

TOWN OF PLYMOUTH
OPEN SPACE AND RECREATION PLAN
2009 UPDATE (REVISED 3/2010)



TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

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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 open undeveloped land in Plymouth is approximately 24,000 acres and provides the town with a strong rural character. Plymouth has the third highest occurrence of rare, threatened and endangered species per square mile of any town in Massachusetts. The town contains the third largest globally rare pine barren in the eastern United States, twenty-one miles of coastline, several anadromous fish runs and over 340 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 single, large lot family homes. Additional large tracts of rural land, often outside of the established village centers, are constantly being evaluated for additional development.

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

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

Within this *2009 Update of the Open Space & Recreation Plan (2004)* 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
- Regulatory tools such as transfer of development rights, impact fees

Section I Plan Summary

The *2009 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:

- Review and re-endorse the goals and strategies outlined in the 2004 Town of Plymouth Comprehensive Plan and the Public Lands Inventory Reports into the Open Space and Recreation Plan;
- Updates to the land development patterns throughout the Town, including maps of recently acquired lands and lands changed from general municipal to open space/conservation status;
- Updated Open Space Inventory and Map using GIS;
- 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 2004 Open Space and Recreation Plan;
- Environmental Justice considerations have been added; and
- The Open Space and Recreation Plan has been updated to reflect the recommendations included 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 into the twenty-first century.

The plan outlines an aggressive 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 consists of a team of volunteers appointed by the Planning Board, Board of Selectmen and Conservation Commission that meet twice monthly to review open space opportunities in support of the Land Use and Acquisition Committee and 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:

William Keohan, Chair

Joan Bartlett

Oliver Durrell, III

John Hammond

John Lebica

Robert J. Pomerene

Lois Post

Charlotte Russell

Judy Savage

Statement of Purpose

The purpose of this *2009 Update* to the *Town of Plymouth Open Space and Recreation Plan (the "2004 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 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.

Planning Process and Public Participation

In fall 2007, the Town of Plymouth Planning Department met with the Open Space Committee to review the *2004 Plan* in preparation for the 2009 update. The primary needs identified were to 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 identified included mapping the scenic viewsheds, as well as updating the open space planning map, and updates to the action plan components of the plan.

Mapping

The mapping of the scenic viewsheds was undertaken by the Office of Planning and Development through a student intern, Brian Woodward, from Bridgewater State College. Town staff, primarily in the Office of Planning and Development, worked intensively on the GIS-based open space inventory, investing an additional estimated 500 hours editing the GIS parcel maps and descriptive information in the database to more accurately depict conservation and open space properties throughout the Town of Plymouth. 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 was also accomplished, and all cemeteries were included in the update. Historic and recognized landmarks have also been added to the GIS database.

The Town of Plymouth undertook (2007-2008) a *town-wide public land inventory*, which included a public review of the inventory of town-owned land and its designated purposes in light of the various plans adopted by the Town, including the **2004 Open Space and Recreation Plan**. A volunteer appointed committee, entitled the Plymouth Public Lands Committee, undertook this process with support from the Office of Planning and Development. This process included a careful review of all municipal land, and included federal and state properties for planning purposes. Detailed updates to the GIS database were a feature of this process, and the 2008 Report of the Plymouth Public Lands Committee was presented to the Board of Selectmen in 2008 to summarize findings.

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 Environmental Manager to review updates to the park and recreation planning objectives of the Town. These departments also contributed their information to the mapping efforts noted above.

The DPW Environmental Management Division 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.

Plymouth Public Space Action Plan (June 2007)

The Town of Plymouth is the largest (103 square miles) in the Commonwealth. The community recognizes the need to focus on the historic waterfront, where features of national historic significance are a key feature of the community. 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

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development;

3. Increase the attractiveness of major public spaces; and
4. Broaden public awareness and historical interpretation of all Plymouth eras.

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.

Regional Planning Agency Review

A draft of the plan was sent to the Old Colony Planning Council (OCPC) for comment. The comment letter is included in this update under public comment, and items raised were addressed in the 2009 Update.

Public Participation

The requested updates were presented to the Open Space Committee on March 17, 2009 at its regularly scheduled meeting for additional comment. Those comments have been included in the 2009 Update.

The 2009 Update was reviewed at an advertised public hearing in conjunction with a regularly scheduled meeting of the Open Space Committee, which was held on June 16, 2009.

The 2009 Update was subsequently presented to the Planning Board on June 22, 2009 for comment and approval, and finally to the Selectmen on June 23, 2009. The Board of Selectmen adopted the 2009 Update on June 23, 2009.

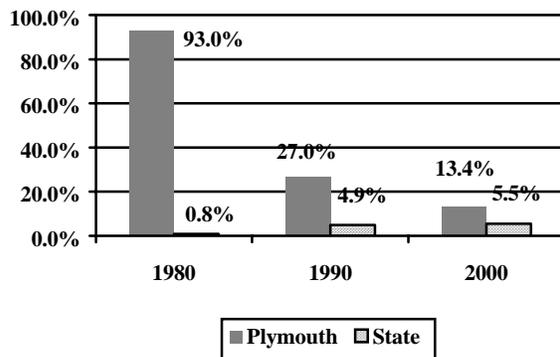
On December 15, 2009, the Open Space Committee held a final public meeting to gain additional community insight on the plan's goals and action plan. Notification of this meeting was posted in the various Plymouth Housing Authority facilities located within Plymouth's two Environmental Justice neighborhoods.

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 2000 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 (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 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, shellfishing, 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 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 cranberry-related, previously undeveloped land being developed with single-family homes throughout various areas of the town, although in some cases the cranberry bogs themselves are remaining in production. 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-six percent from 35,913 in 1980 to 45,608 in 1990 (see **Table 1 and Chart 2**). Between the years of 1985 to 1990, an average of 550 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											
1980	1990	2000*	2001	2002	2003	2004	2005	2006	2007	2008	2009**
35,913	45,608	51,701	52,426	53,170	54,025	55,110	56,266	57,409	57,901	58,379	58,681
Increase	27.0%	13.4%	1.4%	1.4%	1.6%	2.0%	2.1%	2.0%	0.9%	0.8%	0.5%

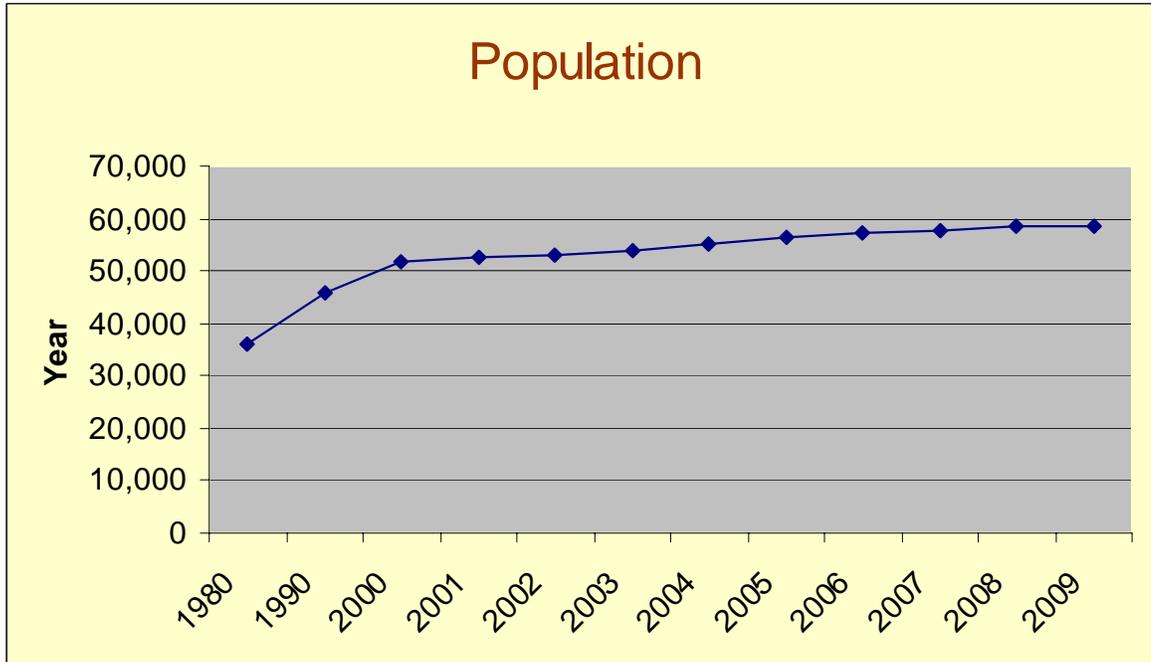
* 2000 Census Information

** As of January 2009

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MAP 1 REGIONAL CONTEXT

Chart 2



Population Characteristics

Between 2000 and 2002, Plymouth issued more permits for single-family houses than all but one other Massachusetts Community.¹ Plymouth has continued to experience a significant growth in population (please see **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 (**Table 3 and 4**) continue to predict a significant increase in the elderly population (age 65 and older) as a whole, with increases of less significance for all other age groups through 2030.

Table 2

Population Projections		
Year	Population	% Change
2000	51,701	
2010	66,640	28.9%
2020	73,633	10.5%
2025	78,921	7.2%
2030	84,210	6.7%

Source US Census, OCOC, & EOTPW

¹2004 *Plymouth Comprehensive Master Plan*, p. 16.

*Data Source: U.S. Census Bureau, 2005 American Community Survey, Excerpted from *Plymouth County Business* June/July 2007 Issue, Page 5.

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Table 3

FORECAST OF HOUSEHOLD POPULATION IN PLYMOUTH, MA: 2000-2030

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			
AGE	1990	2000	% Change
Under 5	3,592	3,478	-3.2%
5 to 9	3,569	3,859	8.1%
10 to 14	3,396	3,789	11.6%
15 to 19	3,226	3,367	4.4%
20 to 24	2,971	2,513	-15.4%
25 to 34	8,070	7,500	-7.1%
35 to 44	7,968	9,040	13.5%
45 to 54	4,401	7,932	80.2%
55 to 59	1,458	2,664	82.7%
60 to 64	1,447	1,747	20.7%
65 to 74	3,016	2,672	-11.4%
75 to 84	1,868	2,170	16.2%
85 and over	626	970	55.0%
Total	45,608	51,701	13.4%

As noted in **Table 5**, employment in Plymouth continues to grow at annual rate of approximately 5 percent with a total workforce of 29,931 people. As shown in **Table 6**, the number of people in the workforce with less than a high school degree dropped significantly (by 19.5%). Significant increases have occurred in the number of people in the workforce with college education.

Table 5

EMPLOYMENT			
Year	Labor Force	Employed	Unemployment Rate
2007	29,931	28,346	5.3%
2006	29,343	27,789	5.3%
2005	28,109	26,780	4.7%
2004	26,692	25,447	4.7%
2003	26,906	25,224	6.3%
2002	27,122	25,753	5.0%

Table 6

EDUCATION			
	1990	2000	% Change
Less than High School	4,571	3,678	-19.5%
High School	9,755	11,098	13.8%
Some College	8,156	10,780	32.2%
Bachelors	4,478	6,233	39.2%
Masters & Higher	1,983	2,940	48.3%

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Regional Context
Socio-Economics

The Town of Plymouth is a coastal community in southeastern Massachusetts, approximately 5 miles north of the Cape Cod Canal. It is the seat of Plymouth County, and has the largest area of any town in the Commonwealth.

For most of its existence, Plymouth was an isolated seacoast area where economic fortunes were linked to the sea and shipping. The site of the original 1620 settlement is now a portion of today's Downtown/Harbor District.

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 and Plymouth's population mushroomed from 18,606 in 1970 to 45,608 in 1990, an increase of 145% in just 20 years.

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.

This socio-economic profile 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 close 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 all of your workforce development needs.

The estimated population of Plymouth today stands at approximately 58,000 residents and growing. With nearly 18,000 acres of available property left in the Town of Plymouth to develop, it is conceivable that our population will grow to 100,000 residents in the not so distant future. (Table 7 and Table 8)

Table 7

100,000 residents in the not so distant future.

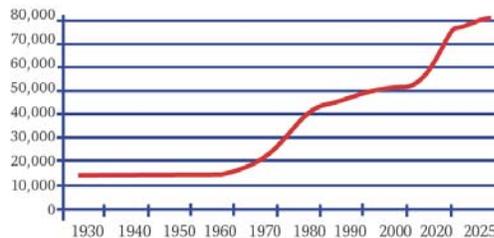
Demographic Statistics of 02360

As Of 2,000 Census

Population Male	27,372
Population Female	27,250
Median Age	37.18
College Graduate	28%
White Collar	79%
Blue Collar	21%
No. Of Households	19,057
No. Of Family Households	13,387
Average Family Size	3.37
Median Household Income	\$67,118
Average Household Income	\$79,798
Average January Low Temperature	20.3 F
Average July High Temperature	82 F
Rain Fall - Annual	51.06"
Air Pollution Index	93

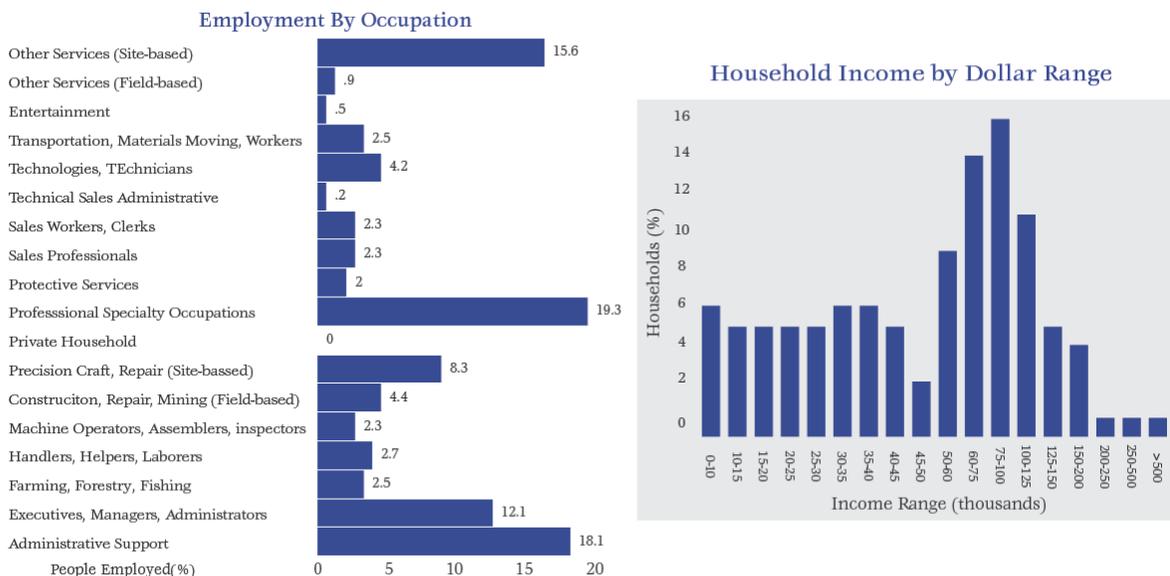
**PLYMOUTH TOTAL POPULATION
AND PROJECTED POPULATION**

Source: US Census 1930-2000; Southeast Regional Planning
Economic Development District Projections 2020 and 2025



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Table 8



Over the past few years the Town has seen significant growth and development in the number of retail businesses (see **Table 9**). Plymouth’s largest employment sector the 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 and Wages				
	2003	2004	2005	2006
Total Wages	\$ 750,505,459	\$ 781,326,837	\$ 851,504,977	\$ 888,170,721
Average Weekly Wage	\$ 724	\$ 738	\$ 749	\$ 758
Establishments	1,407	1,892	1,503	1,542
Average Employment	19,940	20,357	21,865	22,533
Construction	1,010	1,157	1,264	1,210
Manufacturing	1,215	1,151	1,170	1,356
Wholesale Trade	323	381	577	337
Retail Trade	2,508	3,492	3,072	3,149
Transportation & Warehousing	393	343	343	356
Information	428	401	423	411
Finance & Insurance	617	582	599	597
Real Estate	193	192	221	215
Professional & Tech Support	646	602	701	738
Administrative Services	543	867	832	783
Health Care & Social Services	3,824	4,024	4,302	4,524
Arts & Recreation	1,016	965	866	870
Accommodations & Food Serv	2,045	2,176	2,389	2,543
Agriculture	13	14	19	23
Management of Companies	476	-	-	568
Educational Services	44	49	49	95
Other	641	638	638	690

Source: Executive Office of Labor and Workforce Development

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

Table 10

Changes in Manufacturing and Non-Manufacturing Sectors			
	1990	2000	% Change
Manufacturing	1,856	1,500	-19.2%
Non-manufacturing	11,782	14,378	22.0%
Government	2,416	3,041	25.9%
Total	16,054	18,919	17.8%
Source: Old Colony Planning Council and Mass. Dept. of Employment & Training			

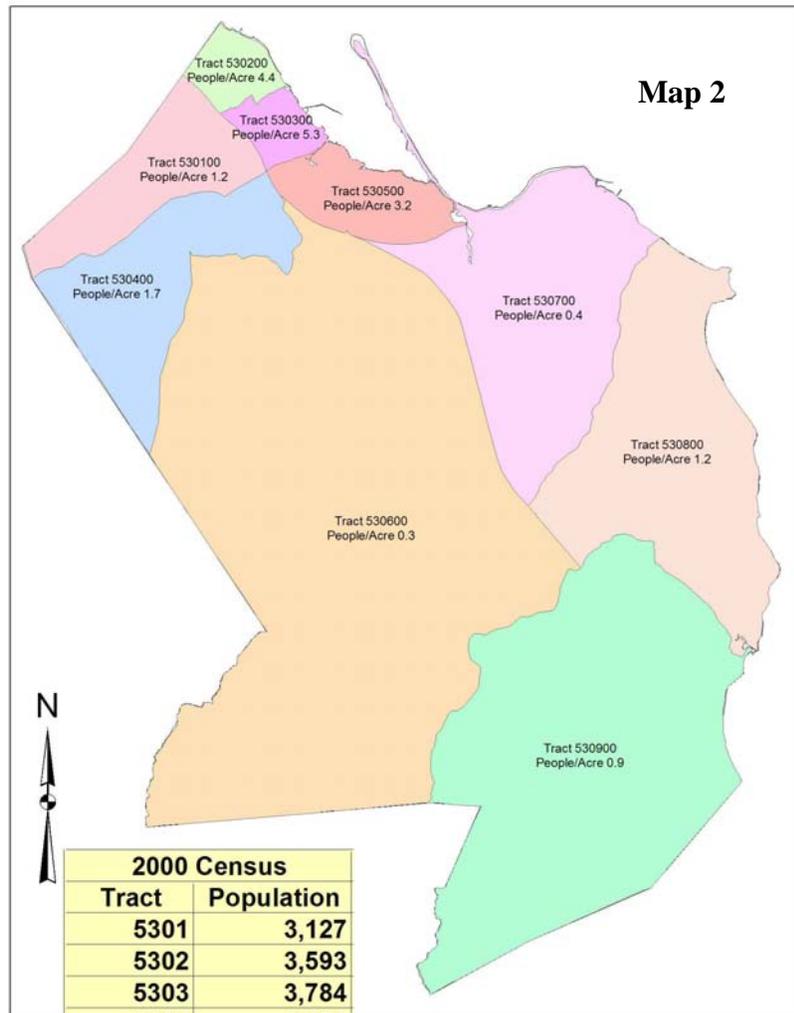
As shown in **Table 11**, Plymouth saw increases in all employment occupations with Management and Professional occupations and Sales and Office occupations seeing the greatest increase. At 0.4% Farming, Fishing & Forestry occupations saw the smallest increases.

Table 11

Occupation of Residents			
	1980	1990	2000
Employed Persons	13,127	21,921	25,854
Management, Professional & Related Occ	3,719	5,864	9,081
% Change	28.3%	26.8%	35.1%
Service Occupations	1,835	3,107	3,853
% Change	14.0%	14.2%	14.9%
Sales and Office Occupations	4,783	7,839	7,357
% Change	36.4%	35.8%	28.5%
Farming, Fishing & Forestry Occupations	171	327	97
% Change	1.3%	1.5%	0.4%
Construction, Extraction & Maintenance Occ	545	1,410	2,999
% Change	4.2%	6.4%	11.6%
Production, Transport. & Moving Occupations	2,074	3,374	2,467
% Change	15.8%	15.4%	9.5%

Source: Executive Office of Labor and Workforce Development

Plymouth has an overall population density of 501 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 second highest density at 3.2 people per acre. At 1.7 and 1.2 people per acre the West Plymouth Tracts (5304 and 5301) represents the third 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 0.3 people per acres.



2000 Census	
Tract	Population
5301	3,127
5302	3,593
5303	3,784
5304	6,151
5305	5,779
5306	6,295
5307	2,699
5308	8,855
5309	11,418
Total	51,701

U.S. Census Tracts

Planning & Development

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There are three Environmental Justice areas (**Table 12 and Map 3**) in Plymouth. Two are located in North Plymouth and the third is located adjacent to Exit 5 of Route 3.

Table 12

Census Id	Total Population	Environmental Justice Areas			
		Foreign Born	Income	Minority	English Language
Threshold	NA	Over 25%	< \$30,515	Over 25%	Below 75%
235302001	835	8.3%	\$23,409	4.3%	92.7%
235303002	555	4.6%	\$24,444	10.6%	97.5%
235306001	3362	7.1%	\$70,735	25.1%	100%

Area 235306001 includes Census Block 1002 in Tract 5306. The Plymouth County Correctional Facility is the only facility/place of habitation in that Block. According to the 2000 U.S. census, the total correctional facility population was 1,378 with 827 minority inmates. The area's remaining population is 1,984 with a minority population of 18 or 0.9%. The Town does not address Environmental Justice issues related to people incarcerated at the correctional facility.

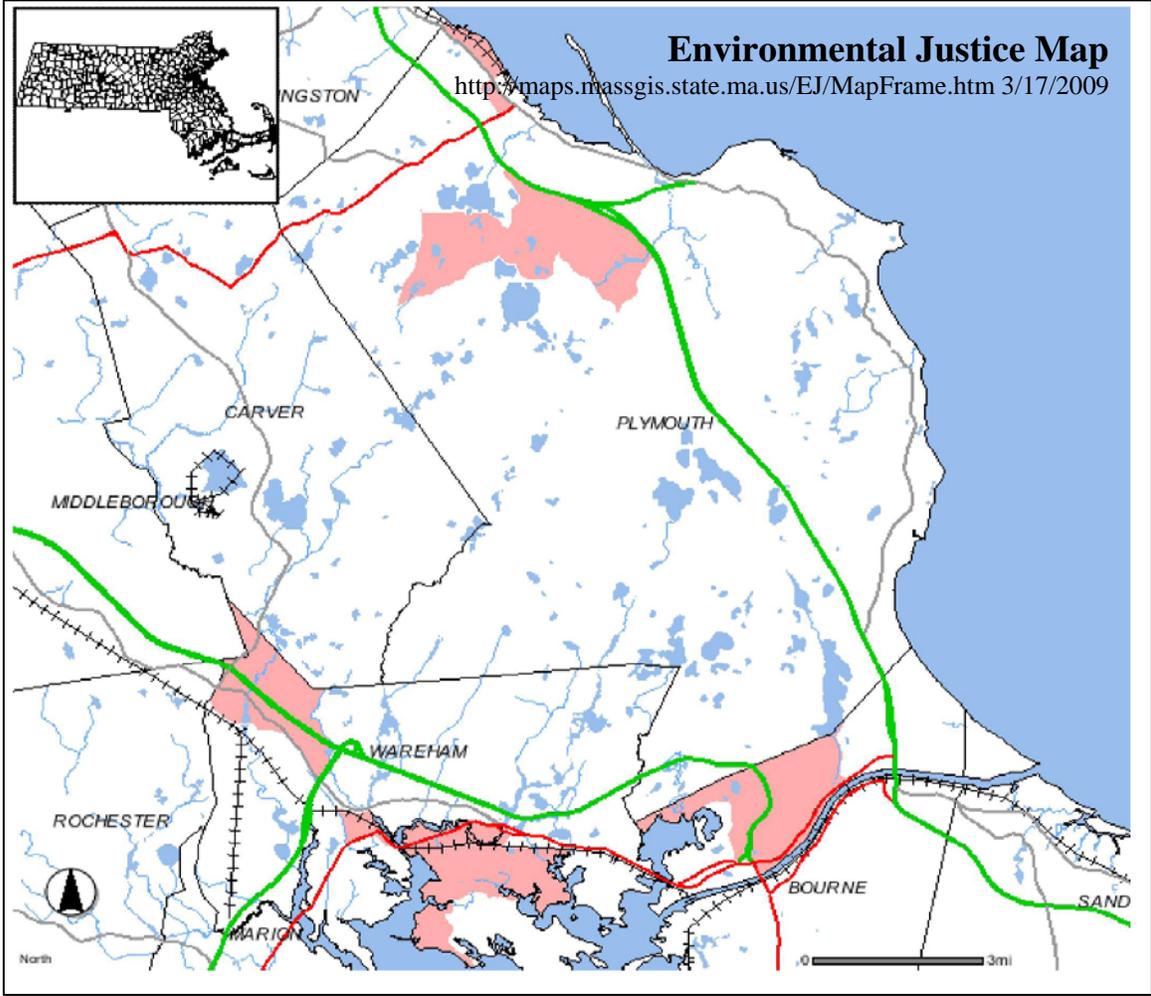
The remaining two Environmental Justice Areas (**Table 13**) are areas with household incomes that are 65% of the statewide median of \$46,947. The Plymouth Housing Authority maintains four developments for lower income families in these to areas with a total of 253 units. The residents living in these units are a significant reason for the Environmental Justice designation.

Table 13

Environmental Justice Areas			
Plymouth Housing Authority			
Census Id	Name	Location	Units
235302001	High Cliff Apartments	23 Prince Street	82
235302001	Castle Hill Elderly	Castle Court	50
235303002	Olmstead Terrace	Olmstead Terrace	40
235303002	Cherry Hill Elderly	Court Street	81

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Map 3



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%. Plymouth had 18,606 residents in 1970 and 51,701 residents by 2000. Based on current trends, regional planning agencies forecast continuing high growth for at least 15-20 years. With residential parcels increasing at an average rate of 276 per year between 1998 and 2003, housing growth and values have outpaced business growth and values. The result is an ever-increasing tax burden for single-family homeowners of 5% per year since 1998. **(Maps 4 and 5).**

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 smarter 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" 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 relates more to infrastructure extension and maintenance costs.

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 Rural Residential Development and Recreational Development special permits to allow for 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

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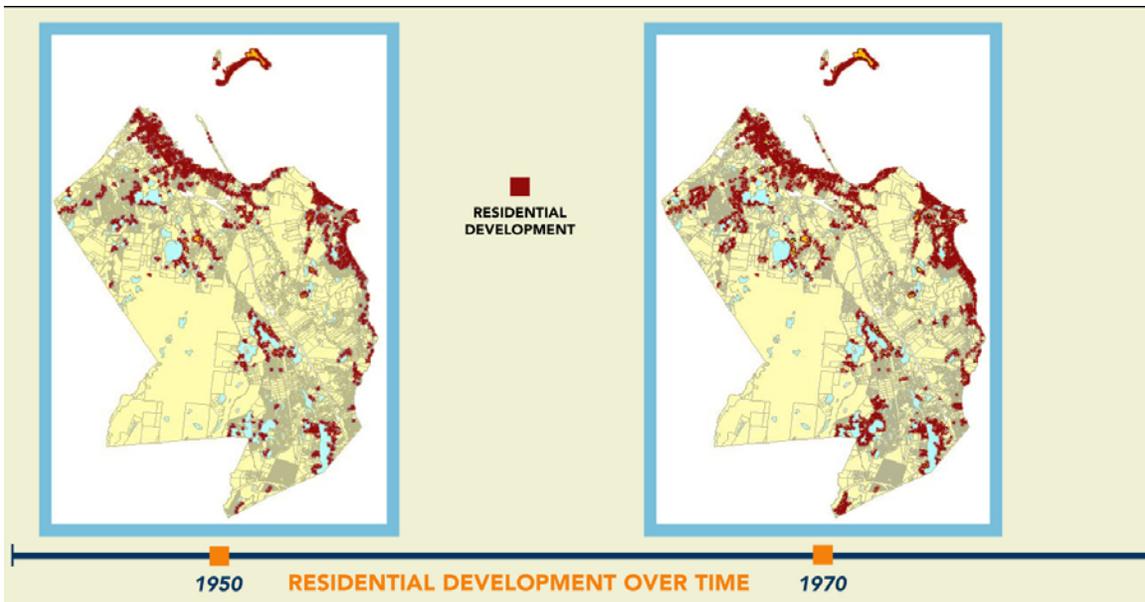
cap, limiting residential permits to 155 annually.

However, these land use policies have been less effective than hoped. Since 1980:

- Most of the new housing constructed in Plymouth has been single family homes;
- Fifty eight percent (58%) of all single family homes have been built outside of the villages;
- Eighty-two percent (82%) of single family homes have been built in large lot zoning districts;
- Average land consumption per single family unit has almost doubled from an average lot size of 0.6 acre to 1.0 acre; and
- Average lot size has grown to 0.7 acre within the villages and 1.26 acres in the rural areas.

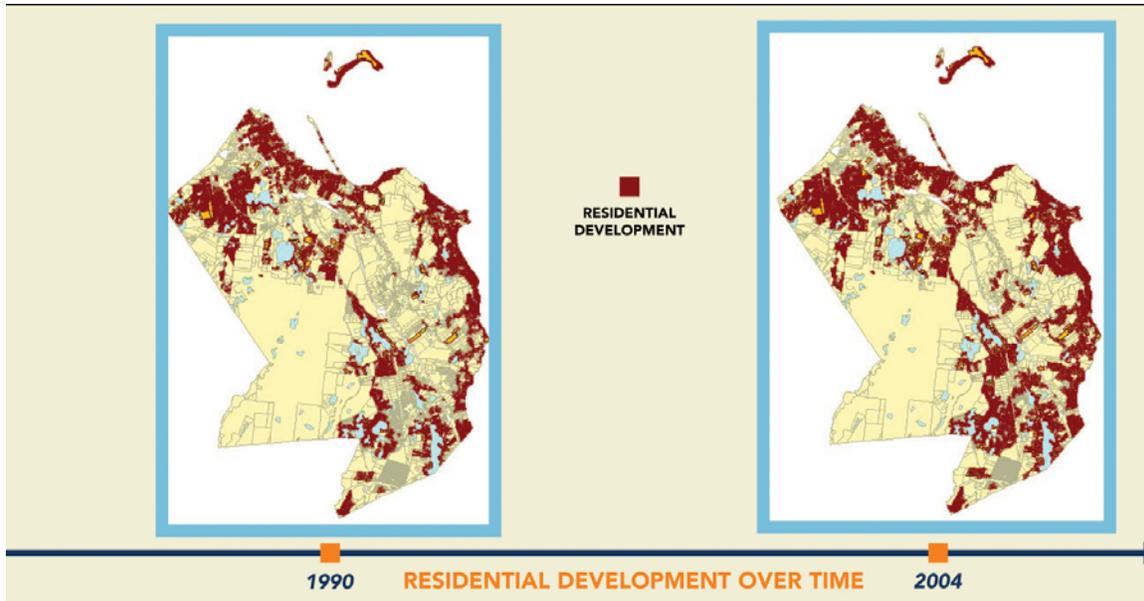
As housing development has spread outward from the Boston area, Plymouth's combination of beaches, open space, developable land, and relatively affordable housing prices have put the town near the top of the list in the number of new housing units produced in Massachusetts cities and towns.

Map 4



Map 5

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Infrastructure

Plymouth has over 500 miles of roadway. Forty percent of roads are Town-owned, 40% are private, and 20% are State-owned. Plymouth owns approximately 194 miles of paved roads and 20 miles of gravel and stone roads. Outside of Plymouth Center and North Plymouth few roads have sidewalks.

Approximately 22 miles of road are listed as in poor condition and 41 miles are in fair condition, with the remainder of roads being in good or very good condition. Every year, twenty percent of Plymouth's roads are supposed to be re-inspected in order to keep the Pavement Management System (OMS) current. However, there have been no updates since the original 1999 evaluation.

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 has approved and funded a 5-year Road, Bridge, and Sidewalk Improvement Initiative. Plymouth is spending \$2 million per year on infrastructure upgrades, using \$1.3 million in Town funds and \$.7 million in State Chapter 90 funds.

Dams on Town Brook were analyzed and one dam has been removed. Other town dams are generally sound and will be left in place for now.

The town continues to follow the recommendations of the Water Supply Master Plan prepared by Amory Engineers, last updated in 1995. The Water Plan projects the need for additional wells and pumps to meet the expected water demand through 2010.

The Sewer Division operates and maintains the Town's sewer collection and treatment

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infrastructure. Plymouth has 50 miles of sewer mains that collect and transport sewage to the new treatment plant behind the Camelot Drive Industrial Park. The Town's bonded investment in the current system, including the plant, is between \$40 and \$50 million. The users of the system—approximately 3,000 accounts—are largely retiring this debt along with funding daily operations. 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 Jordan Hospital, and west along Long Pond Road to PCIS.

There are eight 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.
- White Cliffs
- Marc Drive
- Ocean Point, Taylor Avenue
- Marriot Assisted Living Center, Warren Avenue
- Plymouth Municipal Airport—This system is designed for 40,000 gallons per day.
- Entergy Power Plant

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.

Long-term Development Patterns

Existing Distribution of Uses

Plymouth has 65,920 acres of land, including surface water and road rights-of-way. Twenty-nine percent (29%) is developed. Of that, twenty-one percent (21%) is residential, just over 4% is commercial and industrial, and 4% is occupied by nonprofit uses. Seventy-one percent (71%) of Plymouth is undeveloped. Thirty-eight percent of Plymouth land is publicly-owned property and protected open space. Myles Standish State Forest, a 12,500-acre park owned by the Commonwealth of Massachusetts, represents about half of the publicly-owned property. Twenty-three percent 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 12% of town land is vacant. Of this land, 8.8% 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 sprawl-style housing.

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The town's zoning (**Map 6**) 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 and Highway Commercial Districts to 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 700 acres with 200 acres of vacant land 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.

Map 6 – Zoning Map

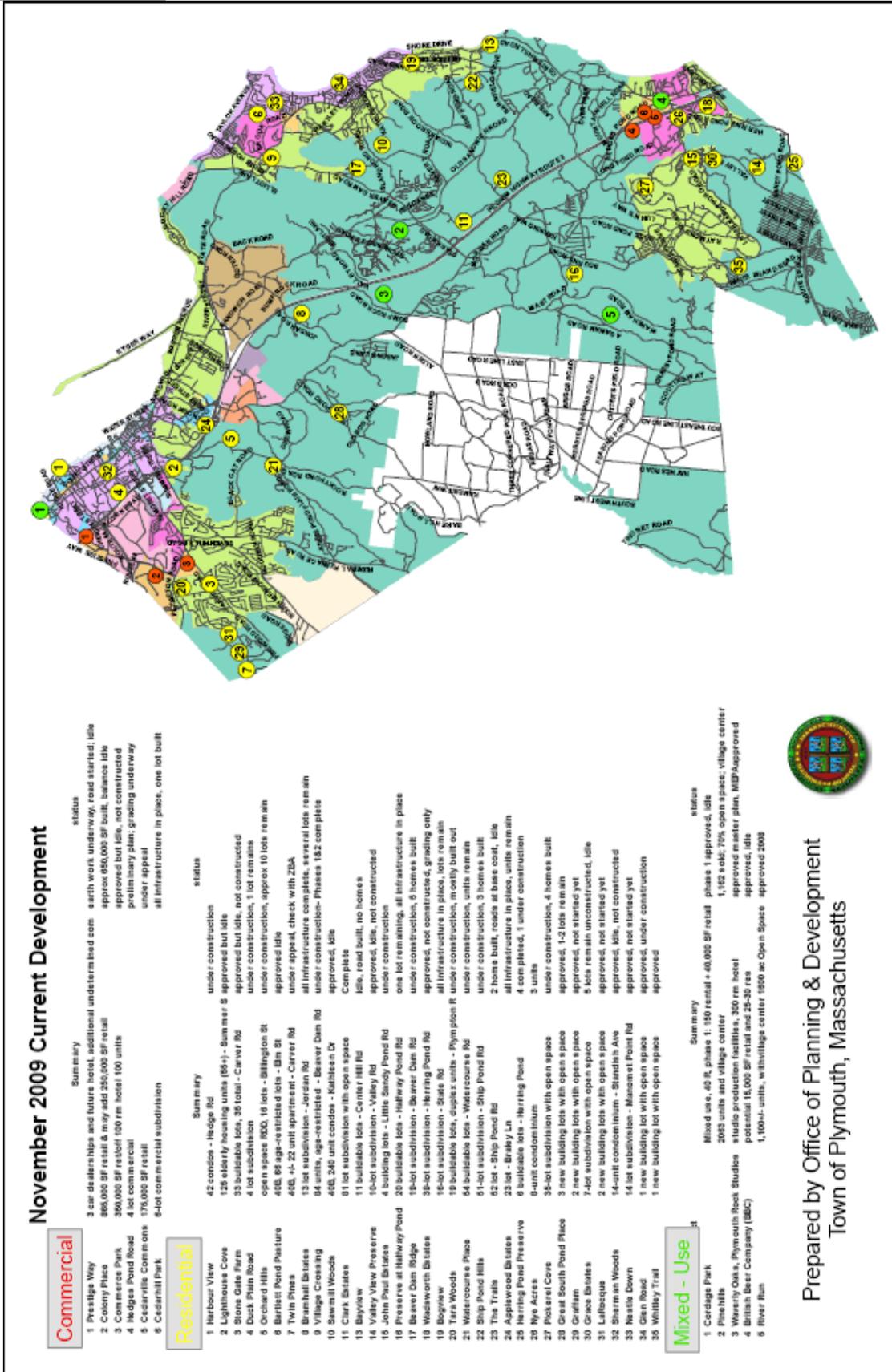
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Since 1980, 82% of detached single family construction has occurred within the R-25 and R-40 zones. Without significant zoning changes, single family detached housing is likely to continue to dominate the Plymouth landscape. There are currently over 22,000 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 (**see Map 7**).

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

- Growth rate controls;
- 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); and
- Miscellaneous regulations to limit specific uses, such as telecommunications towers, adult uses, lighting intrusion into the night sky, etc.

Map 7



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

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Between 2000 and 2002, Plymouth issued more permits for single family houses than all but one other Massachusetts community. The Massachusetts Executive Office of Environmental Affairs estimates that, if current trends continue, Plymouth's population will grow from 51,701 people in 2000 to 67,778 in 2020. Assuming that Plymouth's average household size remains the same (2.67 people per household), Plymouth will build nearly 7,000 new housing units between 2000 and 2020.

Land Available for Development

Plymouth has a significant amount of open land 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 in 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, but unless these properties are permanently protected, they could be converted to residential use. Land farmed by cranberry farmers presents a particular challenge because fluctuating prices for cranberry crops have put intense economic pressure on growers to sell their land. For example, one of the largest cranberry producers in Plymouth, A.D. Makepeace, may develop its 3,600 acres of land. All of this Makepeace property is located in the Rural Residential District and some of it is in the most remote section of Plymouth where no public services exist.

Over the past 15 years, an average of 127 residentially-zoned parcels have been lost to development each year. A portion of this land is fragile pine barren country. More sprawling development could 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. The globally-rare coastal plain pond ecosystems could be permanently damaged by development impacts.

The Future: Sprawl or Smart Growth

Sprawl is a development pattern which 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

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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 more costly 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. Smarter growth preserves Plymouth's open spaces, facilitates greater diversity of transportation and housing options, and encourages 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 up 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.

EOEA BUILDOUT ANALYSIS

In the late nineties, the Massachusetts Executive Office of Environmental Affairs (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 all of these areas have statutory development restrictions, the EOEA estimate of developable property is somewhat overstated. A copy of the build-out analysis is below.

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

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with 2000 Census and other data to create a profile of each community at buildout according to its current zoning (**Tables 14 and 15**).

Table 14
DEMOGRAPHIC PROJECTIONS

RESIDENTS

1990	45,608
Current	51,701
Buildout	105,424

STUDENTS (K-12)

1990	7,672
Current	8,726
Buildout	17,680

RESIDENTIAL UNITS

1990	15,875
Current	21,250
Buildout	41,147

WATER USE (gallons/day)

Current	5,037,482
Buildout	12,250,544

Table 15
BUILDOUT IMPACTS

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
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 Executive Office of Environmental Affairs, 28,668 are located in 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

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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.

The additional water demand for just residential use (4.03 million gallons per day) would mean nearly doubling the number or capacity of supply wells currently serving the town.

Many of the potentially-developable properties are environmentally-sensitive lands which Plymouth must protect in order to maintain water quality, preserve natural habitats, and avoid forest fragmentation. The Rural Residential District, in particular, has a significant amount of priority protection land which is vulnerable to development.

Village Center Summaries

North Plymouth Center

With respect to the 2004 Open Space and Recreation Plan, the most significant change is the proposed Seaport at Cordage Park development, which utilizes the new 40R zoning to allow for higher density transit-oriented 'smart growth.' Phase I of this development has been permitted, but construction has not yet begun due to the recent economic crisis. The waterfront portion of the project is still under review by permitting agencies. The entire development is located on approximately 56 acres in North Plymouth on the waterfront at the railroad station, and includes: 675 dwelling units, 33,500 SF of retail, 180 seat restaurant, 4,000 SF clubhouse, 21,000 SF of office, and a 300 slip marina. An important feature of the Seaport project is the creation of a public access trail (such as a boardwalk) along the waterfront. This site directly links to the Seaside Trail (rail trail) which has been completed since the 2004 Open Space Plan. Future extensions are being explored to continue the Seaside Trail to the downtown. A grant was received from the Commonwealth this year to upgrade the Nelson Street Park area, (located in both Plymouth Center and North Plymouth) and these improvements are in the planning stages.

Plymouth Center

With respect to the *2004 Open Space and Recreation Plan*, no significant changes to development have occurred. Stephen's Field was designated as open space and recreation land by the Board of Selectmen and Town Meeting. Restoration efforts along Town Brook, including a comprehensive renovation of Brewster Gardens, removal of a dam (that was a herring obstruction), reconstruction of a fish passage at the Jenney Pond Gristmill, and improvements to the stream flow characteristics for habitat have all been successfully undertaken. Significant planning efforts have been undertaken. A grant was received from the Commonwealth this year to upgrade the Nelson Street Park area, (located in both Plymouth Center and North Plymouth) and these improvements are in the planning stages.

In 2005 Town Meeting approved funding for a new high school (to replace the aging

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structure) at Plymouth North High School on Obery Street. Plymouth is working closely with the Massachusetts School Building Authority to include a new Senior Center at this location, which is part of the plans laid out by the Town.

Stephens Field, through the Town of Plymouth, is currently being studied by a class at the Conway School of Landscape Design to evaluate alternative recreational master plan strategies. Although identified in the Plymouth Public Space Action Plan as a potential site for mixed use, Town Meeting since voted to maintain Stephens Field as a recreational facility only. This recreational use will expand into the old DPW barn and parking lot located immediately east of the existing recreational area and playgrounds, as DPW has relocated to a new facility.

Plymouth Public Space Action Plan: The Town of Plymouth is the largest (103 square miles) in the Commonwealth. The community recognizes the need to focus on the historic waterfront, where features of national historic significance are a key feature of the community. 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 eras.

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.

Manomet

With respect to the ***2004 Open Space and Recreation Plan***, no significant changes to development patterns have occurred. The Town continues to discuss opportunities for land preservation by large property owners surrounding the village areas for conservation and recreation purposes. Over 760 acres of land immediately west of Manomet, the "Briggs" property, is going into permanent conservation through the EOEEA Challenge Grant before July 1 of 2009, consistent with the 1990 ***Manomet Village Master Plan***.

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Cedarville

With respect to the *2004 Open Space and Recreation Plan*, the Town, through Community Preservation Committee funding, recently acquired the 112-acre Hedges Pond Preserve, the first significant preserve located in the Cedarville Village area. Master planning is currently underway (using professional consultants, funded by Community Preservation Act funds) for potential active recreational uses, including: a summer day camp, basketball courts, swimming beach and limited ball fields on a small portion of the property, with passive recreation on the majority of the parcel.

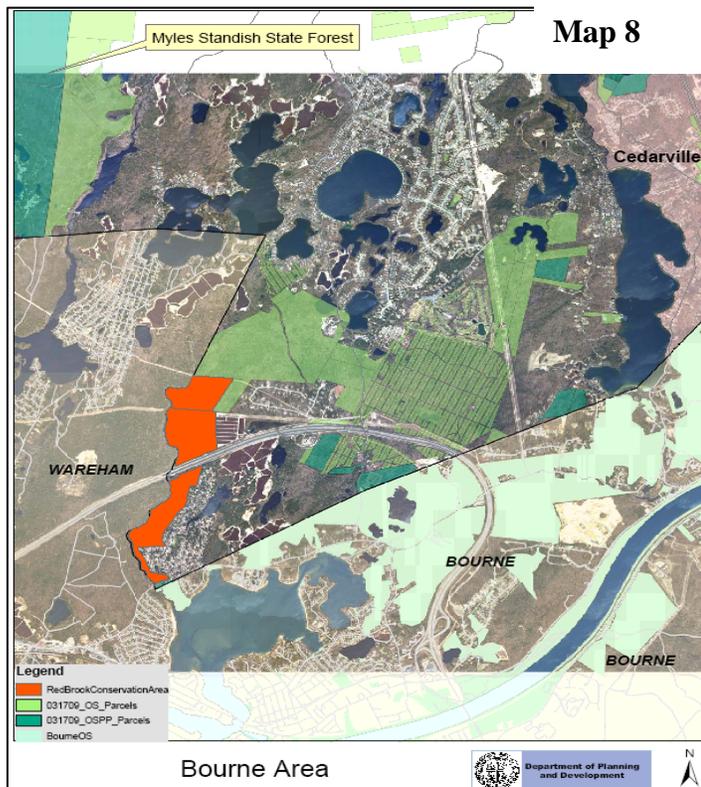
West Plymouth

With respect to the *2004 Open Space and Recreation Plan*, no significant changes to development patterns have occurred. The *1993 West Plymouth Village Center Plan* (p. 22) includes linking of public and privately owned open space and supporting/investing in pedestrian hiking trails and outdoor recreational facilities, including new land acquisition for same. 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 a village green and recreational fields, also identified needs in the Village Center Plan.

Rural Area Summaries

Bourne Road Area

With respect to the *2004 Open Space and Recreation Plan*, the most significant change is the permitting of the A.D. Makepeace ‘River Run’ project, which is not yet under construction. River Run covers an estimated 959 acres of south central Plymouth, and a new village will be created through the use of creative zoning which allows development to occur in a clustered fashion, allowing up to 1,175 new dwelling units with 60,000 SF of commercial, with a minimum of 390 acres and an estimated 1,600 acres of preserved endangered species habitat/conservation land with walking trails connecting Myles Standish State Forest to the Red Brook Conservation area through the potential for additional trails



ADOPTED JUNE 23, 2009

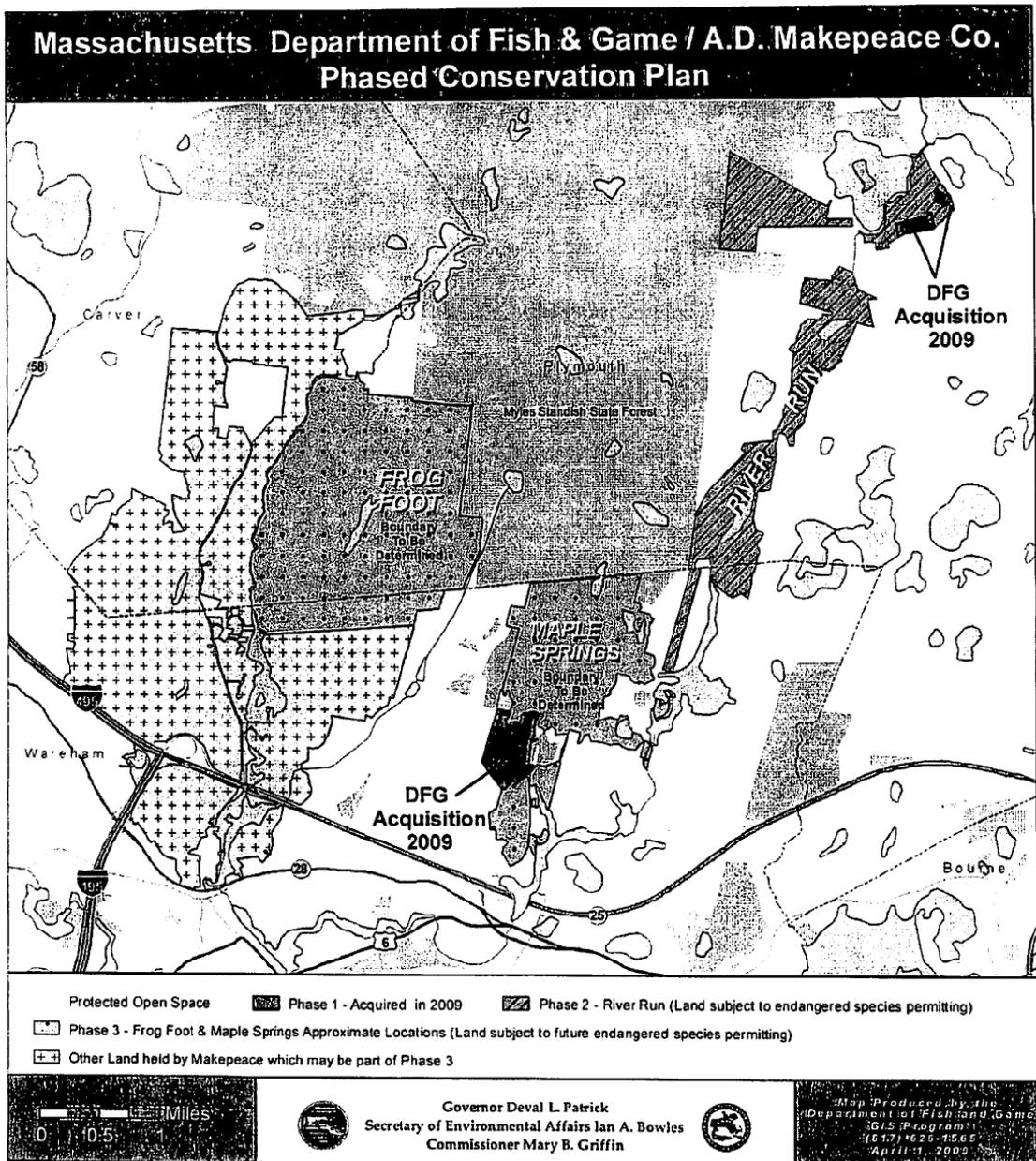
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across land of A.D. Makepeace and the Wareham Land Trust in abutting town of Wareham. The State has acquired the Red Brook Conservation Area in this region of Plymouth (Map 8).

Please see the following map of the State's recent land deal with the A.D. Makepeace Company in April of 2009 (Map 9).

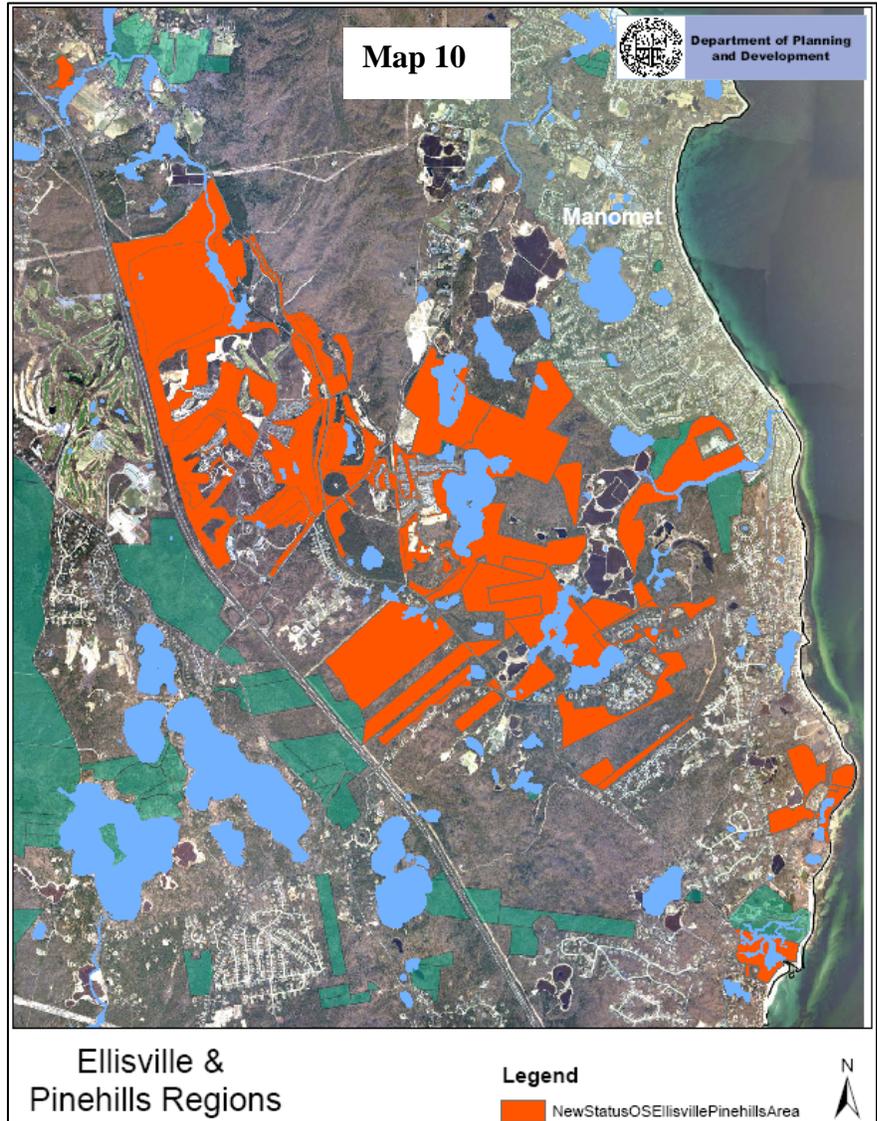
Additionally, several parcels were preserved north of Mountain Hill Road adjacent to other conservation land through a special permit process. In the past few years, the Ponds at Plymouth subdivision was completed (although approved in the late 1980s); approximately 350 homes were constructed and occupied in the last ten years.

Map 9



Ellisville Area

With respect to the *2004 Open Space and Recreation Plan*, the final negotiations through the Challenge Grant to place a CR on more than 760 acres on the former Briggs land are underway. 188 acres of Town-owned land was placed into permanent conservation just west of this property, and Town Meeting with funding from the Community Preservation Act and the Challenge Grant, acquired some significant property along Ship Pond Road and Old Sandwich Road immediately south of this land (adjacent to property of The Wildlands Trust of Southeastern Massachusetts, a local land trust). All of this land was identified in the *ENSR Plan*. The Center Hill Preserve, identified by the ENSR plan as Priority No. 10 including additional acreage, was purchased through Town Meeting supported by a significant effort of the Community Preservation Committee, with funding support from the federal level (**Map 10**).



Pine Hills Area

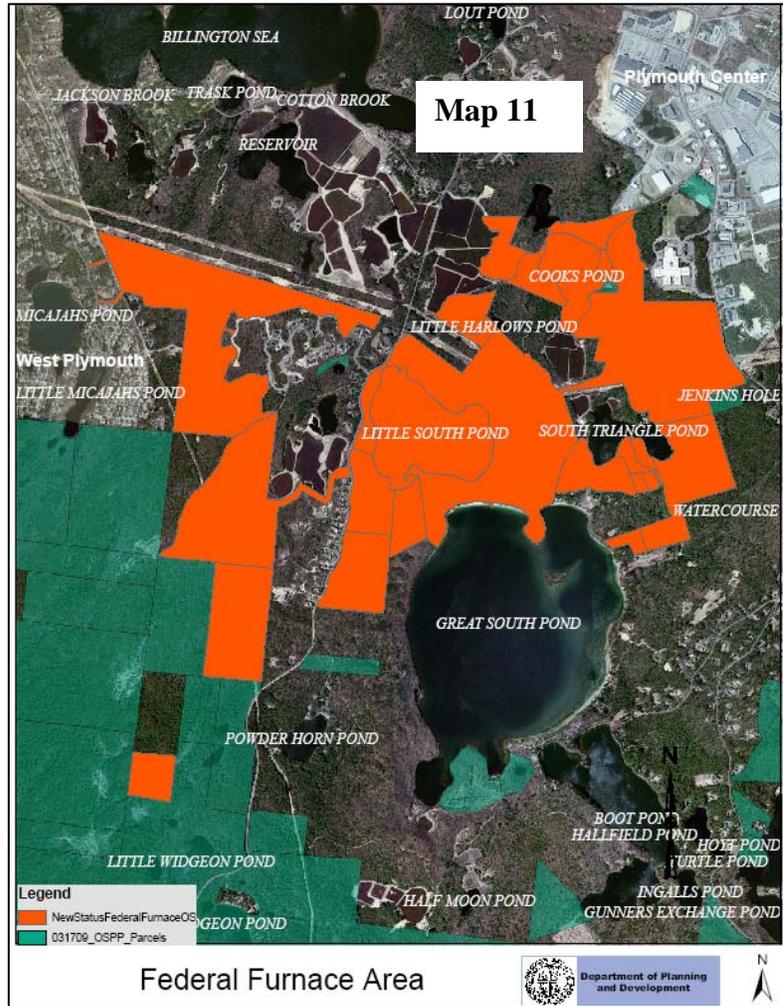
With respect to the *2004 Open Space and Recreation Plan*, the Pinehills Community, as it is being constructed (1,145 dwellings have been constructed as of January 2009), has set aside a significant percentage of land as permanent open space, currently 1,242 acres (as of September 2008). The 200-acre parcel identified as Priority Site No. 1 in the *ENSR Plan* was also set aside as conservation land as part of this project. Since the 2004 plan, the Pinehills acquired and preserved the 42-acre Priority Site No. 7 in the *ENSR Plan* (the remaining 300+ acres are already part of the Pinehills Community and are earmarked as part of a future preserve area in keeping with the *ENSR Plan* Priority Site No. 2). The Boston Edison land, which had been used as a recreational area, is now off

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limits to the greater public due to the unfortunate security concerns in the aftermath of the 2001 terrorist attack; however, the land remains wooded and serves as a wildlife corridor. A significant piece of the 'Hayden Pond' land identified in the *ENSR Plan* (adjacent to Hayden Pond) was acquired by the Town for conservation in 2008 using Challenge Grant funds (**Map 10**).

Federal Furnace Area

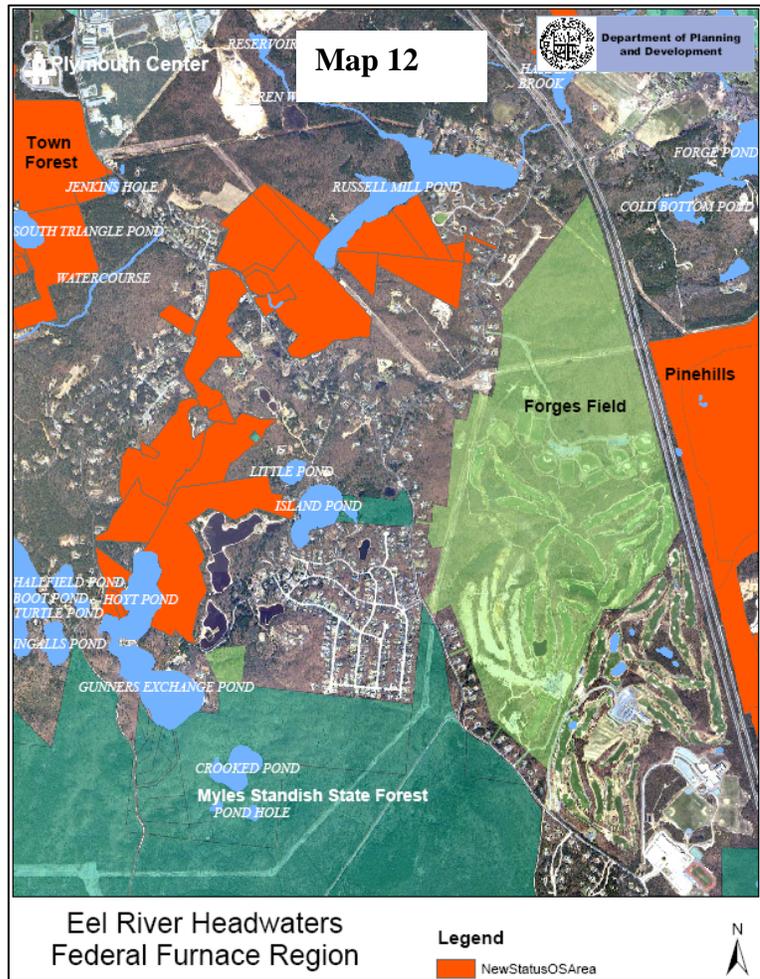
With respect to the *2004 Open Space and Recreation Plan*, several open space and conservation activities have occurred. The Town Forest has been placed into permanent conservation through a CR as part of the Challenge Grant (296 acres of forested land with priority habitat). In 2004, Town Meeting transferred several tax title lands adjacent to Myles Standish State Forest to the care and custody of the Conservation Commission. Approximately 188 acres of land adjacent to existing conservation property was transferred to the Conservation Commission as the result of a private development (adjacent to the former Kappell bogs which were purchased with funds from the Challenge Grant in prior years). A small portion of tax title land adjacent to Town Forest was conveyed to the MassFWS for permanent conservation (**Map 11**).



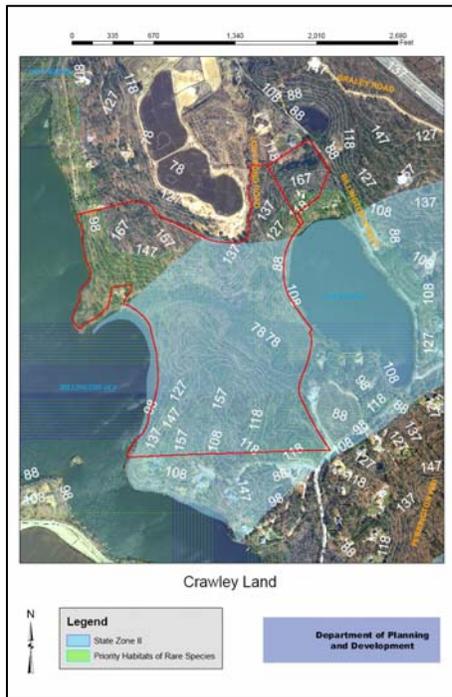
The Town, with funding through the Community Preservation Act, in tandem with the Nature Conservancy, preserved the Eel River Headwaters through a series of acquisitions and conservation restrictions. The Town received approximately \$2 million in grant funding from state, federal and local agencies to design a restoration project for this area, currently in the permitting stages, which will also link this land to the Russell-Mill Preserve on the opposite side of Long Pond Road (also part of the *ENSR Plan*, Priority No. 6). Significant portions of the Russell-Mill Preserve were recently placed under a state-held Conservation Restriction. In total, approximately 400 acres are preserved.

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The possibility of a movie studio is being explored by Town and state officials (sited between Plymouth South High School and Forges Field on the Waverly Oaks Golf Course). If this project is constructed, a trail connecting the Plymouth South middle and high schools to Forges Field, and a possible overpass improvement at Clark Road are part of the improvements anticipated by the project.² (Map 12)



Map 13



The town recently acquired a 70-acre parcel between Lout Pond and Billington Sea with State assistance from Mass Fish and Wildlife, Challenge Grant, and LAND funds (Map 13).

²2004 Plymouth Open Space and Recreation Plan, p. 76.

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 about 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:

A. 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.

B. 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 kettlehole depressions. Cranberry bogs can often be found in these kettlehole areas.

C. 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

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

D. 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.

E. The Dune land-Coastal beach association occupies slightly more than one percent of the Town. Nearly all of these areas are coastal beaches. These areas are constantly shifting due to wave action.

F. The Essex-Scituate association also occupies approximately one percent of the Town. These soils are stony, bouldery, 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 21 miles of coastline. A large portion of the coastline is not accessible to the majority of Plymouth residents 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 in Plymouth. Cranberry bogs provide important ecological, economic, and historic benefits to the Town. The

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prevalence of cranberry farming is a significant reason why Plymouth retains its rural character, and the downturn of the cranberry industry presents potential new threats to this rural character.

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 redirected to the new sewage treatment plant and is ultimately treated and discharged into the headwaters of the Eel River. The recharge of the groundwater is an important concept in Plymouth because the numerous kettle ponds and freshwater wetland resources depend on groundwater in order 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 in order 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.

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The Town's 1991 Water Systems Master Plan (prepared by Amory Engineers, P.C.) outlines an ambitious schedule of system improvements. The development of several new well fields is included in the plan. Land acquisitions for these wells are an important component to meeting the future water supply needs of the Town. Wells in Darby Pond, Ellisville and others have been established since 1996.

Harbors, Estuaries & Cape Cod Bay

Plymouth has approximately 21 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. 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 shellfishing boats, as well as a base for significant private recreational boating. It is also the focus of much of Plymouth's tourism industry.

The water quality in Plymouth Harbor and Plymouth Bay is poor due to high pathogen levels from stormwater runoff, a history of a failing sewage treatment plant (which is no longer located adjacent to Plymouth Harbor) and possibly failing septic system discharges. These water bodies are the subject of ongoing efforts by the Town to improve sewage treatment, and better manage and treat stormwater runoff from the urbanized areas. The recent move of the wastewater treatment plant should help to improve water quality, and the Town has been aggressively proactive in mitigating stormwater runoff impacts.

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 2002, 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.

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Table 16: Impaired Water Bodies in Plymouth Requiring a TMDL	
Water Body	Pollutant(s) Causing Impairment
White Island Pond	Nutrients Organic Enrichment/Low Dissolved Oxygen Noxious Aquatic Plants (Exotic Species)
Billington Sea	Noxious Aquatic Plants Turbidity
Russell Millpond	Noxious Aquatic Plants
Great Herring Pond	Metals
Plymouth Harbor	Pathogens
Plymouth Bay	Pathogens

Ponds and Lakes

The Town of Plymouth has been blessed with 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 343 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 (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. A recent 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).

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In the 1996 Open Space & Recreation Plan (which utilized research completed by the Environmental Technical Team for the Plymouth Natural Resource Program), streams, ponds and lakes with the best potential for recreation were identified. Based on the "Criteria for Resource Development," water bodies were identified that were most suited for boating, fishing, swimming, environmental study and wildlife propagation. Water bodies designated as best for recreation are listed in Appendix A, although ponds from the 1996 Open Space and Recreation Plan that are known to be coastal plain ponds have been deleted in the 2003 update.

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 14**).

Eel River Watershed

The Eel River watershed is located in central coastal Plymouth, extending through the Pine Hills region and northwesterly in the Federal Furnace rural area to the Camelot Industrial Park. The headwaters include Little South Pond, Great South Pond, Boot Pond, Hoyts Pond, Gunners Exchange Pond, Russell Millpond, and Forges Pond. Many of the westerly ponds are not connected through surface water connections, but rather through groundwater flow. The river flows past Plimoth Plantation and empties into Cape Cod Bay in the Long Beach area.

This watershed is of significant interest to the Town, as the new wastewater treatment plant is located here. The Town's unique discharge permit requires a watershed-wide nutrient management plan, currently being developed by Camp, Dresser & McKee. The Eel River Watershed Association is actively working on outreach, with cooperation from the Town and The Pinehills (OSMUD community). Water quality monitoring, mapping, outreach and source reductions are some of the goals of these efforts. The Manomet Center for Environmental Science is also undertaking an ecological assessment of this watershed, and the Eel River was recently selected for in-stream flow monitoring through a grant from the state. Private non-profit land trusts have made significant steps to protect several of the watershed's cranberry bogs in the past year.

Beaver Dam Brook Watershed

The Beaver Dam Brook watershed is located in the Manomet section of Plymouth. Its headwaters include Presidents Pond, Warner Pond (Wannos Pond), Fresh Pond, Beaver Dam Pond, and Long Island Pond. The brook flows into Bartlett Pond at Manomet and empties into Cape Cod Bay at

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White Horse Beach. Much of this watershed is developed with residential single-family homes, although some town conservation land and private Chapter 61 land is located in the headwaters.

Indian Brook Watershed

The Indian Brook Watershed is located in the southern section of Manomet. Its headwaters include Morey Hole, Briggs Reservoir, 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 starts from its headwaters in Billington Sea. Despite the presence of seven dams, restoration efforts have restored the historic run of spawning alewife to significant levels. Jenney Mill Pond represents a significant recreational attraction in Plymouth Center, and the trail along Town Brook connecting Jenney Pond to Brewster Gardens receives considerable usage. The recent dam removal project was a major partnership between town, state and federal government agencies. Near the mouth of the river, a major renovation of Brewster Gardens will include enhancements to the river habitat for the anadromous fish run located in Town Brook.

Herring River Watershed

The Herring River upper watershed is located in southern Plymouth. Its headwaters include Little and Great Herring Ponds. The 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 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

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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 located in western Plymouth. Its headwaters include Federal Pond and several ponds in the Town of Carver. It 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.

Map 14 – Open Space Subwatershed Map

Flood Hazard Areas

The Town of Plymouth's flood hazard areas are currently being mapped by ENSR through a contract with the Federal Emergency Management Agency. A town-wide Flood Management Plan was adopted in 1998, which identifies frequent flooding areas, and Flood Insurance Rate Maps are used to identify flood hazard areas in the zoning bylaw. The most significant impacts to the Town are primarily from coastal storms, as well as coastal bluff erosion. The Town of Plymouth has a Flood Management Plan regarding these areas and implementation steps to address areas of concern.

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 (**Table 17**). Its 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 20 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 has a Shade Tree Bylaw, which was adopted by 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 Share Tree Bylaw:

§ 162-2. Protection of trees.

A. Public shade trees; definition

All trees within a public way or on the boundaries thereof, including trees planted in

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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.

B. Powers of the tree warden

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	Conioselinum chinense	Hemlock Parsley	SC		1800s
PLYMOUTH	Vascular Plant	Corema conradii	Broom Crowberry	SC		2002
PLYMOUTH	Vascular Plant	Crocianthemum dumosum	Bushy Rockrose	SC		1983
PLYMOUTH	Vascular Plant	Dichantheium wrightianum	Wright's Panic-grass	SC		1990
PLYMOUTH	Vascular Plant	Eupatorium novae-angliae	New England Boneset	E		2008
PLYMOUTH	Vascular Plant	Isoetes acadensis	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

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Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
PLYMOUTH	Vascular Plant	<i>Linum intercursum</i>	Sandplain Flax	SC		1928
PLYMOUTH	Vascular Plant	<i>Lipocarpa micrantha</i>	Dwarf Bulrush	T		1986
PLYMOUTH	Vascular Plant	<i>Mertensia maritima</i>	Oysterleaf	E		1857
PLYMOUTH	Vascular Plant	<i>Myriophyllum pinnatum</i>	Pinnate Water-milfoil	SC		1910
PLYMOUTH	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T		1983
PLYMOUTH	Vascular Plant	<i>Polygonum puritanorum</i>	Pondshore Knotweed	SC		1988
PLYMOUTH	Vascular Plant	<i>Potamogeton confervoides</i>	Algae-like Pondweed	T		1974
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>Rhynchospora torreyana</i>	Torrey's Beak-sedge	E		1989
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>Spartina cynosuroides</i>	Salt Reedgrass	T		1929
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

When thinking of Plymouth forests, many think of the 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

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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 as a result of 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, most of which is 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 15 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. Obviously these conversions have significant impacts to the wildlife values of the extensive cranberry ownership in Plymouth.

Wetland Vegetation

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.

Map 16 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 marshlands north of Great Herring Pond; in salt marshes in Ellisville Harbor; and in marshy areas between White Island Pond and Fawn Ponds. Other larger wetlands occur

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in the Indian Brook watershed and on the shores of Plymouth Harbor.

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 10 have been certified in Plymouth. The town should pursue the certification of as many vernal pools as can be accomplished. Some of the most successful communities have utilized teachers and students to certify vernal pools. A map of potential vernal pools is included in the Unique Resources Map (**Map 17**).

Map 15 – Soils and Geologic Features

Map 16 – Town Wide Wetlands

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Map 17 – NHESP layers Updated from 2004 plan

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 animals. 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 Parks and Recreation 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. The herring runs (such as Great Herring Pond), and five anadromous fish runs (such as the Eel River and Town Brook), are critical in supporting the 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 buckmoth 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 declining across its range. Many longtime Plymoutheans wonder why whippoorwills aren't heard as often as they used to be. The declines of the whippoorwill are due to the sprawling development that has occurred in Plymouth 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 Pondmussel, Osprey, Red-belly Turtle, and Smooth Branched Sponge.

Other animal species include fish and shellfish. A range of fish can be found throughout

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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. Shellfishing 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 47 rare animals in Plymouth (**Table 19**). 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 found throughout town. Other species are associated with particular habitats (**Table 18**) Some of the common and rare species found in Plymouth and their primary corridor areas are:

Table 18

HABITAT	COMMON SPECIES	RARE/ENDANGERED SPECIES
COASTAL AREA: PLYMOUTH LONG BEACH ELLISVILLE HARBOR	Migratory shorebirds, including terns and plovers	
PINE BARRENS FORESTS		Barrens buckmoth Whippoorwill Insects and moths
RIVERS	Anadromous fish: alewives, herring, white perch, rainbow trout, rainbow smelt Fresh water fish: brook, brown, and rainbow trout	
COASTAL PLAIN PONDS	45 species of dragonflies & damselflies, turtles	Blue spotted salamander, Plymouth red belly turtle, triangle floater, comet darner, spotted turtle, New England bluet, pine barrens bluet, walker’s limpet, tidewater mucket, eastern pond mussel, osprey, smooth branched sponge
OCEAN	Bluefish, cod, flounder, mackerel, pollock, shad smelt, striped bass, clams, crabs, mussels, mollusks, lobsters and scallops	

Rare species habitat is concentrated in the western, central, and southern parts of Plymouth, where there is significant unfragmented pine barrens forest. Unfragmented areas are critical to the viability of many rare species.

Shell fishing and lobstering are managed through licensing of harvesters and regulation

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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.

Table 19

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	<i>Cicindela purpurea</i>	Purple Tiger Beetle	SC		2004
PLYMOUTH	Bird	<i>Ammodramus savannarum</i>	Grasshopper Sparrow	T		2008
PLYMOUTH	Bird	<i>Bartramia longicauda</i>	Upland Sandpiper	E		2008
PLYMOUTH	Bird	<i>Charadrius melodus</i>	Piping Plover	T	T	2006
PLYMOUTH	Bird	<i>Gavia immer</i>	Common Loon	SC		1815
PLYMOUTH	Bird	<i>Haliaeetus leucocephalus</i>	Bald Eagle	E		1999
PLYMOUTH	Bird	<i>Ixobrychus exilis</i>	Least Bittern	E		1977
PLYMOUTH	Bird	<i>Parula americana</i>	Northern Parula	T		1892
PLYMOUTH	Bird	<i>Poocetes gramineus</i>	Vesper Sparrow	T		2008
PLYMOUTH	Bird	<i>Sterna dougallii</i>	Roseate Tern	E	E	2008
PLYMOUTH	Bird	<i>Sterna hirundo</i>	Common Tern	SC		2008
PLYMOUTH	Bird	<i>Sterna paradisaea</i>	Arctic Tern	SC		2007
PLYMOUTH	Bird	<i>Sternula antillarum</i>	Least Tern	SC		2007
PLYMOUTH	Bird	<i>Tyto alba</i>	Barn Owl	SC		1980
PLYMOUTH	Butterfly/Moth	<i>Abagrotis nefascia</i>	Coastal Heathland Cutworm	SC		1991

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PLYMOUTH	Butterfly/Moth	<i>Acronicta albarufa</i>	Barrens Daggermoth	T		2003
PLYMOUTH	Butterfly/Moth	<i>Apamea inebriata</i>	Drunk Apamea Moth	SC		2002
PLYMOUTH	Butterfly/Moth	<i>Callophrys irus</i>	Frosted Elfin	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Catocala herodias gerhardi</i>	Gerhard's Underwing Moth	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Catocala pretiosa pretiosa</i>	Precious Underwing Moth	E		2007
PLYMOUTH	Butterfly/Moth	<i>Chaetagnaea cerata</i>	Waxed Sallow Moth	SC		1984
PLYMOUTH	Butterfly/Moth	<i>Cicinnus melsheimeri</i>	Melsheimer's Sack Bearer	T		2008
PLYMOUTH	Butterfly/Moth	<i>Cingilia catenaria</i>	Chain Dot Geometer	SC		1946
PLYMOUTH	Butterfly/Moth	<i>Hemaris gracilis</i>	Slender Clearwing Sphinx Moth	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Hemileuca maia</i>	Barrens Buckmoth	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Hypomecis buchholzaria</i>	Buchholz's Gray	E		2008
PLYMOUTH	Butterfly/Moth	<i>Itame sp. 1 nr. inextricata</i>	Pine Barrens Itame	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Lithophane viridipallens</i>	Pale Green Pinion Moth	SC		2005
PLYMOUTH	Butterfly/Moth	<i>Metarranthis pilosaria</i>	Coastal Swamp Metarranthis Moth	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Papaipema sulphurata</i>	Water-willow Stem Borer	T		2005
PLYMOUTH	Butterfly/Moth	<i>Psectraglaea carnosia</i>	Pink Sallow	SC		2005
PLYMOUTH	Butterfly/Moth	<i>Zale sp. 1 nr. lunifera</i>	Pine Barrens Zale	SC		2008
PLYMOUTH	Butterfly/Moth	<i>Zanclognatha martha</i>	Pine Barrens Zanclognatha	T		2008

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PLYMOUTH	Dragonfly/Damselfly	Anax longipes	Comet Darner	SC		2008
PLYMOUTH	Dragonfly/Damselfly	Enallagma daeckii	Attenuated Bluet	SC		1994
PLYMOUTH	Dragonfly/Damselfly	Enallagma laterale	New England Bluet	SC		2005
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	Mammal	Synaptomys cooperi	Southern Bog Lemming	SC		1894
PLYMOUTH	Mussel	Alasmidonta heterodon	Dwarf Wedgemussel	E	E	Historic
PLYMOUTH	Mussel	Alasmidonta undulata	Triangle Floater	SC		2007
PLYMOUTH	Mussel	Leptodea ochracea	Tidewater Mucket	SC		2007
PLYMOUTH	Mussel	Ligumia nasuta	Eastern Pondmussel	SC		1933
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

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, 21 miles of coastline, 5 anadromous fish runs and 343 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),

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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 about 15,000 acres of pine barrens in the Myles Standish State Forest (12,500 acres) and on surrounding lands. 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 18**. In every case, Plymouth's high quality views are those along existing public roads from which the Town's most attractive landscapes, and therefore those 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.

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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 the Summer Street 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.

Hobes 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

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Hobes 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.

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.

Pilgrim Nuclear Power Plant Boat Ramp, Breakwater walk: Cape Cod Bay vista (Closed since September 11, 2001 for security reasons).

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).³

Vallerville on Center Hill Road at Lookout Point (Joslin Diabetes Center): offers

³ 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.

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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 a number of meadows and ponds fed by freshwater springs. 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.

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,

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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 on 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 roads: a landscape of meadow and pastureland, and mature vegetation 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

Old Mayflower Hotel off Point Road: views of cranberry bogs along Point Road and the scenic vista 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.

The Field on State Road in Manomet abutting the Fire Station: offers a unique contrast to the developed neighborhood and attractive diversity along a heavily traveled road.

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.

Long Pond Road: short-range views of marsh areas near Bloody Pond provide a

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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.

Geologic Features

The major geologic events which influence the [development](#) (genesis) 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. In the southern and southeastern portions the land is fairly level with elevations ranging from 100 to 200 feet in the central and western portions of Plymouth. Elevations are 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 kettleholes 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

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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.

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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. None of the homes which originally stood on Plymouth's first six streets remains. 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

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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 **Dotey 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

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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 and 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 was a fishing and farming community, and the area still has several important fish hatcheries. 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 fisherman 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

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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

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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 110 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

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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 February 2005, the Massachusetts Cultural Resource Information Service listed **1,767 historic resources in Plymouth**. These are 1,591 buildings, 87 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 offers a Historic Rehabilitation Tax Credit for up to 20% of the costs of the rehabilitation of a qualified structure. 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 as a five-year program (January 2005 to December 2009) with \$10 million in credits available annually (830

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CMR63.8R1).

Table 20

		PLYMOUTH'S DESIGNATED HISTORIC PROPERTIES									
		NATIONAL					STA TE	LOCA L			
Location	Name	Register Individual	Register District	Thematic Area	Historic Landmark	Historic Landmark		Historic District			
32 Court St.	Hedge House	X						X			
Bradford St.	Bradford Historic District		X								
3 Clifford Rd.	Clifford/Warren House	X									
Carver St.	Cole's Hill	X	X			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.	Jabez Howland House	X									
Bug Light	Lighthouse of New England			X							
Allerton St.	Forefathers Monument	X									
Plympton Rd.	Parting Ways		X								
75 Court St.	Pilgrim Hall	X					X	X			
126 Water St.	Plymouth Antiquarian Society	X						X			
Downtown	Plymouth Historic District							X			
Gurnet	Plymouth Light	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			
42 Summer St.	Richard Sparrow House	X	X					X			
Off Summer St.	Town Brook		X								

National Register of Historic Places

Fifteen 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. Includes Brewster Park, Cole's Hill, and about 60 residences, many from 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 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

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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 Watershed 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 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 an Area of Critical Environmental Concern (ACEC) is 600 acres in size. 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.

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MAP 18 – ACEC Map

MAP 19 – Unique Features Map

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 mgd (million gallons per day) 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 opened near Camelot Park in 2002, with an innovative permit that relies on groundwater injection of treated effluent. The permit requires the Town to develop a nutrient management plan to address non-point-source pollution throughout the entire Eel River watershed. Camp, Dresser & McKee, a professional consulting and engineering firm, has been hired to do extensive water quality monitoring, mapping, outreach and zoning recommendations as a part of

this permit requirement. The Town is exploring the possibility of using portions of recreational properties by applying treated wastewater to the fields as a method of disposal and infiltration to maintain the groundwater flows.

Individual Septic Disposal Systems

Individual sewage disposal systems currently service residential, commercial, and industrial uses outside the Plymouth Urban area. Approximately 90 percent of Plymouth's 20,000 homes depend on private cesspools, septic tanks or seepage pits for disposal of domestic wastes. 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:

1. 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.
2. 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.
3. The use of individual disposal system 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.
4. 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 systems that have the potential to pollute Plymouth Harbor. Stormwater is a significant source of nutrient pollution to coastal waters and remediation of these non-point sources is costly. The Town Public Works department has set an exemplary course through

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attracting state and federal monies to remediate these problems. Continued focus is warranted to work towards a cleaner healthier harbor. This will improve Plymouth Harbor as a recreational destination.

Nuclear Power Plant

The Pilgrim Nuclear Power Plant (operated by Entergy Corporation) began operation in Plymouth on December 9, 1972 and is scheduled to have its operating license until June 8, 2012. Due to the difficult issues surrounding the transportation and permanent storage of highly radioactive spent fuel, the spent fuel remains at the site. Many reactor components and other equipment at the site have varying degrees of radioactive contamination. These issues deserve the attention of all concerned, and have significant bearing on the re-use or re-development of the site – including the large expanses of open spaces (approximately 1,600 acres) surrounding the plant. The Town should monitor the progress and outcomes of other decommissioned nuclear power plants, and continue to explore long term solutions to address the needs of Entergy and the protection of the surrounding open space.

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.

Hazardous Waste Sites

DEP lists eight Response Action Outcome (RAO) incidents in Plymouth (**Map 20**).

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. Closed

Aldrin Road reported in 1994. Remedial actions have not been conducted because a level of No Significant Risk exists.

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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 six 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".

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

506 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.

62 Lond Pond 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.

23 Howland 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.

31 Howland 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.

Off Water 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.

MAP 20 Hazardous Waste Sites

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 and estuaries results from the combination of high tides and wind driven water in storm surges, generally during hurricanes, nor'easters or blizzards. This was the combination that made the blizzard of 1978 so destructive in coastal communities including the Town of Plymouth. The FEMA mapped areas most susceptible to velocity wave action and coastal flooding within Plymouth include; Plymouth Long Beach, Saquish Beach, and White Horse Beach.

Plymouth participates in the Community Rating System program, which enables residents who own property within flood zones, to receive a discount on their flood insurance. Additionally, the Town maintains a Flood Management Plan 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, this being said 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.

Forest Issues

Most of Plymouth forests are either oak or pine barrens. Plymouth oak forests consist mostly of white oak supported by other oak varieties, white pines, pitch pines, and red maples. 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

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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. The pine barrens support six rare and endangered plant species and numerous common and rare animal species.

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 21 –Historic Forest Fires and Map 22–Pine Barrens.)

Map 21 – Historic Forest Fires

Map 22 – Pine Barrens

Section V Inventory of Lands of Conservation and Recreation Interest

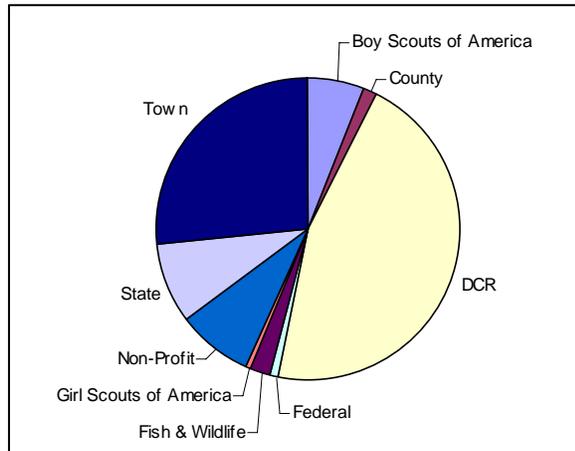
Plymouth’s abundance of open space presents both a threat and an opportunity. Substantial development of currently vacant lands would create unacceptably high densities in Plymouth, straining the Town’s ability to provide services, maintain rural character, and protect natural resources. However, successful 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.

There are 22,896 acres of publicly held and privately held open space located within the Town of Plymouth (**Table 21 and Chart 3**). The breakdown is as follows:

Chart 3

Table 21

Category	Acreege
Boy Scouts of America	1373.33
County	344.55
DCR	10412.83
Federal	205.27
Fish & Wildlife	502.83
Girl Scouts of America	136.22
Non-Profit	1813.98
State	2010.23
Town	6096.88
Total Acreege	22896.12

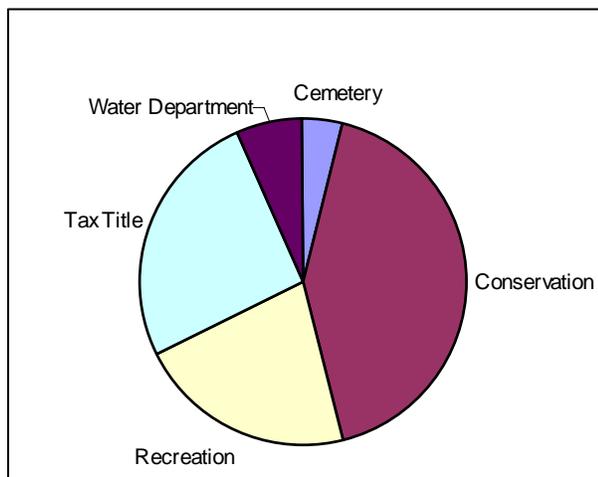


The 6,096 acres under the care and custody of the Town of Plymouth (**Table 22 and Chart 4**) breakdown as follows:

Chart 4

Table 22

Category	Acreege
Cemetery	242.30
Conservation	2572.66
Recreation	1292.98
Tax Title	1589.82
Water Department	399.12
Total Acreege	6096.88



Definition of Open Space as defined by the Open Space Committee:

Open space is an area of land that is valued for (in order of priority):⁴ (1) natural processes and wildlife; (2) passive recreation and/or providing other public benefits; (3) agricultural and sylvan production; (4) active recreation.

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 (12,000 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 is also listed as ‘permanently protected’ status, due to its protection under Article 97 of the Articles of Amendment to the Constitution of the Commonwealth of Massachusetts.

Tax title lands used primarily for drainage, but of significant size or proximity to a pond, are 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’, and include the so-called ‘thousand acres’ in southern Plymouth recently considered as a possible site for the Plymouth Rock Studio (movie studio site).

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.

⁴ The hierarchy established here is to imply that not all open space is equal in value, and should not be conceived as such.

Chapter Land

The Town of Plymouth, according to current Assessor's office, has 472 parcels listed in the Chapter 61, 61A and 61B programs, totaling 12,150 acres of land in rural areas of town.

A significant portion of these lands are associated with the Pinehills community (estimated 1,500 acres) and the proposed River Run community (A.D. Makepeace, estimated 959 acres). Approximately 1,800 acres is owned by the A.D. Makepeace Company and is known as the Frogfoot region of Plymouth, which was recently part of a state-negotiated land protection discussion. Approximately 125 acres of the remaining 7,891 acres is under permanent conservation status through various conservation restrictions. Another 575 acres is protected temporarily through a stand-alone agreement with the Town with respect to the Pilgrim Nuclear Power Plant.

There are approximately 100 property owners associated with the estimated remaining 7,191 acres. The Town's Community Preservation Committee and non-profit groups do an annual mailing and workshop on land preservation techniques to larger land-holders, and dialogues continue with those who have expressed an interest. 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.

The **Open Space Inventory Map (Map 24)** clearly illustrates which parcels are private (**Table 23**) vs. public (**Table 24**), state, county, federal or local government ownership, and the status of protection for each of these parcels.

Public Parcels

Numerous inventories have been performed in different planning processes, for different purposes, for all of the 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 that listed in tables in the *2004 Open Space and Recreation Plan*, with the exception of updates noted herein. The detailed open space listing from the *Town of Plymouth 2004 Comprehensive Plan* is included in this section, as well.

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Several significant land acquisitions have occurred since the *2004 Open Space and Recreation Plan*, especially in the Rural Areas, consistent with the *2004 Town of Plymouth Comprehensive Plan*;⁵ the *2004 Open Space Plan* and the “Wishbone Corridors” identified in the November 1999 *ENSR Open Space Corridor Plan*^{5*} (the “*ENSR Plan*”) for Plymouth.

The “Wishbone” will consist of a primary greenway connecting Myles Standish State Forest, Waterfront Park, and Ellisville State Park (**Map 23**). 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 driving in a car.

In 2005, several other trails were in development. The major initiatives are:

North Plymouth-Downtown Plymouth Rail Trail

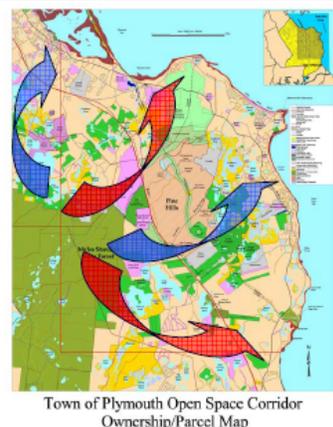
This is a 1.7-mile trail currently under construction. It begins at Hedges Road and ends at the Nelson Street Playground.

Waterfront Walkway: Town Wharf to Caswell Lane and Town Brook

This is a 4-mile pedestrian walkway which will allow residents to walk along the waterfront. The walkway continues from the Nelson Street playground to Brewster Gardens and travel along Town Brook ending on Billington Street within close proximity to Morton Park.

- Wishbone wildlife corridors
 - Myles-Standish via Pine Hills to coast
 - Myles-Standish to Ellisville Harbor
 - Secondary Corridors

(Map 23)



New public facilities include:

⁵The *ENSR Plan* identified a ‘wishbone’ as discussed in the *2004 Open Space Plan* (p. 75).

*Funded by the EEOEA Challenge Grant.

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Hedges Pond Preserve – 112 acres with 28-acre pond, use recreation/conservation. Currently undergoing feasibility/planning analysis for recreational potential through the Parks & Recreation Divisions of the Department of Public Works with assistance from an outside consultant.

Center Hill Preserve – 140 acres of beach-front and woodland conservation land.

Eel River Headwaters – Approximately 400 acres of land in the headwaters of the Eel River have been acquired preserved in total, much of it recently.

Billington Sea/Lout Pond – 70 acres abutting two Great Ponds permanent open space, also protects drinking water.

Hayden Pond – 13 acres in the Eel River headwaters.

Red Brook – State owned open space in southern Plymouth.

Potential Senior Center at Plymouth North High School campus as a result of reconstruction; currently not funded. The need for a senior center facility is well-documented.

OPEN SPACE

A. Permanently-Protected Open Space

Plymouth has **17,744** acres of permanently-protected open space. At **12,500 acres**, **Myles Standish State 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. **Ellisville State Park** is a 45-acre waterfront park and nature preserve adjacent to Cape Cod Bay. Three other State-owned conservation areas are **Triangle Pond, Red Brook, and Grassy Pond**, totaling **120 acres**.

The federal government owns the **Massasoit National Wildlife Preserve**, totaling **198 acres** of conservation land.

The **Town of Plymouth** owns **2,349 acres** of permanently-protected conservation land on approximately 30 sites and has secured an additional **2,450 acres** of protected land through conservation restrictions established on the **Pinehills Open Space Mixed-Use Development**. An additional **400 acres** of permanent conservation restrictions were pending in 2005. The largest Town-owned conservation areas are:

NORTH PLYMOUTH	Russell Sawmill Hedge Pond Conservation Area
MANOMET	Beaver Dam Conservation Area
	Carolyn Drive Conservation Area
	Indian Brook Conservation Area
	Little Island Pond Conservation Area
CEDARVILLE	Cedarville Conservation Area

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PINE HILLS	Briggs Estate
FEDERAL FURNACE	Town Forest
	Boot Pond Conservation Area
	Russell Mill Pond Conservation
	Rocky Pond Conservation Area
LONG POND ROAD	Bloody Pond

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.

B. 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 is 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 **13,268 acres** of temporarily-protected “Chapter 61” property in Plymouth.

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.

C. 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.

D. Prioritizing Open Space Preservation

Because Plymouth has such an abundance of natural resources, the Town cannot protect all of its existing assets. In fact, some environmentally-sensitive areas - an estimated 8,000 acres-- are already partially developed. The town’s Open Space Planning Committee has developed ranking criteria for the preservation of open space. These criteria prioritize the following areas for protection:

- Environmentally-sensitive areas, including wetlands, vernal pools, surface water sources, wildlife;
- Habitat, and pine barrens forests;
- Lands around existing and potential wells (Zone I , Zone II, Interim Wellhead Protection Area);
- Historic landscapes;
- Agricultural properties; and

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- Scenic views

Large tracts of land, especially land over 100 acres, are prioritized for conservation, as are properties needed to establish or maintain wildlife corridors.

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. **(Appendix C)**

A. 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 in size, 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 cemeteries 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 Course

Forges Field is a new park with soccer, baseball, and football playing fields and a large playground.

B. Village Parks and Playgrounds

There are 22 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

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an acre in size.

C. School Playing Fields

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

D. Indoor Recreation

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

Map 24 – Open Space Inventory Map

Private & Non-Profit Parcels (also see inventory from Comprehensive Plan, following pages)

Table 23

Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
Private – Ellisville, Cedarville & Bourne Road area								
Camp Clark - YMCA Hedges Pond Road	Private Non-profit	YMCA	Campground	Activel y used	YMCA is seeking to expand uses	None	None	84
Camp Bournedale Herring Pond Road	Private	Gerson-Bournedale Trs	Day camp/ Campground	Activel y used		For fee	None	7
Camp Massasoit (Boy Scout) Sandy Pond Road	Non-profit	BSA Minuteman Council Mass.	Campground	Day activitie s Campin g	Scout use only	None	None	128
White Cliffs State Road	Private	White Cliffs' Homeowne rs Assoc.	Golf/ Pool	Excelle nt	None - Private	None	None	42
Atlantic Golf Course Sandy Pond Road	Private		Golf	Excelle nt	None	For fee	None	159
Ellisville Harbor (land trust) Ellisville Road	Private Non-	Wildlands Trust of SE Massachus	Conservation, passive trails,	Excelle nt	Addition al hiking	Yes	Permane nt	65

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
Eyster Sanctuary Salt Marsh Lane	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excellen t	Additional hiking trails	Yes	Permane nt	1.3
Richard Wynn Memorial Preserve Near Savery Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excellen t	Additional hiking trails	Yes	Permane nt	83
Surfside Beach Mayflower Drive	Private	Surfside Homeowne rs Association	Beach/swimm ing	Good	None	For Fishing and walking	None	1
Pierce Park Center Hill Road	Private	Homeowne rs Association	Passive recreation/swi mming	Good	To be gifted to the town on 12 years	None	None	1
Camp Catchelot State Forest	Non- profit	BSA Moby Dick Council	Day camp/ Campground	Excellen t	None	None	None	80 0
Bramhall Preserve Long Pond Road	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excellen t	Additional hiking trails	Yes	Permane nt	91
Red Brook Buttermilk Bay	State	Div. of Fisheries & Wildlife	Conservation	Excellen t	Additional hiking trails	Yes	Permane nt	93
Camp Wind in the Pines Clark Road	Private Non- profit	GSA Southeaster n Mass.	Day Camp/ Campground	Excellen t	None	None	None	14 1

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
	profit	Council						
Camp Squanto Near State Forest	Private Non- profit	BSA Old Colony Council	Campground	Excell ent	None	None	CR pending	36 7
Pinewoods Camps Cornish Field Road	Private Non- profit	Pinewoods Camp, Inc.	Campground	Excell ent	None	For fee	None	25
Gallows Pond Preserve Gallows Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	56
Emery Preserve Ship Pond Road	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	11 6
West Shore Preserve Halfway Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	23 2
Manternarch Preserve Halfway Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	5
Taylor-Touster Wildland Halfway Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	61
Big Point Preserve Halfway Pond	Private Non- profit	Wildlands Trust of SE Massachus	Conservation	Excell ent	Additi onal hiking trails	Yes		23

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
		etts						
Conant-Storrow Nature Preserve	Private Non-profit	Wildlands Trust of SE Massachusetts	Conservation	Excellent	Additional hiking trails	Yes	Permanent	27
Joe Brown House West Long Pond Road	Private Non-profit	Wildlands Trust of SE Massachusetts	Conservation	Excellent	Additional hiking trails	Yes		4
Old Field Pond Preserve Woodland near Bourne Line	Private Non-profit	Wildlands Trust of SE Massachusetts	Conservation	Excellent	Additional hiking trails	Yes	Permanent	30
Benjamin Harrison Bourne Road	Private Non-profit	Wildlands Trust of SE Massachusetts	Conservation	Excellent	Additional hiking trails	Yes	Permanent	5
Private – Manomet, Pinehills & Plymouth Center area								
Eel River Beach Club Manter's Point	Private non-profit	Beach Club Assoc.	Beach, tennis	Excellent	NA	Membership Required	None	1
Plymouth Country Club	Private non-profit	Plymouth Country Club, Inc	Golf, tennis	Excellent	NA	Membership Required	None	21 5
Mayflower Park Park Avenue	Private Non-profit	Wildlands Trust of SE Massachusetts	Conservation	Excellent	None	Yes	Permanent	2

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
Manomet Center for Environmental Sciences Stage Point Road	Private Non- profit	Manomet Center	Conservation -Research	Excell ent	None	None	None	18
Herbert Bartlett Great South Pond	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	None	Yes	Permane nt	40
The Pinehills OSMUD Old Sandwich Road	Private	Pinehills LLC & Pinehills Golf	Golf/active & passive Recreation	Excell ent		Membershi p Required for Golf /Informal for walking trails	Permane nt	2,4 50
Entergy Lands State Road	Private	Entergy, Inc.	Power plant buffer	Good	None	None	None	1,6 00
Reid Pond Preserve Fairview Lane	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	34
Thrasherville Preserve Old Sandwich Road	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	20
Eel River Preserve Clifford Road	Private Non- profit	Wildlands Trust of SE Massachus etts	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	2.5
Withington Preserve Clifford Road	Private Non- profit	Wildlands Trust of SE Massachus	Conservation	Excell ent	Additi onal hiking trails	Yes	Permane nt	<1

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
etts								
Private – North & West Plymouth areas								
Boys & Girls Club Resnik Road	Private Non- profit	Boys & Girls Club of Plymouth, Inc.	Recreation	Excele nt	NA	Membershi p Required	None	n/a
Holmes Field Court Street	Private Non- profit	Trust for Public Lands	Passive Recreation	Excele nt	NA	Yes	Permane nt	26
Plymouth Rod & Gun Club South Meadow Road	Private Non- profit	Plymouth Rod & Gun Club	Gun & Archery Range	Excele nt	None	Membershi p Required	None	92
Squirrel Run Country Club Carver Road	Camping	Excellent	None	For fee	None	For fee	None	n/a
Ellis Haven Camping Area Federal Furnace Road	Camping	Carreau Family	Camping	Excele nt	None	For fee	None	25
Pinewood Lodge & Campground Carver Road	Camping	Saunders Family	Camping	Excele nt	None	For fee	None	13 6
McNeil Preserve Great Soouth Pond	Wildland s Trust of SE MASS	Plymouth County Wildlands Trust	Conservation	Good, In Use	Passive Recreati on	No	CR	40
Barnes-Jenkins Hole Drew Road	Wildland s Trust of SE	Plymouth County Wildlands	Conservation	Good, In Use	Passive Recreati on	Yes	Permane ntly Protected	4

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condi tion	Recrea tion Potenti al	Public Access	Degree of Protect ion	Ac re s
	MASS	Trust					Open Space	
Domino Cortelli Preserve May Hill Rd	Wildland s Trust of SE MASS	Wildlands Trust of SE MASS	Conservation	Good	Restrict ed Access	No	Permane ntly Protected Open Space	27
Nickerson Conservation Restriction	Wildland s Trust of SE MASS	Wildlands Trust of SE MASS	Conservation	Good	Restrict ed Access		CR	12
Philips Preserve	Wildland s Trust of SE MASS	Wildlands Trust of SE MASS	Conservation	Good	Restrict ed Access		Permane ntly Protected Open Space	3

**Just over the Town line in Bourne, within 1 mile of Cedarville.*

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Publicly Held Open Space Parcels

Table 24

Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condit ion	Recrea tion Potenti al	Pub lic Acc ess	Degree of Protecti on	Ac res
PLYMOUTH CENTER								
Town Wharf	Town	DPW	Private & Commercial Fishing	Poor	Expande d boat access	Yes	None	NA
National Monument to Forefathers	State	Div. Conservati on & Recreation	Monument & Park	Good	Passive Recreati on	Yes	Permanen tly Protected Open Space	10
Plymouth Maiden Monument	State	Div. Conservati on & Recreation	Neighborhood park	Good	Passive Recreati on	Yes	Permanen tly Protected Open Space	<1
Fisherman's Memorial Park	Town	Parks Department	Neighborhood park	Good	Passive Recreati on	Yes	Park land Permanen tly Protected Open Space	<1
Pilgrim Memorial Park	Town of Plymout h	Board of Selectmen	Wharf, Mayflower II, Plymouth Rock	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	6
Brewster Gardens	Town of Plymout h	Parks Dept.	Historic park	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	4

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Area	Owner ship	Mangem ent Agency	Current Use	Curre nt Condit ion	Recrea tion Potenti al	Pub lic Acc ess	Degree of Protecti on	Ac res
Jenney Pond Park	Town of Plymout h	Parks Dept.	Historic park	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	10
Billington Street Park/Town Brook	Town of Plymout h	Parks Dept.	Historic park	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	35
Training Green	Town of Plymout h	Parks Dept.	Historic park (Olmsted)	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	>1

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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VILLAGE PARKS AND PLAYGROUNDS								
Stephens Field	Town of Plymouth	Parks Dept.	Playground, swimming, boat launch, fields	In Use	Recreation	Yes	Unprotected Open Space	8
Holmes Playground	Town of Plymouth	Parks Dept.	Playground, ball courts and fields, fish ladder	In Use	Recreation	Yes	Unprotected Open Space	>2
Sirroco Memorial Playground	Town of Plymouth	Parks Dept.	Playground / basketball court	In Use	Recreation	Yes	Unprotected Open Space	1
Haskell Field/Avery Memorial Playground	Town of Plymouth	Parks Dept.	Baseball field	In Use	Recreation	Yes	Unprotected Open Space	>3
Sever/Allerton Street Playground	Town of Plymouth	Parks Dept.	Playground/playfield/skateboard park	In Use	Recreation	Yes	Unprotected Open Space	1
Depot Park	Town of Plymouth	Parks Dept.	Ornamental park	In Use	Passive Recreation	Yes	Unprotected Open Space	<1
Mabbett Park	Town of Plymouth	Parks Dept.	Picnic area	In Use	Passive Recreation	Yes	Unprotected Open Space	<1
Burton Park	Town of Plymouth	Parks Dept.	Ornamental park	In Use	Recreation	Yes	Unprotected Open Space	1
SCHOOL PLAYGROUND AND PLAYING FIELDS								
Nathaniel Morton School	Town of Plymouth	School Dept.	Playground / Playfields	Good	Room for additiona	Fully Acce	Unprotect ed	4

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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	h				l play area	ssible		
Mt. Pleasant School	Town of Plymouth	School Dept.	Playground / playfields	In Use	Expanded Public Use	Yes	Unprotected	2
Cold Spring School	Town of Plymouth	School Dept.	Playground / playfields	In Use	Expanded Public Use	Yes	Unprotected	7
Plymouth North High School	Town of Plymouth	School Dept.	Ball fields, tennis courts, gym	In Use	Expanded Public Use	Yes	Unprotected	42
BEACH/CONSERVATION AREA								
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
TRAIL								
Jackson Park (Jacobson Park)	Town of Plymouth	Parks Dept.	Nature trail	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	1
CEMETERIES								
Cole's Hill	Commonwealth of MASS	Division of Fish & Wildlife	Pilgrim burial site	Good	Historic Destination	Yes	Unprotected Open Space	1
Burial Hill	Town of Plymouth	Parks Dept.	Historic cemetery	Good	Historic Destination	Yes	Unprotected	6
Vine Hill Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	In Use	None	Yes	Unprotected	34

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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Oak Grove Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	In Use	None	Yes	Unprotected	17
Braley and Caswell Cemetery	Town of Plymouth	DPW, Cemetery Dept.	Cemetery	Good	None	Yes	Unprotected	25
Long Beach Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	<1
OTHER								
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 in fair condition , uninhabitable, Surrounding property in good condition	Building: Historic Value Green: Passive Recreation	Yes	Building: Unprotected Green: Unprotected Open Space	>1
Plymouth County Farm	Plymouth County	Plymouth County Commissioners	County Farm	Good, In Use	Agriculture	Yes	Permanently Protected Open Space	111

NORTH PLYMOUTH

VILLAGE PARKS AND PLAYGROUNDS

Nelson Memorial Playground	Town of Plymouth	Parks Dept.	Waterfront park, playground,	Good, In Use	Passive, Active Recreation	Yes	Unprotected Open Space	10
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TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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			boat launch					
Veterans Memorial Playground	Town of Plymouth	Parks Dept.	Playground	Good	Passive Recreation	Yes	Unprotected Open Space	3
Siever Field	Town of Plymouth	Parks Dept.	Playground, Ball Fields	Good, Recent Rebuild	Passive Recreation	Yes	Unprotected Open Space	5
SCHOOL PLAYGROUNDS								
Hedge School	Town of Plymouth	School Dept.	Playground abuts conservation area	Good, In Use	Student Recreation	Yes	Unprotected	3
CONSERVATION AREA							Permanent	64
Russell Sawmill-Hedge Pond	Town of Plymouth	Conservation Commission	Conservation, hiking, fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	>200
TRAIL								
North Plymouth Rail Trail	Town of Plymouth	Parks Dept.	Rail trail under construction	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	16

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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MANOMET

VILLAGE PARKS AND PLAYGROUNDS

Briggs Playground	Town of Plymouth	Parks Dept	Playground/all fields/basketball/tennis	Good, In Use	Recreation	Yes	Unprotected Open Space	4
Brook Road Playground	Town of Plymouth	Parks Dept.	Playground/all fields/basketball	Good, In Use	Recreation	Yes	Unprotected Open Space	>5
Emerson Playground	Entergy	Town of Plymouth, Parks Dept.	Baseball/tennis (LT lease from Entergy)	Good, In Use	Recreation	Yes	Unprotected Open Space	5
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
Manomet Recreation Facility	Town of Plymouth	Board of Selectmen	Playground/all fields	Good, In Use	Recreation	Yes	Permanently Protected Open Space	141

SCHOOL PLAYGROUNDS AND PLAYING FIELDS

Indian Brook Elementary School	Town of Plymouth	School Dept.	Ball fields/basketball	Good, In Use	Expanded Public Use	Yes	Unprotected	15
Manomet Elementary	Town of Plymouth	School	Playground/fi	Good, In	Expanded Public	Yes	Unprotect	4

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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School	h	Dept.	eld	Use	Use		ed	
INDOOR FACILITIES								
Manomet Youth Center/Bartlett Hall	Town of Plymouth	Parks, Recreation Depts.	Indoor gym	Good, In Use	Recreation	Yes	Unprotected Open Space	<1
CONSERVATION AREAS								
Bartlett Pond	Town of Plymouth	Conservation Commission	Conservation/hiking, Swimming, Fishing	Good, In Use	Recreation	Yes	Permanently Protected Open Space	13
Beaver Dam Road Conservation Area	Town of Plymouth	Board of Selectmen	Conservation/hiking	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	119
Carolyn Drive Conservation Area	Town of Plymouth	Board of Selectmen	Conservation-limited access	Good	Limited Access Recreation	Yes	Permanently Protected Open Space	167
Indian Brook Conservation Area	Town of Plymouth	Conservation Commission	Conservation/hiking	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	50
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

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Pond View Circle Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	<1
Rabbit Pond	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	>6
Shallow Pond-pond frontage only	Town of Plymouth	Board of Selectmen	Conservation-no access	Good	Conservation Only	No	Unprotected Open Space	2
Taylor Avenue Wetlands	Town of Plymouth	Conservation Commission	Conservation/hiking	Good	Passive Recreation	Yes	Permanently Protected Open Space	6
BEACH								
Manomet Bluffs	Town of Plymouth	Conservation Commission	Beach area below bluffs	Good	Passive Recreation	Yes	Permanently Protected Open Space	5
White Horse Beach	Town of Plymouth	Conservation Commission	Dunes and beaches/swimming/fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	15
TRAILS								
LANDING								
Churchill Landing	Churchill Landing	Churchhill Landing	Beach, Beach Access	Good	Passive Recreation	Yes	Unprotected Open	18

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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	Associati on	Association					Space	
GROUNDWATER PROTECTION SITES								
Wannos Pond Well Site	Town of Plymouth	Water Dept.	Groundwater protection	Active Well Site			Unprotect ed Open Space	9
CEDARVILLE								
VILLAGE PARKS AND PLAYGROUNDS								
Elmer Raymond Park	Town of Plymouth	Parks Dept.	Playground/b all fields and court/tennis/P assive recreation/trai ls	Good, In Use	Passive Recreati on	Yes	Unprotect ed Open Space	18
INDOOR FACILITIES								
Old/Little Red Schoolhouse	Town of Plymouth	Board of Selectmen	Historic schoolhouse / community center	Good, In Use	Addition al Use for Meetings / Conferen ces	Yes	Unprotect ed	<1
CONSERVATION AREAS								
Cedarville Conservation Area	Town of Plymouth	Conservati on Commissio n	Conservation, Hiking	Good, In Use	Passive Recreati on	Yes	Permanen tly Protected Open Space	>86
CEMETERIES								

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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Cedarville Indian Cemetery	Town of Plymouth	Parks Dept.	Cemetery	Fair	Historical Destination	Yes	Unprotected	>1
LANDING								
Cedarville Landing	Town of Plymouth	Town of Plymouth	Beach Access	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	4
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

WEST PLYMOUTH

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
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VILLAGE PARKS AND PLAYGROUNDS

West Plymouth Recreation Area	Town of Plymouth	Parks Dept.	Ball fields	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	40
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SCHOOL PLAYGROUND AND PLAYING FIELDS

West Elementary School	Town of Plymouth	School Dept.	Gym, playing fields	Good, In Use	Additional Public	Yes	Unprotected	35
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TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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	h					Use		
CONSERVATION AREAS								
Micajahs Pond	Town of Plymouth	Board of Selectmen	Conservation	Good	Passive Recreation	Yes	Unprotected Open Space	2
Big West/Grassy Pond	Town of Plymouth	Board of Selectmen	Conservation		Passive Recreation	Yes	Unprotected Open Space	<1
Triangle Pond (S)	Commonwealth of MASS	Division of Fish & Wildlands	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	10
King's Pond Access PLYMOUTH	Commonwealth of MASS	DCR	Pond Access	Good	Passive Recreation	Yes	Permanently Protected Open Space	<1
CEMETERIES								
Parting Ways Cemetery	Town of Plymouth	Cemetery Dept.	Historic cemetery	Good	Historic	Yes	Unprotected	77
BEACH								
Clear Pond Beach Area	Town of Plymouth	Conservation Commission	Beach access	Good	Passive Recreation	Yes	Unprotected Open Space	4
GROUNDWATER PROTECTION SITES								
Murdock's Pond	Town of Plymouth	Board of Selectmen	Groundwater protection	Good	Limited	Yes	Unprotected Open	3

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							Space	
Cooks Pond Well	Town of Plymouth	Water Dept	Groundwater protection	Good, In Use	Limited	Limited	Unprotected Open Space	22
Darby Pond Well	Town of Plymouth	Water Dept	Groundwater protection	Good, In Use	Limited	Limited	Unprotected Open Space	11
Industrial Park Water Tank	Town of Plymouth	Water Dept	Water Tank	Good, In Use	Limited	Limited	Unprotected	>2
INDOOR								
Armstrong Ice Skating Area (S)	Commonwealth of MASS	Dept. of Environmental Management	Ice Rink	Good, In Use	Recreation	Yes	Unprotected	5
OTHER								
Plymouth Airport	Town of Plymouth	Airport Commission	Plymouth Airport	Good, In Use	Flying Lessons, Flights	Yes	Unprotected	>500
PINE HILLS	Pinehills LLC, Pinehills Golf Club LLC	Green Company C/O Centennial Golf Properties, Inc.	Private Open Space, Conservation, Golf Courses	Good, In Use	Conservation, Passive Recreation	Yes	Unprotected Open Space	2450
VILLAGE PARK								
Cleft Rock Park	Town of Plymouth	Parks Dept.	Sightseeing, Hiking	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	>8

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CONSERVATION
AREAS

136

Briggs Estate	Town of Plymouth	Board of Selectmen	Conservation, hiking, boating, fishing	Good, In Use	Passive Recreation	Yes	Permanently Protected Open space	385
Dugway Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open space	2

TRAIL

Talcott Property	Town of Plymouth	Conservation Commission	Trail linkage to be developed, Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	188
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GROUNDWATER
PROTECTION

Ship Pond Road Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation Access	Yes	Unprotected	15
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CEMETERY

Chiltonville Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Limited	Yes	Unprotected	4
Jordan Rd Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Limited	Yes	Unprotected	<1

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ELLISVILLE

TOWN-WIDE PARK
AND CONSERVATION
AREA

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
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LANDING

Harlow's Landing	Town of Plymouth	DPW	Limited Beach Access Roadway	Good, No Parking	Passive Recreation	Yes	Unprotected	N/A
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GROUNDWATER
PROTECTION

Quail Run Well	Town of Plymouth	Water Dept.	Groundwater protection	Good	Good, In use	Yes	Unprotected	19
Ellisville Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Unprotected Open Space	139

FEDERAL FURNACE

TOWN-WIDE PARK

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	12,500
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SCHOOL PARKS AND
PLAYGROUNDS

Federal Furnace Elementary School	Town of Plymouth	School Dept.	Ball fields/tennis	Good, In Use	Additional Public Use	Yes	Unprotected	20
Plymouth Community Intermediate School	Town of Plymouth	School Dept.	Ball fields/gym	Good, In Use	Additional Public Use	Yes	Unprotected	47

CONSERVATION
AREAS

Town Forest	Town of Plymouth	Board of Selectmen	Hiking/passive recreation	Good, In Use	Passive Recreation, Conservation	Yes	Permanently Protected Open Space	287
Boot Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation/beach	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	66
Russell Mill Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	130
Rocky Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation	Good, In Use	Passive Recreation	Yes	Permanently Protected Open Space	33
Gunners Exchange Conservation (F)	Federal	US Fish & Wildlife	Conservation/Wildlife Preserve	Good	None	None	Permanently Protected Open Space	182

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County Woodlot (C)	Plymouth County	County Commissioners	Open space, woods	Good	Passive Recreation	Yes	Unprotected	106
GROUNDWATER PROTECTION								
Federal Furnace Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Permanently Protected Open Space	30
Boot Pond Well	Town of Plymouth	Water Dept.	Groundwater protection	Good, In Use	Limited Passive Recreation	Yes	Unprotected Open Space	38
Billington Street Well (Lout Pond Well)	Town of Plymouth	Water Dept.	Groundwater protection	Inactive	Passive Recreation	Yes	Unprotected Open Space	35
BOURNE ROAD								
TOWN-WIDE PARK								
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	630
VILLAGE PARKS AND PLAYGROUNDS								
Buttermilk Bay Playground	Town of Plymouth	Board of Selectmen	Playground	Good, In Use	Passive Recreation	Yes	Unprotected	<1
Huntley Playground	Town of Plymouth	Board of Selectmen	Playground	Good, In Use	Passive Recreation	Yes	Unprotected	<1
SCHOOL PLAYGROUNDS AND								

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PLAYING FIELDS

Plymouth South High School	Town of Plymouth	Inhabitants of the Town of Plymouth	Ball fields	Good, In Use	Additional Public Use	Yes	Unprotected	121
South Elementary School	Town of Plymouth	School Dept.	Playground, ball fields	Good, In Use	Additional Public Use	Yes	Unprotected	20
Massachusetts Maritime Academy	Commonwealth Of MASS	Massachusetts Maritime Academy	Sailing School	Good, In Use	Additional Public Use	Yes	Unprotected Open Space	9

CONSERVATION AREAS

Blueberry Conservation Area Blueberry Road	Town of Plymouth	Conservation Commission	Conservation-no access	Good	Restricted Access	No	Permanently Protected Open Space	1
White's Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation-no access	Good	Restricted Access	No	Permanently Protected Open Space	<1
Bloody Pond Conservation Area	Town of Plymouth	Conservation Commission	Conservation/swimming/fishing/hiking	Good	Passive Recreation	Yes	Permanently Protected Open Space	62
Red Brook Conservation Area	Commonwealth of MASS	Division of Fish & Wildlife	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	84

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Grassy Pond Non-Game Area	Commonwealth of MASS	Division of Fish & Wildlife	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	26
Massasoit National Wildlife Refuge	United States of America	US Fish & Wildlife Service	Conservation	Good	Passive Recreation	Yes	Permanently Protected Open Space	196
LANDING								
Herring Pond Boat Ramp	County	County	Pond Access	Poor	Boat access	Yes	None	N/A
Jake's Pond Common Land	Town of Plymouth	Board of Selectmen	Beach	Good, In Use	Passive Recreation	Yes	Unprotected Open Space	10
GROUNDWATER PROTECTION								
Long Pond Road Water Dept.	Town of Plymouth	Water Dept.	Property For Sale	Property For Sale	None	Limited	Unprotected	2
CEMETERIES								
Herring Pond Indian Cemetery	Town of Plymouth	Cemetery Dept.	Historic Native American cemetery	Good	Historic Destination	Yes	Unprotected	2
Halfway Pond Douglas Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1
Wareham Road Cemetery (Shurtleff Burial Ground)	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1

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Herring Pond Road Cemetery	Town of Plymouth	Cemetery Dept.	Cemetery	Good	Historic Destination	Yes	Unprotected	<1
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BOURNE ROAD

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
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SAQUISH/GURNET

CONSERVATION/BEACH

Saquish Beach	Town of Plymouth	Conservation Commission	Conservation	Good	Limited Access, Passive Recreation	Yes	Permanently Protected Open Space	2.5
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LIGHTHOUSE

Gurnet Lighthouse	United States of America	US Coast Guard	Historic Lighthouse	Good	Limited Access, Historic Recreation	Yes	Permanently Protected Open Space	4.5
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PRIVATE

Clarks Island	Duxbury Rural & Historical Society	Duxbury Rural & Historical Society	Beach preserve	Good	Limited Access	Limited	Unprotected Open Space	17
Gurnet Beach	Private	Private	Beach preserve	Good	Passive Recreation	Yes	Unprotected	31
Saquish Beach	Boulevard South Realty	Bush, Warren W.	Beach preserve	Good	Passive Recreation	Yes	Unprotected	37

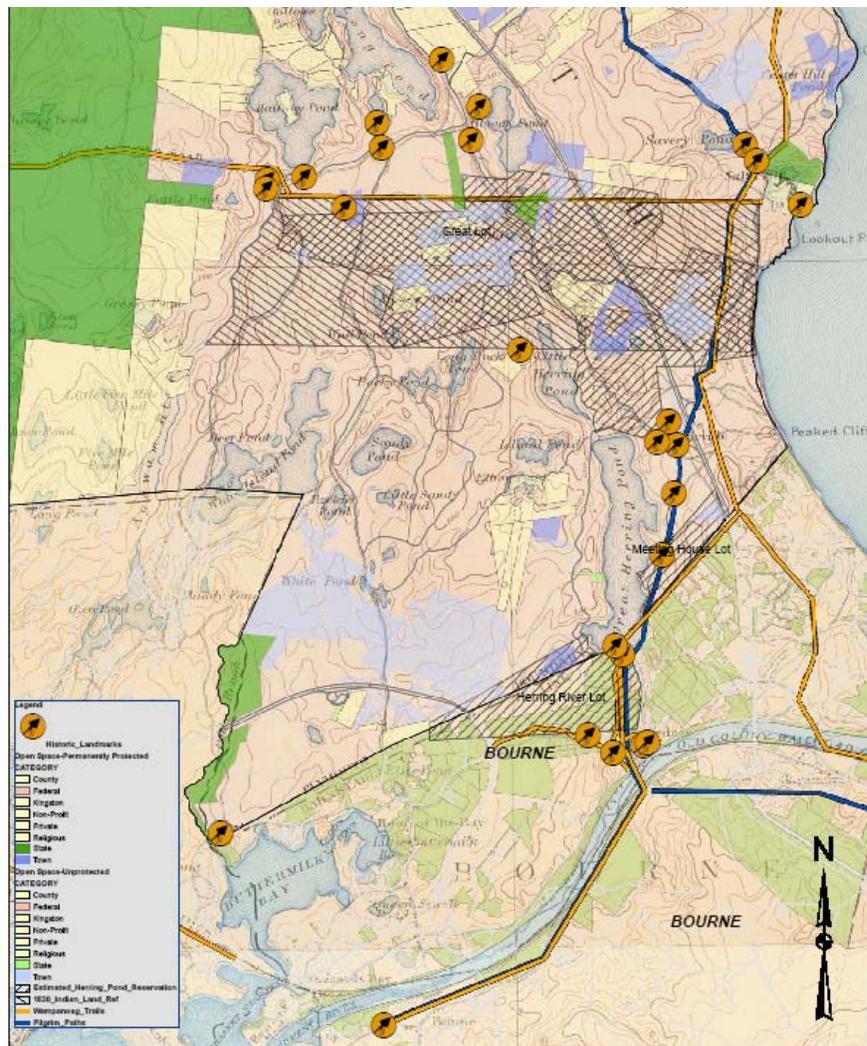
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	Trust				on			
Saquish	Private	Private	Swimming, recreation	Good	Passive Recreation	Yes	Unprotected	8

Native American Heritage

The Cedarville Village Steering Committee, as an outcome of the update to the village plan, recently created a Historic Subcommittee, which includes a representative of the Herring Pond Wampanoag people living in the community. This group will work to identify the history of the landscape and the significant cultural heritage of the Wampanoag in this region of Plymouth. Below is an initial scoping map (**Map 25**) (drafted onto Plymouth GIS by the Planning Department using 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.

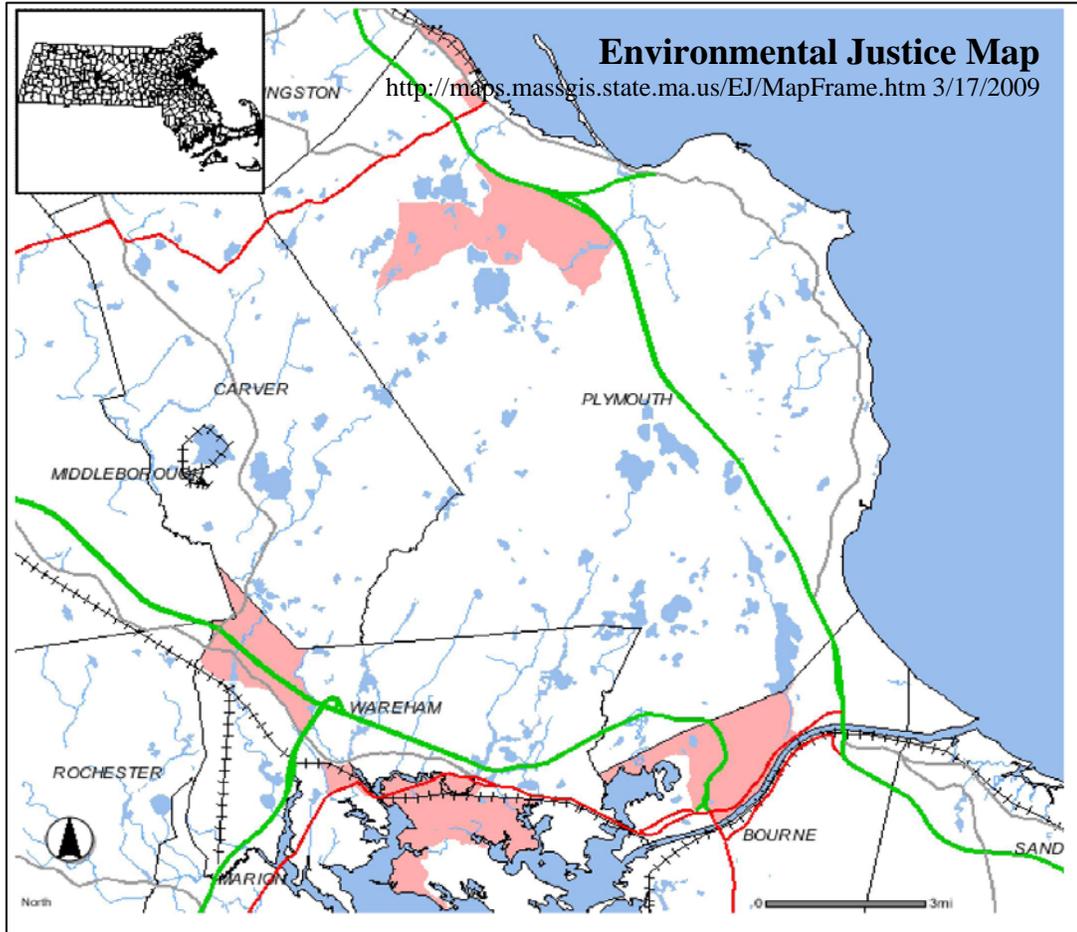
Map 25



Department of Planning
and Development

Wampanoag & Pilgrim
Trails and Landmarks

Environmental Justice
Map 26



The Town of Plymouth acknowledges that the Commonwealth has mapped a portion of North Plymouth (see Environmental Justice Map, above, overlaying Cordage Park, Revere Copper and their environs) as an Environmental Justice population of concern. While more work is needed, the following activities are ongoing in this specific region of the Town with respect to open space and recreation:

- The Town has worked in cooperation with the Plymouth Redevelopment Authority to remove the blighted Revere Copper Facility and clean up the environmental hazards located there (since the *2004 Open Space and Recreation Plan*).
- The recently opened Seaside Trail links this population to the downtown waterfront, where substantial opportunities to link to open space along the waterfront, Town Brook and beyond to Morton Park are available. Further enhancement of the Seaside Trail to improve the rail bed from Cordage Seaport to the Seaside Trail and to Plymouth Center is needed.
- The Town is currently undertaking substantial improvements to the Nelson Park Playground, located on the waterfront in this area, to upgrade the facilities, through a

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grant received in the fall of 2008.

- The North Plymouth Steering Committee has been contacted to evaluate priorities for monies from the 40R program that are directed to the community in this part of Plymouth.
- The Cordage Seaport project will provide public waterfront access where none currently exists.
- The *Plymouth Public Space Action Plan* (June 2007,) as described in the previous section is specifically aimed at enhancing the access and connectivity of public open space in the downtown and environs.
- The Town is currently working closely with the owners of the former Plymco mill site in the upper reaches of the Town Brook, in hopes of removing two dams posing an obstruction to river herring, and creating the final public trail link along Town Brook to Morton Park. Many hours of community meetings have taken place, and several funding partners have participated in studies and sampling during this outreach since the *2004 Open Space Plan* was adopted.
- Siever Field, which includes a baseball field and basketball court, has undergone reconstruction after a cleanup of discovered ash and metals contaminants below the surface soils, and is opening as a new field in 2009.
- Frequent policing and community watch programs and lighting are used to maintain the safety of these areas.

The Town of Plymouth acknowledges that the Commonwealth has mapped a portion of the Federal Furnace Rural Area of Plymouth (see Environmental Justice Map (**Map 26**), overlaying Camelot Industrial Park and environs) as an Environmental Justice population of concern. The Town notes that the Plymouth County Correctional Facility is located at this specific location, and makes the assumption (based on 2000 U.S. Census data) that this community is not a public priority as far as specifically addressing them in the Open Space Plan.

The Town of Plymouth acknowledges that the Commonwealth has mapped a portion of the abutting Town of Bourne south of the town line (see Environmental Justice Map, overlaying the land west of Route 3 and south of the town line) as an Environmental Justice population of concern. The Town of Plymouth Planning Office has met with the Town of Bourne Open Space Committee Chairman to begin sharing ideas about future trail connections, especially with respect to connecting the Myles Standish State Forest and Plymouth to the Cape Cod Canal. The new Red Brook Conservation Area also serves this area, and the potential A.D. Makepeace trail connector described in Section III are all part of the process of beginning to evaluate better open space connectivity to serve this geographic region. The Town of Bourne shared its locally developed open space layers with Plymouth as it developed its recent Open Space Plan update.

Section VI Community Vision

In preparing the 2009 Open Space and Recreation Plan, the Open Space Committee reviewed the Community Goals established in the 2004 plan, and the goals outlined in the 2004 Town Comprehensive Plan. The goals and vision of these plans are hereby re-affirmed in this 2009 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:

1. The previous Plymouth Open Space Plans (2004 and 1996) were 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.
2. 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.
3. 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 as a whole, 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,

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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:

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, and by developing a single entity to coordinate tourism initiatives and promote Plymouth as a travel destination. Encourage redevelopment of major opportunity sites.

BALANCE COSTS AND GROWTH

Approach: Limit extension of infrastructure into rural areas and encourage compact development.

Encourage construction of housing which is less costly to service than single family residences on large lots.

PRESERVE CHARACTER

Approach: Preserve and promote historic resources so that Plymouth's rich history is more readable in the environment. Create a coalition of the historic preservation groups in Plymouth and work with 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.

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).

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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.

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 recreational opportunities for the aging segment of the population continue to be challenges for the community. Maintenance and improvement of existing facilities to adapt to the growing population demands is a key need as some of the older facilities are showing signs of wear. Although Plymouth has many open space areas, they are not yet interconnected with trailways and bike paths due to the vast size of the community. The village centers, where the highest concentrations of the population are located, need additional playgrounds and recreational assets within close proximity to these residential areas. The Town has identified a location and funding for a Senior Center in downtown Plymouth at Plymouth North High School as a potential asset for addressing the needs of the elderly population, although more will be needed to address the other village areas.

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 built, it is lost or will require a significant investment to re-establish as green space.

Town of Plymouth has several compelling reasons to preserve open space. The maintenance of community character is foremost among these. 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 (October 2001) identified 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. A 2003 update to the RKG study demonstrated that the impact on the demand for town services for the median sale-priced home in the town is around \$400,000 short of the sale value that home would be need to have to pay in taxes for the services it requires. Clearly, this confirms that saving land is an important component of financial planning for Plymouth.

Beyond these reasons – community character retention and fiscal stability – there are several other reasons for Plymouth to focus on open space protection. These include:

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recreation, watershed protection, historic preservation, habitat protection and agricultural preservation. Luckily, 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, 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 areas will be affected by the location and availability of more active recreation areas (e.g. conservation areas 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 4,700 acres of Conservation land exist, and 2,585 acres of these are publicly held (these figures exclude Myles Standish State Forest, recently designated as conservation status by the state). The remaining open space and ±13,270 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. 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 as noted on Figure 3. The secondary corridors are extensions of the primary corridors and/or 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

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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 Forest 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

Should the owners of the Waverly Oaks Golf Course be willing to allow some type of trail through their parcel, either parallel to Long Pond Road or Route 3, a trail could be linked from Myles Standish to Waterfront Park. The trail could run from Myles Standish through Forges Field and the South Middle/High 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. 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 (refer to maps).

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.

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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 as noted on Figure 1. 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 in order to accomplish this corridor link.

Indian Brook Reservation

This secondary corridor would link Old Sandwich Road to Indian Brook as noted on Figure 1. This open space corridor would pass through the Town-owned Briggs property, skirting several cranberry bogs, pass along the northern shore of Shallow Pond 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 is also a need to consider linking Plymouth's trails and open space with those of surrounding Towns, which would be a new approach in planning for the Town. 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

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approximately 1,600 acres of land located in the Pine Hills. When the Entergy nuclear power plant is decommissioned, or even before decommissioning, Entergy may sell all or a portion of their land holdings. The Pine Hills are natural resources that are important to 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. In April of 2002, the Plymouth Downtown Waterfront & Business Development Plan was completed, which provides a comprehensive plan for improvements to this portion of Plymouth.

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. The Town owns a relatively small amount of this land. As the population of Cedarville grows, land for future parks, playgrounds, recreation areas, schools, and conservation purposes will be needed. Links and walkways to existing playgrounds and trails are needed.

There are numerous lakes and ponds in the Cedarville area, but limited public access. The Town owns very little waterfront property in or adjacent to these ponds, with the exception of 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 of the 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

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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 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 presents plans for development 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.

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. The schools have been the surrogate suppliers of recreation in Plymouth because the facilities and land already exist around the schools. The 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 facilities should be designed in a manner sensitive to the neighborhood. The linking of publicly and privately owned open space is recommended throughout West Plymouth. The linking of these areas will help to maintain a rural appearance.

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

Amory Engineering’s Water System Master Plan (1991) has comprehensively detailed these needs. The Water Department has identified several potential well sources. The Town should continue to acquire potential water supply sites as well as land within the aquifer recharge area of existing and proposed well sites.

Surface Water Quality

Many unrelated 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. An assessment of the town-wide watershed impacts to water quality in the Bay is needed, to guide the efforts of the town in mitigating these various problem areas. The state is actively engaged in monitoring the water in the Bay, with support from local communities, to help create a model aimed at providing a tool for this need. In addition, the community is attempting to address its needs for integrated information through information-sharing on water quality data and monitoring within the Town. More water quality monitoring, and monitoring for invasive weeds and pond species, is needed throughout the Town.

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

While much has been done to identify and plan for preservation of this important resource, especially in Plymouth Center, more is needed. 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. Other village areas and rural areas in the Town need to identify and protect those aspects of their historic character that help define their communities, to preserve the rural character and cultural/historical roots of the Town.

Summary of Plymouth’s Community Needs

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

General Overview

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 SCORP also identifies the general ranking of usage of facilities for the Southeastern Region as follows: coastal beaches and shorelines (67%); golf courses, neighborhood parks, playgrounds and tot lots; and at least 25% use historic and cultural sites, lakes & ponds, rivers & streams, and forests. More than 25% of residents visit wildlife conservation areas, trails and greenways. Visits to agricultural lands are ranked low in the region as compared to other activities, but high in terms of the state as a whole. Bikeways are not high on the use list, but there is a high popularity for this activity, and the state concludes that residents report 36.4 miles each way (the third highest in the state) to reach bikeways in this area. This region ranks the second highest in the state for the average trip distance to reach forested recreation land (20 miles each way). This fortunately may not be a factor for many areas of Plymouth, given the presence of Myles Standish State Forest.

The Massachusetts SCORP surveyed regional support for new funding initiatives. Regionally and statewide, maintenance of existing facilities ranked highest. Next, in order, were: restoring and improving existing outdoor recreational areas; improving access for people with disabilities; expanding environmental education programs; providing guides, maps and other interpretive information; purchasing new outdoor recreational areas; improving access by public transportation; increasing park police; and adding park staff, which although last, garnered at 67.5% favorable view from the region's population.

Perceived needs for the Southeast Region were collected based on the findings of the SCORP, and the following perceived needs were identified in order of priority: parks & golf courses; agricultural lands; rivers or streams; coastal beaches or shorelines; bikeways; lakes or ponds; trails or greenways; wildlife conservation areas; wetlands; mountains; forests; and historic or cultural sites.

The development of a number of soccer, softball and baseball leagues in Plymouth has made scheduling crucial. There is a strong contingency of off-road recreational vehicular users using lands in Plymouth for access to dirt tracks. Currently, utility easements, private gravel roads, town-owned and privately-held properties are being heavily used, often without permission, in some cases with significant environmental impacts (erosion, noise). This component of the population is in need of areas available for such off-road vehicular recreation.

Elderly and Handicapped

As noted in on Page 11 – Population Characteristics, Plymouth’s elderly population 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 Council on Aging should examine ways to broaden the range of recreational opportunities for older residents especially in light of the pending construction of a new Senior Center.

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 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 over all 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 neighborhood park per 1,000 people is recommended.

Play Fields - 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

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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 are 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.

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Based on the design standards described above the population projections displayed in Chart 2 of this report, **Table 25**, Estimated Recreation and Open Space Demand, was developed.

TABLE 25: ESTIMATED DEMAND FOR LAND RECREATION AND OPEN SPACE					
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 is 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.

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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 27** details the needs of existing recreational facilities.

Table 26 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 26: ESTIMATED RECREATION FACILITIES DEMAND FOR PLYMOUTH					
Item	Existing Facilities (including schools)	Projected Population			
		2000 51,701	2010 66,640	2020 73,633	2025 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

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AGE DISTRIBUTION TABLE (Excerpt from TABLE 4: Age Distribution Table)									
		0-4	5-15	16-24	25-44	45-54	55-64	65	Total
2000	Persons	3,478	7,859	5,880	16,540	7,932	4,411	5,812	51,701
	Percent	6.7	14.8	11.4	32.0	15.3	8.6	11.2	100

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. The Massachusetts SCORP identifies the highest user group for recreational facilities is (35-44), who favor golf courses and lakes and ponds. Over the age of 44, usage of recreational facilities drops 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 olds, who favor: golf courses, playgrounds, neighborhood parks and tot lots.

Plymouth's village areas 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 as a whole 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.

The Town has a large number of residents who 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

A. 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

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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 of Morton Park” 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.

B. Expansion of Athletic Fields

Athletic fields are heavily utilized. Both the 1996 and the 2004 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.

C. 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. Plymouth’s Open Space Committee has identified several possible beach access points. In Plymouth Center, Stephens Lane, Water Street and Howes Lane are possible new beach access points. In Manomet, Taylor Avenue and Manomet Point Road are possible access points.

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

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.

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- 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.
- Connecting existing trails and open space areas, whether they are within Plymouth or in adjacent communities, is also a Town goal.

General Goals and Needs for the Town include:

- Eliminate multiple uses of a single 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.
- 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 be driven by two factors:

1. The facility is used by multiple sports, across Fall, Spring and Summer seasons.
2. The facility use meets a demand that is not available at other exclusive-use sites.

Other needs: Permanent or portable restroom facilities and 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.

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Fishermen access to the coast with specially-designated commercial fishermen parking facilities are recommended. Coastal access.

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.

Table 27

SITE	Management	Needs Identified
Nelson Memorial Park	Parks & Rec.	<p>Nelson Park’s renovation goals include:</p> <ul style="list-style-type: none"> • Enhance beach area; • Return the enjoyment of the waterfront to the pedestrian by pulling the parking away from the beach edge; • Extend natural beach elements into the park; • Create a looped path system internal to Nelson Park; • Incorporate the town’s bike path with short and long-term waterfront pedestrian/bicycle plans; • Add tree plantings and picnic areas; • Develop a more efficient, double loaded parking lot; • Help soften the views of the parking area from the water’s edge; • Create a safer intersection at Nelson and Water Streets and the park entry. <p>Beach pollution is a problem; grants are being sought to improve water quality. A swimmable beach is desired but would be costly</p>
Stephens Field	Parks & Rec.	<p>The Conway School of Landscape Design is evaluating alternative recreational master plan strategies for this site. Although identified in the Plymouth Public Space Action Plan as a potential site for mixed use, in 2008, Town Meeting since voted to maintain Stephens Field as a recreational facility only. Recreational uses will be expanded into the old DPW barn and parking lot located immediately east of the existing recreational area and playgrounds.</p>
Town Wharf	Town	<p>Parking area and traffic flow pattern improvements are being incrementally installed.</p> <p>The goals for the Town Pier and Wharf area are:</p> <ul style="list-style-type: none"> • Provide a new public landscaped walkway/esplanade around the entire perimeter of the site with links to the larger waterfront pedestrian network; • Provide for fishermen’s operational and parking needs; • Initiate a new internal street and parking plan to provide well-shaped future development parcels to encourage the expansion of existing commercial operations and allow new commercial and mixed use development in the future; • Provide street trees along new/rebuilt internal streets; • Prepare a plan that encourages a discussion with the Commonwealth to better utilize the adjoining DeMarsh State Boat Ramp for new and more varied recreational needs and public access as well as parking for boaters; and • Reorient much of the large parking lot into a series of smaller-scaled parking lots and street curb-side parking to create a more ‘village street’ feel.

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SITE	Management	Needs Identified
Fisherman's Memorial Park (Mabbetts)	Parks & Rec.	<p>The goals of this significant project are:</p> <ul style="list-style-type: none"> • Improve pedestrian and traffic safety; • Maximize a sense of a 'people place' along the seawall waterfront; • Reduce the 62-foot "asphalt sea" distance separating people and buildings from the harbor; • Connect the human activity of Pilgrim Memorial Park to Town Pier; and • Create public bike lanes along the waterfront. <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 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.
Brewster Gardens	Parks & Rec.	Major renovations were completed in 2005 including weir, wetland plantings, vacuum dredge, in-stream features, interpretive displays and signage.
Jenney Pond Park	Parks & Rec.	<p>Two interpretive displays have been installed. Fish viewing area and new fishway were completed in 2007</p> <p>Jenney Park project goals are:</p> <ul style="list-style-type: none"> • Call out the historical significance of Watson's Hill, including Plymouth Indian/Pilgrim use of what is now park land and surrounding housing; • Integrate themes that focus on the Plymouth Indians, natural features, environmental education, etc.; • Create a new desired attraction in concert with the nearby Jenney Grist Mill and the 1640 Richard Sparrow House; • Expand access to the surrounding neighborhood via Robinson, Mayflower and Stafford Streets; • Upgrade pedestrian access to points southwest along Town Brook (Holmes Playground, Billington Sea, Morton Park); • Improve nearby Spring Street pedestrian way as a better link to Burial Hill and Town Square; and • Strengthen path connection across Spring Lane to Jenney Pond and points northeast along Town Brook, including nearby Howland House (built 1667). <p>Other proposals include dredging the pond to improve fish passage, rebuild granite wall behind mill along the brook, install interpretive display, invasive 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>
Holmes Playground	Parks & Rec.	<p>The existing dam is being assessed for maintenance/removal. The need for the existing skateboard park is being evaluated.</p> <p>Resurface the basketball court.</p>

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SITE	Management	Needs Identified
Billington Street Park/Town Brook	Parks & Rec.	Town is installing a rain garden, benches, and a brick patio along brook at observation area that includes a flower beds. A 2008 CPR grant was awarded at this location to restore water quality. The former Boy Scout building was removed in 2007. Replace light poles (13) from Brewster Gardens to Jenney Grist Mill Capital. Dam to be studied/evaluated Capital Improvements.
Nathaniel Morton School	School Dept.	Parking facilities, recreational use and beautification of this building and Town Hall across the street should be integrated to allow better use of the recreational areas.
Mt. Pleasant School	School Dept.	
Cold Spring School	School Dept.	Acquisition of additional open space next to the school is recommended.
Plymouth North High School	School Dept.	Major renovations of all field and play areas proposed as part of new school construction scheduled to break ground in Spring 2010
Sirroco Memorial Playground	Parks & Rec.	A new fence was installed in 2007.
Haskell Field/Avery Memorial Playground	Parks & Rec.	
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.
Plymouth Beach/Long Beach	Parks & Rec.	Main beach nourishment is under design. Plans for dike reconstruction have been abandoned. Completion of Dike Reconstruction and Beach Nourishment Project; Implementation of Management Plan.
Bates Park	Parks & Rec.	Additional benches.
Plymouth County Courthouse Common	County	A gazebo, lighting, benches, trees and other landscaping as a potentially town-owned facility could provide a focal point for Downtown cultural events for residents and visitors. Also a visual stimulus for pedestrians to venture up Brewster Street into the downtown area. Brewster Street can be reconstructed as a park-like connector from the waterfront. Distinctive materials, landscaping and underground utilities could highlight an attractive residential area.
Depot Park	Parks & Rec.	Reconstruction is planned for 2008-2009

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SITE	Management	Needs Identified
Newfield Street Holmes Playground	Parks & Rec.	Place sand around the swingset. Clean up; grade and restore parking lot with plantings. Possibly install gate where fishway goes through the dam. Across the street install wooden steps down to herring pool and to trail. Replace telephone posts with timber posts.
Plymouth County Farm	County	Local participation in future management decisions for this property is active; future use is in question.
		Possible beach access points: Stephens Lane, Water Street, Howes Lane
Russell-Sawmill Hedge Pond Conservation Area	Conservation Comm.; 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; examine storage capacity re: new Route 44 drainage issues.
Veterans Memorial Playground	Parks & Rec.	A redesign was completed in 2006, now funding for implementation is being sought. One possibility is 40R funding from the Cordage Seaport development. 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.
Boys & Girls Club	Private	Swimming pool is planned with more fields.
Rail-Trail	Town/Mass Hwy	Town is actively working to build the improvements to open this facility.
Siever Field	Parks & Rec	Was completely reconstructed in 2007-2008, with new ball diamond, dugouts, roadway, sidewalks and associated amenities. Bathroom and concession building; or rehabilitate Capital Improvements Plan.
		Acquire centrally-located public open space to be used as a village green or knoll, to serve as a focal point. Ideally, this would be located next to Cordage Park.
Manomet Elementary School	School Dept.	
Brook Road Playground	Parks & Rec.	Resurface tennis and basketball.
Briggs Playground	Parks & Rec.	Resurface tennis and basketball.
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	Conservation Commission	

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SITE	Management	Needs Identified
Beaver Dam Road Conservation Area	Conservation Commission	
Manomet Bluffs	BOARD OF SELECTMEN	Many issues with local residents remain regarding access to these areas.
Rabbit Pond	Conservation Commission	
State Road	Conservation Commission	
Indian Brook Elementary School	School Dept.	
Manomet Youth Center/Bartlett Hall	Parks & Rec.	Expand and renovate. Capital Improvement project for analysis. Sidewalks and improved bike access are needed.
Churchill Landing	Town & Homeowners Assn.	
Fresh Pond Park	Parks & Rec.	Bath-house, bathroom and parking lot have ranked high for capital outlay planning. Parking lot is unsafe; needs to be re-done with drainage improvements. Sign holder repair and new sign installation. Parking lot and roadway edge definition. Re-grade parking lot with plantings and drainage trench. Replace rotted posts along beach. Close loop road; loam & seed. Repair picnic tables. Expand parking. A new playground area is needed. Vandalism is very high. Acquire more land on the pond to protect water quality.
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. Chairs are in 2005 Capital Improvements. Bike racks and additional parking; possible transportation to/from remote site in season. Signage to define parking is recommended, it was placed in 2003 but vandals destroyed it; 2004 signage will be restored.
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	Conservation Commission	
Indian Brook Conservation Area	Conservation Commission	

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SITE	Management	Needs Identified
Taylor Avenue Wetlands	Partial Conservation Commission	
Shallow Pond (pond frontage)	BOARD OF SELECTMEN	
Carolyn Drive Conservation Land	Conservation Commission	
Little Island Pond Conservation Area	Conservation Commission	
Briggs Estate	BOARD OF SELECTMEN & Conservation Commission	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.	Elmer Raymond Playground basketball, tennis courts were resurfaced 2008. Soccer field to be irrigated (plans underway).
Cedarville Landing	BOARD OF SELECTMEN	
Old Schoolhouse	BOARD OF SELECTMEN	
Cedarville Conservation Area	Conservation Commission	
Ponds at Plymouth	Privately owned	The Ponds at Plymouth (826 residences) in southern Plymouth, between Great Herring Pond and Big Sandy Pond, was constructed over the last 20 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 actively 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.
Micajahs Pond	BOARD OF SELECTMEN	

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SITE	Management	Needs Identified
West Plymouth Recreation Area	Parks & Rec.	
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.	More parking is needed. Friends of Morton Park, a neighborhood association, has started recently to assist with the park. Stone bridge to be studied/evaluated Capital Improvements. 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	Conservation Commission	
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	
Boot Pond Conservation Area	Conservation Commission	
Russell Mill Pond Conservation Area	Conservation Commission	The Town has a draft management plan for this area. The plan should be reviewed, updated, and targeted for implementation in 2010.
Rocky Pond Conservation Area	Board of Selectmen	

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SITE	Management	Needs Identified
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.	
Blueberry Conservation Area	Conservation Commission	
Forges Field Recreation Facility & Crosswinds Golf Club	Recreation	Lighting and field expansion are planned 2 youth softball, 1 "Babe Ruth" baseball and 1 soccer field (completed). Increase parking. Football field (Completed). Covered picnic area Capital Improvements for 2010. 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	
Whites Pond Conservation Area	Conservation Commission	
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	
Dugway Pond Conservation Area	Conservation Commission	
Camp Catchelot		
Burton Park	Parks & Rec.	

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SITE	Management	Needs Identified
Harlow's Landing		
Saquish Beach	Conservation Commission	

Management Needs, Potential Change of Use

The Town owns approximately 3,000 acres of conservation land. These conservation lands are some of the most under utilized assets in the community. In addition, significant acreage of conservation land is being created through the various open space developments and through the use of the Community Preservation Fund. A Conservation Land Manager is needed to oversee these properties, create trails, patrol the land, and deal with trash, litter and illegal dumping.

The Town must maintain its public areas with dedication. This includes local streets, which must be kept in good repair and attractive condition. We must recognize our place in providing for the improvement in the Town. 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, as evidenced in **Table 26**. 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.

The Town needs to develop and actively pursue a town-wide acquisition and open space preservation program. It is recognized that the Town is not capable of acquiring an unlimited amount of open space. 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, 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

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response. The School Department is not properly equipped or funded to be the primary supplier of community recreation.

Section VIII Goals & Objectives

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.

The goals and objectives for this 2009 Open Space and Recreation Plan update stem from several meetings which provided opportunities for public input. This included two public meetings held by the Open Space Committee on March 17, 2009 and June 16, 2009. In attendance were members of the Open Space Committee, and Planning Department staff.

Additionally, On December 16, 2009, the Committee also held a public meeting which included a brainstorming session, to allow participation from residents of Plymouth. Eleven people attended and the attendees included the Open Space Committee, members of the Conservation Commission, Planning Board, Town officials, and citizens at large. The purpose of this workshop was to engage the community and to establish a framework that the committee then used to develop goals and actions. Throughout the planning process the Open Space Committee used this information to make sure they were on the right track.

Each attendee was asked to answer the following questions with regards to open space:

What is your most favorite open space area? (not listed in any priority)

- Forge's Field
- Stephen's Field
- Fresh Pond
- Long Beach
- Myles Standish State Forest
- Halfway Pond
- Long Pond
- Harbor/Waterfront
- The Town's 1000 Acre property

What is your most favorite recreational area? (not listed in any priority)

- Center Hill Preserve
- Six Ponds area (Bloody Pond & Halfway Pond)
- Plymouth Beach
- Cleft Rock
- Hedges Pond Recreation Area
- Ellisville Harbor State Park

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What type of open space should be a priority for protection/acquisition?

- NHESP – Priority Habitat
- Wetlands and aquifer protection
- Pine Barrens
- Access to coastal waters/beaches
- Freshwater access/beaches
- Links between existing open spaces
- Passive recreation areas
- Coastal Plain Ponds
- Wildlife refuges (limited human use)

What additional actions could the Town take to increase the recreational opportunities for Plymouth's elderly and handicapped residents?

- Construct ramps, boardwalks, ADA walkways and seats
- Shuttle service
- Brochures and signage
- Getting information out to the people
- Improve communication with the Council on Aging and assisted living facilities
- Work with the Town's Recreation Department

When thinking about public and private open space, what is your greatest concern?

- Land for future generations
- Continued struggle to protect and acquire land
- Protection of habitat
- Clean water and air
- Enjoyment
- Dark Skies
- Silence, quiet, peaceful places
- Balance development and open space protection
- Enforcement

What do you most look forward towards when thinking about public and private open space?

- Future land maintenance/stewardship
- Controlling ATV use
- Potential development on the 1000 acre site
- Clean water/aquifer protection
- Public access to open space
- Loss of opportunities for waterfront access due to development
- Sprawl/low density development
- Development on the 1600 acre Entergy land
- Future land acquisition and maintenance funding
- Ratio of open space to development
- Educate community on the cost of services for various land uses

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Using a series of first, second and third priority votes, the participants individually ranked the responses to these questions. The following ranking was created by combining these responses.

What type of open space should be a priority for protection/acquisition?

Wetlands and aquifer protection	15
Access to coastal waters/beaches	12
Links between existing open spaces	11
Pine Barrens	6
NHESP – Priority Habitat	3
Freshwater access/beaches	2
Passive recreation areas	1
Wildlife refuges (limited human use)	1
Coastal Plain Ponds	

What additional actions could the Town take to increase the recreational opportunities for Plymouth’s elderly and handicapped residents?

Construct ramps, boardwalks, ADA walkways and seats	11
Getting information out to the people	9
Brochures and signage	7
Improve communication with the Council on Aging and assisted living facilities	3
Shuttle service	
Work with the Town’s Recreation Department	

When thinking about public and private open space, what is your greatest concern?

Land for future generations	10
Dark Skies	9
Clean water and air	8
Enforcement	8
Balance development and open space protection	7
Protection of habitat	6
Enjoyment	5
Silence, quite, peaceful places	3
Continued struggle to protect and acquire land	

What do you most look forward towards when thinking about public and private open space?

Future land maintenance/stewardship	17
Clean water/aquifer protection	10
Educate community on the cost of services for various land uses	9
Public access to open space	7
Sprawl/low density development	7

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Future land acquisition and maintenance funding	5
Development on the 1600 acre Entergy land	4
Potential development on the 1000 acre site	3
Loss of opportunities for waterfront access due to development	3
Controlling ATV use	2
Ratio of open space to development	

Merging all of these responses and combining similar topics reveals the following themes and common interests/concerns.

Wetlands and aquifer protection/clean water	25
Future land maintenance/stewardship	17
Getting information out to the people & Brochures and signage	16
Access to coastal waters/beaches/ Loss access due to development	15
Links between existing open spaces	11
Construct ramps, boardwalks, ADA walkways and seats	11
Land for future generations	10
NHESP – Priority Habitat/Protection of habitat	9
Dark Skies	9
Educate community on the cost of services for various land uses	9
Clean water and air	8
Enforcement	8
Ratio/Balance development and open space protection	7
Public access to open space	7
Sprawl/low density development	7
Pine Barrens	6
Enjoyment	5
Future land acquisition and maintenance funding	5
Development on the 1600 acre Entergy land	4
Improve communication with the Council on Aging and assisted living facilities	3
Silence, quiet, peaceful places	3
Potential development on the 1000 acre site	3
Freshwater access/beaches	2
Controlling ATV use	2
Passive recreation areas	1
Wildlife refuges (limited human use)	1
Coastal Plain Ponds	
Shuttle service	
Work with the Town's Recreation Department	
Continued struggle to protect and acquire land	

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The Committee took the results and prioritized which goals they felt were attainable. Through the open space brainstorming forum, participants concluded the following as the most important goals:

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, and by developing a single entity to coordinate tourism initiatives and promote Plymouth as a travel destination. Encourage redevelopment of major opportunity sites.

BALANCE COSTS AND GROWTH

Approach: Limit extension of infrastructure into rural areas and encourage compact development.
Encourage construction of housing which is less costly to service than single family residences on large lots.

PRESERVE CHARACTER

Approach: Preserve and promote historic resources so that Plymouth's rich history is more readable in the environment. Create a coalition of the historic preservation groups in Plymouth and work with 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.

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 stormwater discharges into wetlands, ponds, and coastal waters. Prevent

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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.

Statement of Open Space and Recreation Goals

The goals are described below are in no particular order of priority:

- Achieve a balance of natural resource preservation, residential growth, economic development and financial stability through the judicious use of land use controls that respect development rights and other strategies.
- Ensure that future growth is responsive to a carefully considered assessment of the Town's functional areas, including village centers, growth areas, rural areas, and environmentally sensitive areas.
- Promote the use of conservation and open space tools in Plymouth, for both existing and future development.
- Improve the availability and maintenance of recreation areas throughout Plymouth.
- Protect the sources of drinking water supply in Plymouth through the use of open space conservation and management.
- Protect the surface water quality in ponds, wetlands, waterways and coastal waters in Plymouth.
- Maintain the existing scenic views in Plymouth that give Plymouth a distinctive sense of place.
- Maintain the historic character of the Town and of individual villages that is found in certain open space land uses and recreational areas.
- Maintain the biodiversity and wildlife habitat in Plymouth.

MASTER PLAN GOALS endorsed through the 2009 Open Space and Recreation Plan:

I. 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

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directing development to areas that can accommodate growth with minimal extensions to existing infrastructure.

II. 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.

III. Recreation

- Increase the supply and accessibility of active and passive recreational facilities throughout town.
- Maintain existing and develop new recreational facilities for residents and visitors.
- Increase access to water-related recreation facilities.

IV. 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.

V. 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.

VI. 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.

VII. 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.

IX. 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.

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.

- 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.

Chart 5

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.

Chart 6

V. 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.

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.

VILLAGE CENTER GOALS

Manomet

1990 *Manomet Village Master Plan* identifies a need for small open space lots within the commercial center and residential neighborhoods. A village green for community focus is also a noted need. The possibility of expanding the recreation facilities at the Indian Brook Elementary school is actively being explored by the Recreation Department.

West Plymouth

The 1993 *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. 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 a village green and recreational fields, also identified needs in the Village Center Plan.

North Plymouth

The 1992 *North Plymouth Master Plan* includes the following goals: acquisition of waterfront property; acquisition of existing land adjacent to open space and recreation areas; increased maintenance and surveillance of existing open space and recreation areas; development of neighborhood parks; and access improvements for handicapped and elderly persons.

Plymouth Center

In 2004, Plymouth Center adopted a *Village Master Plan*. Following is the Recreation component.

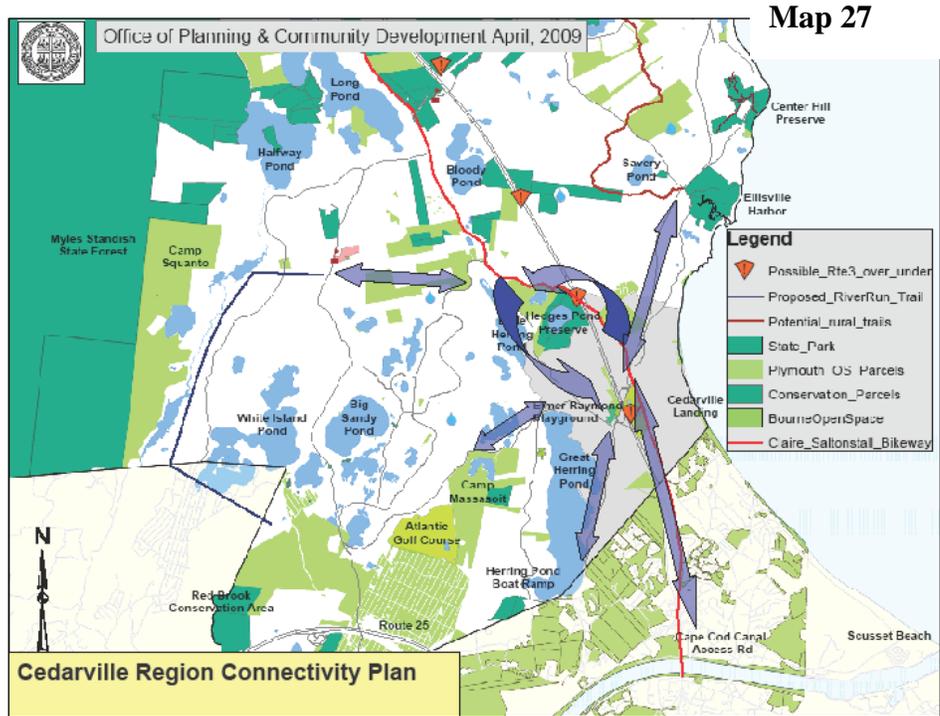
GOALS

- 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.

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Cedarville

The Cedarville Village Steering Committee, with assistance from the Department of Planning and Development, has recently updated the 2009 *Cedarville Village Center Master Plan* (which was last updated in 1991). This update, now going through the public hearing process, includes review of the open space and recreation needs of the Village Center, as follows:



- GOALS**
- I. Improve pedestrian and bicycle connections throughout commercial areas and between village residential areas, recreation areas and trails. (**Map 27**)
 - II. 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.
 - III. 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.

Map 28 – 2009 Open Space Action Plan

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 DPW Environmental Management Division 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 28**).

The description, status and timeline of each item is 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.

Action Plan

Year(s)	Description	Responsible Agencies	Funding Source
1 through 4	Forges Field: Construction of the new Plymouth North High School will result in approximately fifty percent (50%) reduction of existing playing fields thereby the following has been proposed: Two additional soccer fields (Phase 3) west of the Phase 3 parking lot, two additional soccer fields (Phase 3½) north of the same parking lot and one future field area (Phase 4) east of the proposed road loop. Please see attached map for details. The projected cost will be > \$500,000.00.	Parks Department	Capital Improvements Program
1	Camp Dennen: Several improvement initiatives are slated for the future however; the front entrance way is currently proposed at a cost range of \$380,000.00 - \$1,500,000.00 (Map 29).	Parks Department	Community Preservation Fund and Capital Improvements Program
1 through	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	CPC, Planning Department, Department of	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal

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Year(s)	Description	Responsible Agencies	Funding Source
7	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 open space and manage residential growth. In addition, it helps the Town in shaping its future rather than reacting to market pressures.	Environmental Management, State Agencies & Non-profit Land Trusts	Grants
1 Through 7	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.	Plymouth Parks Department	Capital Improvements Program
1	Creation of a plan to bring existing facilities off-line for reconstruction 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.	Plymouth Parks Department	NA
2 through 7	Designating Tax Title land for small neighborhood parks.	Planning Department and Plymouth Parks Department	NA
1 through 7	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.	Plymouth School Department	Capital Improvements Program

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Year(s)	Description	Responsible Agencies	Funding Source
1 through 7	Expansion of existing recreational amenities when contiguous land is available.	Plymouth Parks Department	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants
1 through 2	Restoration efforts along Town Brook, including removal of two dams (that serve as herring obstruction) and improvements to the stream flow characteristics for habitat in the northern reaches (just below Billington Sea) are ongoing.	Department of Environmental Management	Town Capital Improvements Program, State Grants & Federal Grants
1 - 3	A grant was received from the Commonwealth this year to upgrade the Nelson Street Playground area, (located in both Plymouth Center and North Plymouth) and these improvements are in the planning stages.	Parks Department and Department of Environmental Management	State, CPC, Capital Improvements Program and CDBG Funds
1 through 3	In 2005, Town Meeting approved funding for a new high school (to replace the aging structure) at Plymouth North High School on Obery Street. Plymouth is working closely with the Massachusetts School Building Authority to include a new Senior Center at this location, which is part of the plans laid out by the Town.	School Department	2 ½ Override and State School Building Authority funds
7	Design and exploration of funding sources for the expansion of fields at Manomet's Indian Brook Elementary School 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.	Plymouth Parks Department	Town Capital Improvements Program, State Grants & Federal Grants
1 through 7	The Town is actively discussing potential acquisitions of significant trail/open space corridor properties with private property owners.	CPC, Planning Department, Department of Environmental Management, State	Community Preservation Fund, Town Capital Improvements Program, State Grants & Federal Grants

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Year(s)	Description	Responsible Agencies	Funding Source
1 through 7	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 local 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.	Agencies & Non-profit Land Trusts Various town boards and agencies, private developments, and State agencies	Private
1 through 7	Create management plans for all existing and newly acquired lands.	CPC, Planning Department, Non-profit Land Trusts	NA
1 through 7	Creation and implementation 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, Department of Environmental Management	NA

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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 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.

1. Municipal grants: In recent years, 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 (and usually able) to aid in the purchase of open space. This is reflected in a series of conservation areas such as Russell Mill Pond and Stearns/Kapell tracts which were bought by the Town with the help of the Wildlands Trust. Each of these parcels was acquired using “Self-Help” funding that is made available annually through the Executive Office of Environmental Affairs. The update of this open space plan is a required prerequisite for further Self-Help funding from the State.
2. The Community Preservation Act also provides significant funding for the acquisition of open space. It is expected that Plymouth will generate roughly \$2,000,000 annually into the Community Preservation Fund, with \$1,000,000 in local funds to be matched dollar for dollar by the Commonwealth of Massachusetts. These funds are restricted to the preservation of historic features, affordable housing and the protection of open space. In addition to CPA funds, there are other important sources of funding.
3. Other potential sources of revenue include the application of a Transfer Tax on real estate sales to create a land bank for Plymouth. This tool is used to great effectiveness on Cape Cod and the Massachusetts Islands. The Planning Board is considering pursuing this tool and the Open Space Committee overwhelmingly supports the Transfer Tax concept.
4. 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.
5. Private donations from the citizens of Plymouth are an important source of funding. Several recent acquisitions by non-municipal partners have relied on private

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fundraising.

6. 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 1,200 acres in town. The Nature Conservancy is a global organization that established a Plymouth Program office in 2001 and presently owns about 94 acres in Plymouth. The two groups are past and future partners to the Town as it works to preserve open space.

Agencies too have a role in the acquisition of open space in Plymouth. The US Fish and Wildlife Service manages the Massasoit National Wildlife Refuge (197 acres) in Plymouth and is 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 three special permit procedures that foster balanced development and reduce sprawl: the Rural Density Development, the Rural Recreational Development and Low Density Development. Each of these requires an open space set aside to occur often with a conservation restriction to be placed on the land. Developers are motivated to apply for these special permit procedures by the exemptions offered through the 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 as 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

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key strategy to strengthen the village centers and reduce the effects of sprawl on Plymouth.

Plymouth Town Meeting recently voted to pursue a home rule petition for *impact fees* on new development. Impact fees would be assessed on new developments in town and would likely create greater incentives for developers to utilize special permitting that may lead to open space set asides. Also, to the degree that development represents a lost opportunity to protect significant tracts of open space, an argument could be made that this represents a real capital expense to the community. Therefore, in certain priority areas, perhaps impacts fees should reflect those effects of new developments.

User fees for Town activities should be considered when they can be fairly and equitably applied.

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. Much of these lands would be a priority for conservation groups and agencies. Also, if the town or a conservation group wanted to make the protections permanent through the purchase of a conservation restriction, there is no predictable way to know how that would affect the Board of Assessing. A more predictable tax break for conservation restrictions is warranted.

Essentially, the Chapter 61 Program is creating a false sense of security in Plymouth and the Land Use & Acquisition Committee, the Community Preservation Committee and the Open Space Committee should develop a proactive process of outreach to large landowners enrolled in the program. This outreach would provide insights regarding the landowners' intent for the property. Lastly, because the town has several partners who are potential sources of funding, it should be the policy of the Town 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. The criteria are focused on "public interest values" such as natural resources, scenic, recreational or historic attributes. The

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Committee recognizes that Plymouth is geographically diverse and that there will be a need to prioritize open space opportunities by village area or planning district. This ranking criteria is located in Appendix D.

Additional Action Items

Continue to maintain and improve the existing facilities to meet local demands. The Five-Year Action Plan includes the Capital Improvements listed in **Table 20: Recreational Facilities Needs**.

While the priority of open space and conservation land has been identified and an overall action plan outlined above, The Five-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 review the inventory of recreational, conservation and open space needs to identify properties/action plans for protection or acquisition over the next five years, starting in 2010. The Open Space Committee will undertake the same activity for the rural areas.

Continue to pursue the development of the identified trail corridors in the Goals & Objectives and make information available to the public through the Open Space Plan and GIS mapping in 2010.

Rights-of-ways are a priority of the Town, especially when they link existing open spaces, recreational facilities, and village centers, and will be evaluated by the Open Space Committee in 2010-2011 to establish goals and objectives for potential access/use of rights-of-ways.

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. This process is underway by a variety of town departments and committees, and will be completed in 2010 and built into an ongoing review process in 2010.

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 done by the Open Space Committee in 2010-2011.

Inventory and evaluate potential ways to create access to waterfront (ocean, river and pond) with support facilities in appropriate locations.

A management plan and budget that reflect the clear and growing use of the public

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beaches as a town and regional asset should be developed 2011-2013.

The initiation of an "adopt a facility" program should be considered. The Town should use the Adopt an Island, Intersection, Field or Road programs. Again, individuals, businesses, association, service groups, clubs, civic organizations, etc. would maintain the area. In return, a sign acknowledging the contribution and service is placed nearby. The "adopt a pond" concept is going to be explored with local schools in 2010-13. Other public/private partnerships should be explored.

The physical limitations of handicapped and elderly people should be considered when developing or improving access to open space and recreation areas. Trails, walkways, and entrances should be designed to be accessible to everyone. An ADA-accessibility assessment should be done on all municipal open space and recreation areas to evaluate priorities for enhancing ADA-compliant access to these areas 2010-2011.

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. Hiking trails in particular should be developed. 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 Open Space Committee should meet with representatives of the State Forest to review objectives in 2010.

The Town should discuss with the Entergy Company the potential of using the areas in and around utility easements for recreation in 2011.

The Town should discuss the future of the approximately 1,600 acres of open space surrounding the Entergy nuclear facility, to review goals of Entergy and compatible goals of the Town. 2010-2011.

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. Ongoing.

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 1991 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

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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 of the proposed multi-town aquifer task force.

Surface Water Quality

- Protect lands that provide buffers 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 in order 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. Ongoing.

Identify important private holdings that contribute to the distinctiveness of “America’s Hometown” and proactively work with willing parties to identify design guidelines.

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Ongoing.

Historic Character

Target properties that represent 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 non-profit conservation organizations to identify, protect and manage lands of significant ecological/habitat value, including an overall assessment of priority areas.

Ongoing.

Establish incentives for protection of lands of significant ecological/habitat value, such as for the proposed development of 3,400 acres of agricultural land owned by the A.D. Makepeace Company. 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 federal and state agencies 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 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.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

Continue to remediate stormwater pollution to Plymouth Harbor. Ongoing grants and proposals.

Natural Resources

KEY ACTIONS:

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 restrict 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.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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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 particular 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 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

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

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.

STRATEGY:

Prevent harm to life and property from coastal flooding.

- 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 barrens 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.

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.

Objective 8:

Coordinate environmental protection and open space planning activities.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

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 2004 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 unfragmented pine barrens habitat and large parcels over 100 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). Another option is a Land Bank surcharge tax on real estate.
- Fund a full-time Land Protection Specialist to act as the Town's acquisition agent and coordinate land protection activities.

Objective 9:

Improve air quality.

STRATEGY:

Implement transportation objectives aimed at reducing roadway demand.

Open Space & Recreation

KEY ACTIONS

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

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.
- Prioritize preservation of pine barren forests, especially core areas of unfragmented 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.

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 particular 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.
- Amend the Zoning Bylaw to create expanded buffer areas around water resources.

Private Development

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

- 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.
- 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.
- 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.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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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 a Planning Board hearing 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.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
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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 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

March 17, 2009 Open Space Committee Meeting

Valerie Massard presented the new requirements from the state with respect to the Open Space and Recreation Plan Guidelines, and presented the various updated components of the plan to the Committee. Input on map edits and general question/answer session followed. The Committee was receptive to the edits as presented, and looked forward to review of the final draft.

June 16, 2009 Public Hearing

In attendance: Oliver H. Durrell, Irene Winkler (USDA-NRCS), Nathan Withington, Dausha Campbell, Ginny Davis, Charlotte Russell, Bob Pomerene, Bill Keohan, Alle Lanza, Valerie Massard. Comment received was all supportive of the plan as drafted.

December 16, 2009 Open Space Committee Meeting

The Committee also held a public meeting which included a brainstorming session led by Lee Hartmann, Elizabeth Sullivan and Patrick Farah; this meeting allowed participation from residents of Plymouth. Eleven people attended and the attendees included the Open Space Committee, members of the Conservation Commission, Planning Board, Town officials, and citizens at large. The purpose of this workshop was to engage the community and to establish a framework that the committee then used to develop goals and actions. Throughout the planning process the Open Space Committee used this information to make sure they were on the right track.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

Old Colony Planning Council

Jeanmarie Kent Joyce
President
70 School Street
Brockton, MA 02301-4097



Pasquale Ciaramella
Executive Director
Telephone: (508) 583-1833
Fax: (508) 559-8768
EMAIL: info@ocpcrpa.org

June 22, 2007

Mr. Lee Hartmann
Director of Planning and Development
Town Hall
11 Lincoln St.
Plymouth, MA 02360

Re: Open Space and Recreation Plan

Dear Mr. Hartmann

The Old Colony Planning Council has reviewed the Plymouth Open Space and Recreation Plan and offers the following comments:

1. The plan covers all of the topics called for under the Open Space and Recreation Plan Requirements and does so with the balance between the specific and the general appropriate to a community the size and complexity of Plymouth.

In particular it is very appropriate that the detailed local project planning be left to the various Village Planning Committees which have overseen preparation of the individual village plans.

2. The Plan makes a strong case for continued open space acquisition serving the Village Centers and complementing the Village Center Plan by keeping the villages distinct, along with acquisition/protection in outlying rural areas where low density, landscape-altering development continues.
3. The discussion of the planning process is very thorough. It gives a good sense of the logical sequence from the 1977 Plymouth Goals Project through the broad-based preparation of the Village Centers Plans and the recent comprehensive planning effort. The current Open Space Plan then examines continuing needs and outlines actions to implement the open space element of the past plans.
4. The detailed discussion of varied scenic resources is particularly complete and should be a valuable guide to areas potentially needing protection.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

5. The inventory of present public and private open spaces is appropriately organized by Village Center and impressively gives basic information about 185 sites and facilities to support future project planning and actions.
6. The Community Vision section clearly explains the evolving focus from village center to town-wide reflecting development in the more rural areas. At the same time the Goals cover the range of concerns at all scales.
7. The Analysis of Needs presents a good review of town-wide issues and options, particularly exploring variations on the "Wishbone" concept connecting Myles Standish State Forest, the Waterfront and Ellisville Harbor. It reviews alternative major and secondary corridors and provides options reflecting the feasibility of different mixes of public and private lands. This approach is much more likely to result in a functioning set of corridors and destinations than could follow from one idealized specific configuration.
8. The discussion of recreational needs and facilities is also quite thorough, outlining the needs of over 90 sites and facilities and identifying the responsible parties.
9. Finally, the Five Year Action Plan builds on the preceding work and the statement of goals and objectives to review the tools, resources, and possible partners potentially available to implant the program. It then lists a wide range of specific actions to be pursued over five years (and beyond).

In all, the Plan is a very impressive document, developing and outlining a necessary and ambitious program. The Council wishes the town good luck in implementing the plan, and we hope to help with some of the many proposed projects and programs.

Sincerely,



Pasquale Ciaramella
Executive Director

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

announced at the sale.

Mortgage shall control.

described in said mortgage.

CCO Mortgage, as servicer for RBS Citizens, National Association I/k/a Citizens Bank, N.A.

Said premises shall also be sold subject to and/or with the benefit of any and all other restrictions, easements, improvements, covenants, outstanding tax titles, municipal or other public taxes, assessments, liens or claims in the nature of liens, attachments and existing encumbrances of record created prior to the Mortgage, if any there be, insofar as in force and applicable.

TO WIT:

Two contiguous parcels of land, together with the buildings thereon, situate in Plymouth, Plymouth County, Massachusetts, more particularly bounded and described as follows:

(617) 558-0500
200811-1174 - GRY

bidder.

AD#11966206
OCM 5/20, 5/27, 6/3/09

601-602 STATE PARK RD., PLYMOUTH
Legal Notice

Notice of Mortgagee's Sale of Real Estate

Terms of sale:

1. Bidding on Premises: A deposit of \$10,000.00, paid by certified check or bank cashier's check will be required at the time and place of sale, also the winning bidder will be required to make an additional deposit of \$10,000.00 paid by a personal check.

Present holder of said mortgage

By Its Attorneys.

PARTRIDGE SNOW & HAHN LLP
2364 Post Road, Suite 100
Warwick, Rhode Island 02886
(401) 681-1900

By virtue and in execution of the Power of Sale contained in a certain mortgage given by Jonathan C. Calianos, Trustee of 601 State Road Realty Trust to William J. Chase, Trustee of William J. Chase Revocable Trust dated May 3, 2006 and recorded at Plymouth County Registry of Deeds Book 32635, Page 286, ("the Mortgagee") for breach of the conditions of said mortgage and for the purpose of foreclosing upon the real estate subject to said mortgage, the same will be sold at Public Auction at 11:00 o'clock a.m. on the 25th day of June, A.D. 2009 (the "Auction Date"), on the mortgaged premises described below (the "Auction Site"), being known as 601-602 State Park Road, Plymouth, Ma. all and singular the premises described in said mortgage.

The balance is to be paid by certified check or bank cashier's check within {thirty (30)} days of the date of the sale and shall be deposited in escrow with the firm of Atty. Robert J. Barrett at 462 Plain Street, Marshfield, MA 02050 pending approval of said sale by the Land Court.

The Deed or Deeds shall be delivered within {ten (10)} days from the date of approval of said sale by the Land Court. All other terms announced at the sale.

Robert J. Barrett, Atty.

Robert J. Barrett, Atty.
462 Plain Street
Marshfield, Ma., 02050

AD#11964270
OCM 5/20, 5/27, 6/3/09

A2-11 LYDON LN.,
HALIFAX
**LEGAL NOTICE
COMMONWEALTH OF
MASSACHUSETTS**



**LAND COURT
DEPARTMENT OF THE
TRIAL COURT**

Case No. 391052

To
Jeffrey R Webb, Rachel S
Webb

and to all persons entitled to the above

5083-76/Bartlett)
05/20/09, 05/27/09,
6/03/09)(153491)

D#11964025
OCM 5/20, 5/27, 6/3/09

**OPEN SPACE PLAN
LEGAL NOTICE
TOWN OF PLYMOUTH
PLANNING BOARD**

**NOTICE OF PUBLIC
HEARING**

The Open Space Committee and Plymouth Planning Department will hold a Public Hearing at Plymouth Center for the Arts, 11 North Street, Plymouth, Massachusetts, on Tuesday, June 16, 2009 at 7:00 p.m., to present the Update to the Open Space 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 Board Office.

THE PLYMOUTH
PLANNING BOARD

AD#11969718
OCM 5/27, 6/3/09

Said premises will also be sold subject to all leases and tenancies having priority over said Mortgage, to tenancies or rights of parties in possession now or at the time of said auction which are subject to said Mortgage, to rights or claims in personal property installed by tenants or former tenants now located on the premises, and to laws and ordinances including, but not limited to, all building and zoning laws and ordinances.

Terms of sale:

The highest bidder in the sale of the premises shall deposit a bank treasurer's check, or certified check in the amount of Five Thousand Dollars (\$5,000) at the time and place of the sale of the premises as a non-refundable earnest money deposit towards the purchase price to be held at the option of the Mortgagee as liquidated damages for any default by the successful bidder. The balance of the purchase price shall be paid upon delivery of the deed within thirty (30) days of the date of the public auction. The successful bidder shall be required to sign a Memorandum of Sale at the public auction containing the terms herein and any additional

PARCEL I:

A certain lot of land, with the buildings thereon situated on the Northeasterly side of a roadway known as Cherry Street Court, a right of way leading Westerly from Cherry Street, bounded and described as follows:

Beginning at the Northwesterly corner of land now or formerly of John Marshall; Thence running Northwesterly by said way, sixty (60) feet to land now or formerly of Francesco P. Rodrigues; Thence running Northeasterly by said land now or formerly of Ridrigues, one hundred eighty (180) feet to land now or formerly of Priscilla S. Hedge; Thence running Southeasterly by said Hedge land, sixty (60) feet to land now or formerly of John Marshall; Thence Southwesterly by said Marshall land, one hundred eighty (180) feet to the point of beginning.

PARCEL II

The land in Plymouth shown as Lot #2 on a plan of house lots near Cherry Street made by Thomas W. Bailey, Surveyor, under date of April 11, 1918, and further bounded and described as follows:

Beginning at the Northwesterly corner of the granted premises at and iron pipe set in the ground at an angle in the

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

COMMONWEALTH OF MASSACHUSETTS



LAND COURT
DEPARTMENT OF THE
TRIAL COURT
Case No. 09 MISC
391533

To:
Elizabeth E. Hennessy;
Christy J. Murphy;
and to all persons entitled to the benefit of the Servicemembers Civil Relief Act: Mortgage Electronic Registration Systems, Inc. claiming to be the holder of mortgage covering real property in Plymouth, numbered 38 Stafford Street given by Elizabeth E. Hennessy and Christy J. Murphy to Mortgage Electronic Registration Systems, Inc., dated April 23, 2007, Recorded with the Plymouth County Registry of Deeds at Book 34446, Page 43, has filed with said court a complaint for authority to foreclose said mortgage in the manner following: by entry and possession and exercise of power of sale. If you are entitled to the benefits of the Servicemembers Civil Relief Act and you object to such foreclosure you or your attorney should file a written appearance and answer in said court at Boston on or before the 29th day of June 2009 or you may be forever barred from claiming that such foreclosure is invalid under said act.
Witness, Karyn F. Scheier Chief Justice of said Court this 12th day of May 2009

Attest:
Deborah J. Patterson
Recorder
(285.6294/Hennessy)
(06/03/09)(155919)

AD#11078025

shown as LOT 31E on PLAT 14 of the Assessors' Plans in a DH Zone.

The petitioner or his/her representative and any other person desiring to be heard on this matter should appear at the time and place designated.

ZONING BOARD OF APPEALS
PEGGY FITZGIBBONS
ADMINISTRATIVE ASSISTANT

AD#11944486
OCM 5/27, 6/3/09

ZBA/SHOPS AT 5 WAY
LEGAL NOTICE
ZONING BOARD OF APPEALS

CASE NO. 3535

The Plymouth Zoning Board of Appeals on the Zoning By-law will hold a Public Hearing at the Town Office Building, 11 Lincoln Street, Plymouth, Massachusetts on WEDNESDAY, JUNE 24, 2009, at 7:30 p.m. to hear the petition of INLAND WESTERN PLYMOUTH 5, LLC and PLYMOUTH EXIT 5 PHASE 2 LLC requesting a Modification of Special Permit Nos. 3235 and 3254 and a Special Permit per Section 205-19, Sections K and L, in order to replace an existing pylon identification sign with a new sign and add two additional pylon signs within the site on property of INLAND WESTERN PLYMOUTH 5, L.L.C. and PLYMOUTH EXIT 5 PHASE 2, LLC, located on SHOPS AT 5 WAY and shown as LOTS 3C-1A, 3C-1B, 3C-2, 3C-3, 3C-4, & 3C-5 on PLAT 83 of the Assessors' Plans in a HC Zone.

The petitioner or his/her representative and any other person desiring to

TRUST located at 629 STATE ROAD and shown as LOT 52 on PLAT 45 of the Assessors' Plans in a R25 Zone.

The petitioner or his/her representative and any other person desiring to be heard on this matter should appear at the time and place designated.

ZONING BOARD OF APPEALS
PEGGY FITZGIBBONS
ADMINISTRATIVE ASSISTANT

AD#11950259
OCM 5/27, 6/3/09

PL/OPEN SPACE PLAN
LEGAL NOTICE
TOWN OF PLYMOUTH
PLANNING BOARD

NOTICE OF PUBLIC HEARING

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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 Board Office.

THE PLYMOUTH
PLANNING BOARD

AD#11969718
OCM 5/27, 6/3/09

ZBA/101 WHITE HORSE RD., PLYMOUTH
LEGAL NOTICE
ZONING BOARD OF APPEALS

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

The Greater Attleboro-Taunton Regional Transit Authority (GATRA) has established a Disadvantaged Business Enterprise Program (DBE Program) in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. GATRA intends to submit to the Federal Transit Administration (FTA) a program goal of 6% for DBE participation in GATRA contract activities for Fiscal Year 2010. This notice is to afford the general public and the contracting community an opportunity to comment. The GATRA DBE program goal may be reviewed for 30 days following publication of this notice at the GATRA Administrative Office, 10 Oak Street, 2nd Floor, Taunton, MA 02780. Tel: 508-824-8828.

AD#11974137
OCM 6/3/09

communityclassifieds
To place an ad call 1-800-624-SELL

To place a legal ad call Carol

Muscular Dystrophy Association

Where Hope Begins

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009

Town of Plymouth
Department of Planning and
Development

Memo

To: Valerie Massard, Senior Planner

From: Valerie Massard, Senior Planner 

Date: 2009 Open Space & Recreation Plan

Re: July 9, 2009

Please be advised that the Planning Board voted at its meeting of June 22, 2009 to approve the 2009 Updated Open Space and Recreation Plan for the Town of Plymouth, as presented and recommended by the Department of Planning & Development.

TOWN OF PLYMOUTH 2009 UPDATE OPEN SPACE & RECREATION PLAN
JUNE, 2009



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
VALERIE MASSARD, SENIOR PLANNER

FROM: TIFFANY PARK, ADMINISTRATIVE ASSISTANT
BOARD OF SELECTMEN'S OFFICE *T.P.*

SUBJECT: 2009 OPEN SPACE & RECREATION PLAN

DATE: JULY 9, 2009

Please be advised that the Board of Selectmen voted at its meeting of June 23, 2009 to approve and adopt the 2009 Updated Open Space and Recreation Plan for the Town of Plymouth, as presented and recommended by the Department of Planning & Development.

Feel free to contact me for any further information on (or confirmation of) this vote.

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APPENDIX A

In the 1996 Open Space & Recreation Plan (which utilized research completed by the Environmental Technical Team for the Plymouth Natural Resource Program), streams, ponds and lakes with the best potential for recreation were identified. Based on the "Criteria for Resource Development," water bodies were identified that were most suited for boating, fishing, swimming, environmental study and wildlife propagation. Water bodies designated as best for recreation are listed below, but those known to be Coastal Plain Ponds have been deleted from the 1996 list as they are environmentally sensitive:

Beaver Dam Brook
Beaver Dam Pond
Billington Sea
Charge Pond
Eel River
Five Mile Pond
Forge Pond
Fresh Pond
Halfway pond
Herring Pond
Indian Brook
Little Herring Pond
Little Long Pond
Little Pond
Long Island Pond
Long Pond
Morey Pond
Sandy Pond
Savery Pond
Sawmill & Russell Ponds
Town Brook
White Island Pond

**APPENDIX B: Plymouth Open Space Committee
Open Space Acquisition Ranking Criteria**

A checklist of natural resource and community functions was developed and a point-based ranking system has been imposed on each of these functions. As opportunities arise, parcels can be evaluated through the ranking system to guide decision-making. Criteria such as cost and partnership opportunities are also factors, and there will always be subjective influences on decisions. It is hoped that these objective criteria will aid in overcoming otherwise subjective factors and create an appropriate screen through which the best open space projects will be filtered.

Water Supply

Plymouth is blessed with abundant groundwater supplies from the second largest Sole Source Aquifer in the Commonwealth – the Plymouth/Carver Sole Source Aquifer. DEP regulations require protection of all lands in Zone 1.

Parcel would abate existing incompatible use in a Zone II	5 Points
Parcel sits within an existing Zone II	4 Points
Parcel is located in an area defined as having high water supply potential	3 Points
Protection of parcel would abate existing or potential incompatible land use	2 Points
No existing or potential function as water supply	0 Points

Surface Water Quality/Soil Erosion

Plymouth has hundreds of ponds and several small river systems. Protection of these surface waters has direct bearing on the quality of life in Town. Most of these have some existing source of impairment so proactive protection of open lands that limit further potential impacts is warranted.

Parcel would protect a Class A water (is within 2000 feet up-gradient or 500 feet down-gradient)	5 Points
Parcel acquisition removes all known sources of impairment of a Class A Water	5 Points
Parcel acquisition removes a known source of impairment	4 Points
Parcel would protect a Class B water	3 Points
Parcel would remove a secondary source of impairment	2 Points
Parcel would protect a Class C water	1 Point
Parcel is not proximate to any surface waters	0 Points

Maintenance of Biological Diversity or Wildlife Habitat

Plymouth ranks third highest in the Commonwealth, relative to rare species and ecological significance. Several leading conservation organizations and agencies have identified global conservation priorities here. This should be an incentive for the community to provide appropriate stewardship to these resources.

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Parcel has known occurrences of rare or imperiled species	5 Points
Parcel is within an ACEC or Core Habitat in the NHESP Biomap and TNC SCP boundary	4 Points
Parcel is within Core Habitat in the NHESP Biomap	3 Points
Parcel is identified as Supporting Natural Landscape in the Biomap	2 Points
Parcel is identified as local habitat or is contiguous to existing habitat	1 Point
Parcel does not provide significant habitat functions	0 Points

Buffering Conflicting Uses

The maintenance of Plymouth’s community character can be fostered by the acquisition of strategic parcels of open space to buffer public spaces or large scale private uses from conflicting uses. (For example, the town could work to preserve the “view shed” of Plymouth Harbor)

The parcel buffers public site or large scale private site from conflicting adjacent land uses	5 Points
The parcel buffers small-scale private sites from conflicting uses	3 Points
The Parcel buffers sites that are not sensitive to adjacent uses	1 Point
Site does not serve a buffering role	0 Points

Recreational Value

The open space committee has identified the need for recreational lands that are closer to village centers and developed zones. The village steering committees will help to refine these recreational open space priorities.

The parcel is recognized as a destination for recreational activities	5 Points
The parcel provides unique or locally unavailable recreational opportunities	4 Points
The parcel meets criteria identified in a plan for recreation/open space	3 Points
The parcel is not identified in a plan but could provide an unforeseen recreational opportunity	1 Point
The parcel does not provide recreational values	0 Points

Scenic Views

A large part of the motivation of preserving Plymouth’s remaining open spaces is to maintain the picturesque qualities of the town.

Parcel provides a distinctive landscape view from a public way or provides a vista from which to view significant and distinctive landscape qualities	5 points
Parcel is associated with an identified visual element of the town	4 points

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Parcel provides distinctive views but is not readily accessible to the public	2 points
Parcel does not provide scenic qualities	0 points

Historic Resources

Few towns value historic resources as much as America's hometown. The landscape provides more than just a context to historic structures; the land itself may be historic.

Parcel is listed on the State or Federal Register of Historic Places or possesses identified prehistory uses	5 points
Parcel is identified as locally significant for historic, cultural or archeological values	3 points
Parcel does not yet possess identified features but is likely to	2 points
Parcel is not thought to provide historic values	0 points

Education

Parcel currently serves as a destination for educational activities	5 points
Parcel has high potential to be a destination for educational activities	3 points
Parcel could supplement existing outdoor education sites	2 points
No apparent potential for outdoor education at the site.	0 points

Landscape Context

Parcel is contiguous to existing protected open space AND is identified as a corridor between open spaces	5 points
Parcel abuts existing open spaces	4 points
Parcel provides an open space or recreational element that is lacking in the immediate area	4 points
Parcel does not abut open space but is identified with a recreational corridor between existing identified open spaces	2 point
Parcel is remote and does not abut any existing protected open space	0 points

Fiscal Benefits

Both development and conservation can have long-term fiscal impacts on the Town. Conservation takes property off the tax rolls, but may have a beneficial impact on surrounding property values or help protect/enhance tourism, water supplies, agriculture or other assets that generate jobs and tax revenues. Development brings increased tax revenues, but also increases demand for infrastructure and municipal services. Studies have shown that commercial and industrial development typically represent a net fiscal gain to the Town, with tax revenues exceeding the cost of municipal services. Residential development, on

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the other hand, often results in a net negative fiscal impact, with the on-going cost of municipal services exceeding the tax revenue generated.

EXAMPLE: *Cost of Community Services: Revenue to Expenditure Ratios in Dollars American Farmland Trust Study, 2001*

	Residential	Commercial/Industrial	Open Land
Middleboro	1 : 1.08	1 : 0.47	1 : 0.70
Mass average	1 : 1.10	1 : 0.48	1 : 0.42

Parcel could be developed into multiple residential units and is far from existing infrastructure or services. Conserving the parcel would enhance or protect an economic asset to the town such as a tourist attraction, agricultural asset or other generator of jobs and tax revenues. 5 points

Parcel could be developed into multiple residential units and is far from existing infrastructure or services. 4 points

Parcel is zoned commercial or industrial but is far from existing infrastructure and town services. 2 point

Parcel is zoned commercial or industrial and is close to existing infrastructure and town services. 0 points

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Appendix C – Park Beaches and Playgrounds (Map 30 and Chart 7)

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Appendix D

TOWN OF PLYMOUTH

11 Lincoln Street Plymouth, Massachusetts 02360

FAX (508) 830-4062 (508) 747-1620

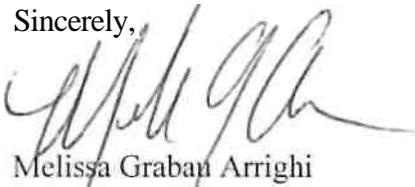
December 17, 2009

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.

Acting Town Manager

Sincerely,



Melissa Graban Arrighi

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	Town of Plymouth Americans with Disabilities Act Access to Facilities and Activities Policy
Effective Date	October 20, 2009
Expiration Date	None
Date Last Revised	New
Town Manager	Endorsed October 20, 2009

**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.

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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.

TABLE 28 - ADA Access Self-Evaluation Table

Area	Mangement Agency	Current Use	Activity	Equipment	Assesment	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		

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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
			Restrooms	No		
VILLAGE PARKS AND PLAYGROUNDS						
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		

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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		
BEACH/CONSERVATION AREA						
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		
TRAIL						
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

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			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 PLAYGROUN DS						
Briggs Playground	Parks Dept	Playground/b all fields/basketb all/tennis	Parking	Paved, handicapped spaces	Accessible	In progress
			Restrooms	No		
Brook Road Playground	Parks Dept.	Playground/b all fields/basketb all	Parking	Gravel, no handicapped spaces	Limited access	In progress
			Restrooms	No		
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/b all fields	Parking	Paved, handicapped spaces	Accessible	N/A
			Restrooms	Yes, seasonal		
INDOOR FACILITIES						

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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

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			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/all 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						

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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
			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		

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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						

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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 Blueberry Road	Conservation Commission	Conservation-no access	Parking	No	Not accessible	N/A
			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						

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Saquish Beach	Conservation Commission	Conservation	Parking	Sandy, no handicapped spaces	Limited access	N/A
			Restrooms	No		