,880	\$779
099-000-001-002C	701 FEDERAL FURNACE RD	710D	3.82	\$57,300	\$6,876
099-000-001-002C	701 FEDERAL FURNACE RD	716	5.73	\$51,570	\$917
099-000-001-002C	701 FEDERAL FURNACE RD	720	3.83	\$34,470	\$153
099-000-001-002D	FEDERAL FURNACE RD	716	0.46	\$140,000	\$74
099-000-001-002D	FEDERAL FURNACE RD	716	0.92	\$8,280	\$147
099-000-001-002D	FEDERAL FURNACE RD	716	3.93	\$35,370	\$629
099-000-001C-000	969 FEDERAL FURNACE RD	710A	28.37	\$425,550	\$89,366
099-000-001C-000	969 FEDERAL FURNACE RD	716	23.46	\$123,501	\$3,754
099-000-001C-000	969 FEDERAL FURNACE RD	720	92.45	\$1,081,522	\$3,698
099-000-003-015	796 FEDERAL FURNACE RD	710C	31.61	\$474,150	\$71,123
099-000-003-015	796 FEDERAL FURNACE RD	716	11.13	\$70,165	\$1,781
099-000-003-015	796 FEDERAL FURNACE RD	716	12.90	\$28,915	\$2,064
099-000-003-015	796 FEDERAL FURNACE RD	720	18.89	\$264,633	\$756

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099-000-003-015	796 FEDERAL FURNACE RD	805	22.08	\$309,322	\$77,331
099-000-003-015	796 FEDERAL FURNACE RD	805	12.90	\$28,915	\$7,229
100-000-018-000U	BILLINGTON ST	710B	14.68	\$220,200	\$39,636
100-000-018-000U	BILLINGTON ST	716	7.74	\$69,660	\$1,238
105-000-002E-000	120 CARVER RD	716	2.54	\$50,800	\$406
105-000-002E-000	120 CARVER RD	719	18.07	\$361,400	\$13,300
106-000-030-000	CARVER RD	805	33.16	\$497,400	\$124,350
107-000-001-000	NR CARVER LINE	717	0.34	\$6,800	\$17
107-000-002-000	NORTH CARVER LINE	717	4.80	\$96,000	\$240
107-000-002-000	NORTH CARVER LINE	720	0.16	\$1,440	\$6
107-000-004-000	NORTH CARVER LINE	716	5.39	\$48,510	\$862
107-000-004-000	NORTH CARVER LINE	717	3.53	\$70,600	\$177
107-000-004-000	NORTH CARVER LINE	720	0.35	\$1,120	\$14
107-000-005-000	DARBY POND	716	0.37	\$3,330	\$59
107-000-005-000	DARBY POND	717	5.90	\$118,000	\$295
107-000-005-000	DARBY POND	720	0.61	\$1,952	\$24
107-000-006-000U	OFF CARVER RD	710B	8.31	\$124,650	\$22,437
107-000-006-000U	OFF CARVER RD	716	8.47	\$76,230	\$1,355
107-000-006-000U	OFF CARVER RD	717	5.80	\$116,000	\$290
107-000-006-000U	OFF CARVER RD	720	1.04	\$3,328	\$42
107-000-008-000	CARVER RD	717	4.82	\$96,400	\$241
107-000-008-000	CARVER RD	720	1.08	\$9,720	\$43
107-000-009-000U	UPLAND NR DARBY PD	710D	6.78	\$101,700	\$12,204
107-000-009-000U	UPLAND NR DARBY PD	716	7.22	\$64,980	\$1,155
107-000-009-000U	UPLAND NR DARBY PD	717	6.33	\$126,600	\$317
107-000-009-000U	UPLAND NR DARBY PD	720	3.93	\$35,370	\$157
107-000-072-000	CLEARED WOODLAND	710C	24.00	\$360,000	\$54,000
107-000-072-000	CLEARED WOODLAND	720	15.88	\$317,600	\$635
108-000-002A-005	56 PINEWOOD RD	710A	7.60	\$114,000	\$23,940
108-000-002A-005	56 PINEWOOD RD	716	4.39	\$14,048	\$702
108-000-002A-005	56 PINEWOOD RD	720	3.74	\$33,660	\$150
108-000-005B-000U	OFF CARVER RD	710C	5.50	\$82,500	\$12,375
108-000-005B-000U	OFF CARVER RD	716	4.00	\$36,000	\$640
108-000-005B-000U	OFF CARVER RD	720	5.00	\$45,000	\$200
108-000-005B-000U	OFF CARVER RD	720	2.00	\$6,400	\$80
108-000-016-000	OFF CARVER RD	601	6.81	\$136,200	\$341
108-000-020-010	24 MEADOW PK RD	805	0.92	\$50,750	\$12,688
108-000-020-010	24 MEADOW PK RD	805	0.88	\$7,920	\$1,980
108-000-020-025	265 SO MEADOW RD	805	8.94	\$180,759	\$45,190
108-000-020-026	28 MEADOW PK RD	805	3.29	\$98,700	\$24,675
108-000-022-000A	OFF SO MEADOW RD	814	22.06	\$441,200	\$110,300

108-000-023-000	225 SO MEADOW RD	814	73.52	\$1,226,059	\$306,515
108-000-023-000	225 SO MEADOW RD	814	0.00	\$0	\$0
108-000-023-000	225 SO MEADOW RD	814	0.00	\$0	\$0
108-000-026-000	OFF SO MEADOW RD	814	11.62	\$232,400	\$58,100
108-000-027B-000	191 PINEWOOD LAKE	803	6.27	\$175,560	\$43,890
108-000-027C-000	190 PINEWOOD RD	601	75.88	\$1,138,200	\$3,794
108-000-027C-000	190 PINEWOOD RD	802	51.42	\$771,300	\$192,825
108-000-028A-000	104 PINEWOOD RD	601	23.31	\$466,200	\$1,166
110-000-001-001	AGAWAM RD	601	188.66	\$1,814,991	\$9,433
110-000-001-002	AGAWAM RD	601	9.05	\$181,000	\$453
110-000-001-002	AGAWAM RD	710B	7.59	\$113,850	\$20,493
110-000-001-002	AGAWAM RD	710E	1.04	\$15,600	\$1,404
110-000-001-002	AGAWAM RD	716	8.63	\$77,670	\$1,381
110-000-001-002	AGAWAM RD	720	2.53	\$22,770	\$101
110-000-032-000	AGAWAM RD	803	0.46	\$14,000	\$3,500
110-000-032-000	AGAWAM RD	803	9.63	\$86,670	\$21,667
111-000-001-012	HALFWAY POND RD	710E	1.99	\$29,850	\$2,687
111-000-001-012	HALFWAY POND RD	716	2.66	\$23,940	\$426
111-000-001-012	HALFWAY POND RD	720	0.50	\$4,500	\$20
111-000-001-013	HALFWAY POND RD	710B	0.51	\$7,650	\$1,377
111-000-001-013	HALFWAY POND RD	710D	1.07	\$16,050	\$1,926
111-000-001-013	HALFWAY POND RD	710E	0.58	\$8,700	\$783
111-000-001-013	HALFWAY POND RD	716	2.66	\$23,940	\$426
111-000-001-013	HALFWAY POND RD	720	2.47	\$22,230	\$99
111-000-001-014	HALFWAY POND RD	710C	9.71	\$145,650	\$21,848
111-000-001-014	HALFWAY POND RD	716	3.40	\$30,600	\$544
111-000-001-014	HALFWAY POND RD	720	3.00	\$27,000	\$120
111-000-001C-009	WAREHAM RD	717	0.46	\$140,000	\$22
111-000-001C-009	WAREHAM RD	717	2.29	\$20,610	\$115
111-000-001C-012	WAREHAM RD	717	13.69	\$273,800	\$685
111-000-004-000	240 HALFWAY POND RD	601	21.22	\$424,400	\$1,061
111-000-005D-000	HALFWAY POND RD	601	20.89	\$417,800	\$1,045
113-000-010-000	NR LITTLE HERRING	803	10.00	\$90,000	\$22,500
113-000-040-000U	LONG DUCK POND	710B	2.30	\$34,500	\$6,210
113-000-040-000U	LONG DUCK POND	716	3.45	\$31,050	\$552
113-000-040-000U	LONG DUCK POND	720	5.75	\$18,400	\$230
114A-000-037C-000	DIV 1870 IND LAND	710A	3.30	\$49,500	\$10,395
114A-000-037C-000	DIV 1870 IND LAND	716	5.00	\$45,000	\$800
114A-000-037C-000	DIV 1870 IND LAND	720	8.30	\$74,700	\$332
115-000-000A-001	11 RIVER RUN WAY	717	27.10	\$813,000	\$1,355
115-000-000A-001	11 RIVER RUN WAY	720	11.71	\$175,650	\$468

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

115-000-000A-004	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-000A-004	WAREHAM RD	717	2.11	\$18,990	\$105
115-000-000A-005	2 RIVER RUN WAY	710C	7.28	\$109,200	\$16,380
115-000-000A-005	2 RIVER RUN WAY	710D	7.22	\$108,300	\$12,996
115-000-000A-005	2 RIVER RUN WAY	710E	11.07	\$166,050	\$14,945
115-000-000A-005	2 RIVER RUN WAY	716	29.21	\$115,462	\$4,674
115-000-000A-005	2 RIVER RUN WAY	717	113.92	\$2,001,351	\$5,696
115-000-000A-005	2 RIVER RUN WAY	720	9.86	\$38,975	\$394
115-000-000S-006	WAREHAM RD	717	0.46	\$14,000	\$22
115-000-000S-006	WAREHAM RD	717	6.97	\$62,703	\$348
115-000-001-027	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-027	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-028	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-028	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-029	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-029	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-030	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-030	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-031	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-031	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-032	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-032	WAREHAM RD	717	2.31	\$20,783	\$115
115-000-001-033	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-033	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-034	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-034	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-035	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-035	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-036	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-036	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-037	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-037	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-038	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-038	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-039	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-039	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-040	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-040	WAREHAM RD	717	2.29	\$20,610	\$115
115-000-001-041	WAREHAM RD	717	0.46	\$140,000	\$22
115-000-001-041	WAREHAM RD	717	2.29	\$20,610	\$115
116-000-000A-012	249 WAREHAM RD	710D	5.69	\$85,350	\$10,242

116-000-000A-012	249 WAREHAM RD	710E	10.25	\$153,750	\$13,838
116-000-000A-012	249 WAREHAM RD	716	15.94	\$88,530	\$2,550
116-000-000A-012	249 WAREHAM RD	717	51.83	\$639,693	\$2,592
116-000-000A-012	249 WAREHAM RD	720	15.94	\$88,530	\$638
117-000-000A-006	WAREHAM RD	710D	2.61	\$39,150	\$4,698
117-000-000A-006	WAREHAM RD	717	184.49	\$1,691,030	\$9,225
117-000-000A-008	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-000A-008	WAREHAM RD	717	2.43	\$48,600	\$122
117-000-000A-010	WAREHAM RD	710A	38.88	\$583,200	\$122,472
117-000-000A-010	WAREHAM RD	710B	2.74	\$41,100	\$7,398
117-000-000A-010	WAREHAM RD	716	11.52	\$25,634	\$1,843
117-000-000A-010	WAREHAM RD	717	13.32	\$185,243	\$666
117-000-000A-010	WAREHAM RD	720	45.35	\$283,811	\$1,814
117-000-000S-005	RIVER BIRCH WAY	717	0.76	\$6,840	\$38
117-000-001E-000	UPLAND FAWN POND	710E	5.00	\$75,000	\$6,750
117-000-001E-000	UPLAND FAWN POND	716	7.63	\$152,600	\$1,221
117-000-004-023	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-023	WAREHAM RD	717	1.92	\$17,280	\$96
117-000-004-023	WAREHAM RD	720	0.37	\$3,330	\$15
117-000-004-024	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-024	WAREHAM RD	717	1.65	\$14,850	\$83
117-000-004-024	WAREHAM RD	720	0.64	\$5,760	\$26
117-000-004-025	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-025	WAREHAM RD	717	1.92	\$17,280	\$96
117-000-004-025	WAREHAM RD	720	0.37	\$3,330	\$15
117-000-004-026	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-026	WAREHAM RD	717	2.04	\$18,360	\$102
117-000-004-026	WAREHAM RD	720	0.25	\$2,250	\$10
117-000-004-027	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-027	WAREHAM RD	717	2.12	\$19,080	\$106
117-000-004-027	WAREHAM RD	720	0.17	\$1,530	\$7
117-000-004-028	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-028	WAREHAM RD	717	2.26	\$20,340	\$113
117-000-004-028	WAREHAM RD	720	0.03	\$270	\$1
117-000-004-029	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-029	WAREHAM RD	717	1.87	\$16,830	\$94
117-000-004-029	WAREHAM RD	720	0.42	\$3,780	\$17
117-000-004-030	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-030	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-031	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-031	WAREHAM RD	717	2.29	\$20,610	\$115

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117-000-004-032	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-032	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-033	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-033	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-034	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-034	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-035	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-035	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-036	WAREHAM RD	717	0.46	\$140,000	\$22
117-000-004-036	WAREHAM RD	717	2.29	\$20,610	\$115
117-000-004-077	WAREHAM RD	717	9.65	\$193,000	\$482
117-000-004-077	WAREHAM RD	720	2.29	\$20,610	\$92
118-000-000S-005	AGAWAM RD	717	0.46	\$140,000	\$22
118-000-000S-005	AGAWAM RD	717	100.57	\$1,492,428	\$5,029
118-000-001-003	AGAWAM RD	717	15.55	\$311,000	\$778
120-000-001-255	193 SANDY BEACH RD	803	79.05	\$1,290,500	\$322,625
121-000-001A-000U	140 FIRE HOUSE RD	710B	6.76	\$101,400	\$18,252
121-000-001A-000U	140 FIRE HOUSE RD	710B	40.64	\$609,600	\$109,728
121-000-001A-000U	140 FIRE HOUSE RD	716	71.10	\$356,638	\$11,376
121-000-001A-000U	140 FIRE HOUSE RD	720	43.73	\$219,350	\$1,749
122-000-001-000	LONG DUCK POND RD	710C	1.00	\$15,000	\$2,250
122-000-001-000	LONG DUCK POND RD	716	1.50	\$13,500	\$240
122-000-001-000	LONG DUCK POND RD	720	2.50	\$22,500	\$100
122-000-004-000	LONG DUCK POND RD	710A	0.50	\$7,500	\$1,575
122-000-004-000	LONG DUCK POND RD	716	0.50	\$4,500	\$80
122-000-004-000	LONG DUCK POND RD	720	1.00	\$9,000	\$40
124-000-009-065	682 BOURNE RD	710A	10.02	\$150,300	\$31,563
124-000-009-065	682 BOURNE RD	716	10.02	\$90,180	\$1,603
124-000-009-115	BOURNE RD	710B	2.56	\$38,400	\$6,912
124-000-009-115	BOURNE RD	716	1.72	\$34,400	\$275
124-000-009-116	BOURNE RD	710B	1.99	\$29,850	\$5,373
124-000-009-116	BOURNE RD	716	0.80	\$16,000	\$128
125-000-010-001	830 832 BOURNE RD	802	33.90	\$678,000	\$169,500
125-000-010-001	830 832 BOURNE RD	802	10.00	\$90,000	\$22,500
125-000-010-002	839 BOURNE RD	802	6.21	\$124,200	\$31,050
125-000-012A-000	SANDY POND RD	803	3.26	\$65,200	\$16,300
125-000-017-004	24 WHITMAR CIR	806	9.97	\$89,730	\$22,433
126-000-001-000U	EAST HEAD RESERVOIR	710C	18.20	\$273,000	\$40,950
126-000-001-000U	EAST HEAD RESERVOIR	716	47.56	\$207,725	\$7,610
126-000-001-000U	EAST HEAD RESERVOIR	717	63.92	\$620,400	\$3,196
126-000-001-000U	EAST HEAD RESERVOIR	720	82.82	\$128,615	\$3,313

126-000-006-000U	EAST HEAD	710C	5.25	\$78,750	\$11,813
126-000-006-000U	EAST HEAD	716	3.11	\$27,990	\$498
126-000-007-000	EAST HEAD WIHONET	601	18.04	\$241,542	\$902
126-000-007-000	EAST HEAD WIHONET	710A	3.53	\$52,950	\$11,120
126-000-007-000	EAST HEAD WIHONET	710B	15.54	\$233,100	\$41,958
126-000-007-000	EAST HEAD WIHONET	710C	23.02	\$345,300	\$51,795
126-000-007-000	EAST HEAD WIHONET	716	30.00	\$401,678	\$4,800
126-000-007-000	EAST HEAD WIHONET	720	29.07	\$389,226	\$1,163
126-000-008-000	TIHONET RD	601	14.26	\$285,200	\$713
126-000-008-000	TIHONET RD	716	8.69	\$78,210	\$1,390
126-000-008-000	TIHONET RD	716	8.69	\$173,800	\$1,390
126-000-009-000	FROG FOOT POND	601	2.84	\$56,800	\$142
126-000-009-000	FROG FOOT POND	710E	6.15	\$92,250	\$8,303
126-000-009-000	FROG FOOT POND	716	3.71	\$74,200	\$594
126-000-010-000	FROG FOOT POND	601	16.15	\$323,000	\$808
126-000-010-000	FROG FOOT POND	710A	2.70	\$40,500	\$8,505
126-000-010-000	FROG FOOT POND	716	4.05	\$81,000	\$648
126-000-011-001	TIHONET RD	601	551.89	\$3,394,537	\$27,595
126-000-011-001	TIHONET RD	710A	6.01	\$90,150	\$18,932
126-000-011-001	TIHONET RD	710C	3.37	\$50,550	\$7,582
126-000-011-001	TIHONET RD	710E	1.52	\$22,800	\$2,052
126-000-011-001	TIHONET RD	716	15.58	\$43,123	\$2,493
126-000-011-001	TIHONET RD	720	160.91	\$445,373	\$6,436
126-000-012-000	TIHONET RD	601	71.80	\$746,062	\$3,590
126-000-012-000	TIHONET RD	710B	13.71	\$205,650	\$37,017
126-000-012-000	TIHONET RD	710C	11.40	\$171,000	\$25,650
126-000-012-000	TIHONET RD	710D	2.55	\$38,250	\$4,590
126-000-012-000	TIHONET RD	710E	19.46	\$291,900	\$26,271
126-000-012-000	TIHONET RD	716	36.58	\$380,097	\$5,853
126-000-012-000	TIHONET RD	720	30.00	\$140,276	\$1,200
126-000-014-001	TIHONET RD	601	136.08	\$1,492,866	\$6,804
126-000-014-001	TIHONET RD	710A	6.92	\$103,800	\$21,798
126-000-014-001	TIHONET RD	716	10.38	\$113,874	\$1,661
126-000-014-001	TIHONET RD	720	12.25	\$60,475	\$490
127-000-001C-000	175 ROXY CAHOON RD	716	8.92	\$28,544	\$1,427
127-000-001C-000	175 ROXY CAHOON RD	717	10.41	\$208,200	\$521
127-000-002A-000	WOODLAND-BURGESS	716	1.72	\$15,480	\$275
127-000-002A-000	WOODLAND-BURGESS	717	8.88	\$177,600	\$444
127-000-006B-000	HERRING POND	717	60.74	\$1,004,394	\$3,037
127-000-006B-000	HERRING POND	718	15.76	\$260,607	\$2,522
128-008-001-000	NEW ENGLAND PARK	803	0.46	\$12,000	\$3,000

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128-008-001-000	NEW ENGLAND PARK	803	0.25	\$2,250	\$563
128-017-002-000	NEW ENGLAND PARK	803	0.46	\$12,000	\$3,000
128-017-002-000	NEW ENGLAND PARK	803	0.28	\$252	\$63
129-000-002A-001	810 HEAD OF THE BAY RD	710A	42.38	\$635,700	\$133,497
129-000-002A-001	810 HEAD OF THE BAY RD	710B	4.95	\$74,250	\$13,365
129-000-002A-001	810 HEAD OF THE BAY RD	710C	1.13	\$16,950	\$2,543
129-000-002A-001	810 HEAD OF THE BAY RD	710D	7.88	\$118,200	\$14,184
129-000-002A-001	810 HEAD OF THE BAY RD	717	86.04	\$878,325	\$4,302
129-000-002A-001	810 HEAD OF THE BAY RD	720	45.06	\$459,988	\$1,802
129-000-002A-002	HEAD OF THE BAY RD	717	17.11	\$342,200	\$856
129-000-002A-002	HEAD OF THE BAY RD	720	1.43	\$12,870	\$57
129-000-002B-001	32 BOURNEHURST DR	710A	20.22	\$303,300	\$63,693
129-000-002B-001	32 BOURNEHURST DR	710E	1.05	\$15,750	\$1,417
129-000-002B-001	32 BOURNEHURST DR	720	22.85	\$154,238	\$914
129-000-003-000U	KELLY-HEAD OF BAY	710B	4.00	\$60,000	\$10,800
129-000-003-000U	KELLY-HEAD OF BAY	710E	12.89	\$193,350	\$17,402
129-000-003-000U	KELLY-HEAD OF BAY	717	1.43	\$28,600	\$72
129-000-003-000U	KELLY-HEAD OF BAY	720	1.18	\$3,776	\$47
129-000-006-000	810 HEAD OF THE BAY RD	710A	2.07	\$31,050	\$6,521
129-000-006-000	810 HEAD OF THE BAY RD	717	18.35	\$275,250	\$918
129-000-006-000	810 HEAD OF THE BAY RD	720	19.58	\$293,700	\$783
129-000-015-000Z	BOURNE AND PLYMOUTH	717	4.86	\$97,200	\$243
129-000-015-000Z	BOURNE AND PLYMOUTH	720	1.01	\$9,090	\$40
130-000-006-000	WOODLAND RED BROOK	717	19.02	\$380,400	\$951
130-000-007-000U	UPLAND-NR HEAD	710A	1.85	\$27,750	\$5,828
130-000-007-000U	UPLAND-NR HEAD	710B	4.20	\$63,000	\$11,340
130-000-007-000U	UPLAND-NR HEAD	716	4.23	\$38,070	\$677
130-000-007-000U	UPLAND-NR HEAD	716	0.60	\$1,920	\$96
130-000-007-000U	UPLAND-NR HEAD	720	2.62	\$23,580	\$105
131-000-004A-000	CLARKS ISLAND	601	3.92	\$79,400	\$196
131-000-005-000	CLARKS ISLAND	601	0.66	\$14,200	\$33
131-000-006-000	1 CLARKS ISLAND	601	1.80	\$36,000	\$90
131-000-012B-000	CLARKS ISLAND	601	3.30	\$67,000	\$165
131-000-013-000	CLARKS ISLAND	601	0.28	\$6,600	\$14
131-000-015-000	CLARKS ISLAND	601	2.00	\$41,000	\$100
131-000-021A-000	CLARKS ISLAND	601	6.50	\$130,000	\$325
131-000-023A-000	CLARKS ISLAND	601	1.07	\$22,400	\$54
131-000-023B-000	CLARKS ISLAND	601	1.06	\$22,200	\$53
131-000-023C-000	CLARKS ISLAND	601	1.06	\$22,200	\$53
131-000-024A-000	CLARKS ISLAND	601	1.95	\$40,000	\$98
131-000-024A-001	979 CLARKS ISLAND	601	5.98	\$120,600	\$299

131-000-024A-002	CLARKS ISLAND	601	1.92	\$39,400	\$96
131-000-024A-003	CLARKS ISLAND	601	1.94	\$39,800	\$97
131-000-024A-004	CLARKS ISLAND	601	1.70	\$35,000	\$85
131-000-024A-005	CLARKS ISLAND	601	1.35	\$28,000	\$68

## **Public and Privately Held Open Space**

### ***Public Parcels***

Numerous inventories have been performed in different planning processes, for various purposes, for all open space in the Town of Plymouth in recent years. The most current facilities summary from the DPW Parks & Recreation Division, which detail existing recreational opportunities, is included as an insert, along with a spreadsheet which lists level of protection for town-owned lands that are open space, either designated or used as such – many of these parcels have no ‘site name’. Status remains similar to those listed in tables in the ***2009 Open Space and Recreation Plan***, except for updates noted herein. The detailed open space listing from the ***Town of Plymouth 2004 Comprehensive Plan*** is included in this section as well.

Several significant land acquisitions have occurred since the ***2009 Open Space and Recreation Plan***, especially in the Rural Areas, consistent with the ***2004 Town of Plymouth Comprehensive Plan***; \* the ***2009 Open Space Plan*** and the “Wishbone Corridors” identified in the November 1999 ***ENSR Open Space Corridor Plan\**** (the “***ENSR Plan***”) for Plymouth.

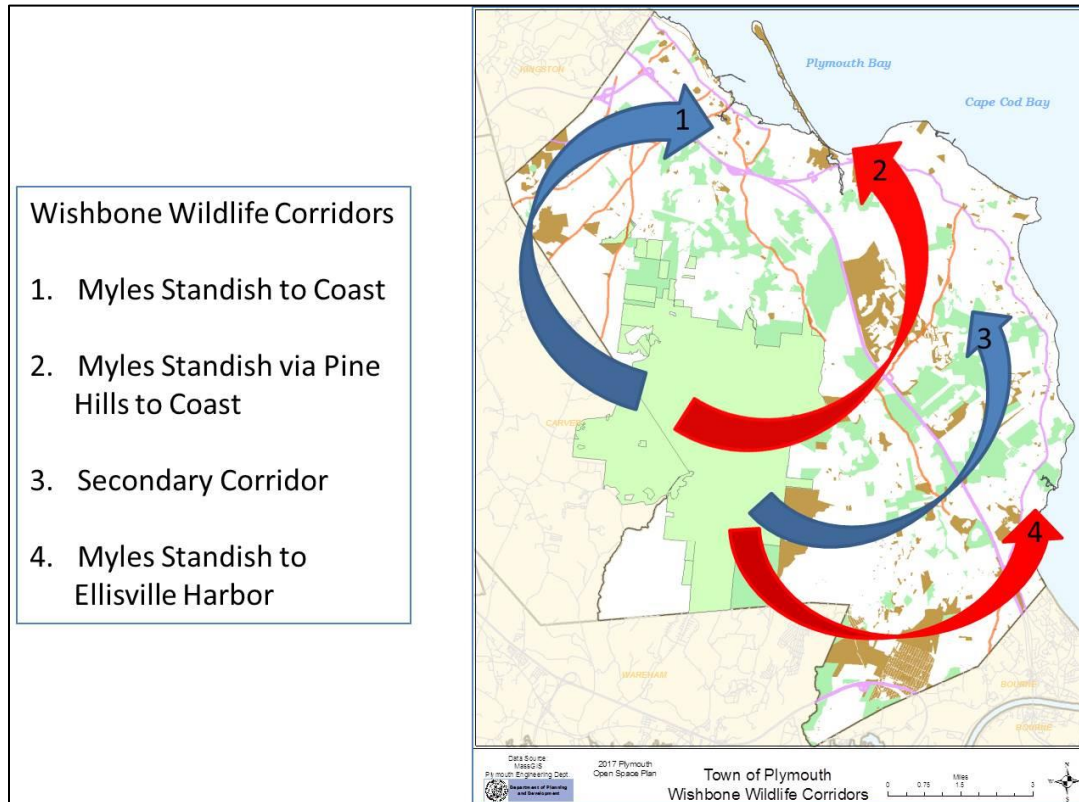
### ***The Wishbone***

The “Wishbone” will consist of a primary greenway connecting Myles Standish State Forest, Waterfront Park, and Ellisville State Park (**Map 24**). The greenway will travel through Forges Field, the northern section of the Pinehills Development, South Middle/High Schools, and the Entergy property. Secondary greenways will connect the “Wishbone” to Plimoth Plantation and Indian Brook Reservation.

When developed, the “Wishbone” will benefit Plymouth by

- Linking some of Plymouth’s most important natural assets.
- Encouraging visitors to venture beyond the downtown area to explore Plymouth’s natural heritage.
- Providing alternative transportation which enables residents to reach hiking and conservation areas by riding along bike paths instead of utilizing vehicular transportation.

**Map 24**



The 1999 ENSR Plan identified a 'wishbone' as discussed in the 2009 Open Space Plan  
Funded by the EEOEA Challenge Grant

Important publicly-held lands recently acquired through Community Preservation Committee (CPC) funding include:

- **Quinn Property** – 300+ acres of wooded land off Old Sandwich Road, use conservation and wildlife habitat. Community Preservation Committee (CPC) acquisition/funding approved at Town Meeting, October 2012.
- **Garland Property** – Approximately 95 acres of land located off Bourne Road, acquired through approved CPC funding at Town Meeting, October 2014.
- **Herries Property** – 35+ acres off Boot Pond Road acquired through a land grant along with a favorable Town Meeting Vote, April 2010.
- **Land off Black Cat Road** – 15+/- acres located off Black Cat Road through approved CPC purchase at Town Meeting, April 2016.
- **Land off Lunn's Way, South West Plymouth** – Consisting of 40+/- acres, these protected lands were acquired through approved CPC funding at Town Meeting, Oct 2015.

- ***Tidmarsh Preserve*** – Part of a 500-acre cranberry farm operation, 127+/- acres were placed into protective status through approved CPC funding at Town Meeting, October 2016 and consist of the Bartlett Brook Headwaters.
- ***Open Space Land off Little Sandy Pond Road*** – A 25+/- acre property acquired through approved CPC funding at Town Meeting, April 2015.
- ***Little Herring Pond II*** – Acquired 43.6 acres of land positioned between Little Herring Pond and Triangle Pond for passive recreation; for protection of priority habitats of rare species; and for the protection of the water quality of Little Herring Pond, Carter's Brook, Great Herring Pond, Pickerel Pond and the herring run accessing the Cape Cod Canal.

Additional lands that were recently placed into Article 97 Protective Status through conveyance of foreclosed properties (Tax Title) as well as a private land gift:

- ***West Plymouth Property off South Meadow Road*** – 14+/- acres of designated subdivision open space was approved at Town Meeting, October 2015.
- ***The 44 Acre Lot off Rocky Pond Road*** – Approved protected open space at Town Meeting, April 2009.
- ***Long Duck Pond Preserve*** – 116+/- acres of mainly wooded land approved for Conservation Protection at Town Meeting, October 2016
- ***Land Gift within Bloody Pond Preserve*** – 35+/- acres of mainly wooded land near Bloody Pond, abuts protected State and Conservation Commission land. This land acquisition was achieved through a generous land donation.

## **OPEN SPACE**

### ***Permanently-Protected Open Space***

Approximately **18,895 acres** of permanently-protected open space are located within the Town of Plymouth. These lands represent natural habitat under the jurisdiction of several government agencies as well as non-profit organizations. The State of Massachusetts holds the greatest number of open space acreage which includes the Myles Standish State Forest. At 12,500 acres (@10,000 acres in Plymouth), the forest represents a significant percentage of this protected land. Owned by the Commonwealth's Department of Conservation and Recreation, the park has miles of trails for hiking, horseback riding, biking, cross-country skiing, and snowmobiling. It provides camp sites and several ponds for swimming and fishing. As noted in the Natural Resources chapter, Myles Standish State Forest consists primarily of Pine Barrens woodlands, a globally-rare ecosystem which supports many rare and endangered plants and animals. Other State-owned natural lands include Ellisville State Park; a 45-acre waterfront park and nature preserve adjacent to Cape Cod Bay, Triangle Pond, Red Brook, and Grassy Pond, totaling 120 acres.

The federal government owns the Massasoit National Wildlife Preserve, totaling 198 acres of

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

conservation land as well as an additional 10 acres located off Hoyt Pond.

There are approximately 4,715 acres of permanently protected open space within the Town of Plymouth that carry a third-party Conservation Restriction as listed below. In addition, the Town's Conservation Commission holds another 1,980 acres under Article 97 Protection.

**Table 24 - Open Space with CR**

<b>Protected Plymouth Land Under Conservation Restriction*</b>	
<b>Designation</b>	<b>Acreage</b>
Plymouth Conservation Commission	821
Plymouth Board of Selectmen	1,050
Private Non-Profit	1,400
Pinehills OSMUD	1,444
<b>Total</b>	<b>4,715</b>

Plymouth Planning Office - March 2017

\*Holding a Conservation Restriction does not imply ownership of these properties

The largest Town-owned protected open space areas include the following:

<b>NORTH PLYMOUTH</b>	Russell Sawmill Hedge Pond Conservation Area (+/-53 acres)
<b>MANOMET</b>	Beaver Dam Conservation Area (+/- 164 acres) Indian Brook Conservation Area (+/- 50 acres) Little Island Pond Conservation Area (+/-8 acres) Briggs Estate (+/-450.23) Tidmarsh Preserve (+/- 700 acres)
<b>CEDARVILLE</b>	Center Hill Preserve (+/- 98 acres) Hedges Pond Recreational Area & Preserve (+/-105 acres)
<b>PINE HILLS</b>	Cleft Rock Park (+/- 7.8 acres)
<b>FEDERAL FURNACE</b>	Town Forest (+/-317 acres) Boot Pond Conservation Area (+/-75 acres) Rocky Pond Conservation Area (+/-44 acres)
<b>LONG POND ROAD</b>	Eel River Preserve (+/-40 acres) Russell Mill Pond Conservation Area (+/-68 acres) Bloody Pond Preserve (+/-140 acres) Long Duck Pond Preserve (+/-116 acres)

In addition, there are over 30 privately-owned conservation areas, which provide additional acres of permanently-conserved land. Conservation groups active in Plymouth include the Wildlands Trust of Southeast Massachusetts, the Nature Conservancy, the Six Ponds Association, the Eel River Watershed Association, the Trustees of Reservations, and the Manomet Center for

Conservation Sciences.

Some of the conservation areas in Plymouth restrict any public access; others are used for activities including: Passive recreation, nature study, hiking, swimming, boating, picnicking, and fishing.

### ***Temporarily-Protected Open Space***

Under Massachusetts General Laws Chapters 61, 61A, and 61B, properties which are used for agriculture, recreation, and forestry may apply for tax abatements for as long as these uses continue. These lands are temporarily-protected open space. If any of these lands are sold, the town has the right of first refusal and abated taxes must be repaid if the land is sold for development purposes. There are **11,467 acres** of temporarily-protected “Chapter 61” property in Plymouth.

Other open space lands without permanent protection mechanisms include foreclosed property the Town assumed due to failure to pay taxes (Tax Title). Much of Plymouth’s Tax Title properties include the “1,000 Acres”, a large area of land located just north of the Bourne Town Line, whereas clear titles are ambiguous and will require substantial deed research to clear said titles. Additional Tax Title lands can be found throughout Plymouth; most lie within road layouts or as designated open space parcels within subdivisions of defunct homeowner associations. Current Town policy presumes all vacant Tax Title lands possess a deed restriction for primary structures if said land is sold at auction.

In addition, Entergy owns 1,600 acres of open land surrounding the Pilgrim Nuclear Power Plant. These lands are temporarily protected from development while Entergy owns the property.

Additional unprotected open space lands are held by public and private interests.

### **Prioritizing Open Space Preservation**

Several ways to acquire and protect open space include, but are not limited to: Land gift, CPC purchase, land purchase grants and conveyance of foreclosed properties through Town Meeting vote. The method of conveying eligible Tax Title properties has been quite successful. In 2006, the Open Space Committee developed ranking criteria to establish open space land priorities, which was later updated in late 2016. The committee evaluates environmentally-sensitive areas (wetlands, vernal pools, wildlife habitat and forests); lands within Aquifer Protection Districts; historic landscapes and areas with significant scenic views. In addition, special concern for Plymouth’s growing Eco-Tourism initiative is considered such as increased public access for passive recreation and continued expansion of the Town’s trail network. A series of meetings and site visits are conducted to identify and determine whether the targeted property is a candidate for protection. Each open space lot is subject to specific ranking criteria as shown in the following document:

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

## Plymouth Open Space Committee Open Space Acquisition Inventory Criteria

<b>SITE ID:</b>		
<b>DATE OF SITE VISIT:</b>		
<b>MEMBERS PRESENT:</b>		
CATEGORY	Potential Point Value	Assessed Value
<b>A. Water Supply</b>		
Parcel would abate existing incompatible use in a Zone II or area of influence	5	
Parcel sits within an existing Zone II	4	
Parcel is located within an area defined as having high water supply potential	3	
Protection of parcel would abate existing or potential incompatible land use	2	
No existing or potential function as water supply	0	
<i>Comments:</i>		
<b>B. Surface Water Quality</b>		
Parcel would protect Class A water (is within 2,000 feet up-gradient or 200 feet downgradient)	5	
Parcel acquisition removes all known sources of <i>impairment</i> of a Class A water	5	
Parcel acquisition removes a known source of <i>impairment</i>	4	
Parcel would protect a Class B water	3	
Parcel would remove a secondary source of <i>impairment</i>	2	
Parcel would protect a Class C water	1	
Parcel is not proximate to any surface waters	0	
<i>Comments:</i>		
<b>C. Maintenance of Biological Diversity or Wildlife Habitat</b>		
Parcel has known occurrences of endangered or rare species	5	
Parcel is within an ACEC	4	
Parcel is within Core Habitat in the NHESP Biomap	3	
Parcel is identified as supporting Natural Landscape in the NHESP Biomap	2	
Parcel is contiguous to NHESP Biomap	1	
Parcel does not provide significant habitat functions	0	
<i>Comments:</i>		

<b>D. Buffering Conflicting Uses</b>		
The parcel buffers public site or large scale private site from conflicting adjacent land uses	5	
The parcel buffers small-scale private sites from conflicting uses	3	
The parcel buffers sites that are not sensitive to adjacent uses	1	
Site does not serve a buffering role	0	
<i>Comments:</i>		
<b>E. Recreational Value</b>		
The parcel is recognized as a destination for recreational activities	5	
The parcel provides unique or locally unavailable recreational opportunities	4	
The parcel meets criteria identified in a plan for recreation/open space	3	
The parcel is not identified in a plan but could provide an unforeseen recreational opportunity	1	
The parcel does not provide recreational values	0	
<i>Comments:</i>		
<b>F. Scenic Views</b>		
Parcel provides a distinctive landscape view from a public way or provides a vista from which to view significant and distinctive landscape qualities	5	
Parcel is associated with an identified visual element of the town	4	
Parcel provides distinctive views but is not readily accessible to the public	2	
Parcel does not provide scenic qualities	0	
<i>Comments:</i>		
<b>G. Historic Resources</b>		
Parcel is listed on the State or Federal Register of Historic Places or possesses identified pre-history uses	5	
Parcel is identified as locally significant for historic, cultural, or archaeological values	3	
Parcel does not yet possess identified features but is likely to	2	
Parcel is not thought to provide historic values	0	
<i>Other Comments:</i>		
<b>H. Education</b>		

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Parcel currently serves as a destination for educational activities	5	
Parcel has high potential to be a destination for educational activities	3	
Parcel could supplement existing outdoor education sites	2	
No apparent potential for outdoor education at the site	0	
<i>Comments:</i>		
<b>I. Landscape Context</b>		
Parcel is contiguous to existing protected open space AND is identified as a corridor between open spaces	5	
Parcel abuts existing open spaces	4	
Parcel is identified as a wildlife or plant corridor	4	
Parcel provides an open space or recreational element that is lacking in immediate area	4	
Parcel does not abut open space but is identified as a corridor between existing identified open spaces	2	
Parcel is remote and does not abut any existing protected open space	0	
<i>Comments:</i>		
<b>J. Fiscal Benefits</b>		
Parcel could be developed into multiple residential units	5	
Parcel is far from existing infrastructure or services	5	
Parcel could be developed into a single residential unit	4	
Parcel is zoned commercial or industrial	2	
Parcel is within R-20 zoning	4	
<i>Comments:</i>		
<b>K. Climate Change Resiliency</b>		
Parcel is in FEMA Flood Zone A	5	
Parcel is in FEMA Flood Zone V	5	
Parcel provides carbon sink	5	
Parcel provides cooling properties	4	
Parcel provides erosion stabilization	4	
<i>Comments:</i>		
<b>L. Native Plants</b>		
Parcel's vegetation is 80% or greater native vegetation	5	
Parcel's vegetation is 80% or greater invasive plants	subtract 5	
Parcel contains pitch pine, our Town tree	5	
<i>Comments:</i>		

<b>M. Trails</b>		
Parcel connects existing trails	5	
Parcel already has a trail	5	
Parcel could provide a trail	4	
<i>Comments:</i>		

Impairment means anything that negatively affects surface water quality such as outfall pipes, soil erosion, excessive roadway pollutants, improperly sloped roads, or unsecured high-density development.

Larger tracts of land are prioritized for conservation purposes, as are properties needed to establish or maintain wildlife corridors.

### ***Wetlands***

Plymouth has **11,328** acres of wetlands and open water areas. Unless there is a change in Massachusetts law, these lands are effectively protected from development under the provisions of the Massachusetts Wetlands Protection Act.

The **Open Space Inventory Map (Map 25)** illustrates which parcels are non-profit and private (**Table 25**) vs. public (**Table 26a**), state, county, federal or local government ownership, and the status of protection for each of these parcels.

**Table 25 - Non-Profit & Private Open Space**

Area	Ownership	Management Agency	Current Use	Current Condition	Recreation Potential	Public Access	Degree of Protection	Acres	Grant Source	Zone
<b>Private – Ellisville, Cedarville &amp; Bourne Road Area</b>										
Camp Clark - YMCA Hedges Pond Road	Private Non-profit	YMCA	Campground	Actively used	YMCA is seeking to expand uses	None	None	84	NA	RR
Camp Bournedale Herring Pond Road	Private	Gerson-Bournedale Trs	Day camp/ Campground	Actively used		For fee	None	7	NA	R-25
Camp Massasoit (Boy Scout) Sandy Pond Road	Non-profit	BSA Minuteman Council Mass.	Campground	Day activities Camping	Scout use only	None	None	128	NA	RR
White Cliffs State Road	Private	White Cliffs' Homeowners Assoc.	Golf/ Pool	Excellent	None - Private	None	None	42	NA	R-20MD
Atlantic Golf Course Sandy Pond Road	Private		Golf	Excellent	None	For fee	None	159	NA	RR
Ellisville Harbor (land trust) Ellisville Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation, passive trails, beach access	Excellent	Additional hiking trails	Yes	Permanent	65	LWCF	RR
Eyster Sanctuary Salt Marsh Lane	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	1.3	NA	RR
Richard Wynn Memorial Preserve Near Savery Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	83	NA	RR
Surfside Beach Mayflower Drive	Private	Surfside Homeowners Association	Beach/swimming	Good	None	For Fishing and walking	None	1	NA	R-25
Pierce Park Center Hill Road	Private	Homeowners Association	Passive recreation/swimming	Good	To be gifted to the town on 12 years	None	None	1	NA	RR
Camp Catchelot State Forest	Non-profit	BSA Moby Dick Council	Day camp/ Campground	Excellent	None	None	None	800	NA	RR
Bramhall Preserve Long Pond Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	91	NA	RR
Red Brook	State		Conservation	Excellent		Yes	Permanent	93	NA	RR

Buttermilk Bay		Div. of Fisheries & Wildlife			Additional hiking trails					
Camp Wind in the Pines Clark Road	Private Non-profit	GSA Southeastern Mass. Council	Day Camp/ Campground	Excellent	None	None	None	141	NA	RR
Camp Squanto Near State Forest	Private Non-profit	BSA Old Colony Council	Campground	Excellent	None	None	CR pending	367	NA	RR
Pinewoods Camps Cornish Field Road	Private Non-profit	Pinewoods Camp, Inc.	Campground	Excellent	None	For fee	None	25	NA	RR
Gallows Pond Preserve Gallows Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	56	NA	RR
Emery Preserve Ship Pond Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	116	NA	RR
West Shore Preserve Halfway Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	232	NA	RR
Manternarch Preserve Halfway Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	5	NA	RR
Taylor-Touster Wildland Halfway Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	61	NA	RR
Big Point Preserve Halfway Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes		23	NA	RR
Conant-Storrow Nature Preserve	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	27	NA	RR
Joe Brown House West Long Pond Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes		4	NA	RR
Old Field Pond Preserve Woodland near Bourne Line	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	30	NA	RR
Benjamin Harrison Bourne Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	5	NA	RR
<b>Private – Manomet, Pinehills &amp; Plymouth Center Area</b>										
Eel River Beach Club Manter's Point	Private non-profit	Beach Club Assoc.	Beach, tennis	Excellent	NA	Membership Required	None	1	NA	R-25
Plymouth Country Club	Private non-profit	Plymouth Country Club, Inc	Golf, tennis	Excellent	NA	Membership Required	None	215	NA	R-40

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Mayflower Park Park Avenue	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	None	Yes	Permanent	2	NA	R- 20SL
Manomet Center for Environmental Sciences Stage Point Road	Private Non-profit	Manomet Center	Conservation - Research	Excellent	None	None	None	18	NA	R- 20SL
Herbert Bartlett Great South Pond	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	None	Yes	Permanent	40	NA	RR
The Pinehills OSMUD Old Sandwich Road	Private	Pinehills LLC & Pinehills Golf	Golf/active & passive Recreation	Excellent		Membership Required for Golf /Informal for walking trails	Permanent	2,450	NA	RR
Entergy Lands State Road	Private	Entergy, Inc.	Power plant buffer	Good	None	None	None	1,600	NA	RR
Reid Pond Preserve Fairview Lane	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	34	NA	RR
Thrasherville Preserve Old Sandwich Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	20	NA	RR
Eel River Preserve Clifford Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	2.5	NA	R-40
Withington Preserve Clifford Road	Private Non-profit	Wildlands Trust of SE Mass	Conservation	Excellent	Additional hiking trails	Yes	Permanent	<1	NA	R-40
<b>Private – North &amp; West Plymouth Areas</b>										
Boys & Girls Club Resnik Road	Private Non-profit	Boys & Girls Club of Plymouth, Inc.	Recreation	Excellent	NA	Membership Required	None	52	NA	R- 20MD
Holmes Field Court Street	Private Non-profit	Trust for Public Lands	Passive Recreation	Excellent	NA	Yes	Permanent	26	NA	R- 20SL
Plymouth Rod & Gun Club South Meadow Road	Private Non-profit	Plymouth Rod & Gun Club	Gun & Archery Range	Excellent	None	Membership Required	None	92	NA	AP & RR
Squirrel Run Country Club Carver Road	Camping	Excellent	None	For fee	None	For fee	None	n/a	NA	R-25
Ellis Haven Camping Area	Camping	Carreau Family	Camping	Excellent	None	For fee	None	25	NA	RR

Federal Furnace Road										
Pinewood Lodge & Campground Carver Road	Camping	Saunders Family	Camping	Excellent	None	For fee	None	136	NA	RR
McNeil Preserve Great South Pond	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good, In Use	Passive Recreation	No	CR	40	NA	RR
Barnes-Jenkins Hole Drew Road	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good, In Use	Passive Recreation	Yes	Permanent	4	NA	RR
Domino Cortelli Preserve May Hill Rd	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good	Restricted Access	No	Permanent	27	NA	RR
Nickerson Conservation Restriction	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good	Restricted Access		CR	12	NA	RR
Philips Preserve	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good	Restricted Access		Permanent	3	NA	RR
Great South Pond Preserve	Wildlands Trust of SE MASS	Wildlands Trust of SE Mass	Conservation	Good	Passive Recreation	Yes	Permanent	328	NA	RR
<b>Private – Beaches</b>										
Clarks Island	Duxbury Rural & Historical Society	Duxbury Rural & Historical Society	Beach preserve	Good	Limited Access	Limited	Unprotected Open Space	17	NA	RR
Gurnet Beach	Private	Private	Beach preserve	Good	Passive Recreation	Yes	Unprotected Open Space	31	NA	R-20SL
Saquish Beach	Boulevard South Realty Trust	Bush, Warren W.	Beach preserve	Good	Passive Recreation	Yes	Unprotected Open Space	37	NA	R-20SL
Saquish	Private	Private	Swimming, recreation	Good	Passive Recreation	Yes	Unprotected Open Space	8	NA	R-20SL

**State Programs:** SH – State Self-help, USH – Urban Self-help, CPA – Community Preservation Act, LWCF – Land and Water Conservation Fund

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

**Table 26a - Public Open Space**

Area	Ownership	Management Agency	Current Use	Current Condition	Recreation Potential	Public Access	Degree of Protection	Acres	Grant Source	Zone
<b>PLYMOUTH CENTER</b>										
Town Wharf	Town	DPW	Private & Commercial Fishing	Poor	Expanded boat access	Yes	Unprotected	NA	NA	WF
National Monument to Forefathers	State	Div. Conservation & Recreation	Monument & Park	Good	Passive Recreation	Yes	Permanently Protected Open Space	10	NA	R-20SL
Plymouth Maiden Monument	State	Div. Conservation & Recreation	Neighborhood park	Good	Passive Recreation	Yes	Permanently Protected Open Space	<1	NA	DH
Fisherman's Memorial Park	Town	Parks Department	Neighborhood park	Good	Passive Recreation	Yes	Park land Permanently Protected Open Space	<1	NA	DH
Pilgrim Memorial Park	Town of Plymouth	Board of Selectmen	Wharf, Mayflower II, Plymouth Rock	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	6	NA	DH
Brewster Gardens	Town of Plymouth	Parks Dept.	Historic park	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	4	NA	DH
Jenney Pond Park	Town of Plymouth	Parks Dept.	Historic park	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	10	NA	R-25
Billington Street Park/Town Brook	Town of Plymouth	Parks Dept.	Historic park	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	35	NA	R-25
Training Green	Town of Plymouth	Parks Dept.	Historic park (Olmsted)	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	>1	NA	R-20SL
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										
Stephens Field	Town of Plymouth	Parks Dept.	Playground, swimming, boat launch, fields	In Use - Restoration Planned	Recreation	Yes	Unprotected Open Space	8	CPA	WF
Holmes Playground	Town of Plymouth	Parks Dept.	Playground, ball courts and fields, fish ladder	In Use	Recreation	Yes	Unprotected Open Space	>2	NA	R-20SL
Sirroco Memorial Playground	Town of Plymouth	Parks Dept.	Playground / basketball court	In Use	Recreation	Yes	Unprotected Open Space	1	NA	R-20SL
Haskell Field/Avery Memorial Playground	Town of Plymouth	Parks Dept.	Baseball field	In Use	Recreation	Yes	Unprotected Open Space	>3	NA	R-25
Sever/Allerton Street Playground	Town of Plymouth	Parks Dept.	Playground/playfield/skateboard park	In Use	Recreation	Yes	Unprotected Open Space	1	NA	R-20SL

Depot Park	Town of Plymouth	Parks Dept.	Ornamental park	In Use	Passive Recreation	Yes	Unprotected Open Space	<1	NA	DH
Mabbett Park	Town of Plymouth	Parks Dept.	Picnic area	In Use	Passive Recreation	Yes	Unprotected Open Space	<1	NA	DH
Burton Park	Town of Plymouth	Parks Dept.	Ornamental park	In Use	Recreation	Yes	Unprotected Open Space	1	NA	R-20SL
<b>SCHOOL PLAYGROUND AND PLAYING FIELDS</b>										
Nathaniel Morton School	Town of Plymouth	School Dept.	Playground / Playfields	Good	Room for additional play area	Fully Accessible	Unprotected	4	NA	R-20SL
Mt. Pleasant School	Town of Plymouth	School Dept.	Playground / playfields	In Use	Expanded Public Use	Yes	Unprotected	2	NA	R-20SL
Cold Spring School	Town of Plymouth	School Dept.	Playground / playfields	In Use	Expanded Public Use	Yes	Unprotected	7	NA	R-20SL
Plymouth North High School	Town of Plymouth	School Dept.	Ball fields, tennis courts, gym	In Use	Expanded Public Use	Yes	Unprotected	42	NA	R-25
<b>BEACH CONSERVATION AREA</b>										
Plymouth Beach/Long Beach	Town of Plymouth, Wildlands Trust of SE MASS	Board of Selectmen & Plymouth County Wildlands Trust	Beach	In Use	Recreation, Protected Habitat	Yes	Unprotected& Permanently Protected Open Space	3	NA	R-25
<b>TRAIL</b>										
Jackson Park (Jacobson Park)	Town of Plymouth	Parks Dept.	Nature trail	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	1	NA	R-25
<b>CEMETERIES</b>										
Cole's Hill	Commonwealth of MASS	Division of Fish & Wildlife	Pilgrim burial site	Good	Historic Destination	Yes	Unprotected Open Space	1	NA	DH
Burial Hill	Town of Plymouth	Parks Dept.	Historic cemetery	Good	Historic Destination	Yes	Unprotected	6	NA	DH
Vine Hill Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	In Use	None	Yes	Unprotected	34	NA	R-20SL
Oak Grove Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	In Use	None	Yes	Unprotected	17	NA	R-20SL
Brale and Caswell Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	Good	None	Yes	Unprotected	25	NA	R-25
Long Beach Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	<1	NA	R-25
<b>OTHER</b>										

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Plymouth County Courthouse & Green	Town of Plymouth	Inhabitants of the Town of Plymouth	Historic Building: Vacant  Court House Green (front yard area): VA use, fairs, Festivals	Building is under construction for new Town Hall. Surrounding property in good condition	Building: Historic Value  Green: Passive Recreation	Yes	Building: Unprotected  Green: Unprotected Open Space	>1	NA	DH
Plymouth County Farm	Plymouth County	Plymouth County Commissioners	County Farm	Good, In Use	Agriculture	Yes	Permanently Protected Open Space	111	CPA	R-25
<b>NORTH PLYMOUTH</b>										
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										
Nelson Memorial Playground	Town of Plymouth	Parks Dept.	Waterfront park, playground, boat launch	Good, In Use	Passive, Active Recreation	Yes	Unprotected Open Space	10	PARC	WF
Veterans Memorial Playground	Town of Plymouth	Parks Dept.	Playground	Good	Passive Recreation	Yes	Unprotected Open Space	3	NA	R-20SL
308 Court Street Passage	Town of Plymouth	Parks Dept.	Passive Recreation	Under Construction	Passive Recreation	Yes	Unprotected Open Space	<1	CPA	GC
Siever Field	Town of Plymouth	Parks Dept.	Playground, Ball Fields	Good	Passive Recreation	Yes	Unprotected Open Space	5	NA	R-20SL
<b>SCHOOL PLAYGROUNDS</b>										
Hedge School	Town of Plymouth	School Dept.	Playground abuts conservation area	Good, In Use	Student Recreation	Yes	Unprotected	3	NA	R-20SL
<b>CONSERVATION AREA</b>										
Russell Sawmill-Hedge Pond	Town of Plymouth	Conservation Commission	Conservation, hiking, fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	>200	NA	R-20SL
<b>TRAIL</b>										
North Plymouth Rail Trail	Town of Plymouth	Parks Dept.	Rail trail under construction	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	16	NA	WF
<b>MANOMET</b>										
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										

Briggs Playground	Town of Plymouth	Parks Dept	Playground/ball fields/basketball/tennis	Good, In Use	Recreation	Yes	Unprotected Open Space	4	NA	R-20SL
Brook Road Playground	Town of Plymouth	Parks Dept.	Playground/ball fields/basketball	Good, In Use	Recreation	Yes	Unprotected Open Space	>5	NA	R-20MD
Emerson Playground	Entergy	Town of Plymouth, Parks Dept.	Baseball/tennis (LT lease from Entergy)	Good, In Use	Recreation	Yes	Unprotected Open Space	5	NA	R-25
Fresh Pond Park/Indian Cemetery	Town of Plymouth	DPW (Parks & Cemetery Depts.)	Passive recreation, swimming, boating, fishing, cemetery	Good, In Use	Recreation	Yes	Unprotected	13	NA	R-25
Manomet Recreation Facility	Town of Plymouth	Board of Selectmen	Playground/ball fields	Good, In Use	Recreation	Yes	Permanently Protected Open Space	141	NA	R-25
<b>SCHOOL PLAYGROUNDS AND PLAYING FIELDS</b>										
Indian Brook Elementary School	Town of Plymouth	School Dept.	Ball fields/basketball	Good, In Use	Expanded Public Use	Yes	Unprotected	15	NA	R-25
Manomet Elementary School	Town of Plymouth	School Dept.	Playground/field	Good, In Use	Expanded Public Use	Yes	Unprotected	4	NA	R-20SL
<b>INDOOR FACILITIES</b>										
Manomet Youth Center/Bartlett Hall	Town of Plymouth	Parks, Recreation Depts.	Indoor gym	Good, In Use	Recreation	Yes	Unprotected Open Space	<1	NA	GC
<b>CONSERVATION AREAS</b>										
Bartlett Pond	Town of Plymouth	Conservation Commission	Conservation/hiking, Swimming, Fishing	Good, In Use	Recreation	Yes	Permanently Protected Open Space	7.5	NA	R-20MD
Beaver Dam Road Conservation Area	Town of Plymouth	Board of Selectmen	Conservation/hiking	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	119	NA	RR
Carolyn Drive Conservation Area	Town of Plymouth	Board of Selectmen	Conservation-limited access	Good	Limited Access Recreation	Yes	Permanently Protected Open Space	167	NA	R-25
Indian Brook Conservation Area	Town of Plymouth	Conservation Commission	Conservation/hiking	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	50	NA	R-25
Little Island Pond Conservation Area	Town of Plymouth	Board of Selectmen	Conservation/hiking/swimming	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	119	NA	RR

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Long Duck Pond Preserve	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	116	NA	RR
Pond View Circle Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	<1	NA	R-25
Rabbit Pond	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	>6	NA	R-20SL
Quinn Property	Town of Plymouth	Conservation Commission	Conservation/hiking	Good, in Use	Passive Recreation	Yes	Permanently Protected Open Space	350	CPA	RR
Shallow Pond-pond frontage only	Town of Plymouth	Board of Selectmen	Conservation-no access	Good	Conservation Only	No	Unprotected Open Space	2	NA	R-25
Taylor Avenue Wetlands	Town of Plymouth	Conservation Commission	Conservation/hiking	Good	Passive Recreation	Yes	Permanently Protected Open Space	6	NA	R-20MD
Tidmarsh Preserve	Town of Plymouth	Conservation Commission	Conservation/hiking	Good	Passive Recreation	Yes	Permanently Protected Open Space	124+	CPA	RR
<b>BEACH</b>										
Manomet Bluffs	Town of Plymouth	Conservation Commission	Beach area below bluffs	Good	Passive Recreation	Yes	Permanently Protected Open Space	5	NA	R-20SL
White Horse Beach	Town of Plymouth	Conservation Commission	Dunes and beaches/swimming/fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	15	NA	R-20SL
<b>LANDING</b>										
Churchill Landing	Churchhill Landing Association	Churchhill Landing Association	Beach, Beach Access	Good	Passive Recreation	Yes	Unprotected Open Space	18	NA	R-25
<b>GROUNDWATER PROTECTION SITES</b>										
Wannos Pond Well Site	Town of Plymouth	Water Dept.	Groundwater protection	Active Well Site			Unprotected Open Space	9	NA	R-25
<b>CEDARVILLE</b>										
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										

Elmer Raymond Park	Town of Plymouth	Parks Dept.	Playground/ball fields and court/tennis/Passive recreation/trails	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	18	USH	R-20MD
<b>INDOOR FACILITIES</b>										
Old/Little Red Schoolhouse	Town of Plymouth	Board of Selectmen	Historic schoolhouse / community center	Good, In Use	Additional Use for Meetings / Conferences	Yes	Unprotected	<1	NA	R-20MD
<b>CONSERVATION AREAS</b>										
Hedges Pond Preserve	Town of Plymouth	Conservation Commission	Conservation, Hiking	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	>86	CPA	RR
<b>CEMETERIES</b>										
Cedarville Indian Cemetery	Town of Plymouth	Parks Dept.	Cemetery	Fair	Historical Destination	Yes	Unprotected	>1	NA	R-20MD
<b>LANDING</b>										
Cedarville Landing	Town of Plymouth	Town of Plymouth	Beach Access	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	4	NA	R-25
Hedges Pond Preserve, Camp Dennen	Town of Plymouth	Conservation Commission	Campground	Structures Require Repair or Demolition	Passive Recreation, Camping	Temporarily Closed, Restricted Access	Permanently Protected Open Space	88	CPA	RR & R-20MD
<b>WEST PLYMOUTH</b>										
Morton Park/Billington Sea	Town of Plymouth	Parks Dept.	Historic park, swimming, boating, hiking, playground	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	209	NA	RR
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										
West Plymouth Recreation Area	Town of Plymouth	Parks Dept.	Ball fields	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	40	NA	RR
<b>SCHOOL PLAYGROUND AND PLAYING FIELDS</b>										
West Elementary School	Town of Plymouth	School Dept.	Gym, playing fields	Good, In Use	Additional Public Use	Yes	Unprotected	35	NA	RR
<b>CONSERVATION AREAS</b>										
Crawley Preserve	Town of Plymouth	Conservation Commission	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	68	CPA	RR

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Micajahs Pond	Town of Plymouth	Board of Selectmen	Conservation	Good	Passive Recreation	Yes	Unprotected Open Space	2	NA	R-25
Big West/Grassy Pond	Town of Plymouth	Board of Selectmen	Conservation		Passive Recreation	Yes	Unprotected Open Space	<1	NA	RR
Triangle Pond (S)	Commonwealth of MASS	Division of Fish & Wildlands	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	10	NA	RR
King's Pond Access PLYMOUTH	Commonwealth of MASS	DCR	Pond Access	Good	Passive Recreation	Yes	Permanently Protected Open Space	<1	NA	RR
CEMETERIES										
Parting Ways Cemetery	Town of Plymouth	Cemetery Dept.	Historic cemetery	Good	Historic	Yes	Unprotected	77	NA	RR
BEACH										
Clear Pond Beach Area	Town of Plymouth	Conservation Commission	Beach access	Good	Passive Recreation	Yes	Unprotected Open Space	4	NA	RR
GROUNDWATER PROTECTION SITES										
Murdock's Pond	Town of Plymouth	Board of Selectmen	Groundwater protection	Good	Limited	Yes	Unprotected Open Space	3	NA	R-20SL
Cooks Pond Well	Town of Plymouth	Water Dept	Groundwater protection	Good, In Use	Limited	Limited	Unprotected Open Space	22	NA	RR
Darby Pond Well	Town of Plymouth	Water Dept	Groundwater protection	Good, In Use	Limited	Limited	Unprotected Open Space	11	NA	RR
Industrial Park Water Tank	Town of Plymouth	Water Dept	Water Tank	Good, In Use	Limited	Limited	Unprotected	>2	NA	R-20MD
INDOOR										
Armstrong Ice Skating Area (S)	Commonwealth of MASS	Dept. of Environmental Management	Ice Rink	Good, In Use	Recreation	Yes	Unprotected	5	SH	RR
OTHER										
Plymouth Airport	Town of Plymouth	Airport Commission	Plymouth Airport	Good, In Use	Flying Lessons, Flights	Yes	Unprotected	>500	NA	AP
Pinehills Development	Pinehills LLC,	Green Company	Private Open Space, Conservation, Golf Courses	Good, In Use	Conservation, Passive Recreation	Yes	Unprotected Open Space	2450	NA	RR
	Pinehills Golf Club LLC	C/O Centennial Golf Properties, Inc.								
VILLAGE PARK										

Cleft Rock Park	Town of Plymouth	Parks Dept.	Sightseeing, Hiking	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	>8	NA	RR
<b>CONSERVATION AREAS</b>										
Briggs Estate	Town of Plymouth	Board of Selectmen	Conservation, hiking, boating, fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open space	385	SH	RR
Dugway Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open space	2	NA	RR
<b>TRAIL</b>										
Talcott Property	Town of Plymouth	Conservation Commission	Trail linkage to be developed, Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	188	CPA	RR
<b>GROUNDWATER PROTECTION</b>										
Ship Pond Road Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation Access	Yes	Unprotected	15	NA	RR
<b>CEMETERY</b>										
Chiltonville Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Limited	Yes	Permanently Protected Open Space	4	NA	R-25
Jordan Rd Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Limited	Yes	Permanently Protected Open Space	<1	NA	R-40
<b>ELLISVILLE</b>										
<b>TOWN-WIDE PARK AND CONSERVATION AREA</b>										
Ellisville Harbor State Park (S)	Commonwealth of MASS	Division of Fish & Wildlife & Department of Public Works	Conservation, trails, beach	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	78	LWCF	RR
<b>LANDING</b>										
Harlow's Landing	Town of Plymouth	DPW	Limited Beach Access Roadway	Good, No Parking	Passive Recreation	Yes	Unprotected	N/A	NA	WF
<b>GROUNDWATER PROTECTION</b>										

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

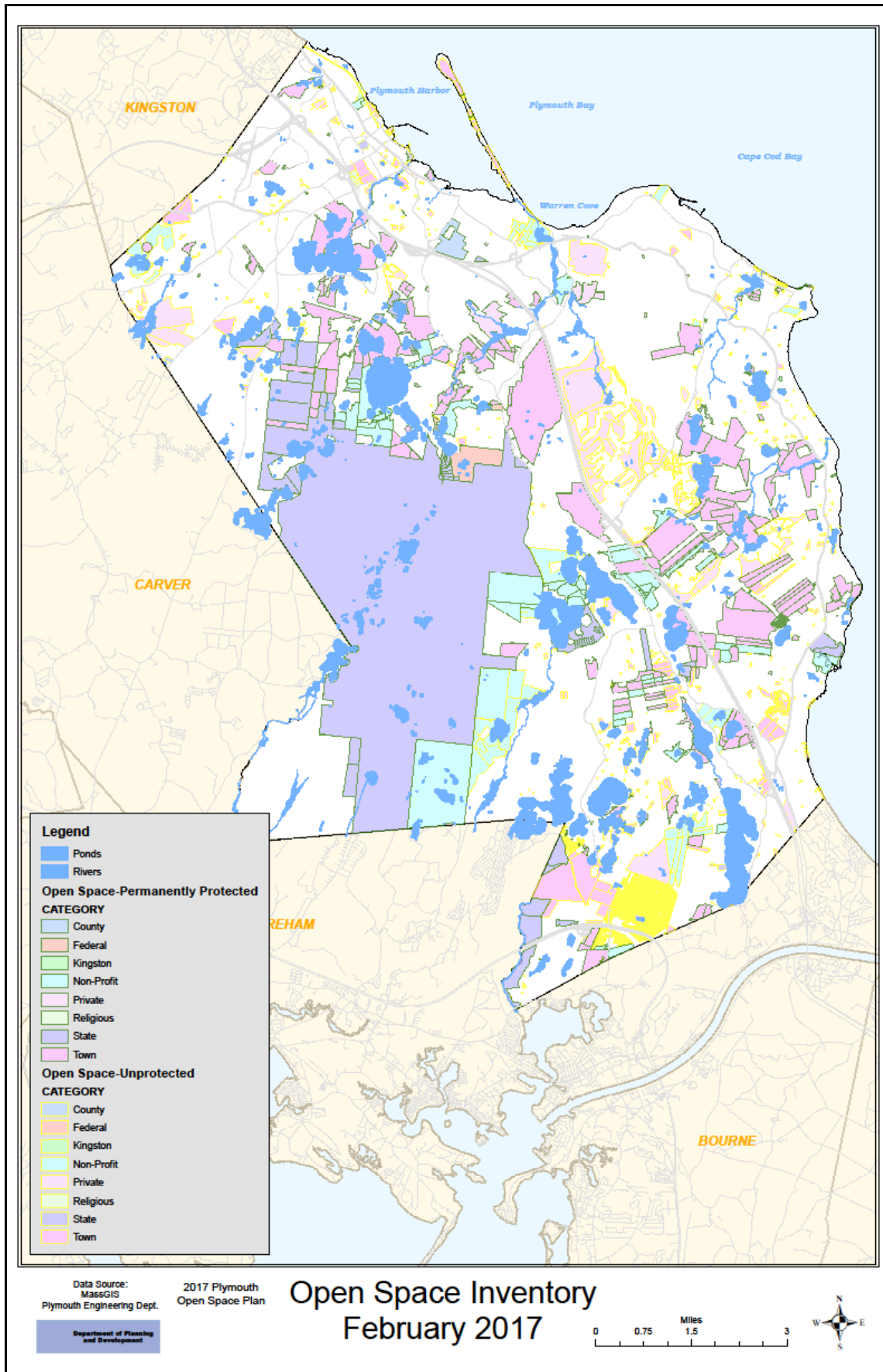
Quail Run Well	Town of Plymouth	Water Dept.	Groundwater protection	Good	Good, In use	Yes	Unprotected	19	NA	RR
Ellisville Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Unprotected Open Space	139	NA	RR
<b>FEDERAL FURNACE</b>										
<b>TOWN-WIDE PARK</b>										
Myles Standish State Forest (S)	Commonwealth of MASS	Dept. of Environmental Management	Camping, fishing, swimming, trails	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	10,000+	NA	RR
<b>SCHOOL PARKS AND PLAYGROUNDS</b>										
Federal Furnace Elementary School	Town of Plymouth	School Dept.	Ball fields/tennis	Good, In Use	Additional Public Use	Yes	Unprotected	20	NA	RR
Plymouth Community Intermediate School	Town of Plymouth	School Dept.	Ball fields/gym	Good, In Use	Additional Public Use	Yes	Unprotected	47	NA	RR
<b>CONSERVATION AREAS</b>										
Town Forest	Town of Plymouth	Board of Selectmen	Hiking/passive recreation	Good, In Use	Passive Recreation, Conservation	Yes	Permanently Protected Open Space	287	NA	RR
Boot Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation/beach	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	66	NA	RR
Russell Mill Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	130	SH	RR
Rocky Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	33	NA	RR
Gunners Exchange Conservation (F)	Federal	US Fish & Wildlife	Conservation/ Wildlife Preserve	Good	None	None	Permanently Protected Open Space	182	NA	RR
County Woodlot (C)	Plymouth County	County Commissioners	Open space, woods	Good	Passive Recreation	Yes	Unprotected	106	NA	LI/RR
<b>GROUNDWATER PROTECTION</b>										
Federal Furnace Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Permanently Protected Open Space	30	NA	RR

Boot Pond Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Unprotected Open Space	38	NA	RR
Billington Street Well (Lout Pond Well)	Town of Plymouth	Water Dept.	Groundwater protection	Inactive	Passive Recreation	Yes	Unprotected Open Space	35	NA	RR
<b>BOURNE ROAD</b>										
<b>TOWN-WIDE PARK</b>										
Forges Field Recreation Facility & Crosswinds Golf Club	Town of Plymouth	Inhabitants of the Town of Plymouth	Ball fields, walking and biking trails, golf course	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	640	USH	RR
<b>VILLAGE PARKS AND PLAYGROUNDS</b>										
Buttermilk Bay Playground	Town of Plymouth	Board of Selectmen	Playground	Good, In Use	Passive Recreation	Yes	Unprotected	<1	NA	RR
Huntley Playground	Town of Plymouth	Board of Selectmen	Playground	Good, In Use	Passive Recreation	Yes	Unprotected	<1	NA	RR
<b>SCHOOL PLAYGROUNDS AND PLAYING FIELDS</b>										
Plymouth South High School	Town of Plymouth	Inhabitants of the Town of Plymouth	Ball fields	Good, In Use	Additional Public Use	Yes	Unprotected	121	NA	RR
South Elementary School	Town of Plymouth	School Dept.	Playground, ball fields	Good, In Use	Additional Public Use	Yes	Unprotected	20	NA	RR
Massachusetts Maritime Academy	Commonwealth Of MASS	Massachusetts Maritime Academy	Sailing School	Good, In Use	Additional Public Use	Yes	Unprotected Open Space	9	NA	RR
<b>CONSERVATION AREAS</b>										
Blueberry Conservation Area	Town of Plymouth	Conservation Commission	Conservation-no access	Good	Restricted Access	No	Permanently Protected Open Space	1	NA	R-25
Blueberry Road										
White's Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation-no access	Good	Restricted Access	No	Permanently Protected Open Space	<1	NA	R-25
Bloody Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation/swimming/fishing/hiking	Good	Passive Recreation	Yes	Permanently Protected Open Space	62	NA	RR
Red Brook Conservation Area	Commonwealth of MASS	Division of Fish & Wildlife	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	84	NA	RR
Grassy Pond Non-Game Area	Commonwealth of MASS	Division of Fish & Wildlife	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	26	NA	RR

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Massasoit National Wildlife Refuge	United States of America	US Fish & Wildlife Service	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	196	NA	RR
<b>LANDING</b>										
Herring Pond Boat Ramp	County	County	Pond Access	Poor	Boat access	Yes	None	N/A	NA	RR
Jake's Pond Common Land	Town of Plymouth	Board of Selectmen	Beach	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	10	NA	RR
<b>GROUNDWATER PROTECTION</b>										
Long Pond Road Water Dept.	Town of Plymouth	Water Dept.	Property For Sale	Property For Sale	None	Limited	Unprotected	2	NA	HC
<b>CEMETERIES</b>										
Herring Pond Indian Cemetery	Town of Plymouth	Cemetery Dept.	Historic Native American cemetery	Good	Historic Destination	Yes	Unprotected	2	NA	RR
Halfway Pond Douglas Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1	NA	RR
Wareham Road Cemetery (Shurtleff Burial Ground)	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1	NA	RR
Herring Pond Road Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1	NA	RR
<b>BOURNE ROAD</b>										
Long Pond Road	Town of Plymouth & Privately Owned	Town of Plymouth & Privately Owned	Various small cemeteries	Various states of condition	Historic Destinations	Yes, Limited	Unprotected	N/A	NA	RR/R-25
<b>SAQUISH/GURNET CONSERVATION BEACH</b>										
Saquish Beach	Town of Plymouth	Conservation Commission	Conservation	Good	Limited Access, Passive Recreation	Yes	Permanently Protected Open Space	2.5	NA	R-20SL
<b>LIGHTHOUSE</b>										
Gurnet Lighthouse	United States of America	US Coast Guard	Historic Lighthouse	Good	Limited Access, Historic Recreation	Yes	Permanently Protected Open Space	4.5	NA	R-20SL

Map 25



# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

## CPC Acquisitions

The Community Preservation Act (MGL Ch. 44B) authorizes communities within Massachusetts to levy up to a 3% surcharge on property taxes. The Town of Plymouth adopted this program in 2002, which incorporated a 1.5 percent on its residents. To date, approximately 17 million dollars, along with State matching funds of over 10 million, have proven to be a sound investment in acquiring open space lands. Table 25A depicts land acquisitions since CPC inception.

**Table 24a: Conservation Preservation Committee Funded Open Space Acquisitions/CR's**

PARCELID	SITENAME	TOWN MEETING	ACRES	COMMENTS
005-000-101A-000	Pedestrian connector for Veteran's Field Park	Apr 6, 2013 Art 16D	0.23	CPC funded property, \$150,000.00
026-000-044-005	County Farm	Oct 24, 2005, Art 9E	111.13	CPC funded CR #15, \$300,000.00
027-000-127-000	Billington Street Park / Town Brook	Oct 24, 2011, Art 16A	6.18	CPC funded property, \$550,000.00
027-000-129-000	Old Plymco Bldg. & Dam Site	Oct 24, 2011, Art 16A	3.72	CPC funded property, \$350,000
045B-000-014-024	White Horse Beach Open Space	2015, Art 16C	0.07	CPC funded property, \$230,000.00
047-000-021-000	Extended Eel River Preserve	April 1, 2017 Art: 16C	42.99	CPC funded property, \$191,000.00 - an additional \$263,900.00 land grant was awarded
051-000-005-000	Eugene Dixon Parcels	Apr 11, 2015, Art 12	40.55	CPC funded property, \$705,000.00
051-000-006-000	Eugene Dixon Parcels	Apr 11, 2015, Art 12	45.74	CPC funded property, \$705,000.00
052-000-009-000	CenterHill Preserve, West	Oct 24, 2005, Art 9F	56.72	CPC funded property, \$350,000.00 - CR #10 held by Wildlands Trust
052-000-009C-000	CenterHill Preserve, West	Oct 20, 2012, Art 16B	1.49	CPC funded property, \$350,000.00 - CR #10 held by Wildlands Trust
052-000-009F-000	CenterHill Preserve, West	Oct 20, 2012, Art 16B	1.07	CPC funded property, \$350,000.00 - CR #10 held by Wildlands Trust
052-000-026-000U	CenterHill Preserve, West	Oct 20, 2012, Art 16B	14.23	CPC funded property, \$350,000.00 - CR #10 held by Wildlands Trust
052-000-027A-000	CenterHill Preserve, West	Oct 20, 2012, Art 16B	1.03	CPC funded property, \$350,000.00 - CR #10 held by Wildlands Trust
055-000-036B-000	Hedges Pond Preserve - Camp Dennen	April 2, 2016, Art 16E	4.43	CPC funded property, \$45,000.00 along with Lot 37B
055-000-037B-000	Hedges Pond Preserve - Camp Dennen	April 2, 2016, Art 16E	3.60	CPC funded property, \$45,000.00 along with Lot 37B
059-000-015-000	Land off Carter's Bridge Road	Oct 19, 2013, Art 16A	4.90	CPC funded property, \$113,000.00
059-000-027-066	Little Sandy Pond Rd. and Livingston Drive	April 2, 2016, Art 16G	25.84	CPC funded property, \$175,000.00
060-000-030-000	Hedges Pond Preserve - Camp Dennen	Oct 23, 2007, Art: 16	9.69	CPC funded property, \$3,150,000.00
060-000-031-000	Hedges Pond Preserve - Camp Dennen	Oct 23, 2007, Art: 16	16.62	CPC funded property, \$3,150,000.00
060-000-032-000U	Hedges Pond Preserve - Camp Dennen	Oct 23, 2007, Art: 16	3.77	CPC funded property, \$3,150,000.00
061-000-002-000	Don Quinn Property	Oct 20, 2012, Art 16C	19.44	CPC funded property, \$3,000,000.00
061-000-004-000	Don Quinn Property	Oct 20, 2012, Art 16C	24.78	CPC funded property, \$3,000,000.00
061-000-006F-000U	Old cranberry bog lot off Savery Pond	Oct 15, 2016, Art 9D	11.13	CPC funded \$250,000.00, cranberry farming rights to be sold off - Conveyed to BOS
062-000-001-018	Don Quinn Property	Oct 20, 2012, Art 16C	233.45	CPC Funded \$3,000,000.00
062-000-001B-000	Don Quinn Property	Oct 20, 2012, Art 16C	73.67	CPC funded \$3,000,000.00
062-000-004-007	Simmons Property	Oct 18, 2014, Art: 16C	26.93	CPC Funded \$450,000.00, all lots combined = 26.93 acres



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[illegible]



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[illegible]

062-000-004-183	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded \$450,000.00, all lots combined = 26.93 acres
062-000-004-184	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded \$450,000.00, all lots combined = 26.93 acres
062-000-004-185	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded \$450,000.00, all lots combined = 26.93 acres
062-000-004-195	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded \$450,000.00, all lots combined = 26.93 acres
062-000-004-196	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded property \$450,000.00, all lots combined = 26.93 acres
062-000-004-197	Simmons Property	Oct 18, 2014, Art: 16C	0.01	CPC Funded property \$450,000.00, all lots combined = 26.93 acres
068-000-002B-000	Bramhall / Six Ponds East Preserve	Oct 28, 2003, Art 8	15.64	CPC funded CR #7 held by the Conservation Commission, \$134,000.00
068-000-003B-000	Bramhall / Six Ponds East Preserve	Oct 28, 2003, Art 8	45.95	CPC funded CR #7 held by the Conservation Commission, \$134,000.00
068-000-003C-000	Bramhall / Six Ponds East Preserve	Oct 28, 2003, Art 8	10.68	CPC funded CR #7 held by the Conservation Commission, \$134,000.00
068-000-003E-000	Bramhall / Six Ponds East Preserve	Oct 28, 2003, Art 8	7.02	CPC funded CR #7 held by the Conservation Commission, \$134,000.00
068-000-005B-000	Emery West Preserve		4.48	CPC funded \$705,000.00 under ConCom - Conveyance pending
068-000-016-000	Emery Triangle Parcel		1.33	CPC funded \$705,000.00 under ConCom - Conveyance pending
069-000-071-002	Wildlands Trust Headquarters	April 9, 2012, Art 16C	1.89	CPC Funded \$175,000.00
069-000-072A-000	Wildlands Trust Headquarters	April 9, 2012, Art 16C	5.82	CPC Funded \$175,000.00
069-000-072B-000	Wildlands Trust Headquarters	April 9, 2012, Art 16C	0.58	CPC Funded \$175,000.00
082-000-058A-001	Russell Mills Rd. Property	April 1, 2017, Art 16D	5.40	CPC Funded \$175,000.00, part of three lots
082-000-058A-002	Russell Mills Rd. Property	April 1, 2017, Art 16D	3.46	CPC Funded \$175,000.00, part of three lots
082-000-058a-003	Russell Mills Rd. Property	April 1, 2017, Art 16D	1.44	CPC Funded \$175,000.00, part of three lots
084-000-004B-000	Holmes Preserve	Oct 28, 2003, Art 10	4.55	CPC funded \$463,000.00, CR #9 held by Wildlands Trust (9.2 acres restricted)
084-000-023-002	Eel River Preserve	Oct 24, 2005, Art 9G	24.24	CR #16 held by Wildlands Trust, \$300,000.00 paid
084-000-024-001	Eel River Preserve	Oct 24, 2005, Art 9G	34.50	USDA Wetlands Reserve Program Easement
084-000-027-000	Eel River Preserve	Oct 24, 2005, Art 9G	1.30	USDA Wetlands Reserve Program Easement
084-000-032-001	Holmes Preserve	Oct 28, 2003, Art 10	35.48	CPC funded \$463,000.00, CR #9 held by Wildlands Trust (9.2 acres restricted)
086-000-009-003	Lot Off Hoyt Pond	Oct 23, 2006, Art 17C	18.39	CPC \$400,000.00 funded, CR #13 held by the Wildlands Trust
088-000-025-000	Property off Drew Road	Oct 25, 2010, Art: 16A	10.83	CPC funded, \$200,000.00 total, \$179,490.00 from CPC, Probate: 07E0019-PP1
088-000-026H-002	Herries Property	April 3, 2010, Art:7	36.29	\$460,000.00 paid through LAND Grant, CPC paid \$140,300.00, land grants balance
090-000-022C-000	Lot off Black Cat Road	2016, Article 16D	10.84	CPC funded, \$46,000 as part of three lot purchase
090-000-023A-000	Lot off Black Cat Road	2016, Article 16D	1.62	CPC funded, \$46,000 as part of three lot purchase
090-000-023B-000	Lot off Black Cat Road	2016, Article 16D	1.97	CPC funded, \$46,000 as part of three lot purchase
090-000-039-004	Not shown on CAMA	April 11, 2015, Art 16D	49.60	CPC funded, part of \$425,000.00 allocated, old lots 25A-1, 25B-Z & 39-2
098-000-068-000	Cobb Property	Apr 2015, Art 16B	50.00	\$425,000.00 paid
098-000-104-000	Crawley Preserve	Apr 4, 2009, Art 7A,7B	67.80	CR & CE held by Mass Fish & Game, \$550,000.00 paid
122-010P-1022A- 000	David E. Alper Preserve	2015, Art 16B	25.50	CPC purchased lots 1022A & 1022B for \$400,00.00, total cost \$525K
122-010P-1022B- 00	David E. Alper Preserve	2015, Art 16B	19.60	CPC purchased lots 1022A & 1022B for \$400,00.00, total cost \$525K

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129-000-010A-000	Garland Property	Oct 2014, Art 16D	26.94	CPC funded \$750,000.00
129-000-011-000	Garland Property	Oct 2014, Art 16D	70.35	CPC purchase
065-000-011A-000	Talcott	Jun 1, 2004, Art 1	0.98	CR #8 held by Wildlands Trust, \$1,000,000.00 paid
065-000-011B-000	Talcott	Jun 1, 2004, Art 1	1.14	CR #8 held by Wildlands Trust, \$1,000,000.00 paid
065-000-011C-000	Talcott	Jun 1, 2004, Art 1	5.27	CR #8 held by Wildlands Trust, \$1,000,000.00 paid
065-000-011D-000	Talcott	Jun 1, 2004, Art 1	0.62	CR #8 held by Wildlands Trust, \$1,000,000.00 paid
065-000-015A-000	Talcott	Jun 1, 2004, Art 1	2.41	CR #8 held by Wildlands Trust, \$1,000,000.00 paid
052-000-021C-000	CenterHill Preserve, Bayside	May 26, 2006, Art 10	0.20	CR #12 held by Wildlands Trust

### **RECREATION**

In addition to lands set aside for conservation purposes, Plymouth has a significant inventory of active parkland. This includes historical monuments and open spaces, large town parks, small village parks and playgrounds, school facilities and beaches.

#### ***Town Parks: Brewster Gardens - Jenney Pond Park - Town Brook Nature Trail - Billington Street Park***

These four linked parks run along Town Brook from the harbor area to Billington Sea. Brewster Gardens is the site of the original garden plot tilled by Pilgrim William Brewster in 1620, and the adjacent lands formed the nucleus of the original settlement at Plymouth. Jenney Mill is a replica of an early grain mill.

#### ***Historic Monuments of Downtown Plymouth and Historic Cemeteries***

Other open spaces and monuments of Plymouth's downtown area are relatively small, but their historic importance makes them significant for the entire town. Pilgrim Memorial Park, Cole's Hill, Burial Hill, and the National Monument to the Forefathers are all among the main historic attractions which draw tourists to Plymouth.

Beyond the downtown area, Plymouth has a variety of historic cemeteries, including Native American burial grounds and the Parting Ways Cemetery. Just south of downtown, the Training Green is one of the oldest town parks, cleared in 1711 and later landscaped by Frederick Law Olmsted.

#### ***Morton Park/Billington Sea***

Morton Park/Billington Sea, a 200-acre park west of downtown, was established in 1889. It includes swimming beaches along Little Pond and Billington Sea, forest areas, and walking paths.

#### ***Forges Field/Crosswinds Golf Club***

Forges Field is Plymouth's largest recreation park with soccer, baseball, and football playing fields and a large playground consisting of approximately 628 acres. A portion of the same lot is leased to Crosswinds Golf Club; a public golf course featuring 27 holes on 338 acres.

#### ***Hedges Pond Recreational Area & Preserve***

In 2007, the Town acquired this land for preservation and recreation and includes a 30-acre pond surrounded by 113 acres of woodland, beach and campground. This opportunity provides a much-needed Town recreation area for southern Plymouth.

### ***Village Parks and Playgrounds***

There are 24 village parks and playgrounds in Plymouth. Fifteen of these parks and playgrounds are in North Plymouth, Plymouth Center, and Manomet. Both Cedarville and West Plymouth have one park each, but the parks are relatively large in scale. Federal Furnace has no village parks and Bourne Road has two playgrounds, both under an acre in size.

### ***School Playing Fields***

All local schools have adjacent recreation fields, which may also include basketball, tennis courts, and playground equipment.

**Table 26b – School Department Fields**

<b>SCHOOL PLAYGROUND AND PLAYING FIELDS</b>	<b>Current Use</b>	<b>Current Condition</b>	<b>Recreation Potential</b>	<b>Public Access</b>	<b>Acres</b>
Cold Spring School	Soccer Fields Basketball Courts	In Use	Expanded Public Use	Yes - Field Use Policy	7.65
Federal Furnace Elementary School	Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	20.00
Hedge School	Soccer Field / Playground	In Use	Expanded Public Use	Yes - Field Use Policy	13.91
Indian Brook School	Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	20.00
Manomet Elementary School	Softball & Soccer Fields Basketball Courts	In Use	Expanded Public Use	Yes - Field Use Policy	12.82
Nathaniel Morton School	Playground / Playfields	In Use	Expanded Public Use	Yes - Field Use Policy	4.61
Plymouth Community Intermediate School	Baseball, Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	48.00
Plymouth North High School	Football, Baseball Fields Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	41.58
Plymouth South Elementary School	Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	20.60
Plymouth South High School	Baseball & Football Fields Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	60.00
Plymouth South Middle School	Football, Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	40.00
West Plymouth Elementary School	Softball & Soccer Fields Basketball & Tennis Courts	In Use	Expanded Public Use	Yes - Field Use Policy	20.60

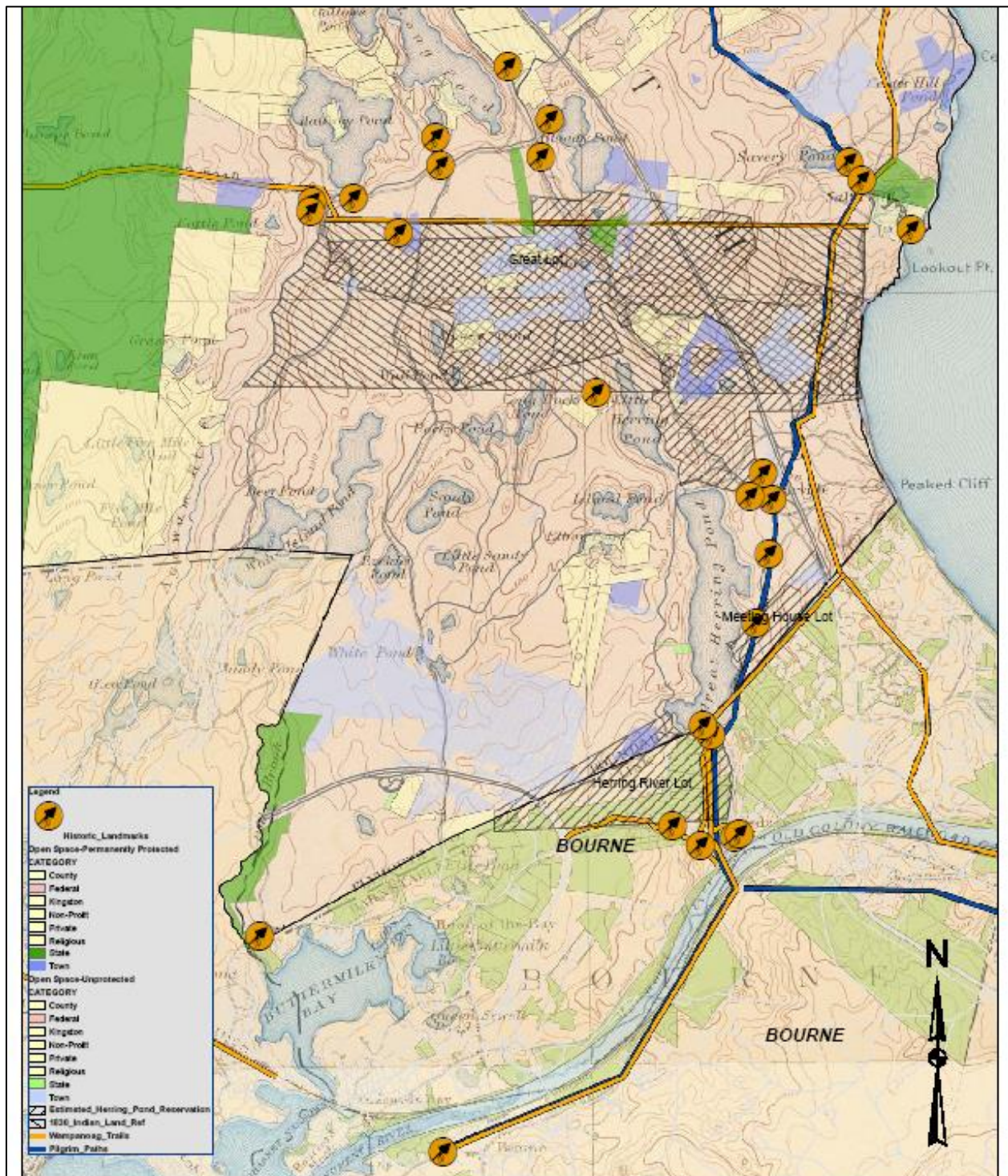
***Indoor Recreation***

There are three major indoor recreation facilities: the publicly-owned Manomet Youth Center/Bartlett Hall in Manomet, Memorial Hall in Downtown and the nonprofit Plymouth Boys and Girls Club in North Plymouth.

**Native American Heritage**

The Cedarville Village Steering Committee, as an outcome of the update to the village plan, created a Historic Subcommittee, which included a representative of the Herring Pond Wampanoag people living in the community. This group works to identify history of the landscape and significant cultural heritage of the Wampanoag in this region of Plymouth. Below is an initial scoping map (**Map 26**) (drafted onto Plymouth GIS by the Planning Department utilizing anecdotal data and local library resources). Plymouth hopes to work with universities/state officials to explore resources for this effort in the near term. Potential acquisitions, historic displays and placards are anticipated long-term outcomes of this activity, including trail markers.

## Map 26



## **Section VI - Community Vision**

In preparing the 2017 Open Space and Recreation Plan, the Open Space Committee reviewed the Community Goals established in the 2009 plan, and the goals outlined in the 2004 Town Comprehensive Plan. In addition, the Committee drafted a *History and Charge* document that clearly defines and re-affirms its function and goals along with establishing a concise *Mission Statement*. The goals and vision of these plans are hereby re-affirmed in this 2017 up-date of the Open Space and Recreation Plan.

### **Description of Process**

The Open Space Committee has reviewed the goals and objectives for open space and recreation outlined by several town entities through a variety of processes:

- The 2009 Plymouth Open Space Plan was reviewed to re-evaluate the goals and objectives listed in that plan. Goals that are still applicable were identified and included in this present plan, and goals that no longer represent the town approach to open space and recreation were removed. This Plan addressed open space and recreation needs on a village basis using the Village Master Plans. The specific goals for each village, as identified in the 2009 report, are summarized as follows: Preserve and enhance existing open space and recreation areas; retain Plymouth's historic roots; encourage investment of public/private funds; encourage the use of Plymouth Harbor as the Town Common; develop village greens and neighborhood parks; improve public access to water bodies; improve access for physically challenged; and expand open space and recreational lands.
- The various Master Plan documents were reviewed to identify town-wide master planning, open space and recreation goals. This plan builds on the goals identified in the previous master planning processes.
- The Open Space Committee's approach was to view open space at a town-wide scale, while incorporating the goals and concepts of the village center plans. The Committee identified several key categories that served as a guide in developing town-wide open space and recreation goals: recreation, water supply, quality of surface water, scenic views, maintenance of biodiversity/wildlife habitat and preservation of the town's historic character.

### **Plymouth's Vision Statement**

While each Plymouth citizen holds a unique dream for his or her own future, there are several common desires for the community, which have been repeatedly expressed through many different forums. First, the Town will retain its outstanding visual character, which is defined by its vast natural areas, pristine ponds, rivers, and wetlands, extensive coastline, and wooded ambiance. Second, the Town will efficiently provide a full array of services and amenities through its success in achieving and sustaining smart growth. Third, economic prosperity will prevail through abundant opportunities for desirable business investment, employment, shopping, tourism, housing choice, and entrepreneurship. The successes in plan-making and plan implementation will

be reflected in a beautiful, maturing community with something for everyone. With vibrant and pleasant village centers, a preserved and enhanced historic heritage, long stretches of accessible coastline, integrated areas of commerce and compact housing, and vast, connected areas for open space, outdoor activities, and appreciation of nature, Plymouth will be an even more desirable town to live in than it is today.

Six fundamental priority categories have become the planning foundation blocks in Plymouth. The following strategies describe how Plymouth should deal with the major open space, recreation and planning priorities facing the town:

- ***Protect Environment - Approach***

Restrict development in areas with valuable natural resources. Work collaboratively with private and nonprofit entities to preserve priority resources with a focus on areas of greatest environmental sensitivity, including rare species habitats and Pine Barren forests. Develop a program of transferable development rights (TDR). Mitigate storm water discharges into wetlands, ponds, and coastal waters. Prevent degradation of groundwater and surface water from inappropriate land use. Pursue wastewater planning. Pursue wildlife management planning.

- ***Improve Quality of Life - Approach***

Expand coastal and pond access, increase recreation options, improve the appearance and vitality of Village Centers, and increase the number and variety of cultural venues.

- ***Control Sprawl - Approach***

Control sprawl by guiding future growth to Town-designated growth areas and by restricting development in areas with priority natural resources. Focus infrastructure spending within the growth areas and avoid extension of new municipal infrastructure outside the village and commercial/industrial growth areas. Infrastructure investment in growth areas shall include investment in water/sewer facilities to accommodate increased density. Invest in the transportation network that serves the Village Centers and provides a convenient and reliable alternative to automobile use.

- ***Encourage Economic Development - Approach***

Encourage new commercial development through expanded commercial zones. Significantly enhance the tourism industry by investing resources in new tourist attractions and accommodations, especially along the waterfront. In response to this initiative, Destination Plymouth was developed to coordinate tourism initiatives and promote Plymouth as a travel destination.

- ***Balance Costs and Growth - Approach***

Limit extension of infrastructure into rural areas and advocate for compact development. Encourage construction of housing which is less costly to service than single family residences on large lots through Cluster Development and Low Impact Design

- ***Preserve Character - Approach***

Preserve and promote historic resources so that Plymouth's rich history is more readable in the environment. Work together with Plymouth historic preservation groups to create a coordinated approach to the preservation and marketing of Plymouth's historic resources. Preserve scenic roads and encourage compatible design in Village Centers and near historic resources.

## **Section VII Analysis of Conservation, Open Space & Recreation Needs**

### **Summary of Resource Protection Needs**

The Town has experienced rapid population growth in recent decades. The need for active recreational areas, preservation of open spaces around the village areas to maintain rural character and reduce sprawl, and increase recreational opportunities of the population continue to be challenges for the community. The Town is working to develop a balanced approach by selecting areas more suitable for economic development and achieving fiscal stability while expanding open space. Great strides are being made to connect Town open spaces with trail ways and bike paths throughout the community.

### **Open Space and Conservation Land**

Open space and conservation lands are critically important for wildlife habitat as well as for providing space for human recreational needs such as green space, walking trails, natural scenery, environmental study, water quality protection and other outdoor experiences. Land is either acquired or preserved, or in some cases “de-constructed.” Once a parcel is built, it is lost or will require a significant investment to re-establish it as green space.

The Town of Plymouth has several compelling reasons to preserve open space. The foremost among these are the maintenance of our community character. Public outreach by the Open Space Committee, the Master Plan Committee and others often results in a familiar refrain that “There’s too much development.” Plymouth also has documented the role of open space protection as a tool in maintaining the fiscal stability of the town.

The *Economic Development and Cost of Community Services Study* conducted by RKG Associates, was completed in October 2001. Although this study is 16 years old, the Town continues to use it as a guide identifying open space protection as one tool in a comprehensive strategy to stabilize the fiscal situation of the Town. The consultants recommended that the town advance tax base growth through commercial and industrial development and control the cost of municipal services through aggressive residential growth management and open space protection. The 2003 RKG study update demonstrates that the taxes paid by a median-priced home (\$400,000.00), do not cover the cost of town services (e.g. schools, road and infrastructure construction and maintenance costs, fire & police, and maintaining all public facilities). This study confirms that acquiring open space is an important component of financial planning for Plymouth. Currently, the Town is in the beginning stages of updating the plan.

Beyond these reasons – community character retention and fiscal stability – there are several other incentives to focus on open space protection. These include: recreation, drinking water/aquifer protection, historic preservation, habitat protection and agricultural preservation. Plymouth has several willing partners that share open space protection goals. Shared concerns over the loss of open spaces in Plymouth are held by federal and state agencies and non-governmental, conservation organizations.

Conservation Areas are lands devoted to wildlife and nature study, and allow only passive recreational uses. These lands are considered “permanently protected,” in that there is a deed restriction, conservation restriction, or protection under Article 97 of the Massachusetts State Constitution, which would have to be legally overcome through an act of the state legislature to change the use of the land. These areas serve the whole community. Importantly, the status of these lands will be affected by the location and availability of more active recreation facilities (e.g. playing fields, beaches); protected open space that are selected and designed as such should not be encroached upon by more active recreational uses, unless additional conservation land is purchased. These areas will be most appropriate if located on the fringes of residential areas. Evaluating conservation lands needs for Plymouth's population is perhaps the most difficult. According to the Massachusetts Outdoor Recreation Plan, the national standard for conservation land is ten to fifteen acres per 1000 people. Using this general guideline, Plymouth should have between 517 and 775 acres of conservation land today and 707 and 1,060 acres in the year 2025. Approximately 15,480 acres of permanently protected open space exist; 9,158 acres of these are publicly held, including lands held by Conservation Commission, Water Dept., Board of Selectmen, state and federal agencies (these figures exclude Myles Standish State Forest, recently designated as conservation status by the state). An additional 6,110 acres of open space and ±11,460 acres of Chapter 61 lands in Plymouth are not considered permanently protected.

### **The" Wishbone"**

The Department of Environmental Management has expressed a desire to create a "wishbone" of open space spanning from Myles Standish State Forest to Ellisville Harbor State Park. In 1996, the Town of Plymouth engaged ENSR to create an “Open Space Corridor Plan” for the Town, to prioritize areas for targeted acquisition and preservation strategies. The Community Preservation Committee (CPC) uses this plan as a guide for potential land acquisitions. Following is an excerpt from that document.

#### ***Open Space Corridors Plan***

The Open Space Corridors Plan proposes the location and general delineation of primary corridors and secondary corridors. Primary corridors will incorporate the “Wishbone” as proposed by the Town and the Department of Environmental Management. The “Wishbone” is the corridor running from Myles Standish State Forest northeastward through the Entergy land to the waterfront and southeastward toward Ellisville Harbor. Secondary corridors extend primary corridors and serve as links to key open space parcels or other locations.

#### ***Primary Corridors***

The primary corridor uses the route proposed under the Wishbone plan, which includes the key nodal points of Myles Standish State Forest, Waterfront Park, and Ellisville State Park. The open space corridor or greenway would travel through Forges Field, the northern section of the Pinehills Development open space and the Entergy property to gain access to Waterfront Park. Since Route 3 acts as a physical barrier to connecting the Forges Field property with the Pinehills land, it is suggested that the trail/corridor utilize Jordan Road overpass located north of Forges Field to provide the necessary linkage.

There are four over/underpasses along Route 3 in the study area including:

- Overpass at Jordan Road, just north of Forges Field
- Overpass at Clark Road
- Overpass at Ship Pond Road, near Bloody Pond
- Underpass at Hedges Pond Road in the southern section of the study area

The owners of the Waverly Oaks Golf Course have provided a trail system through their property that connects to Myles Standish, Forges Field and the South Middle/High school property. This offers opportunities for a connection from Myles Standish to Waterfront Park. The trail can extend southeast from the school property through the Pinehills property to the overpass at Clark Road. From there the trail would continue through the Pinehills land via a trail adjacent to Old Sandwich Road and onto the Entergy land. At that point, the trail would continue northerly via cart paths to Route 3A. Across Route 3A are several fire roads leading to Rocky Hill Road and Waterfront Park. Some of the links in this trail have been accomplished.

Another option for a primary corridor would be to link Myles Standish through Forges Field and some privately-owned parcels to Jordan Road to cross Route 3. From this point, several privately-owned parcels would have to be acquired, or easements established to connect to the Entergy owned land. Fire roads could be used to continue the trail through the Entergy land to Waterfront Park.

An alternative primary corridor route involves providing a connection from Myles Standish State Forest to Ellisville Harbor. This corridor would begin at the State Forest, travel north into Forges Field, turn south across Waverly Oaks Golf Course and the South Middle/High School properties and along the overpass at Clark Road. This corridor has three options at this juncture to eventually terminate at Ellisville State Park. These options are as follows:

- Option 1: Continue easterly along Clark Road and connect with Old Sandwich Road.
- Option 2: Travel south paralleling Route 3 along the eastern highway alignment and then turn to the east cross Wildlands Trust of Southeast Massachusetts (Emery Preserve) property to gain access to Old Sandwich Road.
- Option 3: Continue south along the eastern side of Route 3, passing Hathaway Pond and Bloody Pond at which point the corridor would turn to the east and traverse Wildlands Trust of Southeast Massachusetts property. Access across private lands along this route would be necessary to gain access to Old Sandwich Road and ultimately to Ellisville State Park.

These are options that will achieve the goal of connecting Myles Standish State Forest with Ellisville State Park as part of the Wishbone and the primary corridor.

### ***Secondary Corridors***

Secondary Corridors have been proposed to include linkages to Plimoth Plantation in the northern section of the study area and to Indian Brook reservation adjacent to Route 3A. A description of each secondary corridor is noted below.

#### ***Plimoth Plantation***

This corridor would extend from Old Sandwich Road, traverse through the northern reaches of Pinehills through the Eel River valley and northerly to Plimoth Plantation. Some acquisition/easements of private lands would be necessary to accomplish this corridor link.

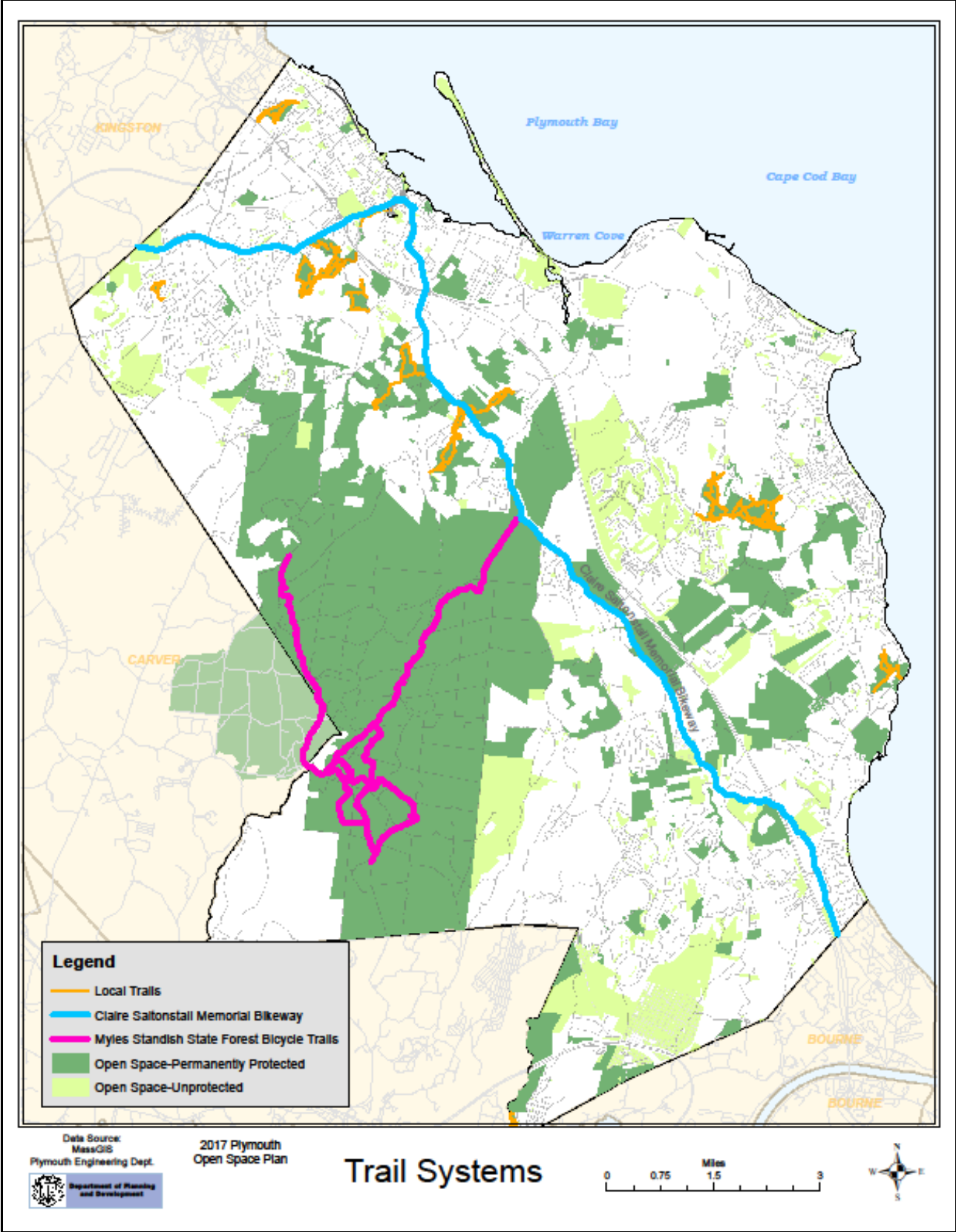
#### ***Indian Brook Reservation***

A secondary corridor would link Old Sandwich Road to Indian Brook. This open space corridor would pass through the Town-owned Briggs property, skirting several cranberry bogs, pass along a portion of the Shallow Pond shoreline, terminating at the Town-owned conservation land at Indian Brook.

### **Other Links and Open Spaces**

A Rural Trails concept plan for the Town was mapped in 1998, detailing cart paths, trails and potential linkages. There has been a big focus on expanding the trail network throughout Plymouth and linking to surrounding towns. The recently updated West Plymouth Master Plan includes a goal to link the Bay Circuit Trail from Kingston through West Plymouth into Myles Standish State Park. The Bay Circuit Trail and Greenway is a permanent recreation trail and greenway corridor extending through 34 towns in Eastern Massachusetts and linking the parks and open spaces in fifty-seven Boston area communities for 200 miles from Plum Island and Ipswich to the Duxbury/Kingston shore.

Map 27



Several villages and rural areas have identified needs for open space within their respective communities:

***Manomet***

Open space is important to the identity of Manomet as a rural community. The creation and maintenance of an undeveloped greenbelt around Manomet will help to preserve its rural character. The Town of Plymouth currently owns hundreds of acres of open space in or abutting Manomet. However, there are large privately-owned properties in or abutting Manomet that are important to its identity, such as the Entergy Company holdings of approximately 1,600 acres of land located in the Pine Hills. With the planned decommissioning of the Entergy nuclear power plant in 2019, Entergy may decide to sell all or a portion of their land holdings. The Pine Hills are vital in protecting the identity of Manomet and are a significant geological landmark that should be protected.

Manomet has identified its natural beauty as one of its most important characteristics. The rural character and identity of Manomet is directly related to the undeveloped woodlands, beaches, and fields that are located throughout the village. Other properties of similar importance include the numerous cranberry bogs located throughout Manomet. A village green or park provides an important focal point for the community, and is needed. A green or park serves as a geographic landmark. It also serves as a meeting place for various functions (i.e. fairs, parades). These open space properties can provide areas for passive recreation. Such land should be convenient to the various neighborhoods.

***Plymouth Center***

Open Space is critical to the appearance of Plymouth Center. Brewster Gardens, Jenney Pond, Morton Park, and Long Beach are important components to the tourism business. Continued acquisition of open space in and around the center is important for maintaining the quaint visual appearance of Plymouth Center. Current efforts to restore land along Town Brook, including dam removal and an extensive re-vegetation initiative, optimizes trail extension potential from Brewster Gardens to Morton Park; the eventual goal is to provide a trail connection from Plymouth Harbor to Myles Standish State Forest through this corridor.

***Cedarville***

The residents of Cedarville stress the importance of the unique blend of coastal and inland resources. Examples include coastal beaches, coastal bluffs, numerous cranberry bogs, several large tracts of undeveloped land, Great Herring Pond, Little Herring Pond, Island Pond, and many other ponds. Cedarville is also surrounded by undeveloped land in areas such as Ellisville Harbor and Roxy Cahoon Road. The undeveloped areas along Route 3A between Cedarville and Manomet add to the rural appearance of Cedarville, and need to be preserved to the extent feasible. A community focal point is needed for Cedarville Center, such as a village green. As the population of Cedarville grows, land for future parks, playgrounds, recreation areas, schools, and conservation purposes will become a priority. Links and walkways to existing playgrounds and trails are also needed. However; several recent land acquisitions through the Community Preservation Committee (CPC) and local planning initiatives set forth a goal to connect the Cedarville Village Center with Hedges Pond Preserve as well as continued formation of the “Wishbone” Trail Link/Wildlife Corridor.

There are numerous lakes and ponds in the Cedarville area, several with limited public access. The Town owns very little waterfront property in or adjacent to these ponds, except for approximately 25,000 square feet of land fronting on Island Pond. There is no useable access to Great Herring Pond in Plymouth. The Commonwealth of Massachusetts owns boat access points to Little Herring Pond and Big Sandy Pond; however, both access points are located on narrow unimproved roads and have limited parking facilities. The coastline of Cedarville is largely inaccessible to the residents of Cedarville or the Town of Plymouth, due to two factors: the coastal bluffs are 150 feet high in some places making beach access almost impossible; and the two access points to Cape Cod Bay owned by the Town have no improvements or provisions for parking, rendering them un-useable as Town beaches in their current condition.

### ***South Plymouth***

The Ponds at Plymouth subdivision has less than 300 acres of open space, 92 acres of ponds, pond frontage, and 42 acres of well sites, along with proposed recreation fields and tennis courts. Some of these areas have been identified by the Massachusetts Natural Heritage Program as important wildlife habitats. These habitats support plants and animals with small and declining populations. No management plan is in place for these areas, some of which have become recreational areas for off-road vehicles.

There is a need to conserve the environmentally sensitive areas while allowing growth in less sensitive areas, and to capitalize on open space, linkages and conservation opportunities as the A.D. Makepeace Company continues to develop a portion of the 3,500 acres in the South Plymouth area.

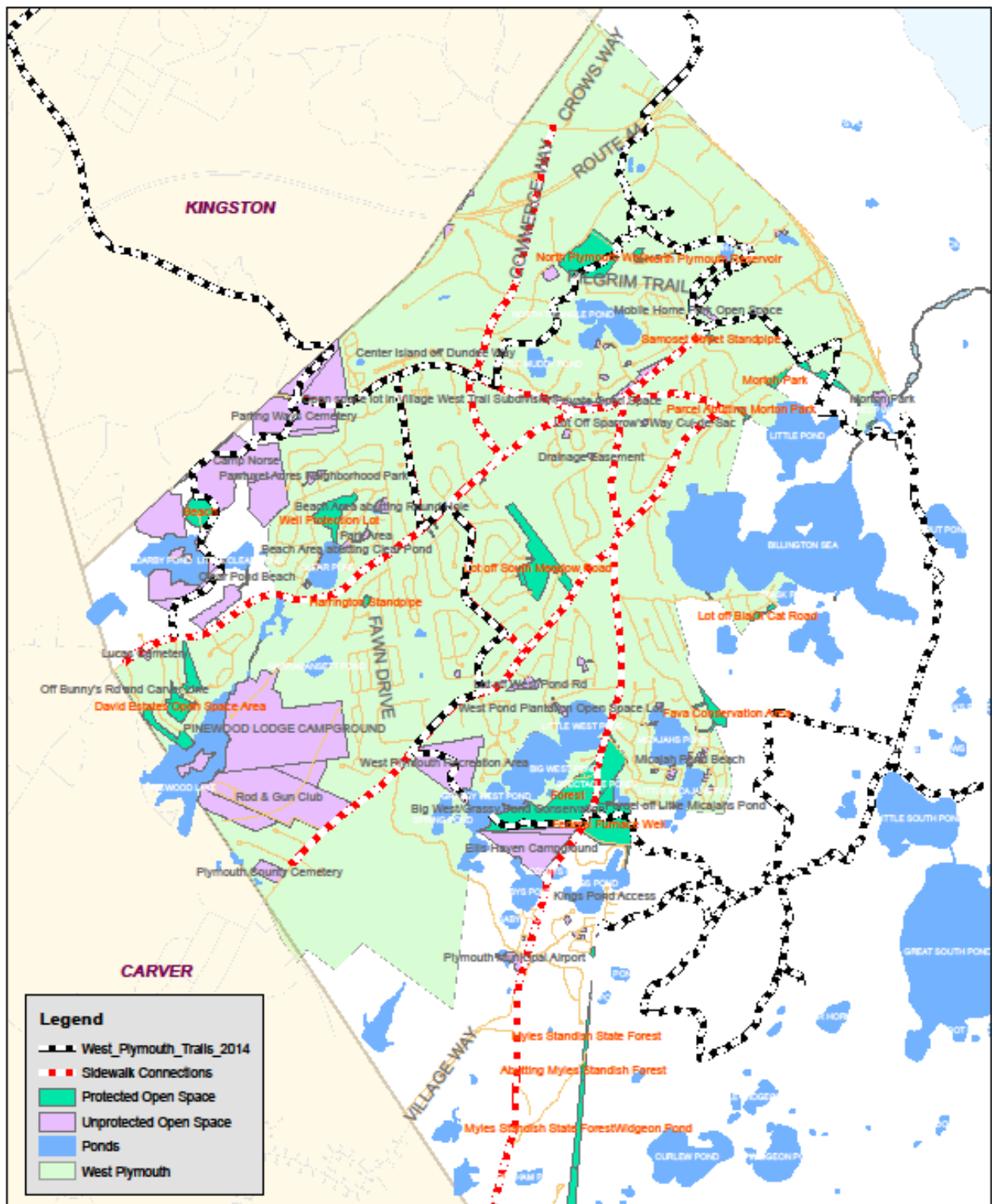
### ***North Plymouth***

The concerns in North Plymouth, a densely developed center, relate to the maintenance of existing open space and conservation areas as well as to acquire any undeveloped land that may be available for purchase in the future.

### ***West Plymouth***

West Plymouth has surprisingly little publicly owned open space or conservation land. The need to acquire open space and conservation land has been frequently stressed although several Tax Title properties have been conveyed to Conservation Status in recent years through favorable Town Meeting Votes. West Plymouth Schools have been the surrogate suppliers of recreation in Plymouth because the facilities and land already exist around those facilities. Many parcels of open space owned by various associations could be used for neighborhood recreation. Vacant tax title properties could be used in a similar fashion; such projects should be designed in a manner sensitive to the neighborhood. The linking of public and privately owned open space is recommended throughout West Plymouth to promote a rural appearance while enhancing natural habitat/wildlife corridors. Map 28 illustrates existing and planned trail/walking systems within this area, as proposed in the 2016 West Plymouth Master Plan.

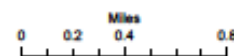
## Map 28



Data Source:  
MessGis  
Plymouth Engineering Dept.

Department of Planning  
and Development2017 Plymouth  
Open Space Plan

## West Plymouth Master Plan Trail System



### ***Maintenance of Biodiversity and Wildlife Habitat***

Much of the Town is included in the Massachusetts Natural Heritage Biomap of “Core Habitat.” A prioritization and action plan for management, acquisition and preservation of some of these areas is needed. Private and public sector understanding and cooperation on mutual objectives will be critical in guiding the future of these areas.

### ***Water Supply***

An update to the Amory Engineering’s Water System Master Plan (1991) was drafted in 2006 by Wright-Pierce to identify the Department’s growing infrastructure and to develop projections through 2015. The Water Department has identified the need and constructed two new well sites since the 2009 Open Space Plan update (2012 & 2013). The Town continues to develop strategies in acquiring potential water supply sites as well as land within the aquifer recharge area of existing and proposed well locations.

### ***Surface Water Quality***

Various studies have been done on the ponds, estuaries and streams within the Town. Some smaller watersheds have been, and continue to be, evaluated with respect to their impacts on the water quality of the Harbor and Cape Cod Bay. The Town is nearing completion of the Massachusetts Estuaries Project Linked Watershed Embayment Nitrogen Threshold Analysis for Plymouth-Duxbury Harbor-Kingston Embayment System. This analysis is required as part of the Clean Water Act Regulations to complete a Total Maximum Daily Load for the embayment system. Plymouth Harbor, Duxbury Bay & Kingston Harbor, as well as their associated tributaries, are valuable natural resource areas that contain not only natural resource benefits but also aesthetics and economic benefits to the Communities. Each of these areas has significant resource values that have been affected by development or will be affected by potential growth and use in the future. The goal of the Massachusetts Estuaries Project is to restore and protect the health of Embayment systems through watershed scale embayment management planning. In addition, in 2014 the Town implemented the Plymouth Ponds and Lakes Stewardship Program and has been able to collect data for over 60 ponds thus far.

### ***Scenic Views***

While some roads have been designated as special scenic resources in the Town, there remains a need to implement a variety of measures to identify and protect many scenic views throughout the Town. A current inventory of these views is provided in the inventory section of this plan.

### ***Historic Character***

Much has been done to identify and plan for preservation of this important resource especially in Plymouth Center. There is an updated plan for this portion of the Town which provides a detailed inventory of needs and action plans to protect these resources.

The Plymouth Historic Commission has responsibility for implementing Plymouth’s Demolition Delay Bylaw that was adopted by Town Meeting in October 2014. Property owners filing a demolition permit for a structure that is determined to be 75 years or older (or undetermined) must file a demolition delay application with The Plymouth Historic Commission. Upon receipt of the application, The Plymouth Historic Commission will respond within 14 days. If the Commission determines the structure is “not historically or architecturally significant” it will be recommended

that a Demolition Permit be issued and demolition of the property may proceed. If the structure is determined to be “historically significant” The Plymouth Historic Commission will hold a public hearing within 30 days to determine if the property is “preferably preserved” or not. If the determination is “preferably preserved” the delay period could be up to 12 months. During the 12-month delay period alternatives to demolition will be explored.

### **Summary of Plymouth’s Community Needs**

The focus of this section is to gauge the existing and future demands for recreational needs.

#### ***Elderly and Handicapped***

As noted in on page 11 – Population Characteristics, Plymouth’s elderly population, (defined as aged 65 and older) is expected to increase by over 11,000 people between 2005 and 2030. Not all of the Plymouth’s recreation amenities are accessible, nor are they geared toward older or handicapped residents. As residents continue to age and as the elderly population continues to grow, more attention needs to be given to adult recreational needs (middle aged and elderly). When renovating existing facilities or planning for new facilities, the Town should incorporate elderly and handicapped accessible features into its designs. In addition, parks and recreational activities should include opportunities for Plymouth’s elderly and handicapped citizens. Plymouth’s Center for Active Living (previously known as the Council on Aging) has begun to explore ways in broadening the range of recreational opportunities for older residents through the completed construction of the Senior Center in 2012.

#### ***Open Space Land***

The open space requirements described below are based on the distribution of a minimum of 25 acres of public open space per 1,000 people. This ratio is not meant to include publicly-owned land that is not dedicated to open space use, such as sanitary landfill areas and tax title land. As well, private open space uses (such as camps, agricultural lands, sanctuaries or open space provided within a residential subdivision) should not be represented within this ratio. Unless special covenants, restrictions or easements granting limited public use are conveyed to the Town, all of these private open space uses may revert to another more intensive land use at any time.

Private open space uses do, however, contribute to the "open space character" of Plymouth, and they should be included within an overall community open space ratio. A ratio of 40 acres of public and private open space per 1,000 people is appropriate in this case, and parallels a ratio used by the Bureau of Outdoor Recreation for measuring total open space demand and supply.

The following open space categories and population ratios are recommended for determining demand in the Town of Plymouth:

- **Neighborhood Parks** - are designed for use by a neighborhood within a one-half mile radius of the site. They are appropriately located adjacent to the public schools. Desirable facilities include ball fields, multi-use paved areas, playgrounds, picnic areas and landscaping. An average size for such facilities is 3 acres, yet it may be as large as 20 acres. The population served by such a facility is from 2,000 to 10,000 people. A ratio of 2 acres of a neighborhood park per 1,000 people is

recommended.

- **Playfields** - are non-park, active recreation areas and should serve a population within one mile of the site. They should be located near the center of a service area along a major or secondary thoroughfare. Ballfields, tennis courts and other active athletic activities are recommended. Their size may range from ten to twenty-five acres. A ratio of one half acre of playfield per 1,000 people is recommended.
- **Village Parks** - these facilities are similar in active recreational use to playfields. However, at least one half of the site should be devoted to picnicking, family activities, landscaping and natural areas. This type of facility should provide off street parking. These facilities service the entire village center. The average size for a village park is between 20 and 100 acres. A ratio of 2.5 acres of village park land per 1,000 people is recommended. Its location near a major or minor thoroughfare is appropriate.
- **Larger, Town-wide Park** - this facility may include active athletic areas, yet should primarily serve a more passive recreational function with hiking, camping, fishing, boating, and picnicking activities provided in a rustic setting. Interior roadways and extensive off-street parking continue to be desirable. This park's service radius may include the whole town, provided good auto access is available. The minimum size for this park should be 100 acres, although several hundred is recommended. The population served by the park can exceed 50,000 people and a ratio of 5 acres of Town park per 1,000 people is recommended.
- **Regional Recreation Areas** - are large park lands serving a regional population (Myles Standish State Forest). A regional park should be several thousand acres in size and may include a full range of active and passive recreational activities. A ratio of 5 acres of Regional Recreational Area per 1,000 people is recommended. This ratio should not be included as part of the 25 acres of public open space per 1,000 people ratio, recommended for municipal open space planning.

### ***Recreation Needs Analysis - SCORP***

According to surveys performed as part of the 2003 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP), the three most popular individual activities in the Southeastern Region (which includes Plymouth) are: swimming; sightseeing, tours and events; and walking. Playground activities, fishing and hiking followed, with golfing and nature study at the next tier. The less frequently popular, but still significant, interests include picnicking, sunbathing, mountain and road biking, downhill skiing, non-motorized boating, and canoeing. Lower still was motor boating (less than 10%). A rough ranking for the region is given as water-based, passive, trail-based, field-based, and wilderness activities.

The *Massachusetts 2012 Statewide Comprehensive Outdoor Recreation Plan (SCORP)* places an emphasis on providing open space and recreational opportunities to all residents and to encourage residents to be more active. Goal and actions for Plymouth that are consistent include:

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

- Incorporating Complete Streets components into all road construction/reconstruction projects.
- Acquiring waterfront (pond and ocean) property and improving existing water based recreational facilities.
- Increasing access to wooded areas near the village centers, downtown historic and cultural resources.
- Identifying and establishing smaller tax title parcels within Plymouth's villages that can serve as neighborhood park or community gardens.
- Connecting existing trails, wildlife corridors and open space areas, whether they are within Plymouth or in adjacent communities.

Based on previous SCORP design standards the population projections displayed in **Chart 2** of this report, **Table 27**, Estimated Recreation and Open Space Demand, was developed.

**Table 27 - Estimated Demands for Land Recreation and Open Space**

<b>TABLE 27: ESTIMATED DEMAND FOR LAND RECREATION AND OPEN SPACE</b>					
Item	Acres Existing	Projected Population – Acres Needed			
		2000	2010	2020	2025
		51,701	66,640	73,633	78,921
Total Public and Private Open Space Recommended at 40 acres per 1000	22,896	2,068	2,666	2,945	3,157
Total Public Open Space Recommended at 25 acres per 1000	19,572	1,292	1,666	1,841	1,973
Neighborhood Parks at 2.5 per 1000	44.95	129	166	184	197
Playfield at 0.5 acres per 1000	113	26	33	37	39
Village Parks at 2.5 acres per 1000	33.4	129	166	184	197
Large, town park at 5 acres per 1000	13364	258	333	368	395
Public Conservation at: 10 acres per 1000	2,572	517	666	736	789

Source: SCORP & MAPC Population Projections

A method of transporting citizens of all age groups to often-distant open space areas continues to be a need. Town-maintained bridal and hiking trails and bicycle routes are a need expressed. The Town currently has relatively few of these facilities although they are available at Myles Standish, a location requiring auto transportation from most residential areas. A system of walkways, bikeways, and trails linking the State Forest, Ellisville Harbor State Park, and the Town-owned Forges Field property needs to be developed. Such links should also be developed between the five village centers and the variously publicly owned open space. Access to Conservation and other Town recreation acres should be given special attention.

In addition, the development of various soccer, softball and baseball leagues in Plymouth has made scheduling crucial. There is a strong contingency of off-road recreational vehicle users operating, often illegally, on lands in Plymouth. Currently, utility easements, private gravel roads, town-owned and privately-held properties are being heavily used, often illegally or without permission. Significant environmental impacts such as erosion, destruction of fragile or rare plant communities

and noise pollution are the result of such activity. This component of the population is in need of legal areas for this type of off-road vehicular recreation.

### **Recreational Facilities**

A population ratio method developed in part by the National Recreation and Park Association in its handbook National Park Recreation and Open Space Standards was used to evaluate facilities needs using accepted standards. Utilizing this type of method, a community determines the numbers of facilities required according to the expected population to be served. Different types of facilities can be expected to accommodate varying numbers of residents. **Table 28** details the needs of existing recreational facilities.

**Table 28 – Site Identified Needs**

SITE	Management	Needs Identified
Stephens Field	Parks & Rec.	In 2013, the Town of Plymouth voted to appropriate funds for the Community Preservation Committee to construct a new recreational park at Stephens Field. In 2014 the Department of Marine and Environmental Affairs managed the removal of the old DPW barn and soil remediation. Currently, the park plans are 75% percent complete. A Notice of Intent was recently approved by the Conservation Commission due to revisions to the plan. The changes and revised cost estimate will require additional funding to be appropriated before the park renovations can commence.
Fisherman's Memorial Park (Mabbett)	Parks & Rec.	<p>The goals of this significant project are:</p> <ul style="list-style-type: none"> <li>• Improve pedestrian and traffic safety;</li> <li>• Maximize a sense of a 'people place' along the seawall waterfront;</li> <li>• Reduce the 62-foot "asphalt sea" distance separating people and buildings from the harbor;</li> <li>• Connect the human activity of Pilgrim Memorial Park to Town Pier; and</li> <li>• Create public bike lanes along the waterfront.</li> </ul> <p>The harbor should be designated Plymouth's "common" and be used regularly for festivals, exhibits, celebrations and recreation. Expand the walkway the length of Water Street to link with the State pier. Additional benches, lighting and trash receptacles are needed.</p>
Pilgrim Memorial Park	DEM	This site is managed by State Department of Conservation (DCR). The Town works with the state on maintenance plans.
Coles Hill	Waterways; DEM	This site is also managed by State Department of Conservation (DCR). Town should cooperate with state to install trash receptacles and benches at the summit. The ornamental light fixture needs to be refurbished.

SITE	Management	Needs Identified
Jenney Pond Park	Parks & Rec.	<p>Jenney Park project goals are:</p> <ul style="list-style-type: none"> <li>• Call out the historical significance of Watson's Hill, including Plymouth Native American/Pilgrim use of what is now park land and surrounding housing;</li> <li>• Integrate themes that focus on the Plymouth Native Americans, natural features, environmental education, etc.;</li> <li>• Create a new desired attraction in concert with the nearby Jenney Grist Mill and the 1640 Richard Sparrow House;</li> <li>• Expand access to the surrounding neighborhood via Robinson, Mayflower and Stafford Streets;</li> <li>• Upgrade pedestrian access to points southwest along Town Brook (Holmes Playground, Billington Sea, Morton Park);</li> </ul> <p>Other proposals include dredging the pond to improve fish passage, rebuild granite wall behind mill along the brook, install interpretive display, invasive Japanese Knotweed elimination, Birch tree plantings, sidewalk repair east side of entrance, loam and seeding at the top of dam, installing benches, gazebo or stage facility, with restrooms, additional lighting, and suitable trash receptacles. Tie signage into the Pilgrim Path.</p>
Mt. Pleasant School	School Dept.	Town needs to decide the disposition of the property.
Sever Street/Allerton Street Playground	Parks & Rec.	Parking lot paving, replace safety fence. Benches, picnic tables, trees, grass, suitable trash receptacles and playground equipment would be welcomed.
Training Green	Parks & Rec.	Tree plantings (Liberty Elms). Replace pathways & flower gardens. Continue to preserve this Frederick Law Olmstead designed common.
Burial Hill	Town	Additional parking is desired along School & South Russell Streets for public access as well for the new Town Hall.
Bates Park	Parks & Rec.	Additional benches.
Plymouth County Courthouse Common	County	Location of the new Town Hall. Ground improvements are being implemented.
Newfield Street Holmes Playground	Parks & Rec.	Improvements to the skate park are proposed for late 2017.
Russell-Sawmill Hedge Pond Conservation Area	Marine and Environmental Affairs; Parks & Rec. daily operations.	Trim vines and bittersweet along Hedge Pond. Picnic table repair & maintenance. Clean up and place no dumping signs near Sawmill Pond. Construction debris to be cleaned up. Sawmill Pond outlet sign installation. Maintenance of pond outlets.
Veterans Memorial Playground	Parks & Rec.	High rates of vandalism. Increased public use is encouraged with local sponsorship. Small sports field with bocce and horse-shoe area is recommended. Should serve as the focal point for Standish Ave., Savery Lane and the local neighborhood.
Siever Field	Parks & Rec	

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SITE	Management	Needs Identified
Manomet Elementary School	School Dept.	
Brook Road Playground	Parks & Rec.	
Briggs Playground	Parks & Rec.	
Old Sandwich Road Trail	Board of Selectmen	
Emerson Playground	Town Parks & Rec.	Assess capacity to purchase or acquire from Entergy before lease expires.
Pond View	Marine and Environmental Affairs	
Beaver Dam Road Conservation Area	Marine and Environmental Affairs	
Manomet Bluffs	Board of Selectmen	Many issues with local residents remain, regarding access to these areas.
Rabbit Pond	Marine and Environmental Affairs	
State Road	Marine and Environmental Affairs	
Indian Brook Elementary School	School Dept.	
Manomet Youth Center/Bartlett Hall	Parks & Rec.	Partial improvements to the building have been completed. Capital Improvement project for analysis. Sidewalks and improved bike access are needed.
Fresh Pond Park	Parks & Rec.	Ongoing maintenance is needed.
White Horse Beach	Parks & Rec.	Parking, concession with bathrooms, changing area. Lifeguard shack and storage facility, lifeguard stands. Boardwalks for access. Weekly cleanings or pre-season and mid-season cleanup. Bike racks and additional parking; possible transportation to/from remote site in season. Ongoing dune fence maintenance needed.

SITE	Management	Needs Identified
Indian Brook Recreation Facility	Parks & Rec.	Design and exploration of funding sources for the expansion of fields are ongoing. The current facility contains four baseball fields and a small play structure. The proposed expansion would add two synthetic turf multi-purpose athletic fields, an expanded parking area as well a new youth center. Need softball, basketball and soccer in Manomet.
Bartlett Pond	Marine and Environmental Affairs	
Indian Brook Conservation Area	Marine and Environmental Affairs	
Taylor Avenue Wetlands	Marine and Environmental Affairs	
Shallow Pond (pond frontage)	Board of Selectmen	
Carolyn Drive Conservation Land	Marine and Environmental Affairs	
Little Island Pond Conservation Area	Marine and Environmental Affairs	
Briggs Estate	Board of Selectmen & Marine and Environmental Affairs	Needs an overall management plan.
Briggs Reservoir	Board of Selectmen	
		There is limited public coastal access to the 5.5 miles of coastline. Coastal access potential: White Horse, Taylor Ave, Manomet Point Road
Elmer E. Raymond Park	Parks & Rec.	
Cedarville Landing	Board of Selectmen	
Old Schoolhouse	Board of Selectmen	
Cedarville Conservation Area	Marine and Environmental Affairs	

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SITE	Management	Needs Identified
Ponds at Plymouth	Privately owned	The Ponds at Plymouth (>830 residences) in southern Plymouth, between Great Herring Pond and Big Sandy Pond, was constructed over the last 30 years by a private-sector developer. A recreation trust has been established for the residents by the developer with over \$400,000.00. This group is seeking alternatives for active recreation in their area, and the Town is supporting their efforts.
West Elementary School	School	School facilities need upgrading with improved lighting, maintenance and irrigation.
Micajah's Pond	Board of Selectmen	
West Plymouth Recreation Area	Parks & Rec.	Dog park being proposed, friends group established, however; additional funding for construction is required.
Clear Pond Beach Area	Board of Selectmen	
Federal Furnace Elementary School	School Dept.	School facilities need upgrading with improved lighting, maintenance and irrigation.
Morton Park	Parks & Rec.	Friends of Morton Park, a neighborhood association, continues to assist with maintaining the park Septic system maintenance. Erosion area to be renovated. Interpretive display and tree plantings at boat ramp. Footbridge maintenance at Town Brook outlet. Paint main building. Improve water quality in Billington Sea.
Big West/Grassy Pond Conservation Area	Marine and Environmental Affairs	
King's Pond Access	Board of Selectmen; Parks & Rec. Mgmt.	
South Meadow School	School Dept.	
Plymouth Community Intermediate School (PCIS)	School Dept.	
Town Forest	Board of Selectmen; Town Forest Committee	Continual maintenance needed; trash picked and trails maintained.

SITE	Management	Needs Identified
Boot Pond Conservation Area	Marine and Environmental Affairs	Additional trail links are needed.
Rocky Pond Conservation Area	Board of Selectmen	
Cleft Rock Park	Parks Dept.	Install entrance sign. Close loop road around rock: essential vehicles only. Brush cutting, road & parking lot edge definitions. Upgrade parking and access road.
Talcott Property	Board of Selectmen	
Plymouth South High School	School Dept.	New school planned for construction.
Forges Field Recreation Facility & Crosswinds Golf Club	Recreation	Lighting and field expansion are planned to include two youth softball fields. Increases parking needed to accommodate additional planned fields. Indoor recreation facility with basketball, fitness center and lounge area; future expansion for pool and skateboard park Capital Improvements.
South Elementary School	School Dept.	
Jakes Pond Common Land	Board of Selectmen	
Herring Pond ROW	Board of Selectmen	
Bloody Pond Conservation Area	Con. Comm.	
Buttermilk Bay Playground	Parks & Rec.	
Herring Pond Boat Ramp	Parks & Rec.	
Huntley Playground	Parks & Rec.	
State Road	Parks & Rec	
Camp Catchelot		
Burton Park	Parks & Rec.	
Harlow's Landing		

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

**Table 29** estimates the current and future recreation facility demands in Plymouth. Based on population projections, and estimated demand ratios, appropriate numbers of ball diamonds, tennis and basketball courts, golf courses, football field, beach areas and picnic grounds are indicated. Again, these are ratios recommended by the National Recreation and Park Association.

**TABLE 29 – Estimated Recreation Facilities Demand for Plymouth**

Item	Existing Facilities (including schools)	Projected Population			
		2000	2010	2020	2025
		51,701	66,640	73,633	78,921
Baseball Diamonds 1 per 6,000 pop.	18	9	11	12	13
Softball Diamonds 1 per 3,000 pop.	13	17	22	24	26
Tennis Courts 1 per 2,000 pop.	33	26	33	37	40
Basketball Courts 1 per 500 pop.	22	103	133	147	158
Golf Courses per 25,000 pop.	7	2	2	3	3
Football Fields 1 per 10,000 pop.	2	5	7	7	8
Soccer Fields 1 per 10,000 pop.	15	5	7	7	8
Beach Shoreline 50 feet per 1300 pop.	18,480'	1,988'	2,563'	2,832'	3,034

Source: SCORP & OCPC Population Projections

Source \* U.S. Census (2000)

The current in-migration population in Plymouth is shifting from children (5-15) and adults (25-44) to an older population primarily 45 to 64 years of age. The current population figures depict a higher number of adults in the (25-44) group, whose interests may change in coming years if current age trends continue. Previous Massachusetts SCORP identifies the highest user group for recreational facilities are (35-44), who favor golf courses and lakes and ponds. Over the age of 44, usage of recreational facilities drops off steadily. People over age 65 tend to use trails and greenways more than other groups. The over 65 population generally ranks coastal, historical, sightseeing and event resources higher than those favored by the 18-44-year population, who tend to favor golf courses, playgrounds, neighborhood parks and tot lots.

Plymouth's Village Centers contain a number of well-defined neighborhood areas. These neighborhoods and their residents' sense of community spirit should be maintained by providing a variety of open spaces. While facilities for youth have been emphasized in the past, facilities and programs for all ages and for families are needed. Landscaped, small park areas are

particularly beneficial in these neighborhoods for daily family recreation and neighbor contact. The villages require a comprehensive year-round activities program.

A large number of Plymouth residents enjoy and seek water-related activities. Many miles of coastline and numerous lakes exist in Plymouth. The need for water-related facilities is stressed. The Town should acknowledge the need to provide a full variety of salt and fresh water recreational opportunities. Waterfront property, both along the ocean and the many ponds is becoming almost exclusively private property. The need to maximize physical access to water frontage at the park and to consider the feasibility of additional water based recreation activities. This could include boating and sailing activities and programs sponsored under the direction of the Town.

From the *Town of Plymouth Comprehensive Plan*:

## **RECREATION NEEDS**

### ***Maintenance of Existing Resources***

Given Plymouth's significant inventory of open space, one of Plymouth's main challenges is stewardship of existing resources. Several of Plymouth's parks suffer from high rates of vandalism, and all parks need preventive maintenance and periodic equipment upgrades. Reducing vandalism and maintaining safety requires a combination of capital investments (lighting, repairs), police coordination (patrols, surveillance), management initiatives (increased programming), and resident involvement (watch groups, clean-up days, business sponsorships). Engaging residents in "*Friends*" groups will increase informal monitoring and surveillance of parks, create a local sense of ownership over public resources, and provide organizational structure for citizen advocacy and fundraising.

### ***Expansion of Athletic Fields***

Athletic fields are heavily utilized. Both the 2004 and the 2009 Open Space and Recreation Plans recommend that Plymouth expand its available sports fields. The plans also suggest that athletic fields suffer when many different sports are played on a single field. The plans suggest separate baseball fields and soccer fields and recommend incremental reconstruction and refurbishing of existing fields, coupled with expansion of resources to meet high demand.

Youth league numbers have remained relatively stable and no longer require using a dedicated sport field for alternative activities. (i.e. baseball is played on baseball fields; soccer is played on soccer fields). The Recreation Department has been able to meet many requests received from local leagues. Soccer and lacrosse continue to grow but at a slower pace. Flag football is slowly replacing tackle football due to concussion syndrome which can be played on smaller fields.

Additionally, utilizing synthetic field materials (such as AstroTurf and the like) allow users to start their seasons earlier in the spring and play later into the fall. They also allow users to play games after heavy rainfall, which can keep natural turf fields closed for days. There are plans to implement synthetic fields with future field construction if funding can be made available through Town Meeting Action.

### ***Increased Beach Access***

Plymouth has relatively limited beach areas, despite the abundance of ponds, rivers, and ocean

coastline. Increasing access to targeted resources, while protecting habitats and water quality, is a priority. Several beach access points include Plymouth Center: Stephens Lane, Water Street and Nelson Street. In Manomet: Taylor Avenue and Manomet Avenue, and off-Center Hill Road (Center Hill Preserve) in South Plymouth.

### ***Active Recreation***

Like most communities in Massachusetts, Plymouth struggles to meet the athletic field usage requirements for our youth leagues and school programs. The sheer volume of participants makes it extremely difficult to maintain proper field conditions. In the very near future we will need to consider building some artificial turf fields as well as possibly converting some existing fields to synthetic playing surfaces. This would allow our sports groups to schedule back to back events, without the concern of resting the fields due to over usage. Acquisition of additional land, and improvements, to provide active recreational opportunities in the village centers and in southern Plymouth are needed by the Town to meet the demand for such facilities.

### ***Passive Recreation***

General Goals and Needs for the Town through the Recreation Department include the following:

- Plan the construction of new sports fields utilizing synthetic field materials.
- Re-design and construct a new skate board park along with the proposed Town Brook Dam Removal project.
- Plan for the anticipated booming active senior community by looking at soft surface walking/running tracks, Pickle-ball courts, badminton and indoor swimming pools.
- Because of Plymouth's extended winters, increasing indoor recreation spaces is crucial through construction of additional multi -purpose gymnasiums (community centers) and indoor athletic fields (Jungle-Plex).
- There is interest for a second splash park as Nelson Park attracts large crowds during the summer tourist season.
- Develop an affordable sailing center for children.
- Create a plan to bring existing facilities off-line for re-construction and refurbishment, as new facilities come on-line. This approach will permit the existing facilities to return to a state where they are both safe and enjoyable places for recreation.
- Foster the refurbishment of existing sites, especially school sites, which carry most of the recreational traffic in town today. Do this by providing incentives to the users of the sites. Allow the sports groups to invest in site improvements, with the caveat of first right of usage. Limit access to "valid" sports groups; baseball fields by baseball groups, soccer assigned to soccer fields, etc. Create maintenance ownership by site.

## **Summary of Capital Improvement Program Plan (CIP) Funding**

The Capital Improvement Plans for the Parks Department consist of a number of projects that together build the infrastructure of recreation within the town. The Recreational Facilities Construction Programs are targeted towards the development of the facilities, as prioritized in this master plan. As stated previously, the priority of construction is being driven by two factors:

- The facility is used by multiple sports, across fall, spring and summer seasons.
- The facility use meets a demand that is not available at other exclusive-use sites.

Other needs: Permanent or portable restroom facilities, playgrounds and parks. Tennis courts and basketball courts need resurfacing. A new senior center has been proposed. All park flagpoles need to be repainted. Cost-sharing with the private sector in the downtown area with bylaw incentives for assistance with improvements is recommended. Keep streets, especially in downtown areas and village centers in good condition. Police surveillance; lighting; neighborhood watch programs; posted hours of operation of parks & public spaces where vandalism or neighborhood crime is an issue.

All conservation areas are impacted by residential dumping of brush, leaves and trash. More frequent monitoring of these properties, possibly through a volunteer “adopt a conservation area” program, is needed. The properties should be assessed and management plans should be developed for these areas.

## **Management Needs, Potential Change of Use**

The Town owns over 2,800 acres of conservation land. Significant acreage of conservation land is being created through the various open space developments, active pursuit of acquisition by Department of Marine and Environmental Affairs, transfer of tax title to Conservation by Planning Department and Open Space Committee and through the use of the Community Preservation Fund.

In 2013, the Department of Marine and Environmental Affairs initiated the employment of Natural Resource Wardens, and as of 2017 there are three Wardens for the Town of Plymouth. The Wardens are responsible for the management of all town-owned open-space that is not managed by the Parks Department. Management duties include, but are not limited to: litter removal, trail and land management, and addressing wildlife concerns. Wardens also conduct regular patrols to enforce state and local environmental laws that pertain to hunting, fishing, shell fishing, boating, and Off-Highway Vehicles (OHVs), as well as investigation into environmental crimes such as dumping and illegal tree cutting.

*The Town's* Agencies and Boards responsible for open space planning should anticipate future demand 5 to 10 years and further ahead, and prepare now for site selection, acquisition and planning of facilities required for that period in an integrated, comprehensive manner. This will help insure that open space sites are available as needed, and in the long run will likely save tax dollars by acquiring property in advance of increasing development pressure and higher land prices. Town Open Space development should be keyed to facilities' location requirements,

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

anticipated residential development patterns, and natural resource conditions that offer the open space desired.

Plymouth's Open Space needs should be considered during school planning, whenever appropriate. Joint development of school and neighborhood and district parkland will increase site efficiency, prevent possible duplication of public open space facilities, and provide a more attractive and educational school setting. As well, joint development may help stabilize the village center concept by development of public service areas. Plymouth's Open Space needs must be determined through maximum citizen input including: continued village meetings, public hearings and enthusiastic and meaningful response. The School Department is not properly equipped or funded to be the primary supplier of community recreation.

In Section VII, the Town identifies a goal of building some artificial turf fields as well as possibly converting some existing fields to synthetic playing surfaces to address the need for playing surfaces that can withstand the heavy use demanded of them. Acquisition of additional land, and improvements, to provide active recreational opportunities in the village centers and in southern Plymouth are needed by the Town to meet the demand for such facilities.

## Section VIII Goals & Objectives

### **Open Space Committee Public Surveys**

The goals and objectives for this 2017 Open Space and Recreation Plan update stem from on-going meetings of the Open Space Committee (OSC). These regularly scheduled meeting are typically held at Plymouth Town Hall on the first and third Tuesday of each month and are open to the public.

In preparation for the update of this Plan and to assess education needs, several outreach forums were initiated to gauge public knowledge and interest. An early 4-question survey was created and conducted by the OSC in 2016. Two questions addressed knowledge about open space, one addressed perspective on open pace priorities and the fourth measured satisfaction with the work of the OSC. Comments were solicited.

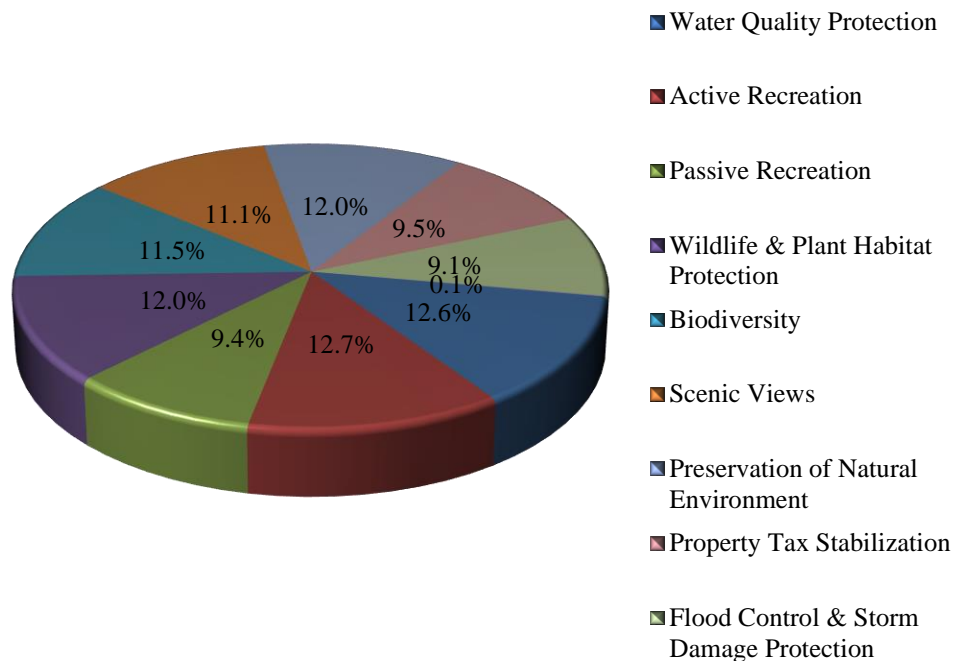
The survey was conducted in two formats. An online survey from was created using Survey Monkey. The survey URL was printed in the local newspaper with an invitation to all Plymouth residents to fill it out. And, it was shared using social media. The same survey was printed and given out to people to fill in by hand and return at community gatherings including Pine Fest 2016, a large outdoor festival held in Myles Standish State Forest and attracting hundreds of people from Plymouth. Both formats combined yielded 422 responses; all but 15 were submitted by Plymouth residents.

Results from question 1 “*What are the values of Open Space?*” revealed an understanding of the benefits of open space. Further education efforts should emphasize that open space stabilizes property taxes, contributes passive recreation opportunities and provides flood control and storm damage protection and explain how.

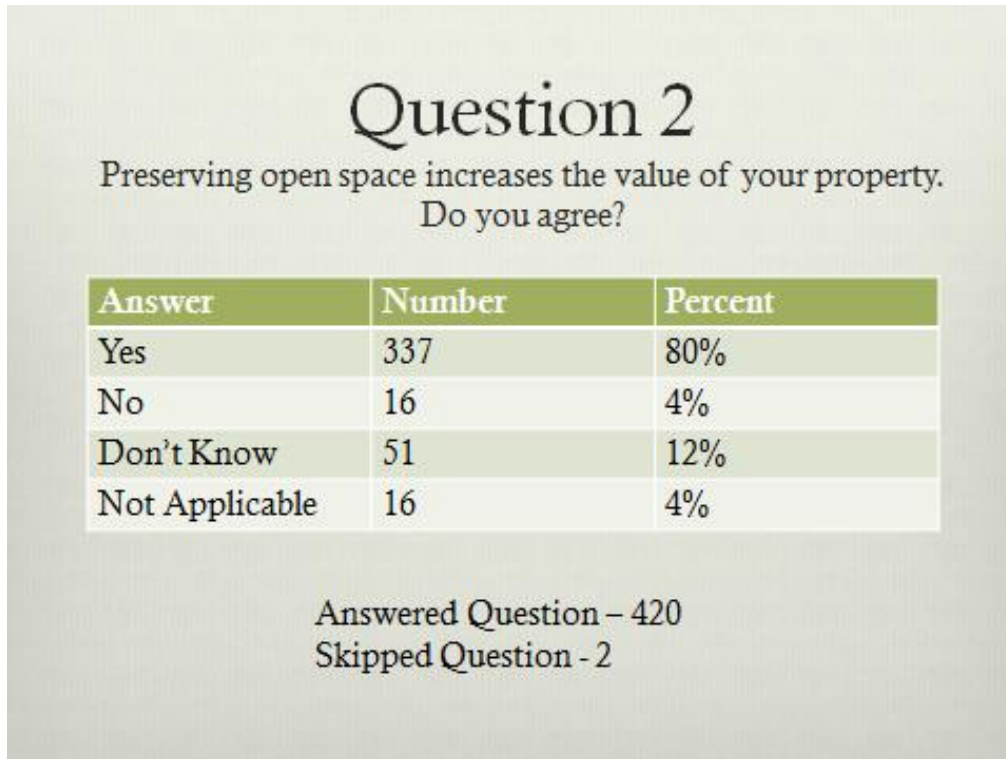
**Question 1: What are the values of Open Space? Check all that apply.**

Question 1		
What are the values of Open Space? Check all that apply.		
Answer Options	Response Percent	Response Count
Active recreation	85.9%	360
Water quality protection	85.0%	356
Preservation of natural environment	80.7%	338
Habitat protection	80.7%	338
Biodiversity	77.6%	325
Scenic views	74.9%	314
Property tax stabilization	64.0%	268
Passive recreation	63.5%	266
Flood control & storm damage protection	61.1%	256
<i>answered question</i>		419
<i>skipped question</i>		3

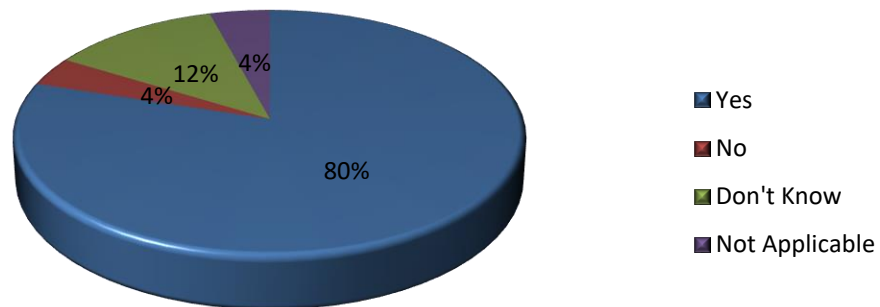
**Chart 5a – Q1**



**Question 2: Preserving open space increases the value of your property. Do you agree?**



**Chart 5b - Q2**



**Question 3: What types of open space areas or facilities does Plymouth need more of? Check all that apply.**

### Question 3

What types of open space areas or facilities does Plymouth need more of? Check all that apply.

Answer Options	Response Percent	Response Count
Waterfront access	52.4%	220
Trails	48.3%	203
Woods, forest, meadows	47.4%	199
Swimming areas	40.5%	170
Picnic areas	35.7%	150
Dog park	34.8%	146
Playgrounds	25.5%	107
Other (please specify)	11.4%	48
Sports fields	10.7%	45
<i>answered question</i>		420
<i>skipped question</i>		2

## Question 3 cont.

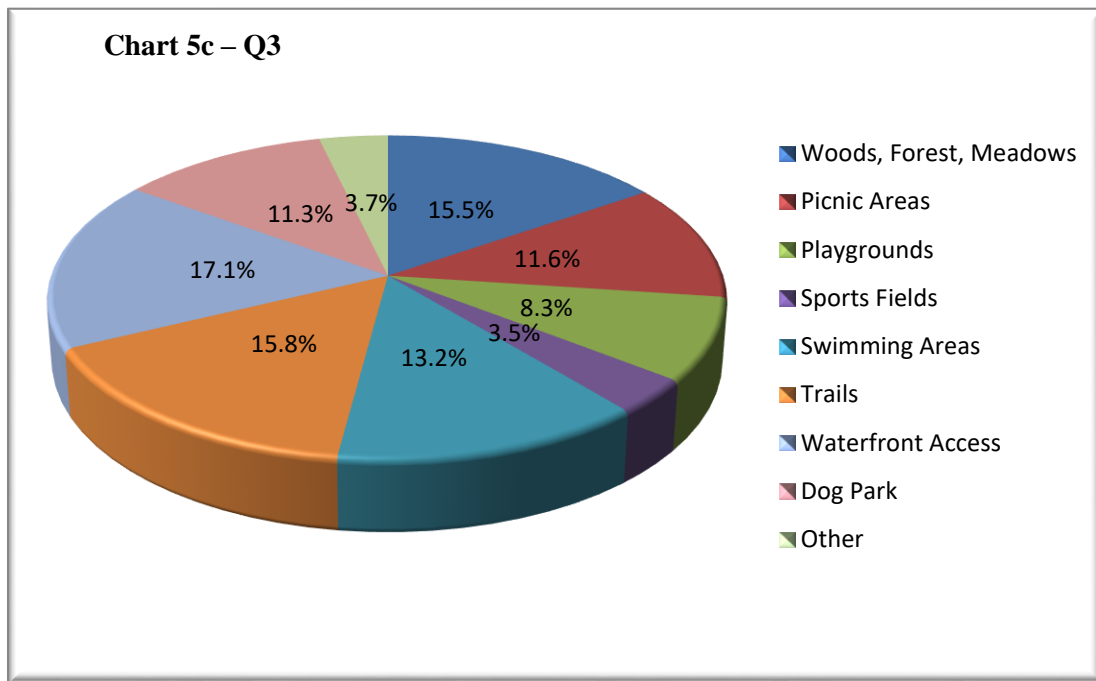
What types of open space areas or facilities does Plymouth need more of? Other, as specified

- ❖ **Beach Access** (8)  
More Long Beach (2), Crossover open more often (2), should have access to public beaches blocked by residential development (1), more beach access (2)
- ❖ **Bike Paths/Lanes** (9): More bike trails/paths/lanes/safe biking
- ❖ **OHVs** (5) : More places to ride OHVs/ATVs/dirt bikes legally/without "harassment"
- ❖ **No More** (4)
- ❖ **Accessibility** (3): Accessible play areas (2) and waterfront (1) specified
- ❖ **Maintenance** (3): Maintain what we have
- ❖ **Trails** (2): Linked/contiguous trails
- ❖ **Gardens** (2): Community/public gardens

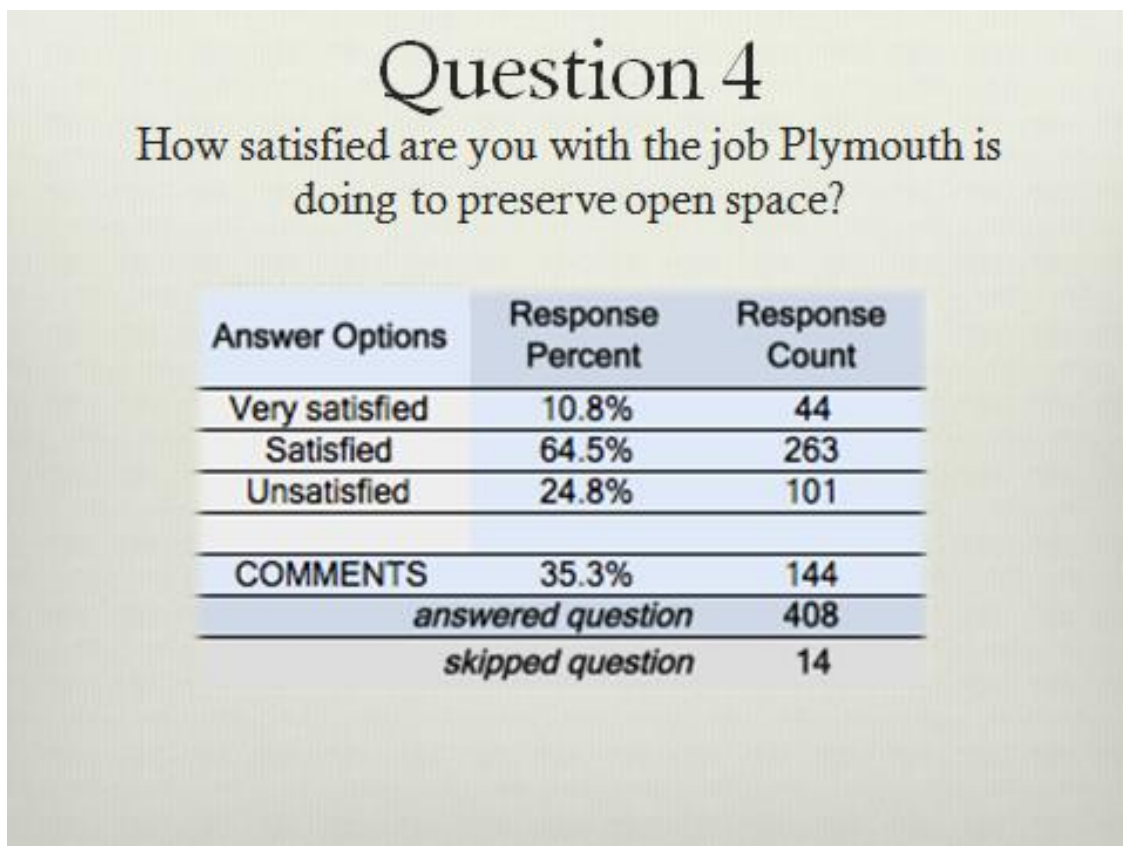
## Question 3 cont.

What types of open space areas or facilities does Plymouth need more of? Other, as specified

- |  |  |
|--|--|
| ❖ Swimming pool                                  | ❖ Bath houses and toilets  |
| ❖ Plymouth residents only areas                  | ❖ Nature education facilities                                      |
| ❖ West Plymouth                                  | ❖ Dog walking off leash  |
| ❖ Open air amphitheater                          | ❖ Anything that protects the air we breathe                        |
| ❖ Tennis courts                                  | ❖ Preservation of water supplies                                   |
| ❖ Historic landscape protection                  | ❖ More picnic tables at Nelson St. Park; picnic areas at the ponds |
| ❖ Places where you can't hear traffic, Exits 5-7 | ❖ Grassland & thicket  |
| ❖ Fishing and hunting access                     | ❖ Bird habitat protection & beach erosion protection               |
| ❖ Scenic overlooks, e.g. trails to tops of hills |  |



**Question 4: How satisfied are you with the job Plymouth is doing to preserve open space?**



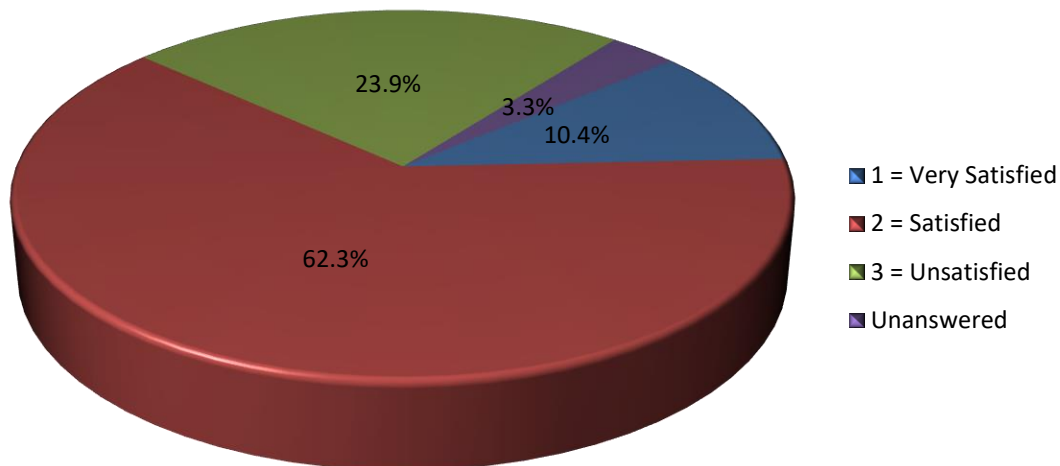
## Question 4 cont.

How satisfied are you with the job Plymouth is doing to preserve open space? Comments.

Over a third of all respondents (144) included comments on Q4. They still need to be analyzed and categorized. To illustrate how much thought and effort individuals put into their response, here is one quote:

*I really appreciate the space Plymouth has already protected, but we can't have too much. So much land is getting leveled for tract housing and unneeded malls. We already have unused buildings and parking lots. There should be a substantial extra tax on developers who deforest land rather than rehab existing unused built up areas. Inexpensive housing should be mixed in with other uses rather than concentrated in trouble areas, so young people can afford to stay here. Also, there are too many impervious surfaces, sending all kinds of stuff into our waterways.*

Chart 5d – Q4



Based on the survey results, a consensus was reached that include a balanced development to open space protection approach while promoting the rural character of Plymouth.

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A second survey forum series was conducted at Plymouth Town Hall, again to include the public with the decision-making process in drafting this report. Citizens were invited to voice their comments and concerns in an open meeting environment, at two open meeting forums [May 25, 2017 (6 - 8 pm) & June 22, 2018 (7 – 9pm)] as well as given the opportunity to fill out a questionnaire provided at each forum. The compiled results are shown below in **BOLD**:

### **Plymouth Open Space and Recreation Plan Public Forum May 25, 2017 6 - 8 pm & June 22, 2017 7 -9 pm**

#### **Questionnaire:**

Your name (optional): \_\_\_\_\_

1. Would you categorize Plymouth as an open space-friendly town? **Y: 10, N: 2, Unsure: 1**  
Why or why not?  
\_\_\_\_\_
2. Which open space do you enjoy most frequently? **Ellisville, WHB, Long Beach, Great Herring Pond**
3. What do you enjoy about this open space? **Passive Rec., Scenic Views, Wildlife**
4. What could be done to make this space better? **Improve signage: 2, better public access: 2, public facilities: 1, improve marketing: 2, increase maintenance & enforcement: 3**
5. Are there open space opportunities you feel are lacking in Plymouth? **Increase promotion through social media: 2, More bicycling trails: 1, never enough OS: 2, more OS in South Plymouth: 2, more parks: 1**
6. Where do you take out-of-town guests in Plymouth? **Long Bch: 3, Great Herring Pond: 2, WHB: 1, Historic sites: 4, Ellisville Harbor: 1**
7. Looking to the future, what are the most important issues for open space? **OS protection vs. lack of Town revenue: 3, protect as much as possible: 3, trail links connectivity: 1, future generation: 1, increase management: 3, improve access: 1**

8.To preserve Open Spaces in Plymouth, would you:

Volunteer to preserve the Town’s existing open space	yes <b>8</b>	no	not sure
Contribute some land to the town/state/land trust	yes	no	not sure
Donate money to buy land	yes <b>6</b>	no	not sure
Add a deed restriction to limit future development on your land	yes <b>2</b>	no	not sure
Sell land to the town at a “bargain price”	yes	no	not sure
Sell or contribute a conservation restriction to protect your land from future development	yes	no	not sure
Sell some land to the town at fair market value	yes	no	not sure
Support Town initiatives to acquire open space	yes <b>11</b>	no	not sure
Other (specify)_____			

9. What Town actions do you favor in preserving open space?

\_\_\_\_\_ Conveyance of Tax Title properties to Conservation Status

\_\_\_\_\_ Town purchase of land through land grants and CPA funds

**No - 3** Mandatory dedication of open space by developers

\_\_\_\_\_ Promote gifts of land to Conservation Commission from private land owners

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### ***Environmental Justice – Public Outreach***

Public outreach forums were advertised and posted at both Plymouth’s Environmental Justice Areas, which included the Main Library along South Street (EJ-1) and the Manomet Post Office (EJ-2), to engage residents and respond to their comments pertaining to open space availability within their community. In addition, these postings were advertised in Plymouth’s local paper (Old Colony Memorial) to capture a greater audience. Both forums were held on Saturday, September 9, 2017 for approximately three hours; Planning Staff and Open Space Committee members manned a table at a community art festival, located on the Library’s front lawn while a second table was set up at the St. Catherine’s Park, found within EJ-2. Questionnaires were distributed at each location during the forum. Results predominantly depicted concerns of insufficient open space within reasonable walking distance. Other issues raised included inadequate parking and the need for improved trail connectivity to Plymouth’s extensive walking trail system. Seventy-two (72) attendees responded to the following questions:

**Plymouth Open Space and Recreation Plan Public  
Forum**

**Environmental Justice**

**Questionnaire:**

**Y = Yes**

**N = No**

**U = Unsure or Unanswered**

Your name (optional): \_\_\_\_\_

1. Would you categorize Plymouth as an open space-friendly Town? **Y – 45, N - 24, U – 6**
2. Which open space do you enjoy most frequently? **Popular responses were: Plymouth Long Beach & Whitehorse Beach, Morton Park, Myles Standish State Forest**
3. What could be done to make the area better? **More accessible parking, bathroom facilities, increase litter pickup**
4. What would make these places easier to access? **Whitehorse Beach needs additional public parking spaces.**
5. *Does Plymouth have enough walkable area to you?* **Y – 53, N – 5, U - 17**
6. Do you think there are enough trails for bicycling? **All respondents stated "N"**
7. Are there open space opportunities you feel are lacking in Plymouth? **Several responses would like additional beach access, others were unaware of Plymouth's vast open space areas.**
8. *Do you think agriculture is an important part of Plymouth's identity?* **Y – 7, N - 13, U – 55**
9. Do you work in Plymouth? If not, where? **Y - 5, N – 31, U - 39**
10. How do you get to work? **Car - 22, U – 53**
11. *How much time to do you spend in a car daily?* **> 30 min – 15, > 1.5 hr – 4, U - 56**
12. Do you need a car to run basic errands? **Y – 47, U – 28**
13. Do you use public transit? **Y - 5, U – 70**
14. How often do you interact with your neighbors? **Rarely - 8, Sometimes - 5, U - 62**
15. Would you like to have more or less interaction with your neighbors? **No respondent answers**

16. Where do you take out-of-town guests in Town? **Responses included: Downtown/Waterfront, Long Beach, Myles Standish State Forest.**
17. What is the biggest environmental challenge in Plymouth? **Sea level rise, sprawling development, de-forestation, aquifer protection awareness**
18. Looking to the future, what should change and what should stay the same? **Control urban sprawl, increase ball park areas, leave remaining natural areas alone**  
**development, de-forestation, aquifer protection awareness**
19. Looking to the future, what should change and what should stay the same? **Control urban sprawl, increase ball park areas, leave remaining natural areas alone**

20. To preserve Open Spaces in Plymouth, would you:	YES	NO	NOT SURE
• Volunteer to help preserve Town's existing open space	4	41	30
• Contribute some land to the town/stale/land trust	2	23	50
• Donate money to buy land	0	10	65
• Rewrite your deed to limit future development of your land	1	3	71
• Sell land to the town at a 'bargain price'	0	0	75
• Sell or contribute a conservation restriction to protect your land from future development	5	3	67
• Sell some land to the town at fair-market value	11	0	64
• Vote for the town-supported land acquisition program	67	1	7

21. What Town actions do you favor to preserve open space

- 15 Combination on of public and private action
- 7 Receipt of conservation restrictions
- 18 Town land purchases
- 23 Zoning for open space conservation
- 4 Mandatory dedication of open space by developers

## **Open Space Goals**

After careful review of the numerous comments raised at the various public outreach forums, suggestions made by citizens (to the committee and Town Staff) and considerable debate by the Open Space Committee, the committee revised and amended the goals from the 2009 plan goals as noted below. These goals are also consistent with the goals established in the Town's overall Master Plan.

The Open Space Committee works to accomplish the following goals:

- Acquire natural open space to:
  - ✓ Ensure aquifer and surface water resources remain protected for future generations
  - ✓ Protect wildlife corridors, biodiversity and habitats of rare & endangered species
  - ✓ Safeguard natural character and scenic views
  - ✓ Increase public access for passive recreation
  - ✓ Continue to expand the trail system
- Increase public awareness of the importance of natural open space preservation.
- Provide guidance and education to the community in becoming proactive stewards of natural open space.

In order to meet these goals, the Open Space Committee:

- Identifies land suitable to be set aside as open space, and finds ways and means to fund its acquisition.
- Researches and develops tools to preserve open space.
- Advocates for open space and participates in open space planning with other town committees, commissions and boards.
- Works with interested citizens of Plymouth and conservation organizations such as Mass Audubon, Massachusetts Division of Fisheries & Game, The Nature Conservancy and the Wildlands Trust.

## **Master Plan Goals**

Endorsed through the 2009 Open Space and Recreation Plan:

### ***Control Sprawl - Approach***

Control sprawl by guiding future growth to Town-designated growth areas and by restricting development in areas with priority natural resources. Focus infrastructure spending within the growth areas and avoid extension of new municipal infrastructure

outside the village and commercial/industrial growth areas. Infrastructure investment in growth areas shall include investment in water/sewer facilities to accommodate increased density. Invest in the transportation network that serves the Village Centers and provides a convenient and reliable alternative to automobile use.

#### ***Preserve Rural Character - Approach***

Promote natural resources so that Plymouth's environment remains of a rural nature while providing residents with needed services. Continue to expand the Town's trail system and wildlife corridors. Work collaboratively with private and nonprofit entities to preserve priority resources with a focus on areas of greatest environmental sensitivity, including rare species habitats and Pine Barren forests. Encourage the use of transferable development rights (TDR). Mitigate stormwater discharges into wetlands, ponds, and coastal waters. Prevent degradation of groundwater and surface water from inappropriate land use. Pursue wastewater planning. Pursue wildlife management planning.

#### ***Improve Quality of Life - Approach***

Expand coastal and pond access, increase recreation options, improve the appearance and vitality of Village Centers, and increase the number and variety of cultural venues. Additional affordable housing development is needed for working and senior residents to remain in Town.

#### ***General***

- Create pleasant, safe, and desirable residential neighborhoods, village centers, commercial, and industrial areas with an emphasis on fostering a sense of community for residents and property owners.
- Use incentives and land use controls to prevent conversion of open lands and discourage sprawling patterns of development.
- Support a balanced and sustainable mix of housing, shopping, and employment opportunities, community and cultural facilities, and natural systems.
- Promote growth within or near existing village service areas, with an emphasis on directing development to areas that can accommodate growth with minimal extensions to existing infrastructure.

#### ***Open Space***

- Increase the supply of well-maintained public and private permanent open space.
- Increase public access to open space, including coastal and inland water bodies, in locations where public access will not adversely impact the protection of priority natural resources.
- Set aside large tracts of permanently-protected, contiguous open spaces linked via trails and open space corridors.
- Preserve open space parcels within or near every village and residential neighborhood.

#### ***Recreation***

- Increase the supply and accessibility of active and passive recreational facilities throughout town.

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- Maintain existing and develop new recreational facilities for residents and visitors.
- Increase access to water-related recreation facilities.

### ***Environmental Protection/Natural Resources***

- Protect natural and scenic features, including air, land, plant, wildlife, and water resources, and improve their conditions. Preserve the town's scenic beauty.
- Encourage and support energy, water, and soil conservation by residents, businesses, and governmental agencies.
- Minimize pollution.
- Protect wildlife habitats from growth pressures.
- Protect drinking water quality.

### ***Village Centers***

- Maintain and strengthen the village centers concept, as originally defined in the 1978 Plymouth Master Plan. Promote a balanced mix of uses for each village center.
- Establish Quality of Life Focus Areas combining preservation of historic character and accommodation of infill, redevelopment, and new growth in the village centers. Develop density and design standards for these focus areas.
- Plan infrastructure to support growth, including parking, walkable streets, and neighborhood-scaled open space.

### ***History and Cultural Resources***

- Recognize, preserve, and enhance the historic and cultural heritage of Plymouth and the surrounding region.
- Support use and enjoyment of the town's historic and cultural resources by residents and visitors. Maintain, manage, and expand resources to maximize the fiscal and economic benefit of these resources for the town.
- Expand efforts to develop and market Plymouth as a heritage tourism destination for natural and international travelers.

### ***Public Facilities and Services***

- Provide and maintain public facilities, services, and amenities with an emphasis on efficiency and on securing new, nontraditional sources of funding to offset costs.

The Town must maintain its public areas with dedication. This includes local streets, which must be kept in good repair and attractive condition. Past generations gave us the generous amenities and spaces we have today, and we must maintain and improve them for the future. There is a need to expand budgetary allocations for maintenance due to increasing levels of use. The Town must also assume responsibility for providing amenities such as rest rooms, suitable trash receptacles, lighting, benches, and recreational facilities to serve residents and visitors alike. It must provide access to those facilities with adequate parking. Plymouth's Open Space needs should be considered during school planning, whenever appropriate. Joint development of school and neighborhood and district parkland will increase site efficiency, prevent possible duplication of public open space facilities, and

provide a more attractive and educational school setting. As well, joint development may help stabilize the village center concept by development of public service areas.

## **RECREATION GOALS**

- Improve the availability and maintenance of recreation areas throughout Plymouth.
- Provide sufficient active recreation spaces and places to meet the residential demand for athletic fields, parks and playgrounds.

### ***Regional Context***

According to the *Massachusetts 2006 Statewide Comprehensive Outdoor Recreation Plan (SCORP)*, from a Southeastern Massachusetts regional perspective, walking is the third most popular individual activity (57.1%), with fishing, hiking, watching wildlife, nature study, biking and non-motorized boating/canoeing activities also listed as popular. More than 25% of the Southeastern Region residents visit lakes, ponds, historic & cultural sites, rivers & streams, forests, wildlife conservation areas, trails and greenways. Respondents also indicated facilities need for the region as: rivers and streams (39.1%), lakes and ponds (33.5%) and trails and greenways (30%). The average trip distance to forests in this region is the second highest in the state, at 20 miles each way.

- Accordingly, providing more access to wooded areas in close proximity to the village centers, downtown historic and cultural resources in Plymouth is an ongoing goal of the Town.
- In the longer term, further expansion of the trail system through Plymouth to Bourne and eventually the Cape Cod Canal is also a Town goal.

## **OPEN SPACE AND RECREATION OBJECTIVES AND STRATEGIES**

***Objective 1: Utilize open space planning to advance the Town's priority Natural Resource objectives: water protection and land conservation.***

STRATEGY: Directly acquire open spaces which protect groundwater, buffer surface water resources, or support significant wildlife or vegetative communities.

STRATEGY: Utilize regulatory approaches and incentives to protect natural resources.

***Objective 2: Create town-wide Green Networks of linked open space and wildlife habitats. Protect sensitive ecosystems and wildlife corridors while providing recreational opportunities and alternative transportation on those lands which can accommodate human impacts.***

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STRATEGY: Acquire parcels and use conservation restrictions to develop town-wide Green Networks.

### ***Objective 3: Create Village Green Networks.***

STRATEGY: Provide open space resources in each village center area. These should include village greens in the heart of each village area, pocket parks in residential neighborhoods, and bicycle/walking trails.

STRATEGY: Provide pedestrian and bicycle linkages connecting open space in village centers to open areas at village fringes, and connecting village fringes to town-wide trails and recreation resources.

### ***Objective 4: Maintain Plymouth's scenic views and the historic character of the town's villages and rural areas.***

STRATEGY: Identify and preserve historic landscapes.

STRATEGY: Establish a process for identification of scenic and historic views, followed by design and development restrictions to preserve these views.

### ***Objective 5: Increase access to ponds and the ocean.***

STRATEGY: Expand public beach access to selected ponds and ocean areas while restricting access to coastal plain ponds.

### ***Objective 6: Improve access to and use of existing recreational resources, including Myles Standish State Forest.***

STRATEGY: Increase safety and attractiveness of parks through a coordinated strategy of police surveillance and resident involvement.

STRATEGY: Increase programming and use agreements to encourage use of parks.

### ***Objective 1: Protect groundwater and assure an abundant supply of clean drinking water.***

STRATEGY: Protect land in Zone I and Zone II Wellhead protection areas.

### ***Objective 2: Protect Plymouth's water resources from non-point source pollution.***

STRATEGY: Develop and implement a town-wide stormwater management plan.

### ***Objective 3: Restore and maintain the quality of Plymouth's ponds, lakes, rivers, and wetlands.***

STRATEGY: Delineate recharge areas, expand water quality monitoring, and implement remediation and management plans based on water quality data and recharge mapping.

### ***Objective 4: Increase access to freshwater and salt water resources, where such access is consistent with natural resource protection.***

STRATEGY: Create new beach access points in coastal villages and around selected ponds, with the appropriate resources needed to support these uses.

***Objective 5: Protect and restore ocean waters and coastal zones.***

STRATEGY: Continuously monitor and upgrade wastewater treatment systems to limit adverse impacts on Eel River and Plymouth Harbor.

STRATEGY: Prevent harm to life and property from coastal flooding.

STRATEGY: Implement other strategies to maintain ocean health.

***Objective 6: Protect Plymouth's characteristic vegetation, especially pine barren forests, and prevent forest fragmentation.***

STRATEGY: Preserve forest land through acquisition, conservation restrictions, and zoning regulations. Establish green networks, linking open spaces via wildlife corridors, trails, and greenways. Restrict activities which disturb natural vegetation and encourage replanting and maintenance of plants in public areas.

***Objective 7: Protect wildlife-both common species and "rare, endangered and threatened species"-through the protection of wildlife habitat, breeding areas, and wildlife corridors.***

STRATEGY: See Objective 8 below.

***Objective 8: Coordinate environmental protection and open space planning activities.***

STRATEGY: Pursue a coordinated land preservation strategy, using acquisition, incentives, partnerships, and regulation to protect natural resources and open space.

***Objective 9: Improve air quality.***

STRATEGY: Implement transportation objectives aimed at reducing roadway demand.

## **VILLAGE CENTER GOALS**

### ***Manomet***

The 2014 ***Manomet Village Master Plan*** identifies a need to monitor, protect and enhance fresh and saltwater quality. Establish a boardwalk over the dunes to access Whitehorse Beach from Taylor Avenue. Encourage riverine and wetland restoration projects (e.g. Tidmarsh Farm) and incorporate wildlife habitat and people into natural surroundings. A village green for community focus is also a noted need.

### ***West Plymouth***

The 2016 ***West Plymouth Village Center Plan*** includes stated goals of: linking of public and privately owned open space; supporting/investing in pedestrian hiking trails and outdoor recreational facilities; and new land acquisition for same (**see Map 28**). The plan also supports acquisition of rural areas outside the village center to help preserve rural character. The Planning Board and Office of Planning and Community Development have made outreaches to significant land owners in this area to discuss needs for village green and additional recreational fields, also identified needs in the Village Center Plan.

### ***North Plymouth***

The current ***North Plymouth Master Plan*** was updated in 2011. The plan contains goals and recreational opportunities that include the following:

- To seek out more recreational opportunities, especially access to public beach areas;
- To identify neighborhood recreational needs and work to create more opportunities to provide them in the future, including improvement to existing parks or facilities; and
- To encourage community club activities.

### ***Plymouth Center***

#### **GOALS**

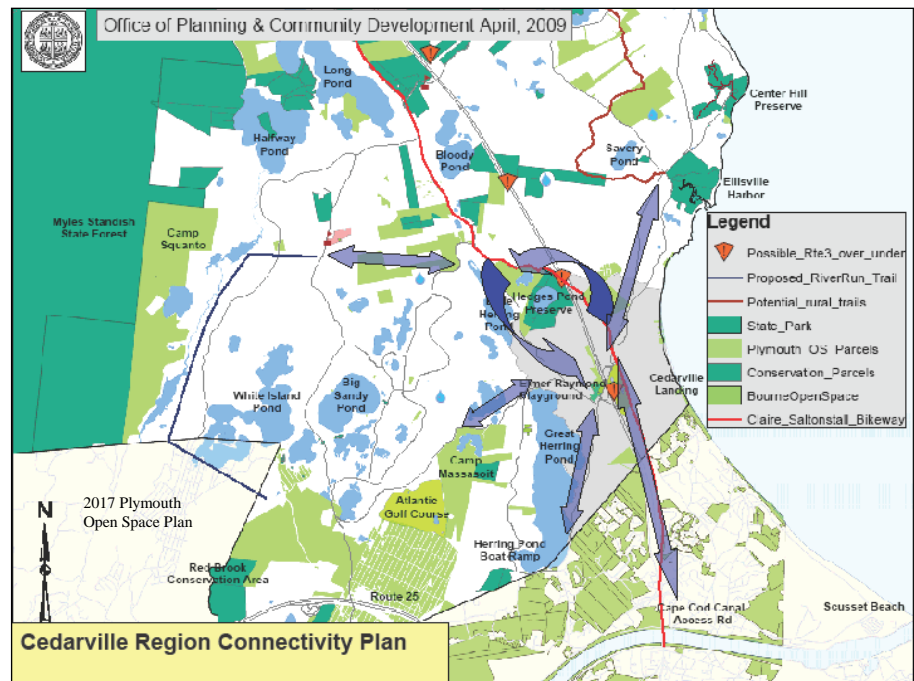
- I. Provide sufficient active recreation spaces and places to meet the residential demand for athletic fields, parks and playgrounds;
- II. Provide sufficient passive recreation and open spaces to enhance the scenic beauty of the Downtown Village Center/Waterfront Area and its residential neighborhoods;
- III. Provide a variety of pedestrian pathways, connections, links, information kiosks and destinations throughout the Downtown Village Center/Waterfront Area;
- IV. Promote, expand, connect and enhance the primary commercial, recreation, and entertainment facilities within the Downtown Village Center/Waterfront Area;
- V. Promote and integrate the cultural/historic facilities and events into the Downtown Village Center/Waterfront Area experience for both visitors and residents; and
- VI. Provide adequate and convenient off-street and on-street parking facilities and implementation strategies for long and short-term needs of tourists, visitors, and residents using the recreation, entertainment and cultural venues of the Downtown Village Center/Waterfront Area.

The Plymouth Center Village Master Plan was last created in 2004 with an update scheduled in 2017-2018. The following list of Recreation components/goals remain current and will be included and expanded upon in the proposed update.

### ***Cedarville***

There have been no master plan updates since the 2009 ***Cedarville Village Center Master Plan*** (which was previously updated in 1991). It is presumed that the goals established within the plan remain valid.

**Map 29**



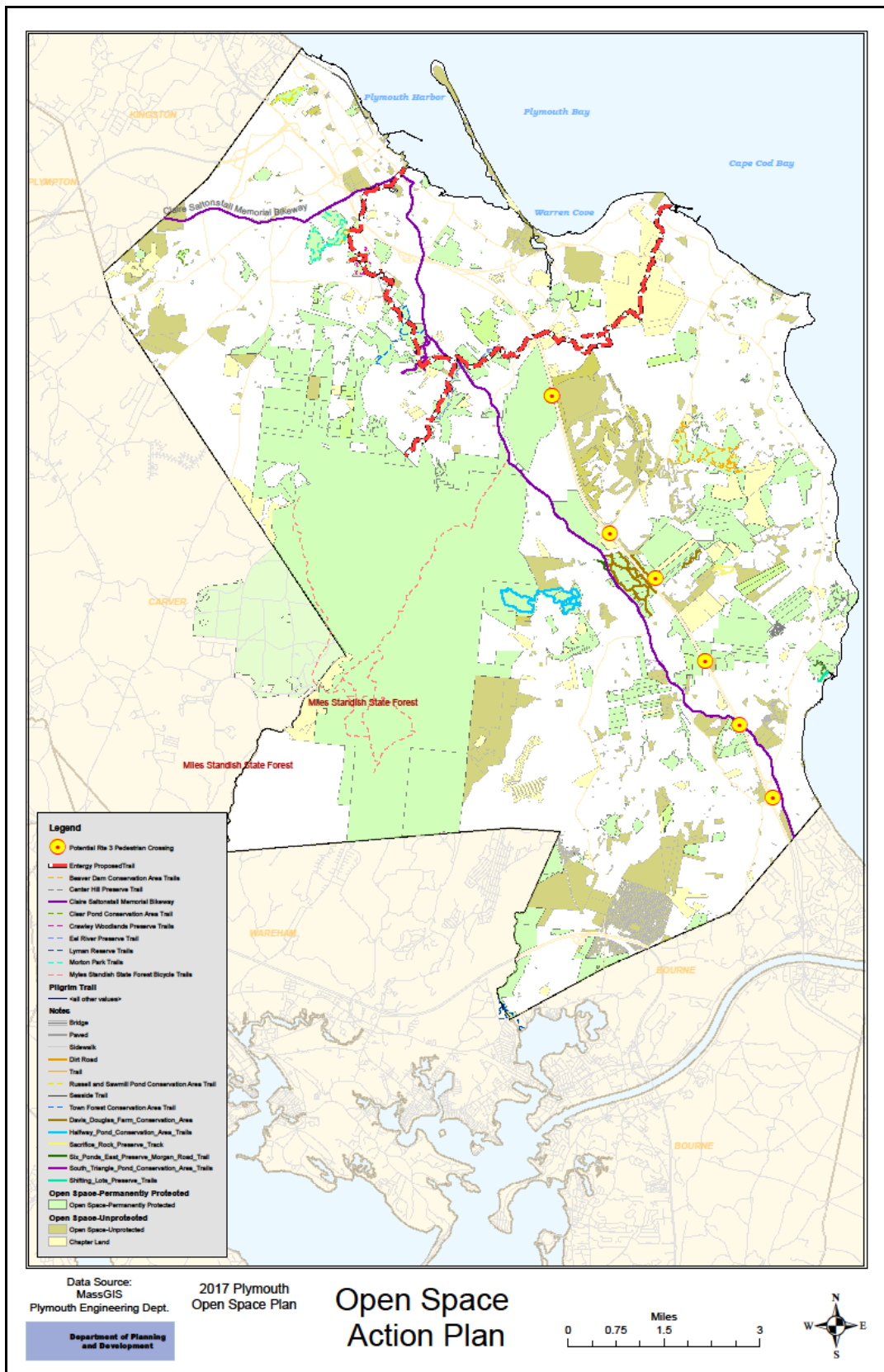
## **GOALS**

Improve pedestrian and bicycle connections throughout commercial areas and between village residential areas, recreation areas and trails (**Map 29**).

- Provide sufficient active recreation spaces and places to meet the residential demand for athletic fields, parks and playgrounds, and the needs of the senior citizens in the community.
- Provide sufficient passive recreation and open spaces to enhance the scenic beauty, passive recreation and hiking opportunities of the Cedarville area and its residential neighborhoods, especially inland pond and coastal shoreline access.

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Map 30



## **Section IX Seven Year Action Plan**

The following table summarizes the action items currently anticipated in Plymouth's seven-year Open Space Plan. It includes a combination of clearly-defined projects that the Town plans to undertake within the next seven years, providing funding is available. The following actions are considered significant components of open space planning and are expected to evolve over the next seven years, and long-range initiatives do not have a definite scope or timeline because they rely on uncertain factors such as land acquisition, coordination with other public entities, or partnership with private developers or institutions.

The Division of Marine and Environmental Affairs and Office of Planning and Development work cooperatively to acquire open space and conservation land, and work in concert with the Community Preservation Committee, Open Space Committee, state/federal agencies, and local land trusts to actively implement aspects of the Open Space and Recreation Plan through grants and other opportunities as they arise. Due to the vast size of Plymouth, the Open Space Action Plan Map indicates where the priorities for inter-connected open space, conservation, viewsheds and trails are located (**Map 30**).

The description, status and timeline of each item are summarized, and additional information about each is contained within the supporting material in the earlier sections of this document. The following action items were adopted based on the review of the Open Space Committee, Planning Board and Board of Selectmen and the comments made at the various meetings and public meetings.

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**Table 30 – Action Plan Objectives/Goals**

Priority	Objective	Goal		
		Control Sprawl	Preserve Rural Character	Improve Quality of Life
1	Utilize open space planning to advance the Town's priority Natural Resource objectives: water protection and land conservation.	X	X	
1	Increase access to ponds and the ocean.			X
1	Protect groundwater and assure an abundant supply of clean drinking water.			X
1	Increase access to freshwater and salt water resources, where such access is consistent with natural resource protection.		X	X
2	Create town-wide Green Networks of linked open space and wildlife habitats. Protect sensitive ecosystems and wildlife corridors while providing recreational opportunities and alternative transportation on those lands which can accommodate human impacts.		X	X
2	Improve access to and use of existing recreational resources, including Myles Standish State Forest.		X	X
2	Protect Plymouth's water resources from non-point source pollution.			X
2	Restore and maintain the quality of Plymouth's ponds, lakes, rivers, and wetlands.		X	X
2	Protect Plymouth's characteristic vegetation, especially pine barren forests, and prevent forest fragmentation.	X	X	X
3	Protect wildlife-both common species and "rare, endangered and threatened species"-through the protection of wildlife habitat, breeding areas, and wildlife corridors.	X	X	X
3	Create Village Green Networks.	X	X	X
3	Protect and restore ocean waters and coastal zones.			X
4	Maintain Plymouth's scenic views and the historic character of the town's villages and rural areas.	X	X	X
4	Coordinate environmental protection and open space planning activities.			X
4	Improve air quality.	X		X

**Table 31 – Action Plan**

<b>Year(s)</b>	<b>Complete Date</b>	<b>Description</b>	<b>Responsible Agencies</b>	<b>Funding Source</b>
1 - 3	2020	<b>Newfield Street Holmes Playground</b> – Plans being developed for betterments and dam removal. Anticipated project completion by 2020.	Marine and Environmental Affairs, Parks Department	Town Capital Improvements Program
1 - 7	2025	<b>Fisherman's Memorial Park</b> – Mabbett may see some infrastructure improvements and enhancements with the new promenade project being proposed. Funding will be requested at the 2018 Spring Annual Town Meeting.	Parks Department	Community Preservation Fund and Town Capital Improvements Program
1	2017-2018	<b>Brewster Garden</b> – 2015 a new bridge and stone wall was placed on Water Street over town brook which enhanced the Water Street section of Brewster Garden. Winter or spring of 2017: The existing wooden pedestrian bridge will be replaced over town brook. Two telephone poles will be removed from the park at the same time. The stairway access on the west side of Brewster garden from Main St extension to Brewster Garden is proposed to be restored in 2017	Parks Department, Marine and Environmental Affairs, Conservation Commission	Town Capital Improvements Program
1 - 2	2018-2019	<b>Dog Park</b> - A one acre of parcel within the West Plymouth Recreation Area to be designated as a Dog Park. A Friends Group has been formed, however; planned design and construction are still in the early stages and will require extensive fund raising. The Town seeks to limit its role in creating and managing this facility.	Planning and Parks Departments, Friends Group	Private
Ongoing	Ongoing	The Town acknowledges the need to aggressively acquire open space and conservation land. The need for acquiring additional open space has been documented throughout various planning processes. Every aspect of the Goals and Objectives Section includes a reference to the need to acquire or preserve additional open space and conservation land, for numerous reasons. Plymouth's vast areas of privately and publicly owned open space are important to the character and appearance of the Town. Open space acquisitions serve as a mechanism to protect Plymouth's Drinking Water Aquifer and manage residential growth through open space protection. In addition, it helps the Town in shaping its future rather than reacting to market pressures.	CPC, Planning Department, Marine and Environmental Affairs, State Agencies & Non-profit Land Trusts	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
Ongoing	Ongoing	Elimination of multiple uses of fields. Multiple use of field caused by a shortage of playing fields to meet the demands of the sports organizations in town. Multiple use creates a safety hazard for one of the sports; using a baseball field for soccer chews up the outfield, creating a safety problem for baseball players fielding hard hit ground balls, for example. Prioritize the construction of fields to address the sites where multiple use is occurring; build these fields first to off-load existing multiple use conditions.	Parks and Recreation Departments	Capital Improvements Program

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Ongoing	Ongoing	Creation of a plan to bring existing facilities off-line for re-construction and refurbishment, as new facilities come on-line. This approach will permit the existing facilities to return to a state where they are both safe and enjoyable places for recreation.	Parks Department	NA
Ongoing	Ongoing	Amend Plymouth's Local Wetlands Bylaw to further protect wetland resource areas.	Conservation Commission	N/A
Ongoing	Ongoing	Designate Tax Title land for small neighborhood parks as applicable.	Planning Department and Parks Department	NA
Ongoing	Ongoing	Fostering the refurbishment of existing sites, especially school sites, which carry most of the recreational traffic in town today by providing incentives to the users of the sites. The town should encourage sports groups to invest in site improvements, with the caveat of first right of usage.	School Department	Capital Improvements Program
Ongoing	Ongoing	Expansion of existing recreational amenities when contiguous land is available.	Parks Department	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
1 - 3	2022	<b>Tidmarsh West Property</b> - Stream and wetland restoration on property and connecting stream.	Marine and Environmental Affairs	Local funding and State Grant
1 - 2	2018-2019	<b>Ellisville Harbor</b> - Completion of Inlet Stabilization Study providing a matrix of solutions, costs and alternatives for the inlet.	Marine and Environmental Affairs	Local funding and State Grant

1 - 3	2021	Design and stabilization of Brownfield Site and coastal bank at Former Revere Copper (Water Street Parking Lot).	Marine and Environmental Affairs	Local funding and Federal Grants
1 - 7	2025	<b>Hayden Pond Dam</b> - Design and construction of stream restoration and dam removal along Eel River.	Marine and Environmental Affairs	Local Funding, State and Federal Grants
1 - 2	2018-2019	Completion of Massachusetts Estuary Study for Plymouth Harbor Embayment System.	Marine and Environmental Affairs	Local Funding
1 - 3	2021	Construction of stormwater remediation at two stormwater areas along Eagle Hill Drive.	Marine and Environmental Affairs	Local Funding and State Grant
1 - 3	2021	Watershed Management Models for Little Herring Pond, Great Herring Pond and Savery Pond to manage water quality issues.	Marine and Environmental Affairs	Local Funding and State Grant
1 - 3	2022	<b>Plymouth Beach</b> - Revetment re-construction along Warrens Cove at Plymouth Beach.	Marine and Environmental Affairs	Local Funding and State Grant
Ongoing	Ongoing	Open Space Committee continues to identify open space lands, currently held by the Town as Tax Title, and recommends conveyance to Conservation Protection based on proximity to Natural Heritage, Aquifer Protection, The Great Thicket Wildlife Preserve and wetland resource areas.	Planning Department and Conservation Commission, Open Space Committee	N/A

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Ongoing	Ongoing	Continued identification and acquisition of trail link corridors (gift, purchase, easements) within West Plymouth.	Planning and Conservation Departments, Marine and Environmental Affairs	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
1 - 7	2025	2014 Ray Dunetz Landscape Design was awarded the contract to develop plans and design for the park. 2 million dollars was funded through CPA for construction. Rays plan was discussed and approved through the Stephens Field Committee and CPC. The approved plans estimated cost came in much higher than allocated money. Permitting has proven to be difficult and proposed Stephen's Field Plan construction to begin once funding has been secured.	CPC, Parks Department, Marine and Environmental Affairs, Friends of Stephen's Field	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
Ongoing	Ongoing	The Town is actively discussing potential acquisitions of significant trail/open space corridor properties with private property owners.	CPC, Planning Department, Marine and Environmental Affairs, State Agencies & Non-profit Land Trusts	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
1 - 7	2025	Continue to support the efforts of the Cordage Seaport project in North Plymouth, as well as the A.D. Makepeace River Run development south of Halfway Pond, both of which will provide significant passive recreational opportunities to residents. The A.D. Makepeace Company is making significant strides in exploring alternatives to reduce nutrient loading from cranberry operations, and is also accomplishing preservation of significant tracts of land within the "ENSR Wishbone." The Town will continue to support these efforts.	Various town boards and agencies, private developments, and State agencies	Private
Ongoing	Ongoing	Further implementation of Land Management Plans for all existing and newly acquired protected open space lands.	CPC, Marine and Environmental Affairs, Planning Department, Non-profit Land Trusts	NA
Ongoing	Ongoing	Continued expansion of "Friend Groups" for existing Conservation properties to oversee management activities and to serve as land stewards.	CPC, Planning Department, Non-profit Land Trusts, Parks Department, Marine and Environmental Affairs	NA

## **TOOLS TO IMPLEMENT OPEN SPACE GOALS**

There are numerous methods to protect and plan for open space in Plymouth. The following are among the most viable.

### ***Preservation of Land through Purchase or Conservation Restriction***

The outright purchase of land is perhaps the most obvious means of open space protection. Towns can purchase all the property rights to a parcel or impose a conservation restriction, which essentially removes the right to develop or substantially alter the land. Conservation Restrictions are often less expensive than full fee interest in land but come with significant legal monitoring requirements. A combination of funding opportunities and resources can be used creatively to try to achieve the resources to conserve or purchase land in the Town.

- Municipal grants: Plymouth has been among the most proactive towns in the purchase of open space. Plymouth has the advantage of several organizations and agencies ready and willing to aid in the purchase of open space. The update of this open space plan is a required prerequisite for further Self-Help funding from the State.
- The Community Preservation Act also provides significant funding for the acquisition of open space. These funds are restricted to the preservation of historic features, affordable housing and the protection of open space.
- The process of conveying foreclosed (Tax Title) open space to Conservation status, through Town Meeting action, typically requires little capital outlay as the Town already owns the property. Any Tax Title land located within wetlands, aquifer protection districts, Natural Heritage mapped priority habitat or have trail link potential are good candidates.
- The development potential of one or more parcels in the Rural Residential (RR) District to be transferred to one or more other parcels in the Rural Residential (RR) District or to one or more parcels in the Large Lot Residential (R-40) District. The transfer of development rights makes it possible to permanently protect parcels containing a sensitive resource, such as a wellhead protection area, by transferring the development rights of that parcel to other parcels where there are little or no impediments to higher density. When development rights from a sending parcel have been transferred to a receiving parcel, the receiving parcel acquires development rights beyond otherwise permissible limits. For a parcel to become a receiving parcel, a special permit subject to environmental design conditions from the Planning Board is required.
- Funding for aquifer land protection is usually available either as grants or as a portion of the state revolving loan funds for water quality under the Safe Drinking Water Act. Generally, funding is directed at the construction of filtration plants but modest amounts are occasionally made available for land purchases.
- Private donations of open space or financial contribution from the citizens of Plymouth are an important source of funding. Several recent acquisitions by non-municipal partners have relied on private fundraising.

### ***Non-Municipal Partners***

The Wildlands Trust of Southeastern Massachusetts and The Nature Conservancy are focusing land protection in Plymouth and surrounding communities. Both organizations work with willing sellers and donors to receive land. The Wildlands Trust has over 1,130 acres in town. The Nature Conservancy is a global organization that established a Plymouth Program office in 2001 and presently owns about 86 acres in Plymouth. The two groups are past and future partners to the Town as it works to preserve open space.

Agencies also have a role in the acquisition of open space in Plymouth. The US Fish and Wildlife Service manage the Massasoit National Wildlife Refuge (197 acres) in Plymouth and are planning an expansion. The Commonwealth of Massachusetts is by far the largest landowner in town with its most notable holdings being Myles Standish State Forest and the land around Plymouth Rock on Water Street. The Commonwealth has strong interest in the preservation of state rare and threatened species in the Pine Barrens and around coastal plain ponds. Thus, the Town has a willing agency partner for habitat protection. The few farms that exist in Plymouth have outstanding scenic values to the Town. The Commonwealth of Massachusetts has an agricultural preservation program to maintain the agricultural land base.

Lastly, the US Department of Agriculture Wetlands Reserve Program is a program that enables the agency to purchase permanent easements that remove agricultural uses of wetlands. This program has recently been made available to cranberry growers for purchase of their bogs. This represents a new tool for Plymouth to use as it works to preserve its rural character.

### ***Regulatory Approaches***

Outright acquisition of land can only take the Town so far in meeting the goals defined in this plan. There are regulatory methods to protect significant tracts of land in Town. Already the Town employs several special permit procedures through subdivision development control that foster balanced development and reduce sprawl:

- **Open Space Mixed-Use Development (OSMUD):** To provide a mixture of open space and various land uses on large, well-buffered sites, to allow more effective and efficient use of land in rural areas, to focus vehicular traffic to the highest capacity adjacent transportation corridors of Plymouth, to minimize service responsibilities, to reduce housing where it could be allowed, and to increase the net tax base of the Town. All nonresidential structures and related facilities shall be constructed in a campus-style development utilizing attractive landscaping and a village marketplace design and must be in harmony with the topographical, vegetative, archaeological, and historic character of the land.
- **Recreational Development (RD):** To provide recreational opportunities for the residents of Plymouth, to allow more effective and efficient use of large tracts of land in Plymouth, and to minimize Town service responsibilities.
- **Rural Density Development (RDD):** To permit residential development that is consistent with the Town's Village Centers Plan, provide for meaningful open space, and to minimize Town service responsibilities in rural areas and large lot areas. Varying lot widths with

alternating building setbacks are encouraged. It is also the intent of the RDD to promote development that is in harmony with the topographical, vegetative, archaeological, and historic character of the land.

- **Village Open Space Development (VOSD):** To permit residential development that is consistent with the Town's Village Centers Plan and provide for meaningful open space within village areas. Varying unit types, lot widths and alternating building setbacks are encouraged. It is also the intent of the VOSD to promote development that is in harmony with the topographical, vegetative, archaeological, and historic character of the land.
- **Traditional Rural Village Development (TRVD):** To allow an alternative form of land use development consistent with the design principles of "traditional" neighborhoods and villages. These principles provide the design and development opportunities for diversification and integration of land for residential, retail, restaurant, office, services, community facilities, agricultural, and active and passive indoor and outdoor recreational uses with the protection of environmentally significant land, within close proximity to one another, thereby providing for many of the daily needs of the residents of the neighborhood and village as well as many of the daily needs of other residents living in nearby, established neighborhoods and village areas.

Each of these requires an open space set aside to occur often with a Conservation Restriction or Covenant to be placed on the land. Developers are encouraged to apply for these special permit procedures through exemptions offered through the applicable special permit.

Most advanced within these special permits is the *Transfer of Development Rights* provision. This allows a developer to transfer allowable units in a fragmented tract of land to be transferred to another tract. The "sending" areas have a defined set of resource attributes that merit protection. There is yet no substantive definition of the receiving areas. Adding this definition would greatly strengthen the efficacy of the TDR as an effective growth management tool. The Plymouth Master Plan references TDR's as a key strategy to strengthen the village centers and reduce the effects of sprawl on Plymouth.

### ***Chapter 61 Program***

The Chapter 61 Program provides property tax relief for landowners who maintain agricultural, forestry or recreational uses of their land. As a means of providing towns with a method to continue the benefits of open lands subject to the provisions of Chapter 61, towns have a Right of First Refusal when lands are sold or converted from the program. Upon notice of sale or conversion, towns have 120 days to engage the owner to buy the property or the use is converted and the landowner must pay the back taxes due for a period up to ten years. In Plymouth, this decision starts with the Land Use and Acquisition Committee.

Unfortunately, 120 days is often not enough time for a town to raise sufficient funds to exercise the rights of first refusal so the Chapter 61 program provides only minor protections to the land. Many of these lands would be a priority for conservation groups and agencies. Also, there is no predictable way to know how that would affect the Board of Assessing if the town or conservation group wanted to make the protections permanent through the purchase of a conservation

restriction. A more predictable tax break for conservation restrictions is warranted.

Essentially, the Chapter 61 Program creates a false sense of security in Plymouth. The Community Preservation Committee along with the Open Space Committee should develop a proactive outreach process to large landowners enrolled in the program. This outreach would provide insights regarding the landowners' intent for the property. Because the town has several partners who may possess potential sources of funding, it should be the policy of Plymouth to wait the full 120 days on every Chapter 61 sale or conversion.

### ***Ranking Criteria for the Acquisition of Open Space***

The Open Space Committee has developed a set of ranking criteria to evaluate acquisition opportunities as they arise in Plymouth. This criterion focuses on "public interest values" such as proximity to natural resources and scenic, recreational or historic qualities. The Committee recognizes that Plymouth is geographically diverse and that there is a need to prioritize open space opportunities by village area or planning district.

### ***Additional Action Items***

Continue to maintain and improve the existing facilities to meet local demands. The Seven-Year Action Plan includes the Capital Improvements listed in **Table 28: Recreational Facility's Needs**.

While the priority of open space and conservation land has been identified and an overall action plan outlined above, The Seven-Year Action Plan as it relates to the specific goals and objectives includes the following Action Items:

### ***Recreation Action Items***

The Open Space Committee and Village Steering Committees will continue to review the inventory of recreational, conservation and open space needs to identify properties/action plans for protection or acquisition over the next seven years, starting in 2017.

Continue to pursue the development of identified trail corridors in the Goals & Objectives and make information available to the public through the Open Space Plan and GIS mapping in 2017.

The Town regularly acquires land for the failure to pay taxes, and holds many parcels throughout the Town. Land that is suitable for economic development or land declared surplus should be sold, with the monies set aside for future land acquisition or maintenance of existing open space and recreational facilities. Land that meets the current or future needs of the Town should be set aside and protected. Moving forward, this process is reviewed by a variety of town departments and committees and built into an ongoing evaluation.

Review Chapter 61 lands and identify parcels that meet priority objectives for the Town, to use a reference when rights of first refusal arise; to be facilitated by the Town Manager's Office.

Inventory and evaluate potential ways to create access to waterfront (ocean, river and pond) with support facilities in appropriate locations.

The physical limitations of handicapped and elderly people are being considered by the Open

Space Committee when developing or improving access to open space and recreation areas.

The Town should also support and encourage the State to invest in improvements to the Myles Standish State Park. Improvements should include new land acquisitions as well as new facilities. Access and use of the park should be encouraged with a concentration of developing hiking trails. In an area presently lacking many facilities, the opportunities found in the park should not be overlooked. In addressing conservation needs, the role of Myles Standish State Forest cannot be ignored. It is essential that the Town work closely with State Planners to assure compatibility with local goals as well as to provide necessary cooperation and assistance.

The Town should continue discussions with the Entergy Nuclear Facility regarding the future of the approximately 1,600 acres of open space and compatible goals of the Town. 2017 - 2019.

The Town should begin to explore the ownership options and decide how the open space land, ponds and well sites in the Ponds at Plymouth subdivision can be best managed.

### **Water Supply**

- Work with the Department of Public Works to identify potential well sites away from rare pond or wetland habitats and work toward their protection through land conservation or regulatory measures. Identify parcels that may, through preservation, contribute to the protection of groundwater and drinking water supplies.
- Continue to implement the 2006 Water System Master Plan, with an analysis of any impacts proposed well sites could have on rare habitats or pond water levels.
- Review larger developments for comment on potential impact fees, or other mitigation factors that might be applicable, based on an assessment of anticipated impacts.
- Actively work with neighboring communities that share the Sole Source Aquifer on the protection and management of water quality and quantity. Attend meetings with the Plymouth/Carver Aquifer Advisory Committee.

### **Surface Water Quality**

- Protect lands that provide buffers to surface water to reduce erosion and pollution in surface waters through the use of conservation restrictions, outright purchase and other conservation tools such as regulatory measures.
- Identify a buffer area around wetlands and water courses that can benefit from additional protection, and direct developers and residents to these areas when conservation easements or set-asides are required for their project.
- Delineate the contributing areas to coastal plain ponds in Plymouth and use conservation and open space tools to convert land-uses that are contributing pollution, and to protect strategically located existing open space.
- Continue to monitor water quality to identify pollution sources and invasive weeds before

they get too severe.

- Continue to implement remediation of stormwater pollution to Plymouth Harbor.

### **Scenic Views**

*Evaluate tools to protect the views of and from the inventoried scenic views and keep this list current. Open Space Committee and Community Preservation Committee 2010-2012.*

- Town should evaluate views on Hedges Pond Road, Herring Pond Road and Carters Bridge Road, and other parts of Town, as potential additions to the scenic views list. Open Space Committee and Community Preservation Committee 2010-2012
- Evaluate the scenic views for potential designation as Scenic Streets or Scenic Roads. Open Space Committee and Community Preservation Committee 2010-2012.
- Establish requirements/restrictions and potential tools to maintain viewsheds if land is sold for development near scenic views. Ongoing.
- Protect lands with distinctive landscapes by identifying the public and private properties that have potential for acquisition or conservation. Comment on larger development projects that affect these properties.
- Work with the Planning Board to find solutions to limit curb cuts on major streets.
- Evaluate and adopt specific design restraints around open space to maintain views.
- Identify important private holdings that contribute to the distinctiveness of “America’s Hometown” and proactively work with willing parties to identify design guidelines. Ongoing.
- Include ongoing management of invasive and non-native plant species where appropriate.

### **Historic Character**

Target properties that represent the historic character of the town: Inventory 2010-2012.

- Provide large tracts of open space, community facilities and recreation land at village fringes to help preserve rural character and village identity.
- Work with Mass Historical Commission to identify and pursue properties of interest and develop and/or enhance an historical inventory. 2011-2014.
- Identify locate and map historic Rights of Way, including ones that are neglected or impeded. 2011.
- Ensure that existing open space around significant historic sites is permanently protected.

## **Maintenance of Biodiversity and Wildlife Habitat**

- Work with local, state and federal agencies to identify, protect and manage lands of significant ecological/habitat value, including an overall assessment of priority areas.
- A community-based cooperative effort to try to encourage growth in appropriate areas while reducing impacts to open space, creating linkages of wildlife and open space, limiting impacts to environmentally sensitive areas, and providing meaningful recreational opportunities for future homeowners in this area. Ongoing.
- Promote partnerships with non-profit organizations to pursue funding resources and technical assistance with the acquisition and management of conservation lands.
- Support the significant expansion of the Massasoit National Wildlife Refuge and implementation of the Proposed Great Thicket National Wildlife Refuge in Plymouth.
- Designate Natural Heritage Biomap Core habitat as sending areas in a TDR.
- Recommend Massachusetts Endangered Species Act reviews of developments greater than three acres in State Biomap Core Habitat areas.
- Manage open space/conservation land for biodiversity values. Work with Conservation Commission and public/private resources to develop management plans.
- Limit access to sensitive and rare coastal plain pond shores through conservation efforts.
- Continue to remediate stormwater pollution to Plymouth Harbor (ongoing grants and proposals).

## **Natural Resources Objectives and Strategies**

### ***Objective 1: Protect groundwater and assure an abundant supply of clean drinking water.***

STRATEGY: Protect land in Zone I and Zone II wellhead protection areas.

- Work with water suppliers to help them gain ownership or control of Zone I areas.
- Remove non-complying uses from Zone I areas.
- Develop comprehensive wellhead protection programs to include establishment of wellhead protection committees, development and testing of emergency response plans for spills within Zone IIs, public education for residents within Zone IIs, and incentives and requirements for septic system inspections, pump-outs, and upgrades.
- Work with local cranberry farmers to encourage best management practices, especially within Zones I and II.

- Continue to guide potential development in Zone II and Interim Wellhead Protection Areas.
- Identify possible new locations for wells and secure land around sites.
- Evaluate water and waste impact of new developments and develop a system of impact fees, open space requirements, and other tools to mitigate environmental impacts of large-scale development projects.
- Work with towns that share the Plymouth-Carver aquifer to protect and manage water quality and quantity.

***Objective 2: Protect Plymouth's water resources from non-point source pollution.***

STRATEGY: Develop and implement a town-wide stormwater management plan to include:

- Mitigation of all known storm drain discharges from public ways that directly or indirectly enter Plymouth Bay, Cape Cod Bay, and Plymouth Harbor.
- Elimination of all direct discharges of road run-off into wetland resources, both inland and coastal, through installation of interceptor drains that filter the runoff as it discharges to the water table.
- Prioritize remediation in areas with known water quality problems.
- Town investment in stormwater BMPs along roadways and Town properties.
- Regulations requiring private developments to provide onsite stormwater capture and filtration.
- Incentives for existing developments to improve stormwater management efforts.
- Public education for town residents.

***Objective 3: Restore and maintain the quality of Plymouth's ponds, lakes, rivers, and wetlands.***

STRATEGY: Delineate recharge areas, expand water quality monitoring, and implement remediation and management plans based on water quality data and recharge mapping.

- Restore and maintain waters in Billington Sea, Halfway Pond, and Long Pond to address nutrient loading and noxious weed problems.
- Delineate surface and subsurface recharge areas to Plymouth ponds and rivers and use conservation restrictions, outright purchase, and other conservation tools to limit adverse land uses in recharge areas.

- Develop a pond management plan which addresses different pond types, uses, and sensitivities.
- Expand water quality monitoring in Plymouth's fresh waters and work to identify and remediate pollutant sources.
- Identify recharge areas around coastal plain ponds and coastal plain pond clusters. Protect coastal plain ponds through creation of land buffers with emphasis on protection of land around coastal plain pond clusters. Utilize conservation and open space tools to convert polluting land uses and protect open parcels.
- Restrict access to coastal plain ponds and develop mechanisms for addressing existing development in fragile pond areas.
- Identify, certify, and protect vernal pools throughout the town. Establish 300-foot buffer areas around certified vernal pools, restricting any disturbance.
- Amend Zoning Bylaw to create a Conservancy District around wetlands, recharge areas for ponds, and waterways.

***Objective 4: Increase access to freshwater and salt water resources, where such access is consistent with natural resource protection.***

STRATEGY: Create new beach and ocean access points in coastal villages and around selected ponds.

- Create new beach access points in four coastal villages and develop management plans for protection of beach areas.
- Identify ponds which are suitable for recreation and develop facilities to support access.

***Objective 5: Protect and restore ocean waters and coastal zones.***

STRATEGY: Continuously monitor and upgrade wastewater treatment systems to limit adverse impacts on Eel River and Plymouth Harbor.

- Improve wastewater treatment to further reduce salt water impacts from the Eel River, which eventually receives the groundwater discharge from the sewage treatment plant. Develop plans to continuously monitor discharges and upgrade plant facilities as new technologies, including living systems, become available for the further cleansing of waste water at a reasonable cost.
- Continue to implement Nutrient Management Plan to reduce nutrient loading in the Eel River and Plymouth Harbor. Identify important land acquisitions to reduce the impacts of development and septic systems to aquatic resources.

STRATEGY: Prevent harm to life and property from coastal flooding.

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

- Prevent building or re-building in all “V” (velocity) flood zones and all coastal floodway areas prone to high-velocity coastal flooding, such as along Taylor Avenue in Manomet by amending the Zoning Bylaw to further restrict development in the Flood Plain Overlay District. Such restrictions should be coupled with compensatory measures to include TDR or direct Town purchase of affected properties.
- Prevent coastal erosion by increasing required building setbacks.

STRATEGY: Implement other strategies to maintain ocean health.

- Map and protect areas for fish and shellfish growth and nourishment.
- Continue to implement the boat pump-out program.

***Objective 6: Protect Plymouth’s characteristic vegetation, especially Pine Barren forests, and prevent forest fragmentation.***

STRATEGY: Preserve forest land through acquisition, conservation restrictions, and zoning regulations.

STRATEGY: Establish green networks, linking open spaces via wildlife corridors, trails, and greenways.

- Continue to acquire parcels and funding to develop the “Wishbone” that links Ellisville State Park to the Downtown Harbor.
- Work with neighboring communities to link Plymouth trails and wildlife corridors to regional trails and corridors.
- Develop additional forest management plans for conservation properties and implement the recommendations.

STRATEGY: Encourage the planting and maintenance of shade trees within developed areas and along roadways.

***Objective 7: Protect wildlife—both common species and “rare, endangered and threatened species”—through the protection of wildlife habitat, breeding areas, and wildlife corridors.***

STRATEGY: See Objective 8 below.

***Objective 8: Coordinate environmental protection and open space planning activities.***

STRATEGY: Pursue a coordinated land preservation strategy, using acquisition, incentives, partnerships, and regulation to protect natural resources and open space.

- Using criteria established in the 2009 Open Space and Recreation Plan, evaluate and rank open spaces according to criteria for environmental sensitivity and scenic and cultural value.

- Prioritize preservation of pine barren forests, especially core areas of un-fragmented Pine Barrens habitat and large parcels over 50 acres.
- Create permanent connections between priority open space resources by preserving wildlife corridors.
- Work with nonprofit conservation organizations to protect critical open space.
- Seek donation of conservation restrictions from landowners who will benefit by reduced property taxes. Seek federal and state funds to implement acquisition strategy.
- Seek additional revenue streams for conservation purposes, such as a land transfer tax or other designated and renewable funding sources.
- Continue to utilize Community Preservation Act funds for acquisition of priority sites and work with government agencies and nonprofit organizations to tap additional sources of funds available for acquisition and easements.
- Establish development standards with incentives for protection of large blocks of open space, public access, or other public benefits.
- Seek funds (above and beyond CPA funds) for land protection. One possible approach is the establishment of a Matching Fund program, through which Plymouth would commit to an annual conservation appropriation and work to obtain matching commitments from the federal government (Department of Interior), state agencies (MA DEM, Division of Fisheries and Wildlife), and conservation nonprofits (The Nature Conservancy, Trustees of Reservations, Wildlands Trust of Southeastern Massachusetts).

***Objective 9: Improve air quality.***

STRATEGY: Implement transportation objectives aimed at reducing roadway demand.

- Expand on the Town's Electric Vehicle (EV) Charging infrastructure, first implemented in 2013 with a current total of seven stations.

**Open Space & Recreation Objectives and Strategies**

***Objective 1: Utilize open space planning to advance the Town's priority Natural Resource objectives: water protection and land conservation.***

STRATEGY: Directly acquire open spaces which protect groundwater, buffer surface water resources, or support significant wildlife or vegetative communities.

STRATEGY: Utilize regulatory approaches and incentives to protect natural resources. Land Acquisition/Regulation

- Utilizing guidelines developed in 2004, evaluate and rank open spaces according to criteria for environmental sensitivity and scenic and cultural value.

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

- Prioritize preservation of pine barren forests, especially core areas of un-fragmented Pine Barrens habitat and large parcels over 100 acres.
- Create permanent interconnections between priority open space resources by preserving wildlife corridors.
- Work with nonprofit conservation organizations to protect critical open space.
- Seek donation of conservation restrictions from landowners who will benefit by reduced property taxes. Seek federal and state funds to implement this acquisition strategy.
- Seek additional revenue streams for conservation purposes, such as a land transfer tax or other designated and renewable funding sources.
- Continue to utilize Community Preservation Act funds for acquisition of priority sites and work with government agencies and nonprofit organizations to tap additional sources of funds available for acquisition and easements.

### STRATEGY: Water Protection

- Address outstanding groundwater protection concerns identified in State Source Water Assessment Protection reports, to include: removal of noncompliant uses in Zone I areas, restrictions on development in Zone II and Interim Wellhead Protection Areas, adoption of best management practices in maintenance, spill response, storage of materials, and enhanced education of residents in Zone II areas.
- Identify possible new locations for wells and secure land around sites.
- Identify recharge areas to large ponds and waterways and develop restrictions to promote recharge.
- Identify recharge areas around coastal plain ponds and coastal plain pond clusters. Protect coastal plain ponds through creation of land buffers with an emphasis on protection of land around coastal plain pond clusters. Utilize conservation and open space tools to convert polluting land uses and protect open parcels.

### STRATEGY: Private Development

- Evaluate the water and waste impact of new developments and develop a system of impact fees, open space requirements, and other tools to mitigate environmental impact of large scale development projects.
- Establish development standards with incentives for protection of large blocks of open space, public access, or other public benefits.

***Objective 2: Create town-wide Green Networks of linked open space and wildlife habitats. Protect sensitive ecosystems and wildlife corridors while providing recreational opportunities and alternative transportation on those lands which can accommodate human impacts.***

STRATEGY: Acquire parcels and use conservation restrictions to develop town-wide Green Networks.

- Continue to acquire parcels and funding to develop the “Wishbone” linking Ellisville State Park, the State Forest, and the Downtown Harbor.
- Continue to develop the North Plymouth-Downtown Plymouth Rail Trail.
- Complete the Waterfront Walkway from Town Wharf to Town Brook.
- Work with neighboring communities to link Plymouth trails and wildlife corridors to regional trails and corridors.

***Objective 3: Create Village Green Networks.***

STRATEGY: Provide open space resources in each village center area. These should include village greens in the heart of each village area, pocket parks in residential neighborhoods, and bicycle/walking trails.

STRATEGY:

Provide pedestrian and bicycle linkages connecting open space in village centers to open areas at village fringes, and connecting village fringes to town-wide trails and recreation resources.

- Complete development of Cordage Waterfront Park to include a central open space for North Plymouth.
- Continue to develop village greens for Cedarville, Manomet, and West Plymouth.
- Expand park resources in South Plymouth.
- Work with village master plan committees to design village-scale Green Networks and to develop implementation strategies.
- Use Conservation Restrictions to preserve tracts of open space and recreation land at village fringes to help preserve rural character and village identity.
- Plan and construct new athletic fields near underserved residential and school areas.

**Objective 4: Maintain Plymouth’s scenic views and the historic character of the town’s villages and rural areas.**

STRATEGY: Identify and preserve historic landscapes.

STRATEGY: Establish design and development restrictions to preserve scenic views.

- Create and regularly update an inventory of scenic views.
- Preserve coastal views by restricting development that blocks salt water views. Map coastal viewsheds for use as an overlay district.

- Preserve viewsheds of scenic rivers from public roads and public lands.
- Promote the accessibility of scenic views by providing parking areas and links to trails and transit.
- Develop design guidelines and restrictions for scenic views. Establish restrictions for land sold for development.
- Work with private owners and nonprofit conservation organizations to preserve cranberry bogs and upland open spaces.
- Permanently protect open spaces significant to adjacent historical structures.
- Identify, locate, and map historic rights of way. Designate Scenic Roads and require Town approval before trees are cut or stone walls altered on Scenic Roads.
- Work with the Massachusetts Historical Commission to establish an inventory of heritage landscapes and to develop and implement a protection strategy.

***Objective 5: Increase access to ponds and the ocean.***

STRATEGY: Expand public beach access to selected ponds and ocean areas while restricting access to coastal plain ponds.

- Restore and maintain waters in Billington Sea, Halfway Pond, and Long Pond to address nutrient loading and noxious weed problems.
- Identify potential ocean and pond beachfronts, with an emphasis on beach areas which could be located near population centers.
- Conduct environmental impact analyses, and evaluate capital and operating costs associated with the expansion of swimming, boating, and fishing access.
- Invest in parking areas and the expansion of public transit to identified access areas.
- Link beachfronts to walking and biking trails.
- Utilize management plans and development controls to support and protect open space on Long Beach, Saquish, and Clark Island.
- Develop strategies to limit coastal plain pond access and address problematic land uses adjacent to coastal plain ponds.

***Objective 6: Improve regional and local access to and use of existing recreational resources, including Myles Standish State Forest.***

STRATEGY: Invest in capital repairs, upgrades, and preventive maintenance to assure high-

quality recreational resources.

STRATEGY: Increase the safety and attractiveness of parks through a coordinated strategy of police surveillance and resident involvement.

STRATEGY: Increase programming and use agreements to encourage the use of other parks.

- Explore ways to enhance access and wayfinding to major local and regional recreation areas such as Forges Field and Myles Standish State Forest.
- Evaluate park needs for expanded parking, signage, equipment, and lighting and invest in needed upgrades.
- Provide preventive maintenance and timely repairs to park properties.
- Expand resident involvement, including watch groups, clean-up days, and resident and business sponsorship of parks.
- Expand educational outreach and interpretive materials at selected parks.
- Expand programming and events at parks through Town-sponsored events and use agreements with nonprofit, private, and school groups.
- Construct new ball fields and refurbish existing facilities with a focus on providing different fields for different sports.
- Explore a transition to Olmsted-like park system with provisions for enhanced cultural, educational and recreational uses.

## **Section X Public Comments**

### **August 2, 2016 Open Space Committee Meeting**

Committee Discussed public survey results and other components that would be inserted into the Plan. Staff would provide on-going progress reports at each subsequent meeting.

### **April 6, 2017 Open Space Committee Meeting**

A draft of the revised plan was presented to the Open Space Committee at a regularly scheduled public meeting on with subsequent committee comments/discussion on their April 18, 2017 meeting. Comments have been included in the 2017 Update.

The 2017 Update was presented at an advertised public hearing for public comment on May 25, 2017.

Subsequent public reviews of the 2017 Update were presented to the Conservation Commission on June 6, 2017 for comment and approval; the Board of Selectmen adopted the Update on June 13, 2017 as well as the Planning Board on June 19, 2017.

The final public hearing was held on June 22, 2017 to gain additional community insight of the Plan's goals and Seven Year Action Plan. Notifications of this meeting were posted at conspicuous areas within Plymouth's two Environmental Justice Neighborhoods.

## Newspaper Advertisements

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COMPANY

Gateway Media New England

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Eileen Hawthorne  
Plymouth Planning Board  
c/o Plymouth Procurement Division  
11 Lincoln Street  
Plymouth, MA 02360

Title: Old Colony Memorial  
Start date: 5/3/2017  
Insertions: 1  
Price: \$70.98

Class: Legals OCM  
Stop date: 5/3/2017  
#Lines: 57 ag

#### Payment Information

Receipt#

Pmt. Type:

CC. Number: CC. Exp.:

Invoice Total: \$70.98

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Open Space and Recreation Plan

#### LEGAL NOTICE TOWN OF PLYMOUTH PLANNING AND DEVELOPMENT

#### NOTICE OF PUBLIC HEARING

The Open Space Committee and the Plymouth Planning Department will hold a Public Hearing in the Mayflower Room, Town Hall, 11 Lincoln Street, Plymouth, Massachusetts, on **Thursday, May 25, 2017 at 6:00 p.m.**, to present the update to the Open Space and Recreation Plan for Plymouth and receive comment on the plan.

Citizens and interested parties are encouraged to attend and should appear at the time and place designated.

Text, maps and other information may be inspected at the Planning Department Office.

PLANNING AND  
DEVELOPMENT

AD#13562893  
OCM 5/3/17

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN



COMMUNITY  
NEWSPAPER  
COMPANY

GateHouse Media New England

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Plymouth, MA 02360

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Start date: 6/10/2017  
Insertions: 1  
Price: \$70.98

Class: Legals OCM  
Stop date: 6/10/2017  
#Lines: 57 ag

*paid by Town*

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Receipt#

Pmt. Type:

CC. Number: CC. Exp.:

Invoice Total: \$70.98

OPEN SPACE

LEGAL NOTICE  
TOWN OF PLYMOUTH  
11 LINCOLN STREET  
PLYMOUTH, MA 02360  
PLANNING AND  
DEVELOPMENT  
508-747-1620, EXT. 204

### NOTICE OF PUBLIC HEARING

The Open Space Committee and the Plymouth Planning Department will hold a Public Hearing in the May Lower Room, Town Hall, 11 Lincoln Street, Plymouth, Massachusetts, on Thursday, June 22, 2017 at 7:00 p.m., to present the update to the Open Space and Recreation Plan for Plymouth as revised.

Citizens and interested parties are encouraged to attend and should appear at the time and place designated.

Text, maps and other information may be inspected at the Planning Department Office.

PLANNING AND  
DEVELOPMENT

AD#13577972  
OCM 6/10/17

## Letters of Support

**Conservation  
Commission**  
**508-747-1620, x139**  
Gerre Hooker, Chairperson

# Memorandum

To: Lee Hartmann, Director  
Planning & Development

Betsy Hall, Chairperson  
Open Space Committee

From: Gerre Hooker-Chairperson  
Conservation Commission

*/GH/mat*

Date: June 7, 2017

Re: Plymouth Open Space and Recreation Plan

On Tuesday, June 6, 2017, by a majority vote, the Conservation Commission approved of the "2017 Update Plymouth Open Space and Recreation Plan" as presented.

The Commission looks forward to the submission of the "Final" Plan for approval by the Commonwealth.

Thank you.

*/mat*

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN



## TOWN OF PLYMOUTH

26 Court Street  
Plymouth, Massachusetts 02360  
(508) 747-1620

February 6, 2018

Mr. Laurence R. Pizer  
Town Clerk  
11 Lincoln Street  
Plymouth, MA 02360

Re: Updated 2017 Open Space and Recreation Plan

Dear Mr. Pizer:

At the Planning Board meeting on June 19, 2017, the Board voted unanimously to support and approve the Town of Plymouth's 2017 updated Open Space and Recreation Plan.

  
Kenneth Buechs, Chair  
PLYMOUTH PLANNING BOARD

C: Open Space Committee

## Old Colony Planning Council

Frank P. Stadler  
President  
70 School Street  
Brockton, MA 02301-4097



Pasquale Ciaramella  
Executive Director  
Telephone: (508) 583-1833  
Fax: (508) 559-8768  
Email: [information@ocperpa.org](mailto:information@ocperpa.org)  
Website: [www.ocperpa.org](http://www.ocperpa.org)

May 19, 2017

Lee Hartmann  
Director of Planning and Community Development  
Plymouth Town Hall  
11 Lincoln St.  
Plymouth, MA 02360

RECEIVED

JUN 9 5 2017

PLANNING BOARD  
PLYMOUTH, MA

Dear Mr. Hartmann:

The Old Colony Planning Council has reviewed the "2017 Update, Town of Plymouth Open Space and Recreation Plan" and endorses Division of Conservation Services approval of the Plan.

We are quite impressed with the Plan's breadth, thoroughness, and its sense of purpose in supporting the principles of Smart Growth to guide Plymouth's future. The Plan supports both large scale and small-scale concepts. These range from ways to implement the proposed "Wishbone" connections between Myles Standish State Forest and the waterfront and/or Ellisville Harbor and town-wide trails systems, to small-scale acquisitions of locally important unprotected holdings. The Plan does so by providing Open Space Acquisition Criteria to guide planning of future acquisitions.

After much thorough background description and analysis, the Plan concludes with a Seven Year Action Plan and a complementary section on Tools to Implement Open Space Goals and related Strategies. These describe available programs and recommend specific steps within the framework of the Seven Year Action Plan. The proposed actions are consistent with the Council's Regional Policy Plan and with its 2011 Regional Strategic Framework Plan.

In all, the present Plymouth Open Space and Recreation Plan is a very impressive document that should serve the Town well. Thank you for the opportunity to review it. The Council wishes the Town well in implementing the Plan and hopes to have an opportunity to assist in that effort.

Sincerely,

Pasquale Ciaramella  
Executive Director



## TOWN OF PLYMOUTH

BOARD OF SELECTMEN / TOWN MANAGER  
11 LINCOLN STREET, PLYMOUTH, MA 02360  
PHONE (508) 747-1620 EXTENSIONS 106 AND 100  
FAX (508) 830-4140

### MEMORANDUM

TO: LEE HARTMANN, DIRECTOR OF PLANNING & DEVELOPMENT  
PATRICK FARAIL, PLANNING TECHNICIAN

FROM: TIFFANY PARK, ADMIN. ASSISTANT, TOWN MANAGER'S OFFICE

SUBJECT: 2017 OPEN SPACE & RECREATION PLAN

DATE: JUNE 23, 2017

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Please be advised that the Board of Selectmen voted at its meeting of June 13, 2017 to approve and adopt the *2017 Updated Open Space & Recreation Plan* for the Town of Plymouth, as recommended by the Department of Planning & Development.

Should you need any further confirmation of this vote of the Board of Selectmen, please do not hesitate to contact me.

Thank you.

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## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

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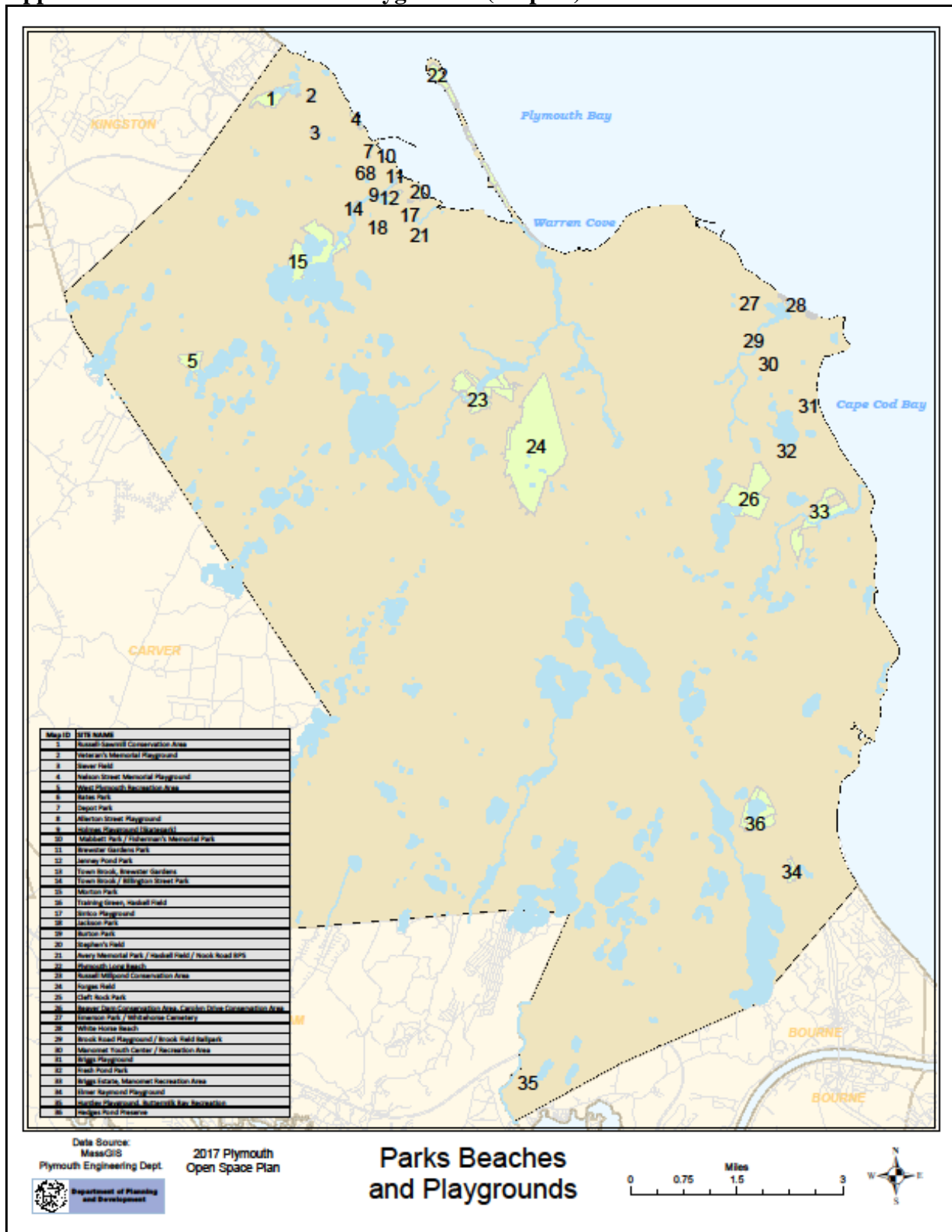
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Appendix A – Park Beaches and Playgrounds (Map 31)



## Appendix B



### TOWN OF PLYMOUTH

11 Lincoln Street  
Plymouth, Massachusetts 02360  
FAX (508) 830-4062  
(508) 747-1620

March 20, 2017

To Whom It May Concern:

As the Town of Plymouth's ADA Coordinator, I hereby certify that Plymouth's employment practices are in compliance with the Americans with Disabilities Act. This includes Plymouth's personnel recruitment activities, administration of leave, training, testing, medical exams/questionnaires, social and recreational programs, fringe benefits, collective bargaining agreements, and administration of wages and salaries.

Sincerely,

A handwritten signature in blue ink, appearing to read "Melissa Grabau Arrighi".

Melissa Grabau Arrighi  
Town Manager



Printed on recycled paper.

**Americans with Disabilities Act (ADA) Access to Facilities  
and Activities Policy**

**Definitions**

***Handicap*** - A physical or mental impairment that substantially limits a major life activity such as caring for oneself, performing manual tasks, walking, seeing, speaking, hearing, breathing, or learning, is a handicap. In addition, people who have a history of a handicap or are regarded as having a handicap are also protected under the law.

***Handicapped person***- "People with disabilities"

***Reasonable accommodation*** - Reasonable accommodations can include renovating a building to make it accessible, restructuring a job by changing the work schedule, buying specialized equipment, and hiring others as readers or interpreters.

**ADA Coordinator**

The Assistant Town Manager is designated as the employee responsible for ADA coordination.

**EQUAL ACCESS TO FACILITIES AND ACTIVITIES**

Maximum opportunity will be made available to receive citizen comments, complaints, and/or to resolve grievances or inquiries relating to ADA issues.

- ***STEP1:***

The Assistant Town Manager is available to meet with citizens and employees during business hours.

When a complaint, grievance, request for program policy interpretation or clarification is received either in writing or through a meeting or telephone call, every effort will be made to create a record regarding the name, address, and telephone number of the person making the complaint, grievance, program policy interpretation or clarification. If the person desires to remain anonymous, he or she may.

A complaint, grievance, request for program policy interpretation or clarification will be responded to within ten working days (if the person making the complaint is identified) in a format that is sensitive to the needs of the recipient, (i.e. verbally, enlarged type face, etc.).

Copies of the complaint, grievance, request for program policy interpretation or clarification and response will be forwarded to the appropriate Town department or agency (i.e. Board Selectmen, Parks Division, Conservation Commission). If the grievance is not resolved at this level it will progressed to the next level.

- **STEP2:**

A written grievance will be submitted to the Town Manager. Assistance in writing the grievance will be made available to all individuals. All written grievances will be responded to by the Town Manager in a format that is sensitive to the needs of the recipient, (i.e. verbally, enlarged typeface, etc.). If the grievance is not resolved at this level it will progressed to the next level.

- **STEP3:**

If the grievance is not satisfactorily resolved, citizens will be informed of the opportunity to meet and speak with the Board of Selectmen, with whom local authority for final resolution lies.

The following table was created using the Open Space and Recreation Planner's Workbook Appendix G: ADA Self Evaluation Form. A sample copy of the Appendix G facility inventory form is included in the Appendix.

**Table 31 - ADA Access Self-Evaluation Table**

Area	Management Agency	Current Use	Activity	Equipment	Assessment	Transition Plan
PLYMOUTH CENTER						
Town Wharf	DPW	Private & Commercial Fishing	Parking	Paved, handicapped spaces	Accessible	Yes
			Restrooms	No		
Fisherman's Memorial Park	Parks Dept.	Neighborhood park	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	No		
Pilgrim Memorial Park	Board of Selectmen	Wharf, Mayflower II, Plymouth Rock	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	Yes, Accessible		
Brewster Gardens	Parks Dept.	Historic park	Parking	Paved, handicapped spaces	Accessible	Designed accessible
			Restrooms	No		
Jenney Pond Park	Parks Dept.	Historic park	Parking	Paved, handicapped spaces	Accessible	In progress
			Restrooms	No		
Billington Street Park/Town Brook	Parks Dept.	Historic park	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	No		
Training Green	Parks Dept.	Historic park (Olmsted)	Parking	Paved, no handicapped spaces	Limited access	In progress

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

			Restrooms	No		
<b>VILLAGE PARKS AND PLAYGROUNDS</b>						
Stephens Field	Parks Dept.	Playground, swimming, boat launch, fields	Parking	Gravel, two handicapped spaces	Accessible	In progress
			Restrooms	Seasonal, accessible		
Holmes Playground	Parks Dept.	Playground, ball courts and fields, fish ladder	Parking	Gravel, no handicapped spaces	Limited access	No
			Restrooms	No		
Sirroco Memorial Playground	Parks Dept.	Playground/basketball court	Parking	No handicapped spaces	Accessible	In progress
			Restrooms	No		
Haskell Field/Avery Memorial Playground	Parks Dept.	Baseball field	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	No		
Sever/Allerton Street Playground	Parks Dept.	Playground/playfield/skateboard park	Parking	Gravel, no handicapped spaces	Accessible	In progress, designed accessible
			Restrooms	No		
Depot Park	Parks Dept.	Ornamental park	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	No		
Mabbett Park	Parks Dept.	Picnic area	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	No		
Burton Park	Parks Dept.	Ornamental park	Parking	No	No	N/A
			Restrooms	No		
<b>BEACH CONSERVATION AREA</b>						
Plymouth Beach/Long Beach	Board of Selectmen & Plymouth County Wildlands Trust	Beach	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	Seasonal, partially accessible		
<b>TRAIL</b>						
Jackson Park (Jacobson Park)	Parks Dept.	Nature trail	Parking	No	Not accessible	N/A
			Restrooms	No		

Long Beach Conservation Area	Conservation Commission	Conservation	Parking	Seasonal, no handicapped spaces	Limited, 4WD access	N/A
			Restrooms	No		
NORTH PLYMOUTH						
VILLAGE PARKS AND PLAYGROUNDS						
Nelson Memorial Playground	Parks Dept.	Waterfront park, playground, boat launch	Parking	Paved, handicapped spaces	Limited access	In progress
			Restrooms	Seasonal, accessible		
Veterans Memorial Playground	Parks Dept.	Playground	Parking	Off-site, no handicapped spaces	Limited access	In progress
			Restrooms	No		
308 Court Street Access Connector	Parks Dept.	Walkway - Connector	Parking	Paved, handicapped spaces	Accessible	In-progress
			Restrooms	No		
Siever Field	Parks Dept.	Playground, Ball Fields	Parking	Paved, handicapped spaces	Limited access	In progress
			Restrooms	No		
CONSERVATION AREA						
Russell Sawmill-Hedge Pond	Conservation Commission	Conservation, hiking, fishing	Parking	Gravel, no handicapped spaces	Limited access	N/A
			Restrooms	No		
TRAIL						
North Plymouth Rail Trail	Parks Dept.	Rail trail under construction	Parking	Paved, handicapped spaces	Accessible, northern end	N/A
			Restrooms	No		
MANOMET						
VILLAGE PARKS AND PLAYGROUNDS						
Briggs Playground	Parks Dept.	Playground/ball fields/basketball/tennis	Parking	Paved, handicapped spaces	Accessible	In progress
			Restrooms	No		
Brook Road Playground	Parks Dept.	Playground/ball fields/basketball	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	No		

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Fresh Pond Park/Indian Cemetery	DPW (Parks & Cemetery Depts.)	Passive recreation, swimming, boating, fishing, cemetery	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	Yes, seasonal		
Manomet Recreation Facility	Board of Selectmen	Playground/ball fields	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	Yes, seasonal		
INDOOR FACILITIES						
Manomet Youth Center/Bartlett Hall	Parks, Recreation Depts.	Indoor gym	Parking	Paved, no handicapped spaces	Not accessible	N/A
			Restrooms	Not accessible		
CONSERVATION AREAS						
Bartlett Pond	Conservation Commission	Conservation/hiking, Swimming, Fishing	Parking	No	Not accessible	N/A
			Restrooms	No		
Beaver Dam Road Conservation Area	Board of Selectmen	Conservation/hiking	Parking	Gravel, no handicapped spaces	Limited access	N/A
			Restrooms	No		
Carolyn Drive Conservation Area	Board of Selectmen	Conservation-limited access	Parking	No	Not accessible	N/A
			Restrooms	No		
Indian Brook Conservation Area	Conservation Commission	Conservation/hiking	Parking	No	Not accessible	N/A
			Restrooms	No		
Little Island Pond Conservation Area	Board of Selectmen	Conservation/hiking/swimming	Parking	No	Not accessible	N/A
			Restrooms	No		
Pond View Circle Conservation Area	Conservation Commission	Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
Rabbit Pond	Conservation Commission	Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
Shallow Pond-pond frontage only	Board of Selectmen	Conservation-no access	Parking	No	Not accessible	N/A

			Restrooms	No		
Taylor Avenue Wetlands	Conservation Commission	Conservation/hiking	Parking	No	Not accessible	N/A
			Restrooms	No		
BEACH						
Manomet Bluffs	Conservation Commission	Beach area below bluffs	Parking	No	Not accessible	N/A
			Restrooms	No		
White Horse Beach	Conservation Commission	Dunes and beaches/swimming/fishing	Parking	Sandy, no handicapped spaces	Limited access	N/A
			Restrooms	No		
CEDARVILLE						
VILLAGE PARKS AND PLAYGROUNDS						
Elmer Raymond Park	Parks Dept.	Playground/ball fields and court/tennis/Passive recreation/trails	Parking	Paved, handicapped spaces	Limited access	In progress
			Restrooms	Not accessible		
CONSERVATION AREAS						
Cedarville Conservation Area	Conservation Commission	Conservation, Hiking	Parking	No	Not accessible	N/A
			Restrooms	No		
LANDING						
Cedarville Landing	Town of Plymouth	Beach Access	Parking	No handicapped spaces	Not accessible	N/A
			Restrooms	No		
Hedges Pond Preserve, Camp Dennen	Conservation Commission	Campground	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	No		
WEST PLYMOUTH						
Morton Park/Billington Sea	Parks Dept.	Historic park, swimming, boating, hiking, playground	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	Yes, seasonal		
VILLAGE PARKS AND PLAYGROUNDS						
West Plymouth Recreation Area	Parks Dept.	Ball fields	Parking	Paved, handicapped spaces	Limited access	N/A

# TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

			Restrooms	No		
CONSERVATION AREAS						
Micajahs Pond		Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
Big West/Grassy Pond	Board of Selectmen	Conservation	Parking	Gravel, no handicapped spaces	Limited access	N/A
			Restrooms	No		
BEACH						
Clear Pond Beach Area	Conservation Commission	Beach access	Parking	No	Not accessible	N/A
			Restrooms	No		
VILLAGE PARK						
Cleft Rock Park	Parks Dept.	Sightseeing, Hiking	Parking	Gravel, no handicapped spaces	Accessible	N/A
			Restrooms	No		
CONSERVATION AREAS						
Briggs Estate	Board of Selectmen	Conservation, hiking, boating, fishing	Parking	No	Not accessible	N/A
			Restrooms	No		
Dugway Pond Conservation Area	Conservation Commission	Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
TRAIL						
Talcott Property	Conservation Commission	Trail linkage to be developed, Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
ELLISVILLE						
TOWN-WIDE PARK AND CONSERVATION AREA						
LANDING						
Harlow’s Landing	DPW	Limited Beach Access Roadway	Parking	No	Not accessible	N/A
			Restrooms	No		
FEDERAL FURNACE						
CONSERVATION AREAS						
Town Forest	Board of Selectmen	Hiking/passive recreation	Parking	Limited gravel, no handicapped spaces	Limited access	N/A

			Restrooms	No		
Boot Pond Conservation Area	Conservation Commission	Conservation/beach	Parking	No	Not accessible	N/A
			Restrooms	No		
Russell Mill Pond Conservation Area	Conservation Commission	Conservation	Parking	Gravel, No handicapped spaces	Limited access	N/A
			Restrooms	No		
Rocky Pond Conservation Area	Conservation Commission	Conservation	Parking	No	Not accessible	N/A
			Restrooms	No		
TOWN-WIDE PARK						
Forges Field Recreation Facility & Crosswinds Golf Club	Inhabitants of the Town of Plymouth	Ball fields, walking and biking trails, golf course	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	Yes, seasonal		
VILLAGE PARKS AND PLAYGROUNDS						
Buttermilk Bay Playground	Board of Selectmen	Playground	Parking	No	Limited access	N/A
			Restrooms	No		
Huntley Playground	Board of Selectmen	Playground	Parking	No	Limited access	N/A
			Restrooms	No		
CONSERVATION AREAS						
Blueberry Conservation Area	Conservation Commission	Conservation-no access	Parking	No	Not accessible	N/A
Blueberry Road			Restrooms	No		
White's Pond Conservation Area	Conservation Commission	Conservation-no access	Parking	No	Not accessible	N/A
			Restrooms	No		
Bloody Pond Conservation Area	Conservation Commission	Conservation/swimming/fishing/hiking	Parking	Gravel, no handicapped spaces	Limited access	N/A
			Restrooms	No		
LANDING						
Jake's Pond Common Land	Board of Selectmen	Beach	Parking	No	Not accessible	N/A
			Restrooms	No		
SAQUISH GURNET						
CONSERVATION BEACH						

## TOWN OF PLYMOUTH 2017 UPDATE OPEN SPACE & RECREATION PLAN

Saquish Beach	Conservation Commission	Conservation	Parking	Sandy, no handicapped spaces	Limited access	N/A
			Restrooms	No		