HINGHAM

DRAFT OPEN SPACE & RECREATION PLAN
2016-2023

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Chapter 1: Plan Summary

The Town of Hingham is located approximately 15 miles southeast of Boston and it is approximately 23 square miles (14,558 acres) in size, with its northern boundary extending into the harbor to include five islands: Ragged, Sarah, Langley (reputedly named for the owner's daughter "Ragged Sarah Langley"), Button, and Bumpkin. Hingham is proud of its location on the water. The harbor contributes a great deal to the community, providing a popular destination for sun bathing, swimming, boating, picnicking, photography, and public markets, as well as a connection to the Town's past.

An otherwise quaint, suburban community, Hingham is connected to Boston by highway, bus, commuter boat, and by the restored Greenbush commuter rail line. It has multiple coastal and inland recreation sites, including land owned by the Town, the Hingham Land Conservation Trust, the Trustees of Reservations and the Department of Conservation and Recreation. Hingham today looks to the future with an eye towards preserving its rich history, so evident in the remarkable architecture preserved in both public and private buildings, and in the protection of its open space.

This plan is an update of a series of previous Open Space and Recreation Plans authored by the Town. It was designed to strike a balance between the continued trend of development in Town and the maintenance and protection of the Town's open spaces. This plan adheres to the Open Space and Recreation Plan requirements outlined by the Massachusetts Executive Office of Energy and Environmental Affairs, Division of Conservation Services. It is intended to be comprehensive and consistent with other plans and documents relating to open space and recreation. The 2009-2016 Open Space and Recreation Plan, the 2014 Master Plan Update, the 2015 Climate Change Vulnerability, Risk Assessment and Adaptation Study, the 2015 Comprehensive Trails Plan, and several other key documents were reviewed, and components relevant to open space and recreation were integrated into this plan.

As identified through the planning process, discussions with residents, Town departments and committees, and questionnaire results, the 2016-2023 Open Space and Recreation Plan goals are as follows:

GOAL 1:
Protect Hingham's natural resources and the ecological and biological integrity of its wildlife through open space acquisition, development regulation, and collaboration with varied authorities and interests.

GOAL 2:
Protect Hingham's scenic qualities and significant historical resources through open space acquisition, development regulation, and collaboration with varied authorities and interests.

GOAL 3:
Maintain and enhance Hingham's formal and informal recreation facilities in an environmentally sensitive way in order to provide diverse recreational opportunities and access to fields, courts, playgrounds, and major open spaces.

GOAL 4:
Protect the quantity and quality of Hingham's water supply.

GOAL 5:
Acquire and preserve land, easements, and restrictions for conservation, preservation, and recreation purposes.

A number of clear objectives and action items have been developed as part of this plan in order to support these broad goals (see Chapters 8 and 9). Some action items were carried over from the previous Open Space and Recreation Plan, while others were developed based on feedback from Town employees, volunteers and residents. This plan also provides updated maps of the Town, identifying key resources and features, as well as helping to illustrate the Town's recent accomplishments and future goals related to open space and recreation.

Chapter 2: Introduction

A. Statement of Purpose

The 2016-2023 Open Space and Recreation Plan arose from the need to update the 2009-2016 Open Space and Recreation Plan. The Town's first Open Space and Recreation Plan was written in 1979 and was updated in 1987, 1996, and 2009. This plan builds primarily and significantly on the open space, natural resources, and recreation knowledge found in the 2009-2016 plan. It has been written to guide future open space and recreation investments and improvements, and to keep the Town eligible for state and federal aid in such actions.

For the purpose of this plan, the Executive Office of Energy and Environmental Affairs' working definition of open space was adopted; the definition reads "public and privately owned undeveloped lands which are important for a variety of reasons, including recreation, agriculture, forestry, biological diversity or simply because of their scenic qualities and their contribution to the overall character of the town." There is a great need to have an updated Open Space and Recreation Plan, due to the continued development of Hingham and the ever-increasing stress on all environmental resources. Hingham has two Areas of Critical Environmental Concern, the Weir River and the Weymouth Back River. The Massachusetts Water Resources Commission has also designated the Weir River as a "highly stressed" basin.

The planning process was designed to involve public participation and information gathered from various experts in town, and the resulting plan demonstrates a combined effort of dedicated local experts, Town employees, and public opinion. This plan is specifically designed to give the reader an overview of the history of the town and its regional context, and to present a more comprehensive understanding of the Town's natural resources. In addition, this plan presents future goals to protect, maintain, and enhance valuable open space lands and recreation resources in Hingham.

B. Planning Process/Public Participation

The 2016-2023 Open Space and Recreation Plan was prepared by the Conservation Department with the assistance of the staff members from the Community Planning Department, the Recreation Department and Commission, the School Department, the Department of Public Works, and interested citizens from multiple local environmental groups. The following steps were taken to ensure that the planning process was collaborative and comprehensive:

- Completed a year-long trails planning process that included public meetings, online surveys, a dedicated website and trail user surveys;
- Distributed and analyzed the 2016-2023 Open Space and Recreation Plan Questionnaire to gauge public opinion;
- Reviewed and analyzed recommendations from the Town's 2009-2016 Open Space and Recreation Plan, as well as other recently completed plans, such as the Comprehensive Trails Plan;
- Held discussion meetings and working closely with various Town departments and committees, and incorporating their opinions and suggestions;

- Requested and incorporated supporting information from outside organizations; and
- Held open meetings and solicited public participation to discuss residents' needs and opinions on open space and recreation resources in Hingham.

The 2016-2023 questionnaire was based on the 2009-2016 questionnaire, with some additional questions to better understand and identify how residents use the Town's open spaces, as well as their open space and recreational needs. Residents were asked to complete the questionnaire online; hard copies were also made available in the Conservation Department and participants could submit their completed questionnaires in person or via U.S. Mail or email.

The questionnaire was announced in the following ways and locations:

- The Hingham Journal published an article about the public meetings and questionnaire, providing a web link and contact information on April 1, 2016.
- Web links and descriptions were posted on the Town's website.
- Web links and descriptions were distributed to parents and guardians of all Hingham public schoolchildren.
- Business card-sized advertisements, including a web link and description, were distributed throughout Town Hall, to the Hingham Public Library and the Hingham "Green Team," and to attendees of the Hingham Land Conservation Trust's Annual Meeting and the Hingham Annual Town Meeting.
- Web links and descriptions were posted on the Town's social media accounts (i.e. Facebook and Twitter).
- Mass e-mails with a web link and description were sent to: town offices, Hingham School Department employees, Recreation Department program participants and subscribers to Town news alerts and announcements.
- Targeted e-mails with a web link and description were sent to: the Recreation Commission, Planning Board, Conservation Commission, Comprehensive Trails Plan Committee, Open Space Acquisition Committee, Hingham Land Conservation Trust and Bare Cove Park Committee.

A total of 616 people responded to the questionnaire, which is about 2.8% of the 2010 population. Although that number is small statistically, it is comparable to other communities' results and, more importantly, the effort revealed valuable insights and concerns from those interested and informed enough to participate. The complete questionnaire and responses are located in Appendix B.

Chapter 3: Community Setting

A. Regional Context

Hingham is a semi-rural town located approximately 15 miles south of Boston and 43 miles east of Worcester (see Appendix A: Map 1). The Town is bound by Weymouth to the west, Cohasset to the east, Rockland, Norwell, and Scituate to the south, and Hull to the northeast. The Town is approximately 23 square miles in area with a population of 22,891 as of March 2016. Hingham is a largely affluent community with many commuters traveling to Boston for work.

Located in Plymouth County, Hingham is positioned along the Route 3/Interstate 93 transportation corridor, with two convenient highway interchanges, one in Hingham and one in Rockland, that connect Hingham to Boston and Cape Cod. The highway network also includes routes 53, 228, and 3A, all which traverse the Town. Hingham is also served by Massachusetts Bay Transit Authority (MBTA) bus connections, including the 220 bus that originates in Quincy Center and the 714 bus that originates at Pemberton Point in Hull. The MBTA Greenbush commuter rail line also serves Hingham and the neighboring towns of Scituate, Cohasset, Hull, Weymouth, and Quincy. There are two train stations in Hingham, West Hingham Station and Nantasket Junction. Due to highway and tunnel improvements in Boston, the revival of the commuter rail and access to the MBTA commuter boat that departs from the terminal at Hingham Shipyard (Hewitts Cove), there is increasingly easy access to Boston and to the region's largest international airport, Logan Airport. The Plymouth & Brockton Street Railway Company provides additional service to South Station and Logan Airport from the park and ride lot in Rockland.

Hingham is located in two different major watersheds. The majority of the Town falls within the Weir River Watershed, which discharges to Hingham Bay, and the southeast corner of Town falls within the South Coastal Watershed. Parts of northwest Hingham drain into the Weymouth Back River and coastal areas drain directly into the bay. Hingham also shares other important and valuable natural resources with surrounding towns. Of the surrounding towns, Norwell and Weymouth have current Open Space and Recreation Plans, while Scituate's plan is set to expire in 2016. It seems that Cohasset, Hull, and Rockland have expired plans. Cohasset, Rockland, and Weymouth were included in the South Coastal Watershed Regional Open Space Plan (2003) and therefore have open space acquisition and protection goals relevant to watershed protection. Hingham endorses the importance of collaborative relationships for protecting shared natural resources.

B. History of the Community

Hingham is known for its rich historical and cultural heritage, as well as its exceptional architectural and archeological resources. It is an attractive community, possessing amenities for living that attract new residents willing to make the substantial investment necessary to live in the Town, and to accommodate the increasing costs of remaining here. Today, continues to be a desirable destination, for both visitors and new residents alike. How did it become so?

The following material is adapted from John Richardson in the 1979 Plan.

The Early Period

First, it had natural advantages that were obvious to its earliest settlers – originally Native American and later, European. Archeological exploration conducted along the Weymouth Back River and other sites has revealed shell buildup and cultural artifacts. This indicates that Native Americans were using convenient habitation sites and the associated shellfish bounty as far back as several thousand years ago. Accounts of land acquisitions by the English settlers reaffirm that the area's bountiful natural features, including access to the sea, ample fresh water, and fertile land, have attracted humans at least since the retreat of the last continental ice shelf.

It would be difficult to overemphasize the importance of glacial deposition in determining the Town's present physical character. Soundings done in connection with groundwater surveys have revealed that before the last ice age, a valley carved in the solid crust of the earth by the ancient predecessor of the Weir River ran from south to north along the center of what is now the Town of Hingham. This ancestral stream very likely reached the bay through what is now the Home Meadows – only to be diverted to the east side of World's End by later glacial action.

When the great continental ice sheet advanced southeastward, carrying its tremendous burden of rock debris, earth was eroded from its broad path. This old ledge-walled valley was then filled in with gravel and sand deposits, creating an underground reservoir or aquifer responsible for Hingham's unusually high quality water supply.

As the leading edge or face of the glacier melted back at a slow and uneven pace, there were times when it appeared static because its advance from the north was balanced by melting along its southern extremity. At such times, accumulation of rock debris, sand, gravel, and silt were deposited as rough edges along the face of the ice. When the ice finally disappeared, these ridges or moraines were left as positive features of the landscape. One moraine dammed the old rock valley just south of the Home Meadows so that the Weir River had to make an end run to reach the sea. Another moraine, with several buried ice block ponds or kettle-holes, was used imaginatively by the early designers of the Hingham water system to hold and filter water flowing north from Accord Pond and the other southern extremities of the Town. Southward of each of Hingham's moraines, more or less level expanses or plains were created by glacial meltwater spreading sand and silt over temporary lakes that may have had ice for their northern banks. The early settlers named these Little Plain, Liberty Plain, and Glad Tidings Plain.

These wide-scale deposits of glacial till on the pre-glacial landscape interrupted the established drainage pattern to such an extent that majority of rainfall is now trapped in low pockets. The subsequently slower runoff promoted the absorption of water into the underground aquifer. The many acres of low, swampy land thereby act as sponges for the absorption and slow release of water during dry periods. Almost all of the Town's wetlands that overlay peat were once small ponds or lakes formed when isolated and buried masses of ice melted, leaving depressions in the post-glacial landscape.

The great moving overburden of ice left its tracks on the ledges it exposed in many places. On their northern sides they are rounded, sculpted and abraded by the stone "tools" moving with the ice. The crust of the earth, which is laid bare in most parts of Hingham, is primarily crystalline and hard, clearly exhibiting sharp scratches (or striations) left by the grinding passage of the glacier approximately 8,000 years ago. They show a definite trend toward the southwest, as do the long dimensions of the drumlins, giving further evidence of the glacier's direction and course.

The Seventeenth Century

In 1633, a group of "God-fearing Puritans," seeking the freedom to worship and govern themselves, sailed into Bare Cove, a sheltered bay 12 miles southeast of Boston. Led by the Reverend Peter Hobart of Hingham, England, they passed by a group of wooded islands and landed near the present foot of Ship Street. Yet they were not the first European settlers since the late local historian John P. Richardson reported that they were probably greeted by a group of Lincolns and other early arrivals.

In 1635, the Great and General Court recognized the settlement of Bare Cove, changed its name to Hingham, and incorporated it as the twelfth town in the Massachusetts Bay Colony. Settlers drew lots for the first land grants, which included a home lot, a planting lot, and parcels of fresh and salt meadow located along Town Street (now North Street) and Broad Cove Lane (now Lincoln Street).

The economy of the new Town of Hingham was supported by farmers raising corn, salt, and fresh meadow hay, as well as the products of "mechanics," such as blacksmiths, wheelwrights, and coopers. Corn mills were in operation and a report from 1654 makes clear that other occupations soon flourished as well, "...the people have much profited themselves by transporting Timber, Planke and Mast for shipping to the town of Boston, as also cedar and Pineboard to supply the wants of other towns, and also to remote parts, even as far as Barbadoes."

The Eighteenth and Nineteenth Centuries

During the eighteenth century, Hingham continued to prosper. More gristmills, as well as a flour and grain mill, appeared. Saw mills turned out boards, clapboards, and shingles; a fulling mill dyed and fulled cloth; and four Hingham businessmen set up an iron works. Much of Hingham's early industry was based on waterpower obtained by damming streams to create millponds, as was typical throughout Colonial America. Consequently, the names of many of Hingham's ponds (all man-made except for Accord Pond) tell of their former use - Triphammer, Fulling Mill, Bucket Mill, and Foundry. It is interesting to reflect that these early industrial activities using renewable power sources left no lasting scars on the Town, but actually improved the aesthetic qualities of the countryside by making pleasant ponds where there were none before.

Ploughs, hammers, edge-tools, axes, and nails were cast in iron foundries with "Jacob's Hatchets," made by Joseph Jacobs, selling as far away as South America and Australia. From 1818 to 1842 there was a thriving umbrella and parasol factory, as well as the manufacture of upholstery and carriage trimmings. Perhaps the best-known nineteenth century Hingham products were buckets. Manufactured since 1830, the bucket industry became so prevalent throughout the community that Hingham acquired the nickname of "Bucket Town."

In addition to large and small factories, there were many one or two-man home industries such as silversmiths. Joshua Wilder (1786-1860), known as the "famed clock maker of Hingham," had his shop adjacent to his home on Main Street. There he made the tall case or long case clocks, now known familiarly as "grandfather" clocks, as well as banjo clocks, dwarf tall case clocks, and miniature tall case clocks. Martin Wilder, Joshua's brother, was a well-known carriage smith.

Hingham owes its early settlement, its incorporation as a town, and its earlier name, Bare Cove, to its seaside location. Following the Revolution, Hingham realized the economic potential of its coastal location as several large fleets fished cod, hake, and mackerel. Shipbuilding became an important new industry. At one time over 75 fishing boats, many of which were built in the shipyards of the Town, were counted in the harbor. Eleven wharves serviced the fishing fleet, coal yards, shipyards, and dockings.

Numerous maritime industrial enterprises employed Hingham citizens to produce masts, spars, pumps and blocks, windlasses, and barrels. Salt works, cleverly designed to allow the sun to evaporate impounded seawater, annually produced tens of thousands of bushels of salt. Further new developments included the advent of the Hingham packets, running regularly between Hingham and Boston by 1802, and the steamship "Eagle," in 1818.

Hingham Harbor continued to be the focus of the Town's commercial and industrial livelihood in the early nineteenth century, with its Customs House a port of entry for the United States from 1831 to 1876. However, the 1849 opening of the Old Colony Railroad line heralded the demise of Hingham's maritime industry.

The scenic and protected nature of the harbor plus its location so near metropolitan Boston led to wide recreational use as the urban population expanded during the nineteenth century. The Tivoli-like Melvin Gardens bloomed on the southeast border of Crow Point and luxurious tour boats cruised the harbor. A view of Hingham Harbor today in summertime still reveals great numbers of citizens whose boats fill the mooring facilities. The only reminders of the harbor's working past are the granite-ribbed wharves which now are oriented toward recreation. Since 1792, when the parishioners of the Old Ship Meeting House voted "not to take down the Meeting House and build a new one on any principles" and "to repair the Meeting House in its present form," Hingham has been preservation oriented. The Old Ship Meeting House, constructed in 1681, is the only meeting house in the country to operate continuously since it was built. Thanks to the foresight of those parishioners, the first visitor's stop in Hingham, as well as the best known and most admired structure in Town remains intact for all to enjoy.

In 1911, the Old Colony Chapter of the Daughters of the American Revolution published *Hingham, A Story of Its Early Development and Life* and wrote, "Hingham is justly proud of its ancient dwellings, many of which have been protected from ruin by the pious care of the descendants of those who built them over two centuries ago." It was in part because of these venerable survivors and the need to reaffirm faith in American civic virtues that Eleanor Roosevelt came to Hingham at the height of World War II, in 1942, to write *This Is America*. Hingham, an old established town, which successfully absorbed new "settlers" from many ethnic backgrounds, symbolized the archetypal New England community.

These ongoing sentiments of pride and concern were the basis for the founding of the Hingham Historical Society in 1914 and the establishment of the Hingham Historical Commission in 1974, the duty of which is to coordinate efforts to preserve, protect, and develop the historical, architectural, and archaeological assets of the Town. The Hingham Historic Districts Commission oversees the Town's six Local Historic Districts containing over 600 listings. A Lincoln National Register Historic District encompassing much of the area of original settlement was established with the aid of a matching grant from the Massachusetts Historical Commission. In 1992, the South Hingham National Register Historic District was established, which includes the Tower-Wilder and the Glad Tidings Local Historic Districts.

Twentieth Century Hingham

During the twentieth century, Hingham transitioned from a farm based agricultural community to a suburban environment with a limited industrial base. In the early 1900s there was much open land used for agricultural purposes and dairy herds. In the post World War II years, single family subdivisions were constructed on these former agricultural lands as better roads and public transportation made commuting to Boston and other cities and towns more accessible. The population of Hingham grew during the twentieth century from 5,059 in 1900 to 21,479 in 1999.

The last active dairy farm, Honstra's Farm, was converted to The Meadows, condominium housing with buffering open space along the surrounding roads. However, the developed part of the farm (with a new barn) remains as the distribution center for the continuing retail dairy operation, distributing milk produced in New Hampshire. The farm has been growing feed on nearby leased conservation land, thus keeping that land in production. In addition, the owners are returning cows to the Loring Farm in adjacent Norwell (preserved under the Agricultural Preservation Program) where they plan a model dairy operation.

The Bethlehem Steel Shipyard, known as "Beth Hingham," built destroyer escorts and tank landing ships during World War II. At its peak, the shipyard employed over 24,000 workers. The former Hingham Shipyard has largely been transformed into a mixed-use residential/commercial development with public access to the waterfront. This complex includes rental units, condominiums, retail, and office space. Taking advantage of its coastal location, the Hingham-Boston commuter boat service, which began in 1978, is located at Hewitts Cove, part of the new shipyard complex.

The construction of Route 3 in 1964 in south Hingham opened that area to development of several large retail and industrial uses. This land includes the area adjacent to and south of Route 3, which is now home to the Industrial Park District and the Office Park District. Housing developments in the southern end of Hingham flourished as a result of the new highway. An open air village concept shopping destination, The Derby Street Shoppes, opened in this section of the Town, replacing an older shopping center. There are a number of small office developments as well as other retail space along the Derby Street corridor, however wetlands limit building on a good portion of land in the area.

The increased regional access encouraged traditional subdivisions, most notably Liberty Pole off of Main Street and the Polk Road/Scotland Street areas east of Main Street. Some upscale subdivision activity has also taken place on large lots in the north end of Town, with Conservatory Park built on old munitions depot land next to Bare Cove Park and the Canterbury Estates built between Rockland Street and Hull Street on the site of the former Tower Day Camp. The latter was carried out through a form of inclusionary zoning that allowed flexibility in lot size and arrangement of a cluster development as long as some low-cost housing was built on the site or off-site, or if funds were contributed to such development elsewhere. Though this was a form of cluster development, the project did not abut any public land or add much usable open space to the neighborhood. Other zoning provisions have allowed multi-family, market rate condominium projects such as Hingham Woods, Beal's Cove, and BackRiver along Beal Street, near Route 3A and the shipyard's commuter boat dock.

These more recent development projects suggest a need to acquire and protect large environmentally significant pieces of backland regardless of their visibility; to provide some open space/recreation land near new development or existing neighborhoods; and to protect key scenic spots along major roads. The last need is important in order to maintain the scenic view from the roads and to provide relief from prospective further development on frontage lots. Furthermore, these are appropriate goals for a Town that has always been active in maintaining open space.

In 1922, land was purchased to begin the town forest. This forest currently has 198 acres of conifer groves, winding eskers, and fern-carpeted swales not found elsewhere in Hingham, as well as roads and trails that are used for walking. The Triphammer Pond conservation area was acquired by the Town in 1945 and expanded in the 1980s by the Metropolitan District Commission. The South Shore Country Club was purchased by the Town in 1988 to ensure that it did not become a large housing development and to maintain its recreation and scenic values. This prime piece of property continues to offer an 18-

hole golf course, a swimming pool, indoor function facilities, and wintertime opportunities for sledding and cross-country skiing.

Hingham continues to accrue land for conservation purposes. Some recent parcels, purchased with Community Preservation Act funds, include: in 2012, Scotland Meadow (9.75 acres) on Scotland Street and Accord Brook land on Main Street (31 acres); in 2013, two parcels on Rockland Street, parcel A (3.06 acres) and parcel B (1.98 acres), which holds a Conservation Restriction on a pond on the property; and in 2014: the former Boy Scout property (6.24 acres) adjacent to conservation land at the end of Brewster Road. The most recent pending acquisition, approved at the 2016 Annual Town Meeting, is a 50 acre parcel on South Pleasant Street.

Gifts of land are also given to the Town through the Conservation Commission. In 2010, donation parcels were given on Fort Hill Street (1.83 acres) and South Street (0.75 acre). Parcels in 2012 were donated on Ship Street (0.5 acre), adjacent to the Governor Long Bird Sanctuary, and Rockland Street (10.6 acres). Property on Saw Mill Pond (0.98 acre) was donated in 2015 as open land.

Eleanor Roosevelt, in her book *This is America*, said of Hingham's Main Street, "...this is the most beautiful Main Street in America." She was referring to the historic homes and canopy of elm trees that graced the street at the time. Unfortunately, the elms are no longer there due to the devastation of Dutch Elm disease. However, the Town continues to plant and maintain its street trees. For the last 22 years, the Massachusetts Department of Conservation and Recreation has designated Hingham as a Tree City USA Award winner.

In October 2007, after many years of controversy, the first train of the MBTA Greenbush commuter rail line ran from Scituate to Boston making stops at the two Hingham stations, Nantasket Junction and West Hingham. This commuter train follows the same rail bed as the Old Colony Railroad Line, which discontinued service to Hingham in 1959. The restoration of the Greenbush line gives Hingham residents another option for commuting into Boston.

On the occasion of the Town's 300th anniversary in 1935, Hingham historian Mason Foley observed, "Though much has been taken, an air of permanence endures. The feel, the smell and the look of many things remain. There comes a sea turn in the wind on a summer's day... Protected by ancient elm and bordered by sloping lawn, rest a thousand quiet homes, the solid beauty of many of them dating from colonial times." Despite many changes, his observation holds true more than three quarters of a century later.

In 2016, the Town of Hingham is vastly different from the rural/agricultural town of its past. Large, new residential developments, two new golf courses, age-limited condominium developments and a fourth new elementary school are but a few of the changes that have come to this community. When Hingham celebrated its 375th anniversary, from September 2009 to September 2010, it honored its historic past and, in the current year, the town is looking forward to its exciting future.

Adapted from the article "Historic Hingham and its Architectural Heritage" by Monique B. Lehner and Minxie J. Fannin.

C. Population Characteristics

Census data from 2010 shows that the population in Hingham has increased by about 11% in the last 10 years, from 19,882 people in 2000 to 22,157 people in 2010. The population is expected to continue increasing over the next several decades, reaching a projected total of 22,762 people in 2020 and up to 23,242 people by 2030.

When comparing the age of Hingham residents from the year 2000 to the last Census data in 2010, there has been a slight increase in population between the ages of 5-19 and ages 35-64. There has also been an 18% decrease in ages 20-35 and a 55% increase in ages 65 and over. However, it is projected, that there will be a decrease in the number of people between the ages of 5-19 and ages 35-64 by the year 2030, and a slight increase in the population between the ages of 20-35. The population between the ages of 65 and over is expected to continue increasing.

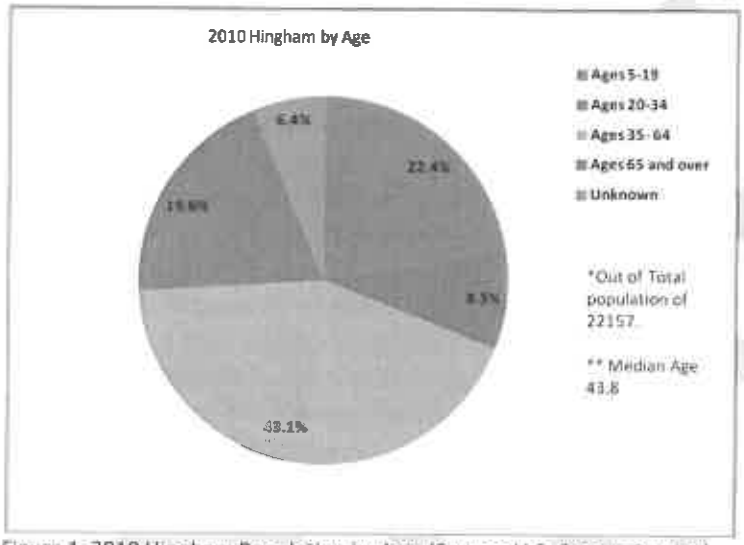
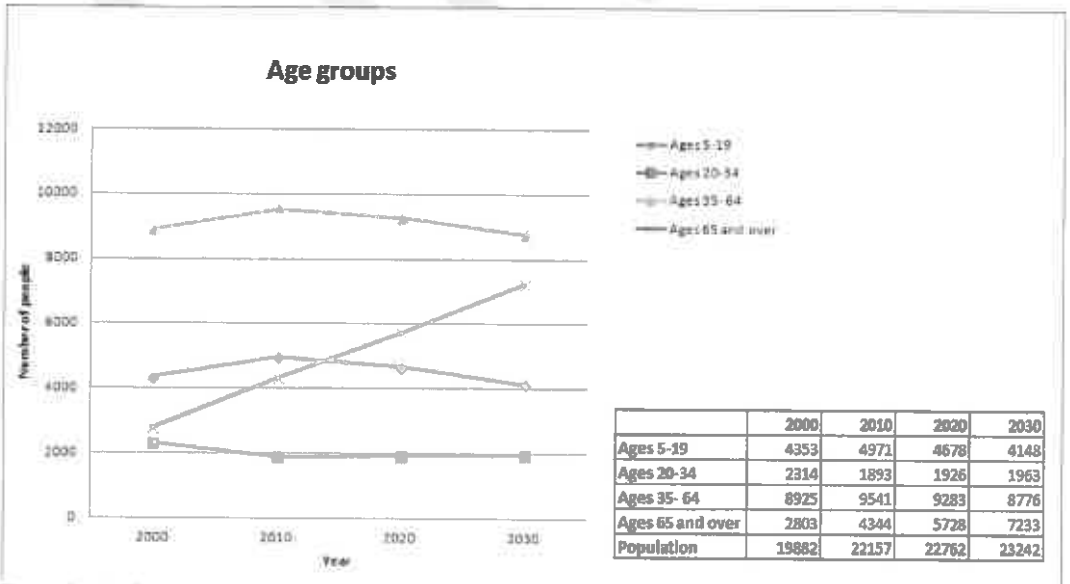


Figure 1. 2010 Hingham Population by Age. (Source: U.S. Census Bureau)



	2000	2010	2020	2030
Ages 5-19	4353	4971	4678	4148
Ages 20-34	2314	1893	1926	1963
Ages 35-64	8925	9541	9283	8776
Ages 65 and over	2803	4344	5728	7233
Population	19882	22157	22762	23242

Figure 2. Hingham Population Trends by Age Group. (Source: U.S. Census Bureau)

Comparing the ethnicity in Hingham in 2000 to the ethnicity in 2010, it is clear that the Town is still predominantly white, non-Hispanic, with 95% of the population identifying as such, which is a slight decrease from 2000 when 97% of the population identified as such. All other ethnicities have greatly increased between 2000 and 2010, except for a slight decrease in people who identify as "other, one race."

Ethnicity	Year		2010 Percentage
	2000	2010	
White	19386	21135	95.39
Black	79	109	0.49
Asian	159	343	1.55
Pacific Islander	Unknown	8	0.04
Native American	7	31	0.14
Hispanic/Latino	149	241	1.09
Non-Hispanic Multi-race	188	254	1.15
Other One Race	44	36	0.16

Table 1. 2010 Hingham Population by Ethnicity. (Source: U.S. Census Bureau)

The Town's overall population density is approximately 87 people per square mile. According to the 2010 Census, there were 34% of family households with children, 29% of non-family households with children, and 27% of households in which the householder was living alone. In 2010, about 80% of households were occupied by owners and 20% of households occupied by renters.

The mean household income in Hingham, as of 2011, is $99,318. It is estimated that approximately 15% of the Hingham population is living in poverty. These income groups and ethnic groups are scattered throughout the Town, with pockets of both high and low income in different parts of Hingham. A great range of income is often found within a block or two, as is the range of age groups. These observations relate to scenic views, historic neighborhoods, other amenities, and varied housing stock. Historically, small areas in Town that have been recognized as particularly low-income or high-income, or with a characteristic ethnic concentration, but they are quite small and close enough to different neighborhoods that mapped Census Tract data does little to suggest patterns of need or probable interests.

	Median Household Income	Median Family Income	Median Non- Family Income
Hingham	$99,318	$132,744	$46,052
Plymouth County	$92,462	$106,868	$39,894
Massachusetts	$88,577	$106,335	$38,514

Table 2. 2011 Income by Household Types. (Source: ACS 2007-2011, DP-03)

D. Growth and Development Patterns

The results of Hingham's infrastructure investment, zoning and other influences are shown in its continuing development patterns. Development patterns in Hingham have closely reflected historical land use patterns. Whereas the evolution of the northern portions of Town was influenced more by its proximity to Hingham Harbor and associated fishing, shellfishing, and maritime uses, south Hingham's development was shaped by its predominantly land-based agricultural use. As a result, north Hingham evolved with a denser, village-like development pattern clustered around the harbor, while south

Hingham featured larger properties with significant amounts of relatively inaccessible backland, which was used for fields, crops, orchards and grazing, and more recently, for highway-oriented residential, commercial, and industrial development.

Over time this development pattern, with some exceptions, has been enforced by a combination of environmental characteristics, the provision of utilities, and public land use policy including zoning, subdivision controls, wetland protections, and open space acquisition as described below and later in this plan. In particular, the creation of the North Sewer District in the areas north and west of Hingham's downtown allowed for smaller lots and denser development in the northern portions of Town, including west Hingham, the Crow Point and Wompatuck Road area, Hingham Square, and the "Cove" near Hingham Harbor. Similarly, the recent creation of a new sewer district in the northeastern corner of Town has resulted in an increase in the pace of new development and greater densities in that area.

The more intense development of north Hingham continues today, due in large part to the availability of public sewerage. The Hingham Shipyard, located on the harbor along Hingham's border with Weymouth, was developed in the early 1940s as a large shipbuilding operation to support the war effort. No longer active as a shipyard, this area has been redeveloped to include retail, commercial and office space, along with hundreds of housing units. The Christina Estates subdivision on Baker Hill, including 45 luxury homes on approximately 70 acres, marked the development of one of the few larger parcels of open space remaining in this portion of Town.

In contrast, in south Hingham, where there is no sewer, new development remains largely suburban in scale, with relatively large lot sizes required to meet state and local wastewater disposal requirements. A long stretch of large, older homes, many with large landholdings to the rear historically used for agriculture, extends the entire length of the Town along Main Street (Route 228). To the west, and, to a lesser extent, to the east of historic Main Street, there are various subdivisions and roadside lots developed over the past 50 years.

Hingham's primary industrial area is located in one large industrial park in south Hingham. Though the entire southern tip of Hingham is zoned for industrial use, with a small pocket of residential development, further development of this area has been held back by a lack of infrastructure and utilities. Current proposals for a new interchange off Route 3 passing through this area to serve the development of the former Weymouth Naval Air Station would undoubtedly have a huge impact on this currently underdeveloped area.

A significant factor in Hingham's twentieth century development has been the historic ownership of large portions of the Town by the federal government for use by the military. The creation of Wompatuck State Park (2,877 acres) and Bare Cove Park (468 acres) from former federal land effectively locked up over 18% of Hingham's land area as dedicated open space. Other portions of the military land adjacent to Bare Cove Park, known as the "school depot tracts," have also recently been acquired by the Town and are being considered for recreational/open space use. Combined with the land controlled by The Trustees of Reservations, the Aquarion Water Company, and the Town of Hingham, over 30% of Hingham's land area is permanently protected.

Infrastructure

Hingham's infrastructure consists of its water supply and wastewater systems, other public utilities, the local circulation system and other transportation facilities.

Water Supply

The Town's privately owned water supply consists of several wells near Fulling Mill Pond and others just south of Free Street, in addition to a well in the northern end of Town near the Weir River. These wells draw on the Weir River Watershed, which the Massachusetts Water Resources Commission considers highly stressed due to withdrawals that exceed the natural recharge rate. In addition to withdrawals, extensive paved areas that drain directly into storm drains or streams, and sewer systems that transport local water into the ocean via the Massachusetts Water Resources Authority and Hull wastewater treatment plants further reduce the natural recharge rate.

The water supply system serves all of Hingham, except for the Linden Ponds development and scattered private wells, as well as Hull and a small portion of Cohasset. It was originally managed by the locally founded and owned Hingham Water Company, but after a series of acquisitions by increasingly larger entities, it is now part of the Aquarion Water Company, which serves a number of communities across the country. The Town of Hingham is currently investigating the feasibility of acquiring the water supply system.

The Fulling Mill wells draw on groundwater recharged by the nearby Accord Brook/Weir River, which originates in Accord Pond at the junction of Hingham, Norwell, and Rockland. Since the system draws partially on a surface water supply through recharge by Accord Brook, the state's surface water treatment regulations have been applied to the entire system, and all water is subject to a high degree of filtration at a major treatment plant just east of Main Street in south Hingham. The plant achieves a very high water quality, but may be unable to deal with some soluble threats such as nitrates.

The system has a safe yield of 5.76 million gallons per day (MGD), an average daily demand of 3.72 MGD, and seasonal peak day demands of up to 5.96 MGD. The system has storage of 3,750,000 gallons. Gates with adjacent communities allow limited assistance during emergencies.

The Aquarion Water Company continues to explore for new sources and to support water conservation measures. Despite the stressed nature of the watershed, the Hingham water supply system is expected to meet forseeable local needs directly or indirectly and should not be a major constraint on future development.

Wastewater/Sewerage

Present sewer patterns reflect the Town's soil patterns and development pressures, and they affect future development and water resources.

As the discussion of soils in the next chapter indicates, the eastern and southeastern portions of the Town, the Bradley Park/Otis Hill drumlins, and the greater Crow Point area north of Route 3A, as well as scattered areas to the south, are in tight glacial till soils. These areas are very buildable, being quite firm, and often have good coastal views. However, they are very limited for septic systems due to slow percolation rates. This has lead to a series of sewer projects in the North Sewer District, further described below. In contrast, a broad swath down the center of Hingham consists of sand and gravel deposits. Being coarse, these are often very productive sources of groundwater and they accept septic leachate readily (sometimes too readily for groundwater quality). Failing septic systems and concerns with water quality (and presumably with development potential) led to sewer programs in the North Sewer District and the much smaller Weir River Sewer District.

The Town has about 2,200 sewered households. Most of these are located in the North Sewer District. This covers the relatively densely developed northwest corner of the Town, about as far south as Weston Road. It includes the highest density single-family (20,000 ft^2 lots) and multi-family zoning and the Hingham Square commercial area. Much of the older housing is on smaller lots ranging from 8,000 ft^2 to 12,000 ft^2. The district generates about four MGD of sewage, which flows through pumping stations, force mains and gravity lines, and a major Massachusetts Water Resources Authority (MWRA) interceptor for treatment at the Deer Island plant and discharge beyond Boston Harbor via a long outfall pipe. The district has been expanded in the past and new development has been added in accord with agreements with the MWRA. Further expansion of the district, or the addition of new users, is possible within flow limits or requirements for reduced infiltration and inflow set by the MWRA.

The newer, much smaller Weir River Sewer District serves the area roughly between George Washington Boulevard, Route 3A, and Hull Street. The sewerage is routed to the Hull treatment plant before being discharged into the ocean. The operation is governed by an inter-municipal agreement between Hingham, Hull, and Cohasset. The total permitted flows and connections are limited by this agreement and the previously purchased treatment capacity. Present flows are estimated at 80,000 gallons/day; very little expansion is possible.

The land use/development impacts of the present sewer systems are allowing new moderate-density development, subject to service agreements, and allowing infill development on previously unusable lots, along with intensification of uses. The latter takes the form of teardowns where moderately-sized and moderate-cost housing previously on septic systems is replaced by much larger houses when the street has sewer. The potential loss of such housing, and of open space, in sewered areas suggests giving a higher priority to potential acquisition or protective measures in those areas. An additional impact of the two systems is the loss of groundwater recharge and stream flows in the highly stressed Weir River Watershed due to the ocean discharge of treated wastewater and increased stormwater runoff from development. These effects can be partially mitigated by using Low Impact Development (LID) techniques, such as recharging a maximum of stormwater, as is done on a small scale by the rain garden at the Hingham Public Library.

Electricity

The community is served by relatively inexpensive electricity provided by the Hingham Municipal Light Plant which, in turn, buys low-cost power primarily from an association of municipal electric systems that have their own generating facilities.

The Town is currently exploring the development of a solar generating facility on its capped landfill. This is a unique opportunity not only to generate revenues from an unused Town asset, but also to create a renewable power generation facility for the Town that will contribute to the reduction of greenhouse gas emissions.

Natural Gas

Natural Gas is supplied essentially town-wide by National Grid, a successor to the Boston Gas Company. The company extends service to houses when needed, making this more efficient form of cooking and water heating available to most existing and new neighborhoods.

Transportation

The Town is well served by highways and public transportation. Route 3A runs roughly northwest-southeast, connecting Hingham with Cohasset, Scituate, and other communities as far south as

Plymouth and as far north as Weymouth and Quincy. Route 53 runs northwest-southeast through the southeastern tip of the Town and connects Hingham with Norwell and other communities to the south, as well as Weymouth and Braintree the north. Route 228 runs along Main Street and East Street; it connects Hingham with Route 3 to the south, and ultimately with Route 128 and the MassTurnpike, and with the towns of Cohasset and Hull to the north. Much of Route 228 is the original Route 128, and the Main Street portion is that memorialized by Eleanor Roosevelt as the most beautiful Main Street in America. Main Street is Hingham's iconic street and much effort has gone into preserving its streetscape through the establishment of local historic districts and through selective open space acquisition.

One fortunate feature of the Town's street system is that Route 3A comes close to the historic commercial and civic center, Hingham Square, but bypasses it. As a result, the square is very accessible, but is spared the most destructive through traffic.

High volume and higher speed regional connections are offered by Route 3 (the Southeast Expressway) running northwest-southeast through the Town. It is served by interchanges at Queen Anne's Corner on the Norwell/Rockland line and at Derby Street. Route 3 connects the Town with communities as far south as Cape Cod, and via Interstate 93, with Route 128 to the north, to Boston and beyond.

The Town's varied transit services consist of:

- The MBTA's 220 bus, running through the northern part of the Town from Hingham Center and Hingham Square, with some trips through the commuter boat terminal at the Hingham Shipyard, and on through North Weymouth to the Red Line via the Quincy Center station.
- The MBTA's 222 bus running from Quincy Center to the Hingham/East Weymouth line turning around at High and Ward streets in Hingham and serving nearby Hingham neighborhoods as well as Weymouth.
- The MBTA's 714 bus operated by a contracted carrier, JBL Lines, and running the length of Hull to the 220 bus's Hingham Depot next to Hingham Square.
- MBTA commuter boat service from the Hingham Shipyard to Rowe's Wharf near Boston's financial district, allowing riders to connect with the Blue Line, Red Line, and Silver Line subway and rapid bus connections. The Orange Line and Green Line can be reached at Downtown Crossing and Park Street, respectively, via the Red Line.
- Recently restored MBTA Greenbush commuter rail service from Greenbush in Scituate through Cohasset, Hingham, Weymouth, Braintree, and Quincy to South Station in Boston. The train has two parking lot-oriented stations at Nantasket Junction and West Hingham. These stations bracket downtown and the train runs through a cut and cover tunnel under Hingham Square.

In all, the wealth of highway and transit modes make Hingham particularly attractive to commuters and others who prefer or need auto-free access to the region. This increases local development pressures, and with them, the importance of selective open space acquisition and protection.

Zoning and Other Land Use Regulations

Zoning and subdivision control are also major influences on development pressures and the related need for open space protection. Hingham's zoning only partly follows the traditional model of highest density in the highly accessible center and lower densities in successive outlying rings, allowing lower density development in those areas.

The highest single-family densities (20,000 ft^2 lots or 2+ units/acre in the Residential A District) are allowed in the older and more central parts of the Town, bracketing the highly accessible square and

running from Crow Point with its coastal amenities south to the intersection of Route 228, and High and Free streets. While new lots are required to have 20,000 ft^2, many of the older lots have 8,000 to 12,000 ft^2 or less.

The next highest density (Residential B with 30,000 ft^2 lots or about 1.5 units/acre) is allowed to the south and west of the Residential A District, going south of Fort Hill and New Bridge streets between Main Street and French/Ward streets to the neighborhood west of Accord Pond.

Then a portion of the lowest density single-family district (Residential C requiring 40,000 ft^2 lots for barely more than one unit/acre) is further outlying, being south of Free Street and west of French Street and Ward Street, including neighborhoods south of Route 53 to the Weymouth line. This reflects the area's tight underlying till soils as well as its outlying location.

The exception to this semi-concentric pattern is the mapping of the northeastern corner of the Town, just east of the square, in the low density Residential C District, rather than in the moderate density Residential B District. This reflects the area's underlying till soils, but ignores its proximity to the square, its coastal amenities and its high accessibility by routes 3A and 228, Rockland Street and the Nantasket Junction commuter rail station. The Residential C District continues south between Wompatuck State Park and the Residential B District to South Pleasant Street. While 30,000 ft^2 of land is required per new unit, much of the area's older housing is on lots of 8,000 to 12,000 ft^2.

In addition to these single-family residential districts the Town has:

- A Residential E District, allowing moderate density multi-family housing, mapped along Beal Street backing onto Bare Cove Park.
- Business A and B Districts, mapped in the square, the center, and west Hingham, and along small portions of major roads.
- An extensive Industrial Park District, mapped south of Derby Street and Route 3 in south Hingham.
- An extensive Industrial District mapped over the former Hingham Shipyard land on both sides of the westernmost section of Route 3A. Much of this has been developed for mixed residential and commercial uses by a special permit project under the "Mixed Uses in the Industrial District" special permit overlay district.
- Office Park and Limited Office Park Districts off Route 3A and north of Derby Street.
- Scattered special purpose Waterfront Business, Waterfront Recreation, "Industrial Extending into the Waterfront," and Business Recreation Districts.
- The South Hingham Development Overlay District, allowing the collection of impact fees in certain cases.
- A Personal Wireless Services Overlay District, mapped over public land at the South Shore Country Club and the capped landfill/transfer station.
- The Accord Pond Watershed and Hingham Aquifer Protection District.

The Town also has "Flexible Plan" special permit provisions, combining inclusionary zoning for affordable housing with the open space saving benefits of very flexible cluster development provisions.

Apart from zoning provisions under Chapter 40A, the Zoning Act, Hingham has six local historic districts within which exterior changes to historic properties are regulated by the local Historic Districts Commission.

The long-term development patterns described below reflect all of these factors and policies, but soil conditions and the presence or absence of sewer greatly influence what is possible. In particular, the creation of the North Sewer District has supported much new development in and near some of the oldest neighborhoods.

Recent Development Patterns

In contrast to the relatively stable land use patterns for most of the twentieth century, the past decade has witnessed the development of significant tracts of land in south Hingham, totaling nearly 850 acres of previously undeveloped or underdeveloped land. Because most of this development was permitted through special permitting procedures, including comprehensive permits, and not by as-of-right zoning, it has quickly rendered obsolete the build-out maps generated by the Executive Office of Environmental Affairs in 2000. Specific projects include the 440-acre Black Rock Golf Club, which includes 138 housing units; the 330-acre Boston Golf Club, located on the former Dematteo property; Linden Ponds, a 1,175-unit retirement community located on 122 acres off of Whiting Street; and the new Commerce Road office subdivision which opened up 100 acres south of Route 3.

Taken together, the new development in south Hingham represents a 20% reduction in the Town's undeveloped and underdeveloped land. (Fortunately, several of these developments, including the Black Rock Golf Club and portions of Linden Ponds, were developed on previously disturbed quarrying land.) While the two large golf courses are a relatively benign in terms of land use, they do not add to the stock of publicly accessible open space in this portion of Town. Instead, they may be seen as a form of private land banking. That is, if golf courses become significantly over-built, the land could be available for other residential purposes under the present zoning, unless they are subject to Conservation Restrictions.

In summary, while growth remained fairly static for years in Hingham, the years from 1998 to 2008 (prior to the recession) were marked by a sharp increase in building permits and approved large developments. Two areas in particular, the Hingham Shipyard and much of the open land in south Hingham, are now being developed after years of speculation. Still, due to the scarcity of remaining developable land and other environmental constraints, this recent level of growth is unlikely to continue. Instead, what is likely is the continuing creation of smaller, by-right developments resulting from the compilation of backlands, and their subdivision into new house lots. Similarly, as land values and assessments rise, property owners will continue to attempt to divide larger lots through the Approval Not Required (ANR) process.

The result of this will be the continued reduction in the amount of informal or underdeveloped open space, which now serves as wildlife habitat, informal play areas, neighborhood wild lands, small scale farms or gardens, or welcome breaks in the streetscape of suburban houses and lawns. Combined with the projected population growth from in-migration and development generally, these trends will increase the need for accessible and permanently protected open space.

Regional and Multi-community Activities and Concerns

Hingham participates in regional planning and related activities through its involvement in Metropolitan Area Planning Council (MAPC) programs, particularly MAPC's sub-regional grouping, the South Shore Coalition. Town officials and residents commonly attend MAPC-sponsored events, such as one recently held by the South Shore Coalition on "Summer Smart Water Use Demand Management and Sustainable Landscapes."

MAPC's current regional plan is the Metrofuture Plan, which succeeds the previous MetroPlan 2000. It encourages a "Metrofuture" approach to growth and development.

The Hingham Shipyard and Environs

The redevelopment of the Hingham Shipyard is a compelling example of the forward-thinking, mixed-use, transit-oriented, smart-growth inspired "Metrofuture" design approach. The old shipyard, with its dilapidated vacant buildings and an old hazardous waste spill, has been transformed into a vital mix of residential and commercial uses, including 23 affordable units in a 90-unit Chapter 40B building. The hazardous waste sites have been remediated and varied market rate rental and sales housing has been developed along with shopping, a marine supply store, restaurants, a cinema, boat slips, moorings, and water-dependent commercial fishing docks and slips.

Abundant public transportation is available through the MBTA commuter boat and bus services, which stop at the shipyard en route to the MBTA's Quincy Center Red Line station. In addition, the West Hingham Greenbush commuter rail station is nearby and the East Weymouth and Nantasket Junction stations are within a moderate bike ride or a short drive.

The shipyard's main transportation feature, the commuter boats, run to Rowe's Wharf in Boston with Silver Line enhanced bus service connecting to South Station and Logan Airport. The shipyard also has frequent seasonal boat service to the Boston Harbor Islands. Opportunities on the islands include interpretive services, historic buildings, hiking, bird watching, fishing, swimming, and picnicking.

The shipyard is also adjacent to some of Hingham's best protected open spaces. The Bouve Conservation Area directly abuts the shipyard and has beautiful examples of puddingstone and slate rock outcrops on the shoreline, and a forest with some outstanding examples of eastern hornbeam (Ostrya virginiana), serviceberries (Amelanchier spp.) and many other interesting species.

The adjacent Weymouth Back River Area of Critical Environmental Concern (ACEC) straddles Hingham and Weymouth, encouraging cooperation between the two towns. It can be easily reached by boat or on foot.

Other Areas of Cooperation

Hingham has also worked with Cohasset on stormwater issues and on pollution concerns surrounding the Cohasset Golf Course. The perennial Turkey River Run forms part of the Hingham/Cohasset town line and receives direct stormwater runoff. The golf course runoff was proposed to flow to a ditch, which discharged directly to Turkey Hill Run, an anadromous fish run discharging to the Weir River ACEC. Accordingly, the towns cooperate with the Hingham Conservation Commission, working with the golf course, to design natural stormwater detention areas.

One major multi-community, multi-agency project was the Trustees of Reservations' acquisition of the scenic 66-acre Turkey Hill holding adjacent to their Whitney and Thayer Woods and Weir River Farm properties. The acquisition involved cooperation between Hingham and Cohasset, the Trustees, the Massachusetts Division of Conservation Services, and the Trust for Public Land, and built on many past gifts by nearby landowners. It is co-managed by the Hingham and Cohasset Conservation Commissions and the Trustees.

The towns of Hingham and Norwell also recently cooperated in reviewing the current Damon Farm Chapter 40B housing development straddling the town lines and potentially affecting local wetlands, as well as water resource areas important to Hingham, Hull, and Norwell.

Present and Prospective Regional Cooperation

The Weir Estuary River Park around the river and its tributaries reflects continuing cooperation between Hingham, Hull, and Cohasset working through the multi-community Weir River Estuary Park Committee to establish and expand the evolving park. This encompasses land and water surface in the three towns.

Next to the shipyard, and in the Weymouth Back River Estuary ACEC, there are four parks: Bare Cove Park in Hingham on the river, upstream of the Route 3A bridge; Stodder's Neck in Hingham along the river just downstream of the bridge; Great Esker Park on the Weymouth side of the river, upstream of the bridge; and Weymouth's Abigail Adams Park downstream of the bridge just across from Stodder's Neck. It is possible to cross between these parks on either side of the river by going under the bridges on the sloping stonework at the edge of the river, but it is awkward and potentially hazardous. A cooperative, two-community effort could greatly enhance the visitor's experience at these parks. A number of solutions have been discussed over the years, ranging from the construction of a sidewalk on the bridge or a boardwalk across the river.

Hingham's Harbormasters and Conservation Officers have attended regional meetings at UMass Boston and supported, and implemented, regional "No Discharge" Zones. In addition, an area of the harbor near World's End is frequented by large groups of boats which tie up ("raft") to socialize in this part of the Weir River ACEC. The towns' Harbormasters monitor activities, respond to calls, including pump-out requests, medical emergencies, and any boating accidents, and give and receive mutual aid when needed.

The Hingham Harbormaster is also the Shellfish Warden and is responsible for overseeing a large, productive shellfish harvesting area which is sometimes closed due to low water quality. As Shellfish Warden, the Harbormaster is involved with the Massachusetts Division of Marine Fisheries and its Newburyport Purification plant, as well as with monitoring the special licenses issued for harvesting in Hingham Harbor, Boston Harbor overall, and the Merrimac River.

Chapter 4: Environmental Inventory and Analysis

A. Geology, Soils, and Topography

Geology

The Town of Hingham is located on the south shore of Massachusetts Bay (more specifically the southern end of Boston Harbor) the Seaboard Lowland section of Massachusetts. The general elevations run from sea level on the coastal northern border to 245 feet atop Prospect Hill in the southeastern part of Town. Glacially eroded bedrock knobs are a common topographical feature in the eastern and southwestern parts of the Town.

Bedrock in Hingham consists of Palezoic metamorphic and igneous rocks. The southern part of Town is primarily underlain with Dedham granodiorite, an intrusive igneous rock similar to granite. The northern part is underlain with a similar metamorphic and igneous rock known as Salem gabbro diorite. Bedrock outcrops are quite numerous throughout the Town and it appears that only a shallow veneer of surficial unconsolidated material is present where there are no bedrock exposures.

Glacial and geologic processes have sculpted Hingham's landscape to include drumlins, shallow to more prominent bedrock areas, proglacial outwash, ice-contact outwash, marine silts and clays, organic deposits, and alluvial (floodplain) deposits

Compact glacial till is composed of an unsorted mixture of boulders, cobbles, pebbles, sand, silt, and clay. The most striking landforms built of the compact till are streamlined drumlins, which are common around Boston Bay. Hingham's drumlins are probably underlain by bedrock outcrops and/or clay based soils. During the glaciations, the ice sheets moved over these outcrops and fashioned them into an egg shape landform molded in a southeast direction. The best local examples of these are Bumpkin Island, World's End, Planters Hill, Baker Hill, Turkey Hill, Otis Hill, Squirrel Hill, Great Hill, and the Pine Hills of south Hingham.

Sandy, loose glacial till is called Ablation Till and is the unsorted material that, in some areas, overlies the compact till in parts of Hingham. Finer textured soils such as sands, silts, and clays serve as a matrix for forming plantable soil. These good farming soils may occur in river floodplains, in windblown deposits of fine grain sands or silts, and in further extents of glacial outwash areas where the slower moving meltwater streams drop the finer sediments. Ablation Till and stratified drift constitute the most prevalent surficial materials in Town. These consist of several large outwash plains such as Liberty Plain, Glad Tidings Plain, the flat south of Penniman Hill and the area north of Tuttleville.

The most recent deposits in Town are post-glacial in age and consist of alluvium (floodplain deposits), swamp deposits, and tidal flats. A large area of alluvium occurs along the Weir River south and east of Cole Corner. A few small alluvial terraces also occur along other streams. Alluviated areas are subject to periodic flooding and should be avoided as sites of commercial or residential development, but may be good planting areas. Swamps cover about 10% of Hingham, mostly in the southern two-thirds of Town.

Soils

A brief description of the soil series occurring in the Town of Hingham include the sandy Warwick and Quonset soils in the Accord Pond Watershed and Hingham Aquifer Protection District. The newly

defined Broadbrook soil series is an example of soils formed on drumlins. Some other soil series found in Hingham include salt marsh soils classified as Ipswich/Pawcatuck/Matunuck. Soils series information provides important details useful for building and farming. Some examples of soil series characteristics are infiltration rates, seasonal duration and depth of perched water tables.

Topography and Land Use

There are three topographic forms that define the Town: a belt of low irregular hills interspersed with fresh water wetlands in the southern part of Town, a coastal area with several rivers, and a group of islands.

A belt of low irregular hills is separated by swampy tracts in the southern part of Town. A certain portion of this land serves as a recharge area for the Town's water supply and includes several large tracts of wetlands. Some of this area is coming under intense commercial development pressure.

The coastal area is one to two miles wide and serves as the northern border of Hingham. The coastal area is characterized by headlands with intervening broad, tidal estuaries, including the Weymouth Back River, Hingham Harbor and Weir River. The surficial topography of the coastal area on the southern border of Hingham Harbor is covered with mixed commercial development, grassy parkland and a bathing beach. The western coastal area is primarily occupied by residential dwellings and hardened embankments lining the harbor and bay.

The non-point pollution carried by runoff from Route 3A and other paved areas around the harbor is mitigated somewhat by the sandy beach and grassy parkland. There is very little open space in the other portions of the western coastal area that mitigates runoff from the residential dwellings and garages. On the north side of Otis Hill and at Crow Point are large residential dwellings with hardened embankments on the coastal slope. The Hingham side of the Weymouth Back River is host to a marina, commuter boat terminal and parking lot, Town conservation land and some residences.

The eastern coastal area is primarily bordered by the World's End conservation area with some coastal hardening in developed areas to prevent erosion. Runoff is not a source of pollution or siltation at World's End, and the eastern coastal area is not as densely populated as the western coastal area. It is essential, however, to discourage further commercial development of remaining open space on the coastal plain to protect the marine environment in the Weir River Estuary, Hingham Harbor and Hewitts Cove.

The offshore area includes Button, Langley, Ragged, Sarah, and Bumpkin islands, which serve as rookeries for sea birds and valuable habitat for amphibian species. The islands also serve as recreation and wildlife exploration areas for local boaters and swimmers, and are considered to be in the Boston Harbor Islands national and state park. They are currently protected as Town conservation land. Tidal flats occur along the entire bay border and also extend far to the south along Weymouth Back River and Hingham Harbor. These flats are covered at high tide and exposed at low tide, allowing for the limited harvesting of shellfish.

B. Landscape Character

The Town of Hingham is located at the southerly limit of the Boston Harbor Watershed within the much larger Gulf of Maine. Hingham's landscape is characterized by its 21 miles of coastline, which begins at

the Weymouth Back River and ends at Straits Pond at the Cohasset town line. Hingham Harbor is flanked by World's End on the east and Crow Point on the west, two promontories thrusting seaward into Massachusetts Bay. Five uninhabited islands dot the harbor, the largest being Bumpkin Island, which lies over one mile north of the Hingham mainland.

Bedrock trending on a north/south axis underlies the undulating terrain from the harbor on the north to Prospect Hill in the south, the highest point in Town at 240 feet above sea level. The westerly boundary with Weymouth follows the northward flowing Weymouth Back River for much of its length. Streams in all of Hingham's sub-watersheds flow northerly, draining ponds, wetlands, forests and urbanized areas alike. The Weir River, the largest, drains 27 square miles of watershed or about 80% of Hingham. The Town's woodlands have visibly more pines and fewer hardwoods as one goes south, reflecting the increasingly coarse soils. These pines appear to be permanent, not the initial wave commonly succeeded by hardwoods on cleared land.

In recent years, residential development along Hingham's many winding back roads has eclipsed much of the Town's antiquarian past. A few fields may be seen along South Pleasant Street, Main Street and on World's End, along with miles of stonewalls that provide a visible connection with that era. Large tracts of woodlands and numerous wetlands provide aquatic base flow for the numerous streams that segment the Town. Salt marshes and embayments along the coast provide scenic vistas. A number of projects to renew salt marsh ecosystems by reconnecting this valuable resource with the sea are underway or are in the permitting process. The removal of tide gates, performed as part of the reestablishment of the Greenbush commuter rail line, has been renewing the Home Meadows as a salt marsh.

C. Water Resources

Watersheds

Approximately 35% of the Town consists of water and wetlands, including both fresh and salt water. Most of Hingham is in the Boston Harbor Watershed and parts are in the South Coastal Watershed. The Weir River and Weymouth Back River drain roughly 85% of the land area to Boston Harbor and the balance drains via the Aaron River to the South Coastal Watershed.

The following lists the watershed sub-basins found in Hingham:

- Accord Brook flows out of Accord Pond northerly into the Weir River.
- The Aaron River originates in Norwell, briefly courses through Hingham's easternmost corner and flows into the Aaron River Reservoir located in Hingham and Cohasset.
- The Old Swamp River picks up the drainage from Pine Hills in the southernmost corner of Hingham and delivers its flow to the Weymouth Back River in Weymouth.
- The Plymouth River/Eel River system drains to Cushing Pond and then, via the Crooked Meadow River, to the Weir River.
- Fulling Mill Brook drains Fulling Mill Pond into the Crooked Meadow River.
- Tower Brook joins the Crooked Meadow River just upstream of Union Street, giving rise to the Weir River.
- The Fresh River picks up the flow from Cranberry Pond and Bear Swamp, and carries it to the Weymouth Back River Estuary in the northern quarter of Town.

- Overland flow enters Hingham Harbor, the Weir River Estuary, and the Weymouth Back River Estuary via many small tributaries such as Turkey Hill Run, Town Brook and a number of unnamed perennial and intermittent streams.
- Numerous other unnamed perennial and intermittent streams and wetlands flow into the major streams named above. Under the Massachusetts Rivers Protection Act, the 200 foot setback Riverfront Area from perennial streams affords them special protection.

Surface Waters

Ponds

Hingham is dotted with numerous freshwater ponds and the remnants of several salt ponds. In most cases, the ponds are man-made impoundments constructed to harness water power for water supply, ice making and fire suppression. The natural Accord Pond lies partially in Hingham, Norwell, and Rockland at the headwaters of the Weir River Watershed. At approximately 100 acres, this pond is an integral part of Hingham and Hull's water supply, since the Accord Brook/Weir River feeds the downstream South Pleasant Street wells.

Many of the small ponds exhibit the classic signs of eutrophication, as aquatic vegetation, reduced stream flow, nutrient loading, and sedimentation accumulate at an ever-increasing rate. Foundry Pond is the last impoundment on the Weir River (the largest stream within Hingham) before it reaches the sea. A reconstructed dam with a fish ladder limits the tidal waters as the freshwater stream drops to the Weir River Estuary, which is classified as an Area of Critical Environmental Concern (ACEC.) None of these ponds are suitable for swimming or motorized boating; many are used for fishing and ice-skating. Several of these ponds, unfortunately, are listed on the Massachusetts Department of Environmental protection "303 (d)" list as impaired waterways due to "noxious aquatic plants" or turbidity.

Home Meadow contains the remnant of a salt pond, which is still influenced by the tides. Much of the western portion of this pond, a former tidal mill pond operating until the 1940s, was filled c. 1950 to provide parking for Hingham Square and the railroad. As part of the Greenbush commuter rail restoration, the hydrologic connection to the harbor has been improved to allow greater flushing action by the tides, which will aid in limiting terrestrial plant growth and invasive plant species such as phragmites.

Outstanding Resource Waters

Hingham contains or abuts three Massachusetts Department of Environmental Protection-designated Outstanding Resource Waters.

Areas of Critical Environmental Concern

There are two designated Areas of Critical Environmental Concern (ACEC) in the Town of Hingham, the Weir River ACEC and the Weymouth Back River ACEC. An ACEC designation is a formal state designation of a significant ecological area directed to the actions and programs of Massachusetts environmental agencies. The designation works through the existing state environmental regulatory and review framework and does not change local regulations or zoning. The Department of Conservation and Recreation administers the ACEC Program on behalf of the Secretary and coordinates with other state agencies and programs in the review of ACEC nominations and in the implementation of ACEC designations.

The Weymouth Back River ACEC comprises approximately 950 acres in Hingham and Weymouth. It is an unusual natural area in the midst of an urban/suburban environment that is uniquely preserved considering its proximity to Boston. Approximately 180 acres are tidal waters flushing into Hingham Bay. There are productive clam flats, and nursery and feeding areas for a wide variety of finfish. Herring Brook in Weymouth provides annual passage to Whitmans Pond for thousands of alewives, locally referred to as herring. The lower portion of Herring Brook, Hingham's Fresh River, and several unnamed tributaries provide spawning sites for an annual smelt run. The 100+ acres of salt marsh and several salt ponds are vital links to the marine food web. Also included in the ACEC are ponds and swamps that form the headwaters of various tributaries to the Weymouth Back River. Most of the uplands within the ACEC are parks managed by the two towns: Great Esker Park in Weymouth and Hingham's Bare Cove Park. Within these areas are several outstanding examples of glacial eskers – the size and scope of the eskers are unique in Massachusetts. There are also numerous historical sites, including evidence of prehistoric habitation as long ago as 500 to 7500 B.C. Breeding or feeding habitat for some 150 species of birds combines with the scenic quality of the parks. These conservation areas provide buffers for the waters of the river and space for passive recreation.

The Weir River Area ACEC comprises approximately 950 acres, containing one of the most extensive salt marsh systems in the greater Boston area. The ACEC includes the Weir River and its tidal flats downstream of the Foundry Pond Dam to the mouth of the river at Hingham Bay. The extent of the ACEC, unlike small pockets of marshland that dot the urban landscape, supports over 100 species of migratory and resident bird species. Shellfish is an abundant food resource for the bird populations. In addition, the marshes and flats are a nursery for a wide variety of finfish including alewifes, smelt, flounder, bluefish and striped bass.

The Weir River

The Weir River is a tidal estuary to the fall line of Foundry Pond and it is the largest stream in the Town. It picks up flow from the Eel River, Tower Brook, Plymouth River, Crooked Meadow River, Accord Brook, and numerous other small tributaries. The drainage basin of 27 square miles, a portion of which lies in Norwell, provides the water supply for Hingham, Hull and approximately 50% of Norwell, about 1.8 billion gallons per year. The rapid development growth in the region has impacted this resource to a point where the Massachusetts Water Resources Commission has declared it a highly stressed water basin. This designation implies that the aquatic base flow in the streams and attendant wetlands is so diminished that the health of this resource is threatened and the river is facing degradation.

The Weir River Watershed Association, a citizen based watershed organization, has made much headway in bringing the plight of the Weir River and its estuary to the public in a relatively short time span. The ongoing creation of the Weir River Estuary Park, in cooperation with a three-town committee, is also a recent achievement.

Groundwater

The Town relies largely on groundwater, though water recharged by Accord Brook is classified as surface water. The groundwater is recharged by rain falling on the coarse sand and gravel deposits running north and south through the central and northwestern portion of the Town. To protect these areas from contamination, a large portion of these soils are protected by the Accord Pond Watershed and Hingham Aquifer Protection District. This is generally in the Zone II recharge areas from which water is drawn during a six-month drought.

It is important to protect both the quality and quantity of groundwater, particularly in the Weir River Watershed, since it is considered to be "highly stressed." This calls for maximizing recharge by using low impact design (LID) techniques, which increase on-site recharge of water that would otherwise quickly flow though storm drains and/or streams and on to the ocean. Tools used include permeable pavement, detention ponds, grass swales and other absorbing features. Recharge benefits can also be obtained from the use of on-site waste disposal systems, as compared to sewers, but water quality must be maintained. The need for more recharge should be partially met by the state's new stormwater management regulations, requiring maximum recharge of stormwater.

Flood Hazard Areas

Hingham's flood hazard areas are limited since the Weir River and other streams are relatively small and the streams' floodplains are largely undeveloped. Most of the mapped areas are along the immediate edges of the streams, not over extensive floodplains. Nonetheless, localized flooding can occur, particularly where heightened flows result from lost upstream flood storage or stream alterations combined with restrictive culverts and impervious development in the floodplain. One example is the mapped flood hazard area along the channel of the Town Brook north of South Street. Hence, a good number of streamside properties are in the National Flood Insurance Program.

Open space funds might well be used to add or restore safe flood storage by acquiring low-lying riparian areas along major streams and modifying the channel enough (e.g. with a slotted weir) to cause a safe, temporary backwater with flood control and groundwater recharge benefits. Alternatively, existing dams, such as the dam at Cushing Pond, might be upgraded if necessary, and managed for flood control purposes. Such opportunities could be uncovered through a Town-wide inventory of the stream system.

Thus the major areas include:

- The Town-owned Home Meadows salt pond/marsh with recently restored tidal flow.
- The Foster School tidal marsh, where the tidal range is limited by the small culvert under Route 3A connecting Broad Cove with the harbor.
- Marshy areas around the southern end of the Weir River ACEC.
- Portions of the southern end of the Weymouth Back River Estuary between Bare Cove Park and Great Esker Park.

One important reason for the limited areas of coastal flooding in Hingham is the shielding of Hingham and Hull bays from large storm surges by Nantasket Beach, a classic barrier beach, and by Peddocks Island. These features limit flows into Hull Bay and lessen surges such as those experienced on the ocean side of Hull, Cohasset, and Scituate during the 1978 blizzard.

D. Vegetation

Forests

Hingham has a wide diversity of natural communities and forest types. The Town has coastal influence along its northern border, and due to the inclusion of five barrier islands just north of the mainland, has some unique natural communities. In general, there are three common cover types in Hingham: Northern Hardwoods, Oak Dominant, Mixed Forest, and Forested Wetland.

The USGS Geographic Approach to Planning (GAP) analysis depicts approximately one fourth of the Town as "Suburban Forest." This suburban forest is the result of rapid development and fragmentation

of habitats and forestlands. The increasing loss of intact forests has an impact on habitat connectivity and on the health of the Town and its residents. Forests are the "lungs of the earth" in that they produce oxygen to breathe, help moderate the climate, absorb water, reduce soil erosion, and provide valuable passive recreational opportunities.

Hingham has a few notable and large contiguous blocks of forestland owned by federal, state and municipal agencies. Wompatuck State Park includes 1,540 acres in Hingham; the Whitney-Thayer Woods includes 114 acres in Hingham, Turkey Hill has 62 acres, and with the Weir River Farm, these make up over 1,700 acres of contiguous protected open space in the Town, much of it forested. The Conservation Commission also owns multiple parcels that form a contiguous and protected forest cover. The 97.8-acre Triphammer Pond Conservation Area and the abutting 16.3-acre Leavitt Street Conservation Area together make up approximately 114 acres of intact forestland. Triphammer Pond is approximately 19 acres and has many acres of surrounding forestland. Triphammer is also contiguous with Wompatuck State Park.

The individual tree species are too numerous to list and it is more useful to education and understanding to put this inventory in terms of natural communities. Using the Swain and Kearsley Natural Communities Classification, at least 15 different state recognized natural communities have been identified and confirmed in Town. Many, such as Successional White Pine and Mixed Oak are quite common, while others, such as Maritime Juniper Woodland/Shrubland are much less common.

In addition to naturally re-grown, second growth forests (coming back after cleared farmland was allowed to return to woods) there are the George Washington Town Forest, which was planted with red and white pine in 1922, and an estimated 10,000 public shade trees along Town roads.

Public Shade Trees

The Tree and Park Division of the Department of Public Works takes care of the estimated 10,000 trees along public ways, and manages shrubs and small trees in parks and public areas. It trims or removes damaged, ill-located, sick, or excessively invasive trees, and plants new ones. These are generally native species except where another has significant advantages.

In 2010...

In 2015...

Many attractive plantings in small parks and traffic islands are maintained by the Tree and Park Division, the Hingham Garden Club, the Beautification Commission and other volunteers. While many trees are diseased, none so far have shown signs of the extremely destructive Asian Longhorned Beetle or Emerald Ash Borer, two pests that have recently been discovered in Massachusetts.

Open Fields

Much of the land that has historically been kept "open" for farming and fields is now being lost to development, mainly for single-family homes in large residential subdivisions or to succession by shrubs, pines and later hardwoods. There is often little to no ecological value in what is left of a natural area once the subdivision has been completed. The few remaining fields in Town are being maintained for open vistas. Examples include portions of the Town-owned More-Brewer Park, Push Cart Farm, and the Trustees of Reservations' Weir River Farm on Turkey Hill. The Hingham Land Conservation Trust properties on Main Street include open fields, as does Stodder's Neck.

Some of the privately owned lands in Chapter 61A provide additional open and scenic views due to their current use for agriculture. The largest open field in Town is Shultz's field, which is approximately 17 acres. Historically, ensilage was raised on this land and it is now owned by the Conservation Commission, which leases it to a dairy farmer to raise crops and silage, maintaining its use for agriculture.

The Trustees of Reservations (TTOR) have management plans for many of their lands, which are usually focused on wildlife habitat management, including the control of invasive species. TTOR's Proposed Interim Mowing Plan for Turkey Hill (October 2002) notes that the "large fields capable of supporting grassland dependent wildlife are increasingly uncommon in the region, and fewer still are managed in a way that will provide viable habitat..." for grassland nesting birds, such as the bobolink. Other open lands in Hingham include golf courses such as Boston Golf, Black Rock, and the South Shore Country Club, and a portion of Cohasset Country Club.

Wetlands

In general terms, Hingham has three types of wetlands: marine, estuarine, and freshwater inland. All three types contribute a great deal to the biodiversity of the Town. Both Weir River and Weymouth Back River are major river systems that are tidally influenced. The Weymouth Back River just below Fresh River Avenue is tidal, and the Weir River below Foundry Pond is tidal.

There is a very high diversity of wetland resources just within the boundaries of Hingham, but some of the most highly valued wetland resources are shared with other towns. Accord Pond, thought to be the only natural pond in Town, is a large freshwater pond that straddles the Hingham, Rockland, and Norwell town lines. The Accord Pond system, which has contributory sources from Norwell and Rockland, serves as the primary source of drinking water for Hingham and Hull, and a significant source for Norwell, Weymouth and Cohasset. Aaron River Reservoir occupies parts of Hingham, Cohasset, and Scituate. The Aaron River Watershed has a large contributory watershed that spans Norwell, Scituate, Cohasset, and Hingham. Town Brook and Turkey Hill Run are also important and significant wetlands resources in the Town.

Natural Communities

The Natural Heritage and Endangered Species Program (NHESP) defines a natural community as an "assemblage of species that occur together in space and time. These groups of plants and animals are found in recurring patterns that can be classified and described by their dominant physical and biological features." The NHESP developed a rarity ranking system for the natural communities of Massachusetts. This ranking system will be used in our inventory and is described as follows:

S1 - Typically 5 or fewer occurrences, very few remaining acres or miles of stream, or especially vulnerable to extirpation in Massachusetts for other reasons.
S2 - Typically 6-20 occurrences, few remaining acres or miles of stream, or very vulnerable to extirpation in Massachusetts for other reason.
S3 - Typically 21-100 occurrences, limited acreage or miles of stream in Massachusetts.
S4 - Apparently secure in Massachusetts.
S5 - Demonstrably secure in Massachusetts.
SU - Status unknown in Massachusetts.

Natural Communities present in Hingham range from the common White Pine (S5) and Oak-Hickory Woods (S4) to more rare communities such as Maritime Juniper Woodland/Shrubland. The NHESP has verified that Hingham has a couple of exemplary occurrences of the Maritime Juniper Woodlands, which occur in salt spray zones of the coast, with some examples on conservation land. The NHESP indicated that it is their hope that the Town recognizes the special character of this type of natural community and takes appropriate measures to protect and manage the areas.

White Pine-Oak Forest (S5)

White pine and oak species dominate the canopy layer in different proportions. Other species such as pitch pine (Pinus rigida), red maple (Acer rubrum), white birch (Betula papyrifera) and black birch (Betula lenta) occur in association with this community but typically in low numbers. Examples of this natural community can be found in Wompatuck State Park.

Pitch Pine-Scrub Oak (S2)

The Pitch-Pine-Scrub Oak natural community is dominated by shrubs such as scrub oak (Quercus ilicifolia) and sometimes dwarf chinquapin (Quercus prinoides) with scattered to dense trees and scattered openings. Pitch Pine-Scrub Oak communities are fire maintained and fire dependant. This community is very important, as a large number of lepidopterans (butterflies) are restricted to it with its scattered openings.

Successional White Pine Forest (S5)

White pine (Pinus strobus) dominates these types of natural communities, which are usually created by a several decades-old disturbance, such as abandoned agriculture land. The shrub layer also varies from sparse to thick and contains elderberry (Sambucus canadensis), black cherry (Prunus serotina), and maple-leaved viburnum (Viburnum acerifolium). The climbing fern (Lygodium palmatum) is a Species of Special Concern associated with successional white pine forests. Examples of this natural community can be found all over Hingham and it is well represented in Wompatuck State Park and Whitney-Thayer Woods.

Maritime Juniper Woodland/Shrubland (S1)

This rare natural community is predominantly an "evergreen woodland shrubland" that is located within the coastal salt spray zone. Although this community is within the salt spray zone of the ocean, it does not receive direct flooding by salt water. Red cedar (Juniperus virginiana) is dominant but occurs in generally low densities with scattered trees and shrubs typical of the surrounding forest such as pitch pine (Pinus rigida), various oaks (Quercus spp.), American holly (Ilex opaca), black cherry (Prunus serotina), red maple (Acer rubrum), bayberry (Myrica pensylvanica) and winged sumac (Rhus copallinum). World's End, located on a peninsula in the extreme northern portion of Town, and owned by The Trustees of Reservations, contains exemplary areas of Maritime Juniper Woodland/Shrubland.

Oak-Hickory Forest (S4)

According to the NHESP, oak-hickory woods are the most common type of vegetation in the eastern and central part of Massachusetts. In general, oak-hickory woods have a continuous canopy cover at about 20 meters high. The well-developed subcanopy includes smaller individuals of the canopy species, witch hazel (Hamamelis virginiana), hop hornbeam (Ostrya virginiana) and American chestnut (Castanea dentata) sprouts. There is typically also a well-developed shrub layer consisting of huckleberry (Gaylussacia baccata), blueberry (Vaccinium angustifolium), maple-leaved viburnum (Viburnum acerifolium), and a number of other species that occur as scattered individuals. Mountain laurel (Kalmia

latifolia) makes a denser continuous shrub colony and lowbush blueberry often forms a lower denser layer.

The Foundry Pond Conservation Area, owned by the Hingham Conservation Commission, and the Whitney-Thayer Woods and Weir River Farm (owned by the Trustees of Reservations) contain excellent examples of Oak-Hickory Forest natural community.

Cultural Grasslands (no S-rank)
Cultural Grassland is defined as a human created and maintained open community "dominated by grasses, normally maintained by mowing." Cultural grasslands can be very important habitat for grassland birds. Depending on the mowing and maintenance regime, as well as proximity to other landscape features, cultural grasslands provide habitat to various species of grassland birds, as well as mice, moles, and the long-tailed weasel.

Salt Marsh (S3)
The salt marsh is a graminoid dominated, tidally flooded coastal community with several zones including low marsh, high marsh, salt shrub and salt panne. The low marsh, found between low and mean tide is dominated by saltmarsh cord-grass (Spartina alternafolia) and saltmarsh hay (Spartina patens). These grasses define the lower slope of the saltmarsh. Several tides are higher than the normal high tide and they occur on the upper slope of the saltmarsh. Spartina grasses do not dominate in this area instead marsh elder a.k.a. high tide bush (Iva frutescens) grows as well as other salt tolerant grasses and plants. Above this area is called the transition zone or upper border of saltmarsh which is only subject to storm tides.

Hingham may have other estuarine natural communities such as Brackish Tidal Marsh, Freshwater Tidal Marsh, Fresh/Brackish Tidal Shrubland or Fresh/Brackish Tidal Swamp. They are all classified by the NHESP as S1 communities but have not, at the writing of this Plan, been confirmed in Town. Because these communities are fairly rare in the state, field research would need to be conducted to confirm these possibilities. The NHESP would then be notified of any positive identification of these or any other S1 communities. Home Meadows, Governor Long Bird Sanctuary, Walton's Cove, Beal Cove, Broad Cove, and Hewitts Cove are good examples of a salt marsh.

Eelgrass Beds
Eelgrass (Zostera marina) beds are not independently defined as a natural community, though they occur within other natural communities recognized by Swain and Kearsley. Some of the most extensive eelgrass beds can be found in the waters around the South Shore. The seafloor between Bumpkin Island of Hingham and Grape Island in Weymouth is recognized by the NHESP as eelgrass bed habitat. The area north of Langley Island is also identified as eelgrass bed habitat. Unfortunately, these eelgrass beds have experienced a significant decline in the past decade and lost up to 65-70% of grass in the area where it previously thrived. The reason for this decline is a reduction in the amount of sunlight reaching the eelgrass. This is likely due to increased amounts of sediment in the water column or nutrient input causing excessive algae growth around the eelgrass.

Marine Intertidal Rocky Shore (S2)
Maritime Intertidal Rocky Shore is described by Swain and Kearsley as a community dominated by invertebrates and non-vascular plants, in a high-stress environment alternately covered by tides and exposed to desiccation and thermal stress. These communities are dominated by crustaceans, mollusks,

and macroscopic algae (seaweed). The algae provide important cover and food for the crustaceans and mollusks.

Garrett Van Wart of The Trustees of Reservations identified Marine Intertidal Rocky Shore natural community in tidal areas around Rocky Neck where exposed rock extends into the Weir River.

Marine Intertidal Flats (S4)
Marine Intertidal Flats are protected from intense wave action, sediments are relatively stable and silt, clay, sand and organic materials occur in various proportions. Some areas of Marine Intertidal Flats have saltmarsh cord grass (Spartina alterniflora), but others have sparse to no vegetation. Migratory shorebirds are quite dependent on the flats for foraging.

Garrett Van Wart identified this natural community in World's End, owned by the TTOR.

Red Maple Swamp (S5)
Red maple swamps, dominated by red maple (*Acer rubrum*) are the most common forested wetlands in Massachusetts and are very common in Hingham. Red maple swamps vary widely in terms of physical settings and can occur as a "hillside seep, upland drainage ways fed primarily by groundwater seepage and overland flow; seasonally flooded basin swamps in undrained basins; and alluvial swamps." Red maple swamps can also commonly function as vernal pool habitat, provided that there is ponding for two to three months and the absence of fish.

Shallow Emergent Marsh and Deep Emergent Marsh (both S4)
Shallow Emergent Marsh and Deep Emergent Marsh are two separate natural communities but for the purposes of this inventory they will be grouped together. They have similar vegetation and occur in similar settings, essentially in broad, flat areas bordering low-energy rivers and streams.

Emergent marshes are confirmed in Hingham, but without extensive biological inventories, it is not known which marshes are classified as "shallow" and which marshes are classified as "deep." Both Shallow and Deep Emergent Marshes have a high variety of rare, threatened and endangered species of plants and animals associated with them.

Rare, Threatened and Endangered (RTE) Species Plant List
Rare, threatened and endangered species have been documented in Hingham. As of June 2016, the NHESP listed six vascular plants found on the state's RTE list. It is important to note, however, that all but the seabeach dock (*Rumux pallidus*) are currently considered "historic." The seabeach dock is a plant that occurs along beach strands.

Linear-leaved milkweed (*Ascelepias verticillata*), Threatened
Adder's-tongue fern (*Ophioglossum pusillum*), Threatened
Pale green orchis (*Platanthera flava var. herbiola*), Threatened
Tiny-flowered buttercup (*Ranunculus micranthus*), Endangered
Bristly buttercup (*Ranunculus pensylvanicus*), Special Concern
Seabeach dock (*Rumux pallidus*), Threatened

Mapping Projects
There are a number of vegetation mapping projects that have been undertaken on a regional and statewide basis that help inform decision makers. The NHESP has created a number of valuable

datalayers and maps that depict unique natural communities and habitats. Non-governmental organizations, such as Manomet, have also created various maps that have helped increase our knowledge and understanding of the valuable natural resources of the state.

BioMap2

In 2001 and 2003 the NHESP produced the original BioMap and Living Waters biodiversity conservation plans. BioMap2, developed in partnership with The Nature Conservancy, replaces these earlier plans. It is intended to guide long-term strategic biodiversity conservation in Massachusetts by focusing land protection and stewardship on the areas that are most critical to rare and other native species and their habitats, exemplary natural communities, and a diversity of ecosystems. BioMap2 is also designed to include the habitats and species of conservation concern identified in the State Wildlife Action Plan. The NHESP released city and town specific reports as part of this effort, as well as an interactive, online viewer. Hingham's report is included in Appendix B.

E. Fisheries and Wildlife

Hingham is fortunate to have been the focus of a number of biological studies and species inventories. There is a wealth of information on the biological resources of the Town because of such studies as the Weir River Area of Critical Environmental Concern Natural Resources Inventory, the Breeding Bird Survey, and the World's End Management Plan, all of which include valuable information on the species and habitats that can be found there. As with most semi-rural communities in southeastern Massachusetts, Hingham has a diversity of birds, mammals, reptiles, amphibians, fish, shellfish, insects, and aquatic macroinvertebrates.

Fisheries

Hingham Harbor

The harbor has historically been home to great recreational fishing as a result of the diversity of marine species inhabiting the bay area. Recreational fishing in Hingham Harbor may have been at its peak in the mid to late 1960's when flounder fishing in the greater Quincy Bay area became a popular sport. People flocked to Quincy Bay and the adjacent Hingham Bay in small rented motorboats for a guaranteed harvest of doormat flounder (Pseudopleuronectes americans). Currently, Hingham Harbor continues to attract sport fishermen when the bluefish (Pomatomus saltatrix) are running in the summer. Striped bass (Morone saxatilis) are abundant in late spring, summer, and early autumn, and there is the traditional winter harvest of rainbow smelt (Osmerus mordax) off the docks at the Hingham Shipyard. Flounder are still a sought after species, although currently much less abundant at the legal harvest size.

The Hingham Harbor intertidal mudflats are traditionally and currently a very productive shellfish habitat. There is an abundance of soft-shelled clams (Mya areneria), blue mussels (Mytilus edulis), a smaller amount of quahogs (Mercenaria mercenaria), and razor clams (Ensis directus). Shellfishing is a restricted activity due to higher bacteria levels in the water. This condition is found throughout the greater Boston area. Due to human waste and animal waste entering the harbor, deleterious bacteria are found in filter feeders such as soft shelled clams and mussels. The Massachusetts Division of Marine Fisheries requires that all soft-shelled clams harvested in Hingham Bay be sent to the Newburyport shellfish purification plant to reduce the risk of harmful bacteria.

Contributing to the variety of marine species is the annual migration of anadromous and catadromous fish. Anadromous fish in Hingham include river herring, such as alewives (Alosa pseudoharengus) blueback herring (Alosa aestivalis), and rainbow smelt, which until recently have been abundant in Hingham's perennial rivers. Large numbers of both river herring and smelt have utilized the unique habitat of rocky substrate, rippling flows, and pond impoundments in the rivers as vital spawning habitat. The catadromous American eels (Anguilla rostrata) are currently still found in large numbers in fresh water habitats around Hingham.

Weir River

Important spawning habitat includes the Weir River drainage basin, which encompasses 27 square miles. This basin collects flow from the Eel River, Tower Brook, Plymouth River, Crooked Meadow River, Accord Brook and other smaller tributaries. Foundry Pond, created by a dam, is at the lower end of the fresh water Weir River. Below the Foundry Pond dam is the upper reach of a salt marsh. Prior to dam reconstruction in 1998, the area downstream of the dam was very productive rainbow smelt spawning habitat. Additionally, fishermen previously harvested young American eels during the late autumn below the dam.

Smelt habitat restoration project...

In addition, the fish ladder at this site is placed where heavy flow over the dam spillway strikes large granite stones and disrupts herring passage and jeopardizes juvenile herring. One of the objectives for this plan is to find the funding to correct this problem and restore herring passage.

Turkey Run Brook

Turkey Run Brook drains into the Weir River Estuary at the furthest extent of the salt marsh by West Corner in Hingham near the Hull and Cohasset line. The lower part of Turkey Run Brook is also smelt spawning habitat. In recent years phragmites (Phragmites australis) has taken over the lower reaches of this brook and interfered with smelt passage. Restoration of smelt spawning should include removing the invasive phragmites and reassessing the substrate in areas where riffles occur.

This brook should be evaluated to determine if river herring are using it. Neighbors have reported small numbers of river herring in the lower end of this brook. Alterations of wetland and floodplain areas along the newly re-constructed Greenbush commuter rail line should be monitored for impacts to Turkey Run Brook. The Cohasset Golf Course, which occupies part of the headwaters for this brook, has proposed to fill some floodplain that could impact both water pollution and flood levels being diverted into Turkey Run Brook.

Fresh River

Fresh River is a tributary to the Weymouth Back River and is a smelt run. This river is formed by the drainage from Cranberry Pond and Bear Swamp. The smelt need to pass through several feet of dark culverts before reaching the preferred spawning habitat. Above the culverts is a construction company storage yard and parking lot. At this construction yard, stormwater laden with sediments and contaminants wash directly into the Fresh River spawning run. The smelt spawning area is also becoming overrun with invasive species encroaching into the smelt spawning habitat. Additionally, leachate from the Hingham landfill would eventually drain into the Fresh River.

Birds

Using a combination of Breeding Bird Atlas data, Biodiversity Days information, and the knowledge of local naturalists and ecologists, a reliable list of birds confirmed in Hingham has been compiled. For the purpose of this discussion, only the common species will be mentioned.

At least three species of hawks are commonly found in Hingham. Sharp-shinned hawks, which generally prefer woodland habitats, can be found in a variety of areas in Town, including Wompatuck State Park. Red-tailed hawks prefer a woodland edge or isolated trees in fields such as at the Weir River Farm. Broad-winged hawks, which prefer broad-leaf and mixed woods, were also confirmed during the 2003 Biodiversity Days in various places. Osprey (*Pandion haliaetus*) find habitat along coastal estuaries, rivers and lakes.

Many songbirds have been confirmed in Hingham. Some common species include: tufted titmouse (*Baeolophus bicolor*), cedar waxwing (*Bombycilla cedrorum*), American goldfinch (*Carduelis tristis*), house finch (*Carpodacus mexicanus*), hermit thrush (*Catharus guttatus*) and common yellowthroat (*Geothlypis vermivorus*). Due to the number and diversity of wetlands in Town, there is an equally high diversity of bird species that prefer these habitats, including green heron (Butorides virescens), great blue heron (Ardea herodias) and great egrets (Casmerodius albus).

Hingham is rich in shoreline and coastal wildlife habitats. Many species have been confirmed in the shoreline waters of Hingham Harbor. In a bird survey conducted by the Trustees of Reservations between December 2003 and October 2004, two species of shorebirds were confirmed in Hingham. Greater yellowlegs and spotted sandpipers utilize the intertidal zone for feeding resources. One shorebird, the lesser yellowlegs, was observed outside of the survey period, but can still reliably be added to the list of shorebirds that rely upon habitat in Hingham for some part of their lifecycle. Additionally, common terns and herring gulls are commonly found near the shoreline.

Wompatuck State Park is recognized as an Important Bird Area (IBA) by the Massachusetts Audubon Society's Important Bird Area Program, which seeks to "identify, nominate, and designate key sites that contribute to the preservation of significant bird populations or communities." The program was initiated in 2001 by establishing an IBA Technical Committee made up of bird experts from state, local, and private sectors. They worked to identify sites and network and perform outreach to other knowledgeable birding experts and enthusiasts. This process, known as Phase I, resulted in the development of a list of sites for nomination to the IBA Program. This program has been instrumental in helping bring recognition to areas that are critical to large numbers of birds.

Mammals

Common large mammals include white-tailed deer (Odocoileus virginianus), red fox (Vulpes vulpes), coyote (Canis latrans), and fisher (Martes pennanti). Medium sized mammals include eastern grey squirrel (Sciurus carolinensis), red squirrel (Tamiasciurus hudsonicus), woodchuck/eastern marmot (Marmota monax), and eastern cottontail (Sylvilagus floridanus). Common small mammals include eastern chipmunk (Tamias striatus), meadow vole (Microtus pennsylvanis), white-footed mouse (Peromyscus leucopus), and masked shrew (Sorex cinereus).

Rare, Threatened and Endangered (RTE) Species Wildlife List

Rare, Threatened and Endangered Species have been documented in Hingham. As of June 2016, the NHESP listed three birds, two invertebrates and two reptiles from the state's RTE list:

Common moorhen (*Gallinula chloropus*), Special Concern
Pied-billed grebe (*Podilymbus podiceps*), Endangered
Barn owl (*Tyto alba*), Special Concern
Spartina borer moth (*Photedes inops*), Special Concern
Comet darner (*Anax longipes*), Special Concern
Wood turtle (*Glyptemys insculpta*), Special Concern
Eastern box turtle (*Terrapene Carolina*), Special Concern

Vernal Pools

Vernal pools are typically defined as depressions with no inlet or outlet that hold water ephemerally for as long as two months and are absent of fish species. There are quite a few species, mainly amphibians that are considered "obligate" species, meaning that they can only breed in a vernal pool. The fairy shrimp is a small crustacean that completes its entire lifecycle in a vernal pool and does not have the ability to live anywhere else. There is no minimum or maximum size of a vernal pool but NHESP criteria have to be met for certification as a vernal pool. Some vernal pools are completely isolated from other wetlands systems while other vernal pools function as part of a larger bordering vegetated wetland.

As of May 2016, Hingham has 35 certified vernal pools (CVP), but there are hundreds of potential vernal pools (PVP) distributed throughout the Town. Approximately a third of the PVP's are on protected open space parcels. The Conservation Commission is interested in certifying more vernal pools using the Potential Vernal Pool (PVP) datalayer to inform possible locations.

Wildlife Corridors

A wildlife corridor, as defined by landscape ecologists Forman and Godron, is a "linear path that differs from its surroundings." Corridors are of variable length, width and overall size, but serve important ecological functions such as providing habitat, a conduit for movement between patches of habitat, acting as a filter or barrier, and sources or sinks of materials or substances that originate in the larger habitat matrix. Examples of wildlife corridors include windbreaks, field buffers, hedgerows, riparian/stream corridors, and grassed waterways.

Wildlife habitats have become highly fragmented due to development, construction, and agriculture. Highly mobile wildlife such as deer, fox, and coyote may be able to partially adapt to this fragmentation of habitat, however less mobile wildlife such as turtles and amphibians have a much smaller home range and when fragmentation occurs in some or all of their home range, their entire life cycle may become disrupted. Barriers to wildlife movement include large residential developments, highways and highly traveled local roads. Hingham has many barriers to wildlife movement, including major roads and some of its larger residential developments, which displace many species of wildlife and permanently alter or destroy their habitat.

A wildlife corridor is not arbitrarily determined but must be scientifically proven to be a functional wildlife corridor. Just because a particular species travels along a specific pathway at a given time does not mean that it is a documented wildlife "corridor." There are no demonstrated terrestrial wildlife corridors that have been revealed through scientific study in Hingham. It can, however, be assumed that there are riverine corridors within the major perennial streams in Town, including the Weir River, Weymouth Back River, Crooked Meadow, Accord Brook and Tower Brook. Anadromous fish use the Weir River and Weymouth Back River as a corridor and it can be assumed that river otter and perhaps fisher use other freshwater streams in Town as corridors.

F. Scenic Resources and Unique Environments

Hingham is very diverse in its historical, natural and cultural features and therefore possesses scenic vistas and amazing natural resources that deserve protection. There are a number of places that draw residents and visitors for nature appreciation and both passive and active recreational opportunities. Hingham Harbor and World's End are frequently cited as the most valuable scenic resource or area of natural beauty in Town. Although development pressures have removed some of the most outstanding areas of ecological integrity and natural beauty, including Baker Hill (now a residential development), some areas remain points of pride for the residents of Hingham. A few highlights are described in the following section.

Major Geologic Features

The Town's scenic glacial features include eskers, moraines, major erratics, and drumlins. Eskers are found where melt waters running under the ice deposited a surprisingly stable, long, narrow, steep-sided ridge of sand, gravel, boulders, and soil. One example is along the Home Meadows side of Winter Street and another is Weymouth's Great Esker in Great Esker Park across the Weymouth Back River from Bare Cove Park.

Moraines are masses of mixed material accumulating at the end of a glacier where it was melting as fast as it was moving. One major moraine upstream of the Home Meadows is thought to have diverted the outlet of the Weir River from the main part of the harbor to its present outlet on the far side of World's End. Thus the flow out of the Meadow and through the harbor is limited.

Erratics are large stones or boulders glacially deposited on the top of the soil so that they do not protrude through the surface as bedrock would. One of several examples is off Rockland Street at Muzzi's Corner, which has a commemorative plaque.

Drumlins are glacially deposited/shaped oval hills comprised of clay, sand, gravel, other soils, and some boulders. They generally run north-south reflecting the direction of glacial travel. Their dense material makes them good building sites but poor locations for septic systems. Prominent scenic drumlins are Otis Hill, Bradley Hill, World's End and Baker Hill. Baker Hill, as the town's last un-built coastal drumlin at the time (except for World's End) was recommended for Town acquisition by study committee in the mid- 1970s, but other worthy opportunities, particularly the South Shore Country Club, took precedence.

Cultural and Historic Features

Cultural and historic features include the oldest continuing church in the United States, the 1679 Old Ship, its Hingham offspring, Second Parish in south Hingham (1746), and Bullfinch's New North Church founded by General Benjamin Lincoln, along with the compelling and dramatically sited St. Paul's Church, a monument to the Town's industrious nineteenth century Catholic population. There is also the historic Lincoln House on North Street, Old Derby Academy, the Old Ordinary (an early form of inn and watering hole), and the varied eighteenth and nineteenth century houses along Main Street. Some seventeenth century houses survive, but most are unrecognizable under modernized late eighteenth century Colonial and Federal facades.

Missing are signs of the Town's industrial past, such as the very long rope walk which ran behind the present Town Hall, the former Hingham Bucket Works on Cushing Pond (and the related hydropower

tailrace across Main Street), and the various former grist mills, fulling mills, triphammers and foundries remembered only for their namesake neighborhoods and streets.

Hingham Waterfront

Hingham Harbor is not only an important source of economic growth for the Town, but it is also a place where many residents and visitors go to enjoy natural beauty and scenic vistas. From the harbor, a viewer can see a number of islands and headlands. There are both public and private boat launches and access to the water as well as privately owned marinas. There is a also a public bathing beach, a bandstand, expanses of lawn and a few benches for scenic viewing of the harbor and the islands.

A separate part of the waterfront, on the far side of Crow Point, is Hewitts Cove. It is the site of the former Bethlehem-Hingham Shipyard where hundreds of destroyer escorts and landing ships were built for the United States and British navies during World War II. This area includes the Town's Bouve Conservation Area.

World's End, a 251-acre property owned by The Trustees of Reservations, is a great source of pride for the residents of Hingham. It is ecologically diverse and is comprised of four coastal drumlins. It encompasses tidally influenced and freshwater wetlands, as well as upland grasslands important for the survival of grassland bird species. Farmed in the nineteenth century by the Brewer family, World's End was acquired by The Trustees of Reservations in 1967 after a broad-based fund-raising campaign lead by Samuel Wakeman, former Superintendent of the Shipyard. This important landscape had survived proposals for its development, including one for an early residential subdivision designed by the great landscape architect Frederick Law Olmsted, one, in 1945, for the United Nations Headquarters, and one in 1965 for a nuclear power plant. World's End provides great scenic vistas of the Hingham Harbor, Boston skyline and Weir River Estuary, and it is one of the 30 islands and properties included in the Boston Harbor Islands federal and state park.

Weir River and Associated Area of Critical Environmental Concern

The Weir River Area of Critical Environmental Concern (ACEC) was designated as such by the Secretary of Energy and Environmental Affairs under the state ACEC program following great local efforts. The designation carries with it more stringent requirements for minimizing environmental effects within its 922 acres. There are areas of ecological diversity and of great beauty within the Weir River ACEC. Both Hingham Harbor and a portion of World's End lie within the boundaries of the ACEC. The ACEC boundary also encompasses the tidal portion of the Weir River, the estuary, inner Hull Bay and Straits Pond. The volunteer Weir River Watershed Association works to gather data on the watershed's condition using monitoring programs, carry out local projects to maintain and improve the water quality, aesthetic values and enjoyment of the watershed, and conveys findings to the public, governmental committees, and other agencies. The association and the official Hingham, Cohasset, and Hull Weir River Estuary Park Committee have done much to establish a park with extensive river frontage in all three communities.

Wompatuck State Park

Many residents and visitors value Wompatuck State Park as a local resource for nature appreciation, passive recreation and some active recreation. The park contains 3,602 acres in the towns of Hingham, Cohasset, Norwell, and Scituate. It is heavily wooded and interspersed with wetlands systems. The state park provides many opportunities for hiking, biking, camping, cross-country skiing, and boating with a ramp on Cohasset's Aaron River Reservoir.

Bare Cove Park/Weymouth Back River Area of Critical Environmental Concern

Town-owned Bare Cove Park is the site of the former U.S. Naval Ammunition Depot. Its 468 acres protect tidewater and salt marsh along the Weymouth Back River and provides paved bicycle paths, picnic sites, and woodland trails for public enjoyment. The park, as well as Great Esker Park across the river, falls within the Weymouth Back River Area of Critical Environmental Concern.

Home Meadows

The Home Meadows Conservation Area, owned by the Hingham Conservation Commission, provides a scenic view of a tidally influenced marsh. It is just off of Winter Street near downtown Hingham and provides a scenic overlook in an otherwise densely developed area, as well as providing protection for a large marsh system. Tidal flushing has been restored through mitigation efforts of the MBTA's Greenbush commuter rail restoration project.

Scenic Roads

There are eight scenic roads in the Town of Hingham officially designated through the Scenic Road Designation Program (M.G.L. Ch. 40, s.15c): Free Street, Lazell Street, Leavitt Street, Turkey Hill Lane, Popes Lane, South Pleasant Street, Martins Lane and Union Street. The designation helps to maintain and retain much of the road's historic and rural characteristics. A public hearing before the Planning Board is required before a property owner can remove a tree or alter a stone wall within the right-of-way of a designated scenic road.

G. Environmental Challenges

There are both temporary and permanent environmental challenges that we face when planning for open space protection and recreation in Hingham. For example, floodplain areas might be considered desirable for protection in order to avoid inadvertent development in areas that have chronic problems with flooding or stormwater, but these areas might be appropriate for some recreation uses. Land that contributes to groundwater protection and recharge, particularly surrounding stressed water basins, might be on a town's priority protection list. In a similar vein, many towns consider capped landfills a desirable area to create playgrounds or ball fields that can increase a community's available recreational opportunities. Other environmental challenges, such as waste disposal sites regulated under Chapter 21E, federal superfund sites, or areas of heavy sedimentation and pollution problems could be considered undesirable for open space protection or recreational opportunities. It is up to the residents and planners of each town to decide where their priorities lie and what criteria should be used in achieving open space protection and recreational opportunity goals.

Hazardous Waste Sites

Hingham has no federal Superfund Sites identified within its boundaries.

A review of the Massachusetts Department of Environmental Protection (DEP) Bureau of Waste Site Cleanup database of release sites lists 151 reportable releases that were assigned Release Tracking Numbers (RTNs) in Hingham. These are sites where a release or potential release of oil and/or hazardous material was identified that met the regulatory reporting requirements of the Massachusetts Contingency Plan (MCP). The database provides general information identifying the release location, date of notification, release classification and compliance status.

Nearly 100 of the release sites are listed as having achieved a Response Action Outcome (RAO). These are sites that have been investigated and/or remediated in accordance with the MCP and where it has been determined that a condition of "no significant risk" of harm to human health, safety, public welfare, and the environment exists at the site. Another 17 sites were listed as requiring "No Further Action" or as having the RTN closed or retracted. These are generally sites where a relatively minor release may have occurred that was determined to not require further response actions. Four sites were identified as having Down-gradient Property Status (DPS). Of the nearly 33 active disposal sites in Town, eleven are listed as having Special Project Status. These sites are associated with the Greenbush commuter rail line project. Nine sites were listed as "Unclassified."

Sites are usually classified into Tiers using the Numerical Ranking System (NRS). Sites are scored by the NRS on a point system based on a variety of factors. These factors include the site's complexity, the type of contamination, and the potential for human or environmental exposure to the contamination. In addition, some sites are automatically classified as Tier 1 sites if they pose an imminent hazard, affect public water supplies, or ignore regulatory deadlines.

The highest scoring sites are classified as Tier 1A and generally present the most complexity and potential hazard. Tier 1A sites are under the direct supervision of the DEP. Tier 1B and 1C sites present less potential hazard and response actions are supervised by a Licensed Site Professional (LSP). Tier 1D sites are sites that are out of compliance due to various reasons, usually for missing key MCP submittal deadlines. The lowest scoring sites are classified as Tier II disposal sites and response actions are supervised by an LSP.

Two Tier 1A sites were identified in the Town of Hingham, both within Wompatuck State Park (formerly a military munitions facility). One was identified as a former dump and the second a former burning ground. The Hingham Department of Public Works was identified as the only Tier 1B site in Town, and Hewitts Cove Marina was identified as the only Tier 1C site. Five Tier 1D sites and four Tier II sites were identified in Town.

Based on review of readily available data from the DEP, the Town appears to have few concerns in regards to adverse impacts from hazardous waste sites. Over two-thirds of disposal sites identified in the Town require "no further action" and the few "open" sites under investigation do not appear to present a significant threat to Areas of Critical Environmental Concern or to water supplies (Zone II or Interim Wellhead Protection Areas).

303d Impaired Waters

Under Section 303(d) of the Clean Water Act, states must identify and rank waters impaired by pollution and contamination. "Impaired water" is defined as a surface water that does not meet water quality criteria as defined by the Massachusetts Department of Environmental Protection. Impaired waters are classified into different categories according to the types of known pollutants found in them.

Name	Segment ID	Description	Size	Impairment Cause
Accord Brook	MA74-16	Headwaters, outlet Accord Pond, Hingham to water supply intake (4131000-02S Accord Brook) south of South Pleasant Street, Hingham.	3.2 mi	Aquatic macroinvertebrate bioassessments
Crooked Meadow River	MA74-01	Outlet Cushing Pond, Hingham to confluence with Weir River, Hingham.	1 mi	Nutrient/eutrophication biological indicators
Hingham Harbor	MA74-18	Hingham Harbor inside a line from Crows Point to World's End, Hingham (formerly reported as MA70- 08).	1.12 mi^2	Fecal coliform, PCB in fish tissue, other
Weir River	MA74-02	Headwaters at confluence of Crooked Meadow River and Fulling Mill Brook, Hingham to Foundry Pond outlet, Hingham (through former pond segment Foundry Pond MA74011).	2.7 mi	Low flow alterations, fecal coliform, nutrient/eutrophication biological indicators, sedimentation/siltation
Weir River	MA74-11	From Foundry Pond outlet, Hingham to mouth at World's End, Hingham and Nantasket Road near Beech Avenue, Hull (including unnamed tributary from outlet Straits Pond, Hingham/Hull).	0.83 mi^2	Fecal coliform, PCB in fish tissue, other
Weymouth Back River	MA74-13	From the base of the fish ladder north of Commercial Street, Weymouth to mouth between Lower Neck, Weymouth (to the west) and Wompatuck Road, Hingham.	0.86 mi^2	Fecal coliform, PCB in fish tissue, other

Table 3. List of Category 5 303d Impaired Waters in Hingham. (Source: Mass DEP, http://www.mass.gov/eea/docs/dep/water/resources/07v5/12list2.pdf)

The federal National Pollution Discharge Elimination System (NPDES) Phase II Stormwater Management Plan requirements include the implementation of Best Management Practices, including a Total Maximum Daily Load (TMDL) stud,y to address all Category 5 303d waters.

Chronic Flooding

As discussed under previously, the Town has very few developed areas with chronic flooding. This is because its streams are small, there is very little development in the floodplain or next to low-lying beaches, and coastal storm surges are limited by the barriers created by Hull, Peddocks Island, and Hough's Neck in Quincy. Storm surges must make their way through the Hull Gut and the West Gut (between Peddocks and Nut islands at the end of Hough's Neck) before raising tides in Hingham and Hull bays. Some inland streamside yards and cellars are frequently flooded by backwaters above culverts or by high groundwater, but damage to buildings or threats to people are negligible, as shown by the few non-coastal policies and minimal claims under the National Flood Insurance Program.

Present and past Conservation Officers and Department of Public Works officials report repeated local flooding in areas such as:

- The Town Brook in west Hingham.
- Yards along the edge of Crooked Meadow River, downstream of Cushing Pond and upstream of Friend Street.
- The Weir River at East Street above the railroad abutments and Foundry Pond, now eased by the MBTA's installation of a box culvert, easing flows from the river to the pond.
- Some houses and yards along the Eel River in the Liberty Pole subdivision due to local drainage issues.

- Tower Brook just north of Free Street.

As suggested in the Water Resources section, open space funds might be used to modify channels to create low-lying habitat/open space/flood storage areas through temporary backwaters with flood control and groundwater recharge benefits. In addition, existing public and private dams, such as the dam at Cushing Pond, might be upgraded, if necessary, and managed for local flood control purposes. Thus, rather than dropping a pond when storm levels were high and threatened property, the Town or private owner would drop the pond before a major storm and then replace the boards or close the gates to hold much of the stormwater for a few days. The flow could then be restored, unless groundwater recharge was sought and the underlying soils were suitably coarse.

Such a stormwater management program would take negotiation, repair or upgrading of some dams and considerable coordination. The result could restore the water management function of the Town's mill dams and give some flood protection, as advocated by some present or past conservation and public works officials. Such opportunities could be uncovered through a Town-wide stream system inventory.

Hingham Transfer Station and Landfill

Hingham has one recycling facility and solid waste transfer station, located on Hobart Street adjacent to the former Town landfill. The Department of Public Works and the Long Range Solid Waste Disposal and Recycling Committee urge residents to maximize their recycling efforts for both economic as well as environmental benefits. More than this, the Town requires recycling of all clean paper, cardboard, most plastics, glass, and metal cans. Places are provided to drop off items such as computers, television sets, car batteries, used motor oil, tires and large metal items. There are also places for hazardous items, such as compact fluorescent bulbs and areas for leaves and brush for composting. Finally, there is a swap area and a set of donation bins for usable items, occasional access to felled trees for fire wood, and to wood chips for mulch. All of this reduces the amount of waste to be disposed of; this waste no longer goes to a landfill, but to the Southeastern Massachusetts Resource Recovery Facility, a waste-powered electricity generating plant.

The Town's capped landfill is a sizeable hill that has been studied for both wind and solar power. Most recently, the 2016 Annual Town Meeting voted unanimously to transfer the surface of the landfill from the Board of Selectmen to the Hingham Municipal Lighting Plant for the purpose of constructing, operating and maintaining a solar generating facility.

Erosion and Sedimentation

Erosion and sedimentation of water bodies from construction sites is a chronic problem and can severely impair water quality, wildlife habitat, and holding capacity of wetlands and water bodies. The main historic instance of local sedimentation was the deposit of much silt, sand, and gravel from the Weir River into Foundry Pond by past ditching of the river.

New regulations put forth by the NPDES (National Pollution Discharge Elimination System) Phase II Program require additional permitting for developers or homeowners seeking to disturb more than one acre of land. The NPDES permit requires a developer to identify potential point source discharges and set forth a plan to control erosion and sedimentation on the site. The goal of Phase II is to improve the water quality of receiving waters.

Stressed Water Basins

Water supply is a highly important and significant issue in each municipality. Demand often exceeds the carrying capacity of watersheds to provide quality water to communities. The Massachusetts Water Policy recommends a "stress framework" approach to water policy to encourage local towns and other entities that regulate or control water to develop a pro-active approach to water policy and management. To this end, the policy identifies permitting issues of concern to municipalities. The stress framework would set performance standards for entire basins based on stream flow and, later, biological and chemical integrity.

There are three levels of stress designation for basins, based on factors affecting quantity, quality and habitat factors, such as presence of target fish populations. Through the stress framework process, the state recommends that all communities develop an "Integrative Water Resource Management Plan" that looks to balance the inflow and outflow of water within that community in order to support sensible growth and planning. This approach should benefit from the new state stormsater regulations, requiring maximum groundwater recharge of water presently running off large impervious surfaces going more or less directly into streams.

The Weir River Watershed was designated in July 2005 as a "highly stressed" basin, which is the highest of three classification designations. The following statement by Board of Health member Dr. Kirk Shilts sums up the strategy and what the Town needs to do to comply with the Massachusetts Water Policy:

> "Developing new water supply sources is a long-term planning effort that involves conservation first, followed by recharge and reuse of recycled water. It should not be overlooked that Hingham and Hull's water supply needs are irrevocably tied to wastewater recharge and reuse, as well as stormwater recharge. Fortunately, Hingham has already begun this evaluation process."
>
> "Current guidelines and practices are already in place to provide Hingham and Hull's water supplier, Aquarion Water Company, with clear and concise management criteria for fulfilling our two communities' needs. Balancing water withdrawals with actual stream flow conditions is central to the State's water policy. Measures to identify and prioritize stressed habitat areas within our watershed must also be tied to water supply management. In our towns, the underground water pipes are relatively old. The State's 2004 Water Policy prioritizes state resources to repairing water supply infrastructure, supporting a 'fixit- first' mentality of maintenance and early repair."

Since wastewater treated at the Hull or MWRA treatment plant goes to the ocean, it is particularly important to maximize the recharge of water from other sources, e.g. through Low Impact Design (LID) principles.

Forestry Issues

While the Tree and Park Division of the Department of Public Works keeps track of sick, damaged or ill-located street trees, there are fewer data about the condition of the Town's public and private woodlands away from roads. An examination of the trees in Town parks shows some long-term effects of pests, such as saw fly borers, but otherwise they are generally healthy. The Hingham Tree Warden explains that trees set away from the roadside generally do better, as indicated by little defoliation. The condition of even more remote trees is checked by airplane, by the state and county. These flights can detect "hot spots" of defoliation, which the Town then investigates.

One unique situation is that of the George Washington Town Forest, which was planted in red pine in 1922 as an intended commercial crop for paper pulp. The trees have never been harvested and there has long been a concern that this mono-culture of trees, which live for 80 to 90 years, will fail over a short period. This has not happened yet, and as pines they may be less susceptible to the threat of hard-wood-oriented beetles.

Environmental Equity

Environmental equity, or environmental justice, refers to the sometimes disproportionate exposures of low-income or minority communities to noxious or hazardous facilities or land uses such as incinerators, landfills, sewage treatment plants, railroad tracks and major highways, or to their being under-supplied with open space and recreational amenities. Hingham's neighborhoods are diverse enough that there are no large low-income or minority concentrations to be uniquely affected by such influences, or to be readily mapped, and these influences affect a range of neighborhoods. The smaller historically lower-income pockets of housing are generally near other income groups and have few negative neighborhood impacts.

One major potential blighting influence, the former landfill, is bordered by open space on three sides, and the nearest neighborhood, a new single-family condominium development, is relatively affluent. There is no incinerator or sewage treatment plant in the Town. There are some small, generally odor-free and quiet pumping stations, commonly in middle-income neighborhoods or commercial areas. Thus, the pumping stations affect no low-income or environmental justice neighborhoods.

The restored commuter rail service unavoidably affects trackside housing through the immediate historic neighborhood in west Hingham and where it emerges from the tunnel under Hingham Square. This neighborhood was largely built after portions of the Town Brook were filled for railroad construction in the nineteenth century. There was little choice about the route of this restored service, and some sound barriers have been installed so that the impact is less than with previous service. Local housing reportedly continues to be upgraded, countering past fears that the neighborhood would revert to much earlier pockets of deterioration.

The one new highway, Route 3, built in the 1950's, ran past a few streets in a middle- to upper-income area since that was part of the overall route. There has been recent concern along middle-income Beal Street that traffic from increased nearby multi-family housing and the large, mixed-use Hingham Shipyard project will harm their neighborhood. In response, the Town performed a traffic study. As a result, the road has been modified to slow traffic and the Town is considering ways to keep through-traffic on Route 3A whenever possible. Again, traffic growth is not impacting a disadvantaged neighborhood; the growth reflects continuing development; and the Town is working to alleviate its limited impacts.

New Development

Perhaps the biggest environmental challenge facing the Town of Hingham, and the Commonwealth in general, is new development. Massachusetts laws and regulations, such as the Rivers Protection Act, the Wetlands Protection Act, and stormwater management regulations, and federal laws and regulations such as the Clean Water Act and the National Pollution Discharge Elimination System, mandate that developers institute Best Management Practices to control additional pollution to wetlands and waterways and prevent any further degradation. Although regulations have improved over the years, the fact is that new development does, cumulatively, have an effect on the Town's environmental quality, water quality, habitat quantity and quality, and even the Town's overall character.

There are currently over 1,600 acres of land under development in Hingham. The cumulative effect of such concurrent and wide-scale alteration to the ecology of an area assuredly has an impact on its functionality. We might not know the exact ramifications of this amount of development for years to come. Only when water quality is degraded and wildlife and plants that are native to the area begin to change or disappear altogether, will the overall impact of this large-scale development become obvious. The science behind water quality degradation and wildlife habitat alteration is always ongoing and, as we learn more, we can begin to adjust policy and regulations accordingly.

Chapter 5: Inventory of Lands of Conservation and Recreation Interest

Open space acquisition is critically important to every community's health, vitality and sense of well-being. By setting aside open spaces, the community protects its water supplies, air quality, and scenic and historic values. Naturalized areas are also important in the absorption and filtration of noise and light pollution. Open spaces attenuate stormwater flow and aid in groundwater recharge, as well as providing food, cover and habitat along streams, ponds, and field edges for a variety of flora and fauna. Protecting open spaces enhances property values in a community and gives the inhabitants an increased feeling of well-being. Protected lands also provide an outdoor classroom to educate the populace on nature's diversity and vulnerability.

This section is an inventory of Hingham's protected, minimally protected, and unprotected open spaces. For each property, the ownership, location, size, current use, public access, and zoning information is provided. The inventory of present holdings is important to show what we have now and to describe the current setting. However, the crucial information is the inventory of significant, unprotected and partially-protected land since this leads to the plan's purpose: guiding future acquisitions and other protective actions leading to the Seven-year Action Plan. Many privately owned undeveloped parcels have a high potential for either protection or development. This inventory looks at undeveloped lands of conservation and recreation interest regardless of their ownership or present level of protection, but lists them as public, non-profit and private holdings. Ownership and assessment information is from fiscal year 2016 Hingham Assessors records.

Note: Apart from land held by the Conservation Commission, Recreation Commission and related bodies, a number of properties in Town are protected by historical deed restrictions held either by the Historical Commission or by the Society for the Preservation of New England Antiquities now known as Historic New England.

Degrees of Protection and Codes

Zoning Codes
Residential A – Residential 20,000 ft^2 lots
Residential B – Residential 30,000 ft^2 lots
Residential C – Residential 40,000 ft^2 lots
Official and Open Space...

Open Space Codes
Protected Lands (P) – These refer to lands that are permanently committed to conservation or recreation use by ownership and/or permanent Conservation Restriction or other deed restriction. Examples are lands held by the Town's Conservation Commission or through an open space-oriented non-profit organization, such as The Trustees of Reservations or the Hingham Conservation Land Trust.

A degree of added protection of land held for broadly-defined park and conservation purposes is provided by the Massachusetts Constitution's Article 97. This prohibits a change in use of such land, even for other public purposes, without local legislative approval through a Town Meeting or City

Council vote, and a two-thirds vote by the Legislature. While land under Article 97 is sometimes considered to be protected in perpetuity, coming under it alone does not protect a site if the community and owner decide to use it differently and get the required votes.

Partial protection is provided by the requirement that land acquired with state or federal aid, such as the PARC Program (former Self Help Program) may not be used for a different purpose without being replaced by land of comparable size and value.

The following types of property are considered to be protected: Town-owned conservation lands; Town-owned recreation lands; non-profit organization/land trust owned lands; Town-owned Historical Preservation Lands; state-owned parks; private lands with Conservation or Historical Restrictions.

Partially or Temporarily Protected Lands (T) – This refers to land with a present use and/or ownership that keeps it open and delays probable development, but which could be developed or sold for development if the owners' needs changed. Hence, such land is seen as only partially/temporarily protected.

- Chapter 61 Lands: These are private forest, agricultural or recreation lands which are under Massachusetts General Laws Chapters 61, 61A or 61B respectively. Such land is taxed at its current use value rather than at a speculative development value so long as the owner commits to inform the Town or delegate of any pending sale or change in use by letter to the Conservation Commission, Selectmen, and Planning Board, and allow the Town or delegate to meet any bona-fide offer and acquire the site. However, owners may remove land from the program by repaying a portion of the avoided taxes.
- Land under time-limited Conservation or Historic Preservation Restrictions.
- Drinking water protection lands: owned by the Aquarian Water Company and potentially not needed if an alternative source is found.
- Land held by private schools, churches or other institutions that might be sold if the needs of the owner change.
- Town land held for other than open space and recreation purposes and without even the limited protection of Article 97, such as cemeteries, non-recreational school lands, or police, fire and public works facilities, and miscellaneous town holdings or tax title properties.

Unprotected Lands (N) – These are public and private lands that have no official Conservation or Historic Preservation Restrictions and could be sold and developed regardless of their present use or ownership.

- Private non-profit lands with no Conservation Restrictions.
- Strategic tracts of private land of all sizes with no Conservation Restrictions.

Note: Land held by the Town for other purposes, such has the former DPW yard, a school site which might be closed, chance tax title acquisitions, or miscellaneous little-needed Town holdings are ultimately unprotected, but are at less immediate risk than comparable private land, and are considered to be partially or temporarily protected.

Lands Under Permanent Conservation Restrictions

Entities such as the Conservation Commission, The Trustees of Reservations, and the Hingham Land Conservation Trust (HLCT) hold Conservation Restrictions or Easements on private land in Town or on

public land, most likely acquired through the Community Preservation Act, to further safeguard it. Landowners that put a Conservation Restriction on their property do so to enhance and retain the natural beauty and intrinsic value of their land, to assure that it will not be developed in the future, and often to get reduced property taxes. Some earlier holdings are protected by Conservation Easements. Recent restrictions on land purchased under the Community Preservation Act are being held and monitored by the HLCT.

Description of Ownership

Conservation Commission

The Hingham Conservation Commission was established in 1960 and acquired its first piece of land shortly thereafter. The Conservation Commission works with the Hingham Open Space Acquisition Committee to identify and protect important tracts and holdings with a variety of tools including outright purchase, acceptance of donations and Conservation Restrictions.

The Hingham Conservation Commission currently owns outright approximately 1,235 acres of land and holds another 15 acres (+/-) in Conservation Restrictions (CR). There is no exact tally on acreage under CRs because not all CR documents specify acres. This summary also includes some holdings which are in the Town's name, but managed by the Commission.

Recreation Department

School Department

Department of Conservation and Recreation

The Trustees of Reservations (TTOR)

TTOR owns approximately 500 acres of land in Hingham. The Weir River Farm, a 75-acre parcel that includes a 10-acre working farm, and World's End at 251 acres, are two of its largest holdings.

Hingham Land Conservation Trust (HLCT)

The HLCT was founded in 1961 and owns 60 acres of conservation land outright and holds easements on parcels totaling more than 117 acres. It is also the monitoring agent for Conservation Restrictions held by the Town or the Conservation Commission on land acquired with CPA funding.

Private Non-Profit Institutions

Local institutions, such as the Notre Dame Academy, control significant parcels of land that currently function as open space, but are residentially-zoned and could be developed in the future. Hingham's 2001 Master Plan summarizes the status of undeveloped, unprotected lands in Hingham: "Unaffiliated private landowners control the greatest share of Hingham's unprotected open space. These lands range from a few acres of woods behind a suburban backyard to forests, wetlands and old fields many dozens of acres in size. With a few exceptions, this open space is zoned for development (e.g., residential or industrial) and is not protected."

Chapter 61 Lands

Chapter 61 lands (i.e., lands under Chapters 61, 61A, and 61B) are temporarily protected under the state's present use taxation program so long as they are committed to forestry, agriculture, or recreational use. The land may be removed from the program well before a planned change in use by

paying a portion of avoided taxes plus interest, thus allowing the uses to change without triggering the Town's first refusal rights. Otherwise, when the land is proposed for sale and/or a change in use, the Town must be informed and given first refusal rights to meet any bona fide offer within 120 days. The Town may assign this right to a public or non-profit land conservation group which may be able to act more quickly.

Towns often have trouble taking advantage of the right of first refusal, because they must have available a large cash reserve to buy the land, as well as a political structure that can quickly approve the purchase. For example, even when recommended by the Community Preservation Committee, Community Preservation Act funds must be voted at Town Meeting. Thus, Chapter 61 lands are protected to the extent that the program lessens tax pressures to sell, but major offers may lead to land being removed from the program rather than being offered to the Town, or the Town and partners may be unable respond in time.

Hingham has 11 parcels in Chapters 61, 61A and 61B held by eight owners and totaling 98 acres. The table below shows which parcels are in Chapter 61, 61A and 61B. These parcels need to be mapped against other holdings and lands of interest so that opportunities to connect other holdings, to preserve even small pieces of valuable farm land, or to preserve a neighborhood can be identified and seized.

	Map/ Lot	Address	Zoning	Acres	Ownership	Management	Use
1		65 Lazell St.	Res. B	21.6	P. Bickford	The Fulling Mill Brook Farm Trust	Ch. 61A
2	49/49	22 Bremer Cir.	Res. A	8.58	Frederickson Family Funding Trust	P. Frederickson, Trustee	Ch. 61B
3	55/13	East St.	Res. C	9.42	Cohasset Golf Club		Ch. 61B
4	64/11	210 East St.	Res. C	9.86	M. Cushing		Ch. 61B
5	64/6	Cushing Hwy.	Res. C	10.44	M. Cushing		Agricultural
6	66/2	345 East St.	Res. C	5.98	Stein Family Realty Trust	G. & L. Stein	Ch. 61B
7	119/1	83 Lazell St.	Res. C	7.88	D. & N. Barry		Ch. 61
8	128/1	91 Lazell St.	Res. C	6.6	D. & N. Barry		Ch. 61
9	138/8	Charles St.	Res. B.	8.0	D. Bennett		Ch. 61A
10	148/6	Charles St.	Res. B	1.14	D. Bennett		Ch. 61A
11	138/27	Lazell St.	Res. C	8.6	A. Healy		
		Total		**98.1**			

Table 4. Hingham Lands in Chapters 61, 61A and 61B.

Evaluations of the More Important Chapter 61 Lands

1. The largest parcel of land still in agricultural use in the Town. Fields along Fulling Mill Brook.

5. The Weir River wetlands dominate this parcel; covered by bush briar, bittersweet, and swamp maples. Its location in the riparian zone protects the lot as open space and the river's ecosystem. (The property was transferred to the Conservation Commission in 2010.)

6. This parcel failed two percolation tests indicating that it cannot be developed, without being sewered, however it is within 100 yards of the Hingham Skating Club pond and it is an important recharging area when the pond floods its boundaries. Environmentally its value to the pond system is significant.

7 & 8. These parcels have been divided into two lots for the purpose of sale. One lot contains the house and garage, the other lot has a barn and guest house with access to three lots to the rear. These lots have passed percolation tests, however to the rear of these lots the land is wet with skunk cabbage and a rippling stream, a tributary of the Fulling Mill Brook. Situated in a rural area of Town, it borders sixteen acres of open land. Although it is not accessible, its value to the environment is significant.

9 & 10. There are two parcels which make up this acreage. It backs up to Wompatuck State Park with a six-foot wetland separating the land from the park. Its proximity to the George Washington Forest and to Fulling Mill Pond, a major drinking water source for Hingham, determines the high conservation value of this land. There is a small wetland in the northeastern corner of the property with a spring which flows into Fulling Mill Brook. Should this property be developed, it would disturb the important ecosystem which the land supports. Accessibility of this land would be from Charles Street, should the Town acquire it.

Unprotected Lands of Conservation Interest

Town Lands Held due to Tax Takings

The following lands have been taken for unpaid taxes and may be sold by the Town unless needed for a specific purpose. Some are subject to redemption by the owner within a year of the taking, but most are already past that point. Their possible open space or recreation use is noted to identify needs for further study.

	Address	Map/ Lot	Year Foreclosed	Size in Acres	Assessment at Foreclosure	Use/Potential
1	1 Andrews Isle	73/54	FY 96	.46	$1,200	A street marker lot; adds a vegetative entrance to the street.
2	3 Andrews Isle	62/59	FY 96	.47	$28,100	Rocky ledge and marsh next to Home Meadows.
3	9 Andrews Isle	62/72	FY 96	.85	$12,100	
4	0 Beal St.	58/10	FY 08	.30	$22,600	Wetland
5	73 Blaisdell Rd.	179/6	FY 78	.29	$22,900	Located between houses.
6	0 Blaisdell Rd.	179/13	FY 99	.03	$1,700	Isolated; limited potential except for small habitat.
7	12 Brewster Rd.	168/88	FY 08	.09	$4,000	Wetland
8	10 Cedar St.	89/54	FY 96	.82	$237/200	Wooded with ledge outcropping.
9	18 Deerfield Rd.	202/17	FY 03	.77	$11,700	Disturbed land most useful for buffer area.
10	19 Deerfield Rd.	202/8	FY 02	1.61	$13,000	Wetland
11	8 Devon Ter.	208/30	FY 02	1.46	$32,000	Wetland
12	18 Harvard Rd.	125/96	FY 03	.69	$33,400	Wetland
13	2 Hitching Post Ln.	156/82	FY 03	.47	$11,200	Perennial stream/wildlife habitat
14	2 Presidents Rd.	168/150	FY 85	1.1	$15,000	Wetland
15	0 Rockland St.	22-33	FY44	3.75	$11,200	Salt marsh

16	9 Stagecoach Rd.	156/58	FY 03	.82	$11,800	Valuable for recharge and wildlife observation.
17	11 Stagecoach Rd.	156/59	FY 03	.65	$11,600	Valuable for recharge and wildlife observation.
18	22 Stagecoach Rd.	156/75	FY 03	1.6	$13,900	Valuable for recharge and wildlife observation.
19	26 Stagecoach Rd.	156/73	FY 03	1.0	$12,600	Valuable for recharge and wildlife observation.
20	11 Woodridge Rd.	117/15	FY 98	.46	$4,800	Wetland

Table 5. Hingham Lands Held due to Tax Takings.

Evaluations of the More Important Tax Title Holdings

5. This parcel is in a neighborhood, is wooded and surrounded by houses on both sides. Because of its location, its value may lie in an opportunity for children to play, to study nature and it may also provide wildlife habitat. It is accessible from the street.

6. This small parcel sits in a neighborhood and is wooded and surrounded by houses on both sides. Because of its isolated location, benefits to the Town would be minimal. Accessibility is limited as it is filled with briar, however it provides as small wildlife habitat.

9, 10 & 11. These parcels on Deerfield Road and Devon Terrace comprise a corner lot and vacant lots in the Hingham Industrial Park. Some of the land has been disturbed, the remaining acreage is a mixture of wetlands and a few uplands with hardy trees. This open land offers wildlife habitat, buffer zone and watershed protection.

16 & 17. A small parcel of open space which is very wet and significant for its groundwater recharging. It could be used for nature study and wildlife protection. Accessibility: roadside.

18. A small pocket of wetland whose value is its ability to recharge groundwater. It could be used for nature study and serves as wildlife protection. Accessibility: roadside.

19. Once again, this small pocket of land offers recharge for groundwater, provides a small space for frogs, and lends itself to nature study and wildlife habitat. Accessibility: roadside.

Private Property

Hingham contains many large parcels of private, undeveloped land with little to no protection. Open unprotected land has decreased significantly since the last Open Space and Recreation Plan. There are almost 2,000 acres of private lands currently under development for residential and golf course use.

Private/For-Profit Institutions

The Aquarion Water Company

The Aquarion Water Company of Massachusetts (successor through acquisitions and consolidations to the original locally-organized and owned Hingham Water Company) provides water to Hingham, Hull and part of Cohasset from wells and surface water in Hingham's portion of the Weir River Watershed. The company holds about 250 acres for water quality protection. There is no permanent or guaranteed protection for these lands because needs might change. At present much of the acreage must remain undisturbed to protect the present wells.

Public

Site	Ball Fields	Multi-purpose fields	Other	Playground	Court	Swimming/ Boating
Recreation Commission						
Hersey Field	B			✓		
Cassidy Field		✓				
Margetts' Field		✓	Lacrosse field			
Cronin/Haley Field	B, S		Street hockey rink, volleyball, indoor rec center, track	✓	T	
Bradley Woods Playground	B	✓		✓	BB	
Hull Street Playground		✓				
Hingham Skating Club			Ice skating			
Kress Field	B	✓		✓	BB	
Hingham Golf Club			Golf			
DPW						
Donna Powers Field	B			✓		
Monument Park/ Iron Horse Park			View, walking			✓
Sports Partnership						
Carlson Field	B	✓	Skateboard park		BB	
Lynch Field	FB, B					
Harbor Development Committee						
Barnes Wharf						✓
Steamboat Wharf		✓	Bandstand			✓
Trustees of the Bathing Beach						
Hingham Bathing Beach						✓
School Department						
Hingham High School	B, FB, S	✓	Track, gymnasium, weight room, wrestling room, auditorium		T, BB- Indoor	
Hingham Middle School	B,S	✓	Gymnasium, wellness room, auditorium		T, BB- Indoor & Outdoor	
Foster School	B, S	✓	Gymnasium, trails	✓	BB	
Plymouth River School	B	✓	Gymnasium, trails	✓	BB	
South Elementary School	B		Trails	✓	BB	
East School		✓	Gymnasium, trails	✓	BB	
South Shore Country Club Committee						
South Shore Country Club			Golf, bowling		T	✓

Private Non-Profit

Site	Ball Fields	Multi-purpose fields	Other	Playground	Court	Swimming/ Boating
Hingham Yacht Club						✓
Derby Academy		✓	Gymnasium			
Notre Dame Academy	B	✓	Track		T	
Crow Point Nominee Trust						✓
Blackrock Golf Course			Golf- Private Membership			
Boston Golf Course			Golf- Private Membership			

Key
S- Soccer
B- Baseball
FT- Football
BB- Basketball
T- Tennis

Property	Map & Lot	Zoning	Ownership	Management	Acres	Access	Use
Conservation Commission Land							
Bouve Conservation Area	Map 25/ Lot 1	Municipal and Open Space	Town	Conservation Commission	32	Informal	Recreation/Conservation
Foundry Pond Conservation Land	Map 53/Lots 40	Municipal and Open Space	Town	Conservation Commission	32	Parking	Recreation/Conservation
McKenna Marsh	Map 190/Lot 25	Municipal and Open Space	Town	Conservation Commission	103	By-Foot	Recreation/Conservation
More-Brewer Park	Map 97/ Lot 12	Municipal and Open Space	Town	Conservation Commission	186.5	Gate	Recreation/Conservation
Brewer Reservation	Map 106/ Lot 5	Municipal and Open Space	Town	Conservation Commission	48.1	Parking	Trails
Triphammer and Shingle Mill Pond and Access	Map 102/ Lot 3	Municipal and Open Space	Town	Conservation Commission	97.8	Parking	Recreation/Conservation
Cranberry Pond (Bouve' Pond)	Map 106/ Lot 31	Municipal and Open Space	Town	Conservation Commission	13.8	Foot	Preservation/ Conservation
Grossman Property	Map 87/ Lot 30	Residential	Town	Conservation Commission	31.4	By-Foot	Trails
Bucket Mill Pond	Map 126 / Lot 69	Open Space District	Town	Conservation Commission	9.1	Gate	Recreation/Conservation
Crooked Meadow River Conservation Land	Map 126/ Lot 48	Open Space District	Town	Conservation Commission	6	By-Foot	Trails
Mildred Cushing Woods	Map 136/ Lot 35	Open Space Development	Town	Conservation Commission	19	By-Foot	Recreation/Conservation
South Side of Cushing Street-Part of South School	Map 146/ Lot 43	Municipal and Open Space	Town	Conservation Commission	6.52	By-Foot	Education
Plymouth River Conservation Land	Map 135/ Lot 1	Open Space District	Town	Conservation Commission	27.7	Parking	Preservation/ Conservation
Fulling Mill River Conservation Land and Glad Tidings Rock	Map 147/ Lot 8	Open Space District	Town	Conservation Commission	47	Parking	Recreation/Conservation
Scotland Street Conservation Land	Map 190/ Lot 26	Official and Open Space	Conservation Commission	Conservation Commission	3	By-Foot	Preservation/ Conservation
Richard Road Conservation Land	Map 191/ Lot 1	Open Space District	Town	Conservation Commission	8.6	By-Foot	Trails
Weir River Walkway	Map 53/ Lot 52	Residential	Town	Conservation Commission	1.3	By-Foot	Preservation/ Conservation
Merrymount Road Conservation Land	Map 100/ Lot 48	Open Space District	Town	Conservation Commission	13.41	By-Foot	Preservation/ Conservation
Leavitt Street Conservation Land	Map 83/ Lot 23	Open Space District	Town	Conservation Commission	16.3	Parking	Recreation/Conservation

Cushing Land	Map 64/ Lot 11	Residence C	Town	Conservation Commission	9.1	Parking	Education & Trails
Eel River Reservation	Map 145/ Lot 48	Open Space District	Town	Conservation Commission	21	Street	Trails
Hatch - Dunlap Land (Schultz Fields)	Map 91/ Lot 79	Official and Open Space	Town	Conservation Commission	17.5	Street	Agricultural/ Trails
Nokomis Road Marsh	Map 37/ Lot131	Residential A	Town	Conservation Commission	6.46	Street	Preservation/ Conservation
Amonte Meadow	Map 42/ Lot 06a	Residential B	Town	Conservation Commission	3.3	Street	Recreation/Conservation
Jacobs Meadow	Map 137/ Lot 10	Residential B	Town	Conservation Commission	2.4	Informal	Preservation/ Conservation
Harbor Park	Map 51/ Lot 3	Municipal and Open Space	Town	Conservation Commission	1.3	Parking	View
Indian Spring - North of Liberty Pole next to South School	Map 157/ Lot 27	Official and Open Space	Town	Conservation Commission	0.8	Parking	Education/ Conservation
Marchesiani Property Main St.	Map 198/ Lot 25	Official and Open Space	Town	Conservation Commission	25	Parking	Education/ Conservation
Martin's Lane Conservation Land	Map 41/ Lot 49	Residential	Town	Conservation Commission	1.43	Informal	Preservation/ Conservation
Chief Justice Cushing Highway Route (3A) Border	Map 63/ Lot 9	Open Space District	Town	Conservation Commission	10.81	Street	Preservation/ Conservation
The Home Meadows	Map 72/ Lot 4	Municipal and Open Space	Town	Conservation Commission	70	By-Foot	Recreation/ Conservation
Wadleigh's Rill	Map 138/ Lot 26	Open Space District	Town	Conservation Commission	0.59	Street	Preservation/ Conservation
Burns Memorial Park (Tranquility Grove)	Map 80/ Lot 9	Municipal and Open Space	Town	Conservation Commission	24.1	By-Foot	Preservation/ Conservation
Fee Pond	Map 26/ Lot 137	Residential A	Town	Conservation Commission	2.58	Street	Preservation/ Conservation
Broad Cove	Map 38/ Lot 102	Municipal and Open Space	Town	Conservation Commission	17.2	Parking	Recreation/ Conservation
Rockland Street Marsh - Lyford's Lyking	Map 41/ Lot 50	Municipal and Open Space	Town	Conservation Commission	6.63	Street	Recreation/ Conservation
Gardner Street Conservation Land	Map 196/ Lot 38	Open Space District	Town	Conservation Commission	3	Street	Preservation/ Conservation
Boulevard Border Park	Map 41/ Lots 36, 50 Map 31 /Lot 01	Official and Open Space	Town	Conservation Commission	15	Street	Recreation/ Conservation

Dowden Conservation Land	Map 191/ Lot 01	Residential	Town	Conservation Commission	31.25	By-Foot	Preservation/ Conservation
Richard Rd. Water Fields	Map 191/ Lot 22	Open Space	Town	Conservation Commission	3.48	By-Foot	Preservation/ Conservation
19 Wanders Drive	Map 182/ Lot 21	Open Space	Town	Conservation Commission	1.39	By-Foot	Preservation/ Conservation
Industrial Park	Map 207/ Lot 20	Open Space District	Town	Conservation Commission	4.4	Street	Preservation/ Conservation
Whortleberry Hollow	Map 196/ Lot 38	Official and Open Space	Town	Conservation Commission	16	By-Foot	Trails/ Conservation
Wirkala Tract	Map 123 / Lot 28	Residential C	Town	Conservation Commission	3.84	By-Foot	Preservation/ Conservation
Whitcomb Ave.	Map 135/ Lot 29	Open Space District	Town	Conservation Commission	1.75	Street	Trail/ Easement
18 Camelot Drive (Abuts C-50)	Map 135/ Lot 62	Residential	Town	Conservation Commission	1.83	Street	Trail/ Easement
Blue Sky Drive	Map 107/ Lot 47	Residential B	Town	Conservation Commission	8.71	Street	Easement
Lot 4 New Bridge St.	Map 98/ Lot 51	Official and Open Space	Town	Conservation Commission	2.8	Street	Preservation/ Conservation
McCormack Land	Map 92/ Lot 17	Residential C	Town	Conservation Commission	5.83	Street	Preservation/ Conservation
Weston Donation	Map 80/ Lot 48	Residential B	Town	Conservation Commission	0.25	By-Foot	Preservation/ Conservation
44 Crow Point Lane	Map 37/ Lot 37	Residential A	Town	Conservation Commission	6.46	Street	Preservation/ Conservation
Gordon Cushing St.	Map 136/ Lot 63	Residential B	Town	Conservation Commission	10	Street	Preservation/ Conservation
26 Harvest Lane, Devon Terrace	Map 208/ Lot 22	Residential B	Town	Conservation Commission	3.1	Street	Preservation/ Conservation
297 Main St.	Map 81/ Lot 44	Residential A	Town	Conservation Commission	3.08	By-Foot	Preservation/ Conservation
45 New Bridge Street	Map 87/ Lot 40	Residential B	Town	Conservation Commission	5	Street	Recreation/ Conservation
6 Rosewood Lane	Map 106/ Lot 22	Residential B	Town	Conservation Commission	<1	Street	Preservation/ Conservation
17 Ward Street David Land	Map 123/ Lot 30	Residential C	Town	Conservation Commission	4.9	Street	Preservation/ Conservation
27 Winfield Road	Map 208/ Lot 23	Residential B	Town	Conservation Commission	4.9	Street	Preservation/ Conservation

4 Woodbridge Road	Map 108/ Lot 33	Residential B	Town	Conservation Commission	<1	Street	Preservation/ Conservation
Hayden Property	Map 65/ Lot 27	Residential C	Town	Conservation Commission	2.44	Street	Preservation/ Conservation
Swanson Hollow	Map 156/ Lot 89	Residential C	Town	Conservation Commission	6.6	By-Foot	Preservation/ Conservation
Old Swamp Conservation Area	Map 211/ Lot 7	official/open	Town	Conservation Commission	13.6	Street	Conservation/ Trails
Off French Street	Map 97/ Lot 2	Residential B	Town	Conservation Commission	15	Street	Recreation/ Conservation
82 Fort Hill Street	Map 78/ Lot 26	Residential A	Town	Conservation Commission	1.83	Street	Conservation
257 South Street	Map 80/ Lot 6	Residential A	Town	Conservation Commission	0.75	Street	Conservation
36 Ship Street	Map 50/ Lot 38	Residential A	Town	Conservation Commission	0.5	Street	Conservation
Main Street	Map 197/ Lot 5	Residential B	Town	Conservation Commission	30.97	Street	Conservation
Scotland Street	Map 190/ Lot 24	Residential B	Town	Conservation Commission	9.75	Street	Conservation
235 Rockland Street	Map 32/ Lot 60	Residential C	Town	Conservation Commission	10.6	Street	Conservation
60 George Washington Blv.	Map 31/ Lot 3	Residential C	Town	Conservation Commission	0.5	Parking	View/Preservation
127 Rockland Street	Map 42/ Lot 25	Residential C	Town	Conservation Commission	3.08	Parking	Preservation/ Conservation
0 off Main Street	Map 167/ Lot 49	Residential C	Town	Conservation Commission	6.24	Parking	Recreation/ Conservation
8 Sawmill Pond	Map 159/ Lot 22	Residential C	Town	Conservation Commission	0.98	Street	Conservation
72 South Pleasant Street (Lehner Property)	Map 137/ Lot 1	Residential C	Town	Conservation Commission	60	Street	Recreation/ Conservation
Town Harbor Land	Map 51/ Lot 2	Official and Open Space	Town	Conservation Commission	0.6	Street	View
Gov. Long Bird Sanctuary/ Tree Nursery	Map 50/ Lot 36	Municipal and Open Space	Town	Conservation Commission & DPW	11.1	Parking	Preservation/ Conservation
Department of Public Works							
Sanitary Landfill	Map 106/ Lot 04	Official and Open Space	Town	DPW	34	Street	Closed

Town Common	Map 81/ Lot 59	Municipal and Open Space	Town	DPW	1.27	Street	Recreation
Veterans' Memorial Park	Map 51/Lot 01	Official and Open Space	Town	DPW	0.5	Street	Recreation
George Washington Forest	Map 170/ Lot 9	Official and Open Space	Town	DPW	107.6	Street	Recreation/ Tree cultivation
4 Monument Park (Iron Horse Park)	Map 50/ Lot 50	Municipal and Open Space	Town	DPW & Harbor Development Committee	5.8	Parking	Recreation
Harbor Development Committee							
Barnes Wharf	Map 51/ Lot 58	Official and Open Space	Town	Harbor Development Committee & DPW	1.2	Parking	Recreation
Steamboat Wharf	Map 51/ Lot 59	Official and Open Space	Town	Harbor Development Committee & DPW	1.8	Foot	Recreation
Trustees of Hingham Bathing Beach							
Hingham Bathing Beach	Map 50/ Lot 50	Municipal and Open Space	Town	Trustees of the Bathing Beach & Harbor Development Committee	6.1	Parking	Recreation
Board of Selectment							
2 President's Road	Map 168/ Lot 150	Residential	Town	Selectmen	1.11	Street	Education
250 Central St.	Map 89/ Lot 69	Residential A	Town	Selectmen	1.5	Parking	Recreation/ Conservation
Former Beal Street School Tracts	Map 69/ Lot 44	Official and Open Space	Town	Selectmen	94	Street	Recreation & Education
Former Mobile Station on the Harbor	Map 51/ Lot 03	Business B	Town	Board of Selectmen	0.51	By-Foot	View
Trustees of Reservation							
Weir River Farm	Map 64/ Lot 29	Official and Open Space	Trustees of Reservations	Trustees of Reservations	84	Street	Trails
World's End Reservation	Map 20/ Lot 60	Official and Open Space	Trustees of Reservations	Trustees of Reservations	251	Parking	Conservation/ Trails
Whitney and Thayer Woods	Map 84/ Lot 1	Official and Open Space	Trustees of Reservations	Trustees of Reservations	114.5	Street	Trails
Turkey Hill	Map 74/ Lot 14	Municipal and Open Space	Trustees of Reservations	Trustees of Reservations	62	Street	View

Hingham Land Conservation Trust							
Fulling Mill River Parcel	Map 158/ Lot 36	Official and Open Space	Hingham Land Conservation Trust	Hingham Land Conservation Trust	12.3	Parking	Trails/ Conservation
Home Meadows Access Strip from Andrew's Isle	Map 72/ Lot 7	Official and Open Space	Hingham Land Conservation Trust	Hingham Land Conservation Trust	1.46	Street	Easement
Eel River Woods	Map 145/ Lot 48	Municipal and Open Space	Hingham Land Conservation Trust	Hingham Land Conservation Trust	12.2	Street	Preservation/ Conservation
Jacobs Meadow Area	Map 127/ Lot 28	Official and Open Space	Hingham Land Conservation Trust	Hingham Land Conservation Trust	65	Parking	Conservation/ Trails
Whortleberry Hollow	Map 188/ Lot 42	Municipal and Open Space	Hingham Land Conservation Trust	Hingham Land Conservation Trust	16	Street	Conservation/ Trails
Bare Cove Park							
Bare Cove Park	Map 77/ Lot 1	Official and Open Space	Town	Bare Cove Park Committee	469.3	Parking	Recreation/ Conservation
South Shore Country Club							
South Shore Country Club	Map 70/ Lot 14	Official and Open Space	Town	South Shoure Country Club Committee	154.2	Parking	Recreation
Hingham Sports Partnership							
Carlson Field	Map 81/ Lot 28	Municipal and Open Space	Town	Hingham Sports Partnership	16	Parking	Recreation
Lynch Field	Map 90/ Lot 1	Official and Open Space	Town	Hingham Sports Partnership	8	Parking	Recreation
School Department							
South Elementary School	Map 146/ Lot 17	Official and Open Space	Town	School Department	28.3	Parking	Recreation
Plymouth River School	Map 124/ Lot 32	Official and Open Space	Town	School Department	62.06	Parking	Recreation/ Trails
East School	Map 74/ Lot 1	Official and Open Space	Town	School Department	11.52	Parking	Recreation

Hingham High School	Map 90/ Lot 112	Official and Open Space	Town	School Department	71.6	Parking	Recreation
Hingham Middle School	Map 197/ Lot 12	Official and Open Space	Town	School Department	31	Parking	Recreation
Foster School Grounds/ Simmons Path	Map 38/ Lot 1	Municipal and Open Space	Town	School Department & Recreation Commission	40.9	Parking	Recreation
Recreation Commission							
Hersey Field	Map 60/ Lot 150	Municipal and Open Space	Recreation Commission	Recreation Commission	4.73	Parking	Recreation
Cassidy Field	Map 116/ Lot 11	Official and Open Space	Town	Recreation Commission	14.76	Foot	Recreation
Margett's Field	Map 134/ Lot 16	Residential B	Town	Recreation Commission	6.22	Street	Recreation
Cronin Field/ Haley Field	Map 81/ Lot 28	Official and Open Space	Recreation Commission	Recreation Commission	17.21	Parking	Recreation
Bradley Woods Playground	Map 36/ Lot 101	Municipal and Open Space	Recreation Commission	Recreation Commission	4.2	Street	Recreation
Hull Street Playground	Map 43/ Lot 19	Municipal and Open Space	Recreation Commission	Recreation Commission	5.8	Parking	Recreation
Hingham Skating Club	Map 66/ Lot 6	Municipal and Open Space	Recreation Commission	Recreation Commission	8.83	Street	Recreation
Kress Field	Map 203/ Lot 100	Official and Open Space	Recreation Commission	Recreation Commission	5.03	Street	Recreation
Golf Driving Range	Map 178/ Lot 5	Official and Open Space	Recreation Commission	Recreation Commission	11.72	Parking	Recreation
Commonwealth of Massachusetts							
Wompatuck State Park	Map 93/ Lot 5	Official and Open Space	State	DCR & MDC	1540	Parking	Recreation/ Conservation
Stodder's Neck	Map 35/ Lot 1	Official and Open Space	State	DCR	20	Parking	Recreation
Private Land							
Weir Street Land	Map 54/Lot 40	Residential C	Benedictine Fathers	Abbey	33	Street	Education/ Conservation
South Shore Conservatory Land	Map 77 / Lot 2	Residential C	SS Conservatory	SS Conservatory	3.4	Street	Preservation/ Conservation
Aquarion Water Co. Land	Map 158/ Lot 36	Residential B	Aquarion Water Co.	Aquarion Water Co.	363.91	Street	Public Water Supply

Derby Academy Grounds	Map 39/ Lot 5	Residential A	Derby Academy	Derby Academy	21.6	Street	Recreation
Glastonbury Abbey	Map 54/ Lot 40	Residential A	Benedictine Fathers	Benedictine Fathers	60.6	Street	Recreation
Notre Dame Academy	Map 189/ Lot 19	Residential B	Sisters of Notre Dame	Notre Dame Academy	69.7	Street	Recreation
Hingham Yacht Club	Map 11/ Lot 13	Residential A	Yacht Club Members	Yacht Club Officers	4.8	Parking	Recreation

Placeholder for Inventory of Lands and Recreation Resources (separate spreadsheets; working drafts).

Open Space Equity/Environmental Justice

This refers to the distribution of open space and recreation resources in relation to low income and minority communities or to any mapped environmental justice neighborhoods. As noted previously, there are no major contiguous low-income communities in Hingham that would show on a Census Tract level. The smaller, traditional relatively low-income or minority neighborhoods are scattered throughout the Town, as are the open space and recreation areas. While not every neighborhood has contiguous open space, most low-income or minority neighborhoods have some nearby open space or recreation areas as follows:

- The moderate-income Wompatuck Road, Kimball Beach Road, Foley Beach Road area abuts the Bouve land on Hewitts Cove and is near the shore and the respective beaches.
- The moderate-income, largely duplex Fottler Road/Bulow Circle neighborhood area is close to Bare Cove Park and to the new Lynch athletic field complex.
- The three multi-family and townhouse developments south of Beal Street are surrounded by Bare Cove Park on three sides.
- The traditional Native American and African American neighborhood along Ward Street adjoins the Margetts playing field, the Plymouth River School land and the Plymouth River Conservation Area.
- The mobile home development on Rockland Street abuts Amonte Meadow.
- The moderate-income traditional ethnic community along Hull Street has the Hull Street Playground and is near the grounds of Glastonbury Abbey and the Cohasset Country Club.
- The traditional moderate-income section of Rockland Street east of Kilby Street, and the Bonnie Brier, Cliff Road/Meadow Lane neighborhoods, abuts Town-owned scenic marsh, Amonte Meadow and the Weir River itself as well as the Foundry Pond holdings off nearby Kilby Street.

Chapter 6: Community Vision

Over the years, Hingham's open space and recreational needs have changed due to shifting demographics and increased development. However, the Hingham community continues to seek to maintain the Town's character by protecting historically and ecologically valuable open spaces and providing recreational opportunities for residents of all ages.

A. Description of Process

For the 2016-2023 Open Space and Recreation Plan update, the Town conducted a range of activities to better understand, evaluate, and rank residents' feelings and opinions regarding Hingham's open spaces and recreation resources. Community outreach efforts included:

- Completing a year-long trails planning process that included public meetings, online surveys, a dedicated website and trail user surveys;
- Distributing and analyzing the 2016-2023 Open Space and Recreation Plan Questionnaire to gauge public opinion;
- Reviewing and analyzing recommendations from the Town's 2009-2016 Open Space and Recreation Plan, as well as other recently completed plans, such as the Comprehensive Trails Plan;
- Holding discussion meetings and working closely with various Town departments and committees, and incorporating their opinions and suggestions;
- Requesting and incorporating supporting information from outside organizations; and
- Holding open meetings and soliciting public participation to discuss residents' needs and opinions on open space and recreation resources in Hingham.

The 2016-2023 questionnaire was based on the 2009-2016 questionnaire, with some additional questions to better understand and identify how residents use the Town's open spaces, as well as their open space and recreational needs. Residents were asked to complete the questionnaire online; hard copies were also made available in the Hingham Conservation Department and participants could submit their completed questionnaires in person or via U.S. Mail or email.

The questionnaire was announced in the following ways and locations:

- The Hingham Journal published an article about the public meetings and questionnaire, providing a web link and contact information on April 1, 2016.
- Web links and descriptions were posted on the Town's website.
- Web links and descriptions were distributed to parents and guardians of all Hingham public schoolchildren.
- Business card-sized advertisements, including a web link and description, were distributed throughout Town Hall, to the Hingham Public Library and the Hingham "Green Team," and to attendees of the Hingham Land Conservation Trust's Annual Meeting and the Hingham Annual Town Meeting.
- Web links and descriptions were posted on the Town's social media accounts (i.e. Facebook and Twitter).

- Mass e-mails with a web link and description were sent to: town offices, Hingham School Department employees, Recreation Department program participants and subscribers to Town news alerts and announcements.
- Targeted e-mails with a web link and description were sent to: the Recreation Commission, Planning Board, Conservation Commission, Comprehensive Trails Plan Committee, Open Space Acquisition Committee, Hingham Land Conservation Trust and Bare Cove Park Committee.

A total of 616 people responded to the questionnaire, which is about 2.8% of the 2010 population. The results suggest, at least among respondents, that the Town's open spaces are both valuable, in terms of their contribution to the Town's character, and frequently used for a variety of activities. The results also suggest the need for additional paths and trails, as well as picnic areas and swimming areas. Other suggested improvements include maintaining existing trails and resolving user conflicts in the Town's open spaces, both of which were also identified by the comprehensive trails planning process. The complete questionnaire and responses are located in Appendix C.

B. Statement of Open Space and Recreation Goals

The open space and recreation goals for the Town of Hingham are very similar to the goals that were established in the 2009-2016 Open Space and Recreation Plan. Four of the five goals remain the same and reflect the continued value of protecting open spaces for ecological, historical and recreational purposes, as well as the importance of working in concert with existing studies and plans when acquiring additional open spaces. The fifth goal, protecting the quantity and quality of the Town's water supply, reflects a new priority for Hingham residents, as determined through responses to the questionnaire and other feedback received during this planning process. The goals are not listed in any particular order; each goal is of equal importance.

2016-2023 Open Space and Recreation Goals:

1. Protect Hingham's natural resources and the ecological and biological integrity of its wildlife through open space acquisition, development regulation, and collaboration with varied authorities and interests.
2. Protect Hingham's scenic qualities and significant historical resources through open space acquisition, development regulation, and collaboration with varied authorities and interests.
3. Maintain and enhance Hingham's formal and informal recreation facilities in an environmentally sensitive way in order to provide diverse recreational opportunities and access to fields, courts, playgrounds, and major open spaces.
4. Protect the quantity and quality of Hingham's water supply.
5. Acquire and preserve land, easements, and restrictions for conservation, preservation and recreation purposes.

Chapter 7: Analysis of Needs

The open space and recreation needs of the Town and its residents were determined by reviewing and analyzing Hingham's 2009-2016 Open Space and Recreation Plan, as well as other recently completed plans, such as the Comprehensive Trails Plan. The community outreach efforts that stemmed from the trails planning process and 2016-2023 Open Space and Recreation Plan update process were also particularly helpful in identifying Hingham residents' current opinions on the Town's open spaces and recreation facilities, as well as their needs and ideas for the future. The year-long trails planning process (2014-2015) included public meetings, online surveys, a dedicated website and trail user surveys. The 2016-2023 Open Space and Recreation Plan update process utilized similar strategies, as well as discussion meetings with various Town departments and committees. The results of the 2016-2023 questionnaire are discussed in greater detail below, under Community Needs, and the complete questionnaire and responses are located in Appendix C.

A. Resource Protection Needs

Water Resources

The protection of water resources, to ensure a continued supply of drinking water, is one of the top priorities for the Town. The Weir River Watershed provides water for the majority of Hingham, as well as the neighboring communities of Hull, Cohasset, and Norwell. Aquarion Water Company, the major supplier for nearly all of Hingham, Hull, and a small portion of Cohasset, withdrawals water exclusively from the Weir River Watershed, accounting for more than 85% of water withdrawals from the watershed.

According to the Massachusetts Water Resources Commission, the Weir River is "highly stressed," which means that the river's capacity to provide a stable public water supply and its ability to maintain sufficient habitat for aquatic wildlife is strained. Based on current population and demand projections, water withdrawals from the Weir River are anticipated to increase in the future. Total average daily withdrawals from the watershed may increase to up to 4.63 MGD (million gallons per day) by the year 2020. An increase in demand above this level may occur as a result of major developments currently proposed for construction within the watershed. An additional 0.35 MGD of water could be purchased from a desalination plant outside of the watershed, however if this water source is unavailable, then even more withdrawals from the Weir River Watershed may be requested.

As a result of the Administrative Consent Order issued by the Massachusetts Department of Environmental Protection, Aquarion Water Company has instituted a "Water Balance Program," which states, in part, "New development in Hingham, Hull and portions of North Cohasset will require the developer to find water savings in the communities, which will offset the water demand imposed by their projects."

The Town must ensure that the quantity and quality of its water resources are protected. Several items are listed in the 2016-2023 action plan to help the Town accomplish these goals, including acquiring land in the Weir River Watershed, reviewing policies that address groundwater recharge and greywater reuse, and evaluating fish runs. Additionally, a number of items could be carried out by Aquarion Water Company, such as continuing efforts to identify leaks in the water supply system and restricting customers' use of water for irrigation purposes during periods of high demand. Hingham residents also

have a range of options for reducing their water consumption, from installing more efficient plumbing fixtures in their homes to landscaping with plants that are less water intensive.

Biodiversity

Hingham is rich with both fresh and saltwater habitats. Examples include several perennial rivers and streams, red maple swamps, vernal pools, ponds, salt marshes, coastal mudflats, rocky intertidal shores, coastal islands and bluffs, shellfish flats, and anadromous and catadromous fish runs, as well as many different forest associations at various succession stages. All of these habitats provide varied ecosystems that enrich the Town with great plant and animal biodiversity.

The Town's inventory of existing conservation land contributes to its overall biodiversity. These lands provide natural habitats, support Hingham's unique aesthetic appeal, and prevent the further encroachment of development. The need to acquire and connect more open spaces, in general, is also evident. As more land is lost to development, the opportunity to join large sections of conservation land is severely diminished. The creation of large expanses, or "greenbelts," of varied habitats is the best means to increase biodiversity and preserve the semi-rural nature of Hingham. In addition to maintaining the currently protected tracts, the Town must consider ways to secure further lands from development.

Private landowners control the greatest amount of vulnerable open space in Hingham, including a small portion partially protected under Chapters 61,61A and 61B. Other small areas are held by the Town as tax title land, or as unprotected land held for general municipal purposes. By securing selected parcels interspersed throughout Town, Hingham could create a network of greenbelts connecting otherwise fragmented habitat, and meeting some of its residents' desires.

Coastal Zone Protection

A special geological feature of Hingham is Hingham Bay. The bay is subject to the influence of large daily ocean tides of approximately 10 feet. These expose the inner harbor's extensive tidal flats at low tide. These flats are habitat for mollusks, such as clams and mussels, which are a source of recreation and livelihood. The Weir and Weymouth Back rivers were once host to migratory fish species such as salmon. Studies of sensitive fish species such as trout, salmon, and other anadromous fish have shown that they disappeared once impervious surfaces covered 10 to 12 percent of the watershed. This indicates the ecological health of the estuaries and the bay, and its influences on all activities centered on the marine environment.

In addition to varied habitats, Hingham's considerable coastal zone offers many recreational opportunities. Residents and visitors can enjoy an expansive shoreline, dotted with beaches and other shoreline features, though some areas are for private use. In order to protect this coastal habitat from further decline and to maintain the harbor's recreational opportunities, the Town must protect as much of the open space bordering the bay and estuaries as possible. It should also encourage abutters to practice pollution prevention and land conservation, e.g. protecting land through conservation restrictions, etc. The shore area is one of Hingham's most prominent features and the harbor has influenced the Town's cultural and industrial history. It is important that public access to the water and the water's biodiversity are preserved.

B. Community Needs

Open Space Needs/Opportunities

The 2016-2023 Open Space and Recreation Plan Questionnaire opened on March 23, 2016 and closed on May 2, 2016, with either electronic or hard copy results submitted to the Conservation Department. There were a total of 616 participants, although not every person answered every question. Most of the participants (31.3%) indicated that they lived in Hingham for more than 25 years, and most of those people were between the ages of 35 and 54.

The Town of Hingham has exceptional character which, as indicated by the questionnaire, is important to its residents. When asked to rate from 1 to 5 (1 being not important and 5 being very important) the importance of certain characteristics of Hingham's character, the following average ratings were: views across water (4.5), street trees (4.4), open fields and farmlands (4.4), historic buildings (4.3), forests (4.2), other, which included walking trails, access to parks, open space, and town parks as the common answers (4.1), marshes, bogs and wetlands (4.0), and lawns and landscaping (3.5).

Each season the Conservation Department, along other Town offices, receives calls from residents asking for Town open space maps and commenting on which properties they enjoy visiting. According to the questionnaire, the majority of people (58.4%) visit open spaces on a weekly basis, typically on both weekdays and weekends (79.4%). Most people (95.4%) tend to drive to open spaces in Town and may occasionally walk (59.9%). For other responses, running was the most common.

Though Hingham residents mostly satisfied (60.7%) with the Town's open spaces, they would like to see more walking paths (45.4%), bike trails (36.6%), trails (36.3%), swimming areas (34.3%), and picnic areas (29.2%). Many people expressed an interest in improving and creating sidewalks and 44.3% of people felt that access to open spaces needed improvement. In 2015, Hingham hired the BSC Group to help create a Comprehensive Trails Plan, with the intent to connect various open spaces. The consultants suggested locations for new trails along with locations where sidewalks are most needed and should be improved. These connections will help more people access the Town's open spaces and allow for better access. Often properties are isolated from the street or do not have a formal or noticeable access. Improving and installing signage was suggested to benefit the public's needs.

Many residents are in favor of preserving and acquiring more open space, with 85.8% stating that they would support initiatives to acquire open space. Residents were asked for their opinion on which particular property they would like to see protected for recreation or conservation purposes. An overwhelming amount of people wrote in the Lehner Property, which the Town has decided to purchase. Other locations included: the Gratta Property near Triphammer Pond, land abutting Bare Cove Park, Viking Lane, the Hingham Shipyard, as well as several other properties.

Recreation Needs/Opportunities

In 2012, the Massachusetts Office of Energy and Environmental Affairs completed phone surveys, youth surveys, web-based surveys, and public meetings throughout the state for residents to voice their wishes for the types of outdoor recreation they would like to see developed and maintained throughout the state. A Statewide Comprehensive Outdoor Recreation Plan (SCORP) resulted from this survey and is located at http://www.mass.gov/eea/docs/eea/dcs/scorp-2012-final.pdf.

In addition to requesting information about the recreational opportunities desired in the Commonwealth, the survey explored the motivation behind individuals participating in outdoor recreation activities. According to the survey, physical fitness received the most responses. Others mentioned relaxation, time with family and friends, and experiencing new things while recreating. The need for more trails, especially those closer to where people live, was most frequently mentioned as a real need across the state. According to the SCORP, there is a strong desire for more care-free recreation options including additional town or city-wide trail systems, loop trails within long distance trail networks, and urban trails connected to water. Water based recreation and the need for more water access, whether for swimming or boating, was also highly requested throughout the surveys. Finally, participants indicated that they would like to see more land protected along waterways for water quality purposes and that land be protected not just for trails, but also to provide wildlife corridors.

The 2012 Massachusetts SCORP also determined that in the next five years, trails and multi-use fields will be the "...the two types of facilities... [that will] require more resources." Other activities of importance in decreasing order include "...playgrounds, baseball fields, community gardens, picnic areas, and fresh water swimming areas". These needs echo the results of the questionnaire.

The majority of people (97%) use current open spaces for walking and/or running, followed by using the beach (72.8%), bicycling (60.8%), sports/games (57.7%), and the playground (55.6%). Other activities that people wrote in include: snowshoeing, rowing, picnicking, golfing, and swimming. As the population increases, and exercising and outdoor activities continue to grow in popularity, the number of participants in each activity will increase.

Most residents were satisfied with the recreation facilities for adults, and for children and youth. However, participants suggested adding a swimming pool, improving the beach and associated swimming areas, creating a community garden, and establishing turf fields. Another popular suggestion was the creation of a dog park (58.7%).

Comprehensive Trails Plan Survey

During the spring of 2015, the Town of Hingham completed an online survey to gather information on what opinions and expectations the residents have for their trails. There were 180 participants in the survey. It is important to note that the data collected is anecdotal based on the limited sample size that might be not be representative of the population.

Of the 180 participants, 175 (97%) said they live in Hingham, while only five (3%) said they do not. These individuals indicated that they lived in Quincy, Hull, East Weymouth, Weymouth, Whitman, Braintree, North Weymouth, and Cohasset. This data indicates that the Hingham parks are used by Hingham residents as well as people living in surrounding towns.

The survey also requested information regarding open space properties in Hingham most visited by the participants. These properties included both Town-managed and non-Hingham managed properties. Most of the responses indicated that people use multiple trails in Hingham. The most popular park was Bare Cove Park with 124 responses. The next most popular parks were Wompatuck State Park, managed by the Commonwealth's Department of Conservation and Recreation, with 109 responses, and World's End, managed by the Trustees of Reservation, with 92 responses. Some parks only received a handful of responses, making them less popular

Additionally, the survey requested information as to the types of activities participant engaged on while on the trails. The majority of the participants indicated that they used the trails mostly for walking/hiking. biking was the second most popular use and dog walking the third most popular activity. Horseback riding and hunting were the least popular. Other responses included bird watching, golfing, geocaching, photography, and fishing.

In an effort to determine if individuals use the trails for commuting purposes, the Town requested information of trail use for commuting or recreation. A vast majority of the responses said they used the trails for recreation 100% of the time. Only 40% of the survey participants answered the question about trail use for commuting, and most of the responses were 0%. This indicates that people rarely use trails for commuting.

The seventh question in the survey asked how residents felt overall about their trails. Survey takers were asked to evaluate trails relative to the categories of recreation, commuting, maintenance, signage, and accessibility, ranking each on a scale of 1-10 scale, with 1 being not at all satisfied, and 10 being completely satisfied. All categories averaged between 2-4 for satisfaction. The category for commuting was the lowest at 2.76. The category for recreation had the highest rating at 3.96. Based on these results, Hingham is less than satisfied by their current trail system, especially as a means of commuting between locations.

The ninth question offered park users a chance to consider how they use trails, and indicate which trails were of the highest critical need to connect. There was a consensus on the need to connect the trails between the harbor, beach, and shipyard to the other state parks. These two regions are separated by Route 3A, which causes a safety concern at roadway crossings. Another identified connection was between the sports fields and surrounding parks. These connections would provide for additional options for commuting and recreation while moving between destinations.

Lastly, the survey gave participants the opportunity to provide additional feedback. Participants stated that they would like: more parking availability; more trash bins especially receptacles for dog waste; more paved and well maintained bike paths; and improved signage and trail markers. There was concern about dog use of parks. Some people want to keep Bare Cove Park as an unleashed dog park, so their dogs can have freedom to move around. However there seems to be a conflict because others commented that they feel unsafe to be in the park due to all the unleashed dogs. There were also some comments from people who were unaware of the trails in Hingham, so more promotion and/or awareness could be put into place, such as a wider distribution of maps.

Recreation Standards

There is no easy way to measure the need for recreation facilities. The state has quantitative guidelines suggesting the number of acres of a particular facility type needed for a given population. These are found in past Statewide Comprehensive Outdoor Recreation Plans (SCORP) and are applied below. However, as can be seen when reviewing varying regional interests and demands, such standards do not recognize that the demand for a facility or activity reflects many factors, including the population's age groups, sex, income, and ethnic traditions; local patterns of interests; and the present opportunities. Also, the past standards focus on facilities for competitive team sports and are less helpful in measuring the need for places for individual, less formal, activities such as hiking, fishing, swimming, bicycling, gardening, and camping. In addition, reliance on such published standards alone could lead to missing unique local opportunities such as gardening on former farm fields, canoeing on local streams, and motorized sports like dirt bike riding.

The traditional public recreation facility definitions and standards from the 2000 SCORP and earlier editions follow:

Tot Lots – one half-acre for each 1000 persons in densely-populated neighborhoods. The population served would live within one-quarter mile. Facilities should include swings, slides and other equipment for five-year olds.

Playgrounds – playgrounds serve as outdoor game centers for their particular neighborhood. Facilities should include play devices, running areas, swings, and benches. Larger playgrounds should include an area for tot lot activities. Some standards require a five-acre minimum size. SCORP standards require one acre per 250 children of elementary school age in densely populated neighborhoods and a service area radius of one-quarter mile.

Neighborhood Parks – neighborhood parks are similar to community parks, but serve smaller geographic areas. The purpose of such parks is to provide water, forest, or landscaped settings as an aesthetic release from development. The 2000 standards for neighborhood parks are one half-acre serving a one-quarter to one-half mile radius. This need maybe less when individual house lots are large, but there still could be value to a gathering place.

Community Parks - these serve the entire community and provide a large contiguous open space area for town residents. Some standards call for 20 or more acres for a community park. At 48 acres, the Town's More-Brewer Park alone more than satisfies the area requirement. However, it does not have the cultural and active recreation facilities, e.g. bandstands, amphitheaters, picnic groves, intensive play areas, children's rides, etc., that might be found in a park serving a high-density community with a tradition of public gatherings, rather than of private activities. In a way, the smaller Bathing Beach/Iron Horse Park area comes closer a community park in spirit and activities.

Playfields - playfields are community centers for sports competition for all ages, but especially for teenagers and adults. They can be all-purpose, available for both spontaneous and organized activities, or specialized, i.e. designed for a specific use such as baseball, football, soccer, or lacrosse, to meet the respective dimensional standards. Some fields have multiple markings for different sports. The 2000 SCORP guidelines called for three acres per 1,000 residents, with a minimum size of 10 acres. Playfields also require parking areas with adequate number of parking spaces.

C. Management Needs

Communication

Communication across Town commissions, offices, and private interest groups is critical to the implementation of this plan. This plan attempts to synthesize the interests of different entities in identifying and satisfying the open space needs of the Town. It is important for Town agencies, such as the Conservation Commission, the Community Preservation Committee, the Recreation Commission, and the Department of Public Works, to collaborate around this plan to meet the interests of the Town's diverse residents. Non-governmental owners of open space, including The Trustees of Reservations and the Hingham Land Conservation Trust, are also a major part of this effort.

Regulatory Action

The most direct way to preserve open space is through public or non-profit acquisition or public regulation. Hingham has taken positive steps in this direction through the enactment of the Community Preservation Act. Other statutory steps can also be implemented. The questionnaire results demonstrated that the residents would be open to mandatory dedication of open space by developers and new bylaws for greater preservation. Adoption of such tools would represent a majority of the residents' views through public debate and passage at Town Meeting.

Climate Change/Sea Level Rise

In 2014-2015 Hingham completed a climate change study and determined the impacts sea level rise would have on the Town. The study concluded that a large portion of the coast, mainly around the Route 3A rotary, would be flooded during a severe storm. The Town is actively following through on recommendations from the study, including ways to stabilize its coastal infrastructure and mitigate flooding on the main roads and community.

Connecting Open Spaces

The Town of Hingham understands the benefits of trails and envisions the recently completed Comprehensive Trails Plan as a way to protect and value the Town's natural, cultural and scenic resources, and as a way of connecting people and places with a more complete unified system of trails for human and wildlife use. The Comprehensive Trails Plan includes an inventory of existing trails on public land and identifies opportunities for trail links. These links include feasible routes and priority paths for a trail network that will connect open space parcels and facilities including schools, public transit, local businesses, historic areas and resources in adjacent towns, as well as evaluating opportunities for regional linkages and coordination. The plan also provides recommendations to acquire, link, and further protect water resources.

A number of economic impact studies indicate that connected recreation facilities offer a significant return on investment through increased property value, tourism, business investment, alternative transportation benefits, and health benefits. Trails provide close to home recreational areas, community meeting places, historic preservation, educational experiences, natural landscapes, wildlife corridors, links between open spaces, and beautification. They help make communities a more attractive and friendly place to live where children can safely walk or bike to a park, school, or to a neighbor's home. Trails help connect neighbors and communities with each other and with nature.

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Chapter 8: Goals and Objectives

The Town of Hingham generated the following five goals, and their associated objectives, by analyzing and incorporating public feedback through surveys and discussions conducted as part of the year-long trails planning process, resulting in the Comprehensive Trails Plan (2015), and the 2016-2023 Open Space and Recreation Plan update process, resulting in this document. These goals and objectives are focused on protecting the Town's natural and historic resources, and scenic qualities, while promoting recreational opportunities through the maintenance and acquisition of open spaces.

GOAL 1:

Protect Hingham's natural resources and the ecological and biological integrity of its wildlife through open space acquisition, development regulation, and collaboration with varied authorities and interests.

A. Protect and promote Hingham's biodiversity.
B. Protect the local occurrences of natural communities and habitats of rare species, as identified by the Massachusetts Natural Heritage & Endangered Species Program.
C. Protect and enhance wildlife corridors by promoting connectivity and reducing habitat fragmentation.
D. Protect the coastal zone, river and stream connectivity and riparian areas, and aquatic ecosystems.

GOAL 2:

Protect Hingham's scenic qualities and significant historical resources through open space acquisition, development regulation, and collaboration with varied authorities and interests.

A. Identify and protect visually significant, scenic areas across Town.
B. Enhance key viewsheds, such as the view of Home Meadows from lower Winter Street.
C. Support the restoration of historic portions of Hingham and promote historically appropriate development.
D. Maintain screening between major open spaces and large developments, such as between Bare Cove Park and adjacent housing developments.
E. Promote Hingham's historical importance through formal and informal educational programs, such as open houses and self-guided walking tours.

GOAL 3:

Maintain and enhance Hingham's formal and informal recreation facilities in an environmentally sensitive way in order to provide diverse recreational opportunities and access to fields, courts, playgrounds, and major open spaces.

A. Support and improve existing recreation facilities, complying with ADA Standards for Accessible Design whenever possible.
B. Assess the Town's recreational needs and construct or otherwise provide facilities or programs that fill the gaps in those needs.
C. Create critical links between close, but non-contiguous open spaces, for a more complete and unified system of formal and informal recreation facilities and infrastructure.
D. Enhance public access to Hingham's waterfront.

GOAL 4:

Protect the quantity and quality of Hingham's water supply.

A. Promote water conservation through educational programs and available Best Management Practices.
B. Acquire and preserve land, easements, and restrictions for water supply protection purposes.
C. Work with pertinent Town departments to develop and implement policies and/or bylaws that promote water conservation and protect water quality.

GOAL 5:

Acquire and preserve land, easements, and restrictions for conservation, preservation, and recreation purposes.

A. Evaluate potential acquisitions according to the above goals and objectives, as well as their general attractiveness and potential.
B. Support open space and resource protection in Hingham's two Areas of Critical Environmental Concern.
C. Work in concert with relevant studies and plans, such as the Climate Change Vulnerability, Risk Assessment and Adaptation Study, the Hingham Master Plan, and the Comprehensive Trails Plan, as well as other documents as they are developed and finalized.
D. Partner with public and private entities with similar goals in order to increase open space protection.
E. Work with pertinent Town departments to develop and implement policies and/or bylaws that promote open space protection and connectivity.

Chapter 9: Seven-year Action Plan

Accomplishments

The Town of Hingham was able to complete a number of action items from the 2009-2016 Open Space and Recreation Plan, as well as several other projects due to the availability of grant funding and other resources during the last several years. Many of these accomplishments are worth highlighting, due to their positive impact on the Town's open space and recreation resources and the fact that they were successfully completed in the absence of a formal Open Space and Recreation Plan Committee. Annual public meetings have been identified as an important action item for the 2016-2023 Open Space and Recreation Plan update, in order to keep this positive momentum going for the next seven years.

- Renovated multiple field, court and playground surfaces, including the Cronin tennis and basketball courts, Cronin rink, Cronin field and Cronin playground, the fields at Hingham's middle and high schools, Haley field and Carlson field.
- Installed a new irrigation system at Margetts field.
- Developed a feasibility study on the historic skate house, and added a second means of egress and a new accessible ramp.
- Constructed a new skateboard park at Carlson field and two new playgrounds at Bradley Woods and Hersey field.
- Improved the pathway from the Hingham Shipyard to the Bradley Woods playground.
- Constructed a revetment at the Hingham Bathing Beach to prevent further beach erosion.
- Instituted a seasonal paddle board and kayak rental station at the Hingham Bathing Beach.
- Renovated the historic "rec barn" to include a multi-purpose program room and public restrooms. The exterior of the building was restored in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- Completed a number of planning documents, including a Climate Change Vulnerability, Risk Assessment and Adaptation Study, a Bathing Beach Management Plan, a Comprehensive Trails Plan, a Master Plan Update, and a Goose Management Plan.
- Acquired approximately 145 acres for open space and recreation purposes.
- Restored important smelt habitat on the Weir River at the Foundry Pond Dam.
- Updated the Hingham Wetland Regulations to include guidance and performance standards for coastal structures, as well as activities that are proposed in a flood zone.
- Completed a Coastal Flood Hazard Analysis and received an approval from the Federal Emergency Management Agency (FEMA) to amend five Flood Insurance Rate Maps (FIRMS) in Hingham.

Year One: July 2016-2017

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Evaluate and improve the fish ladder at Foundry Pond.	1 / C, E	CC, WREPC, DFG / CC, CPC, Grants
Repair the culvert under Kilby Street at Sydney Pond.	1 / C, E	CC, WREPC, DFG / CC, CPC, Grants
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire land on South Pleasant Street.	1 & 4 & 5 / C, D & B & C	CC, HLCT, OSAC / CPC, TM, Grants

Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -
Identify neglected areas and organize reoccurring clean-ups or more limited restoration projects.	1 & 2 & 3 / E & C & A	CC, HC, RC / CPC, V
Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Identify the location of "Tranquility Grove," the site of a series of anti-slavery events held on August 2, 1849.	2 / C	HC / -
Clear a path to "Tranquility Grove" and remove overgrowth in the grove to accommodate signage.	2 / C, E	CC, HC / DPW, V
Reconstruct the historic gazebo, once a fixture of Melville Gardens, on Ragged Island.	2 / C	HC, NPS / CPC
Continue adding more wayfinding and educational signage to the Hingham trail network – ongoing.	2 & 3 / C & D	CC, HC, RC / CPC, V
Install a commercial grade boundless playground at Kress field.	3 / A	RC / CPC, Grants
Protect the Town's existing recreation fields.	3 / A	BOS, RC, SC / -
Create a plan to acquire, develop, and repurpose recreational fields in order to meet the demands of the Hingham community.	3 / B	BOS, RC, SC / -
Continue maintaining open trail corridors on Town-owned open spaces – ongoing.	3 / D	CC, RC / CPC, V
Continue working with Notre Dame Academy to designate a trail connection to the South Junior High School.	3 / D	CC, RC, SC / -
Improve stormwater flow in the parking lot at Triphammer Pond.	4 / A	CC, DPW / CC, CPC

Year Two: 2018

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -

Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Install historic district and scenic road signage – ongoing.	2 / A, E	CP, DC / PPF, Grants
Create an inventory of access easements for recordkeeping and maintenance purposes.	3 / D	CC, DPW, OSAC / -
Develop and improve the path along the edge of the Bouve Conservation Area, connecting it to the Hingham Shipyard and Bradley Woods playground.	3 / D, E	CC, RC / CPC, DPW, Grants
Explore and implement community garden spaces at level, accessible, open sunny areas across Town.	3 / B	CC, GC, RC / CPC, RC
Streamline the athletic field permitting process.	3 / A	BOS, RC, SC / -
Streamline and consolidate the Town's field and turf maintenance program.	3 / A	BOS, RC, SC / -
Create a waterfront, multi-use facility that offers concessions and a recreational program room.	3 / E	RC, HDC, TBB / CPC, TM
Review the current requirements for permeable surfaces and, if necessary, increase the ratio of permeable to impermeable surfaces to increase groundwater recharge.	4 / C	BOH, CC, PB / -
Acquire available land within the Weir River ACEC, in support of the Weir River Watershed and Weir River Estuary Park.	5 / B	CC, HLCT, OSAC, WREPC / CPC, Grants

Year Three: 2019

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire land adjacent to Triphammer Pond and Town conservation land.	1 & 4 & 5 / C, D & B & C	CC, HLCT, OSAC / CPC, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -
Develop an invasive species management plan in consultation with local and state agency experts.	1 / A	CC / Grants, V
Work to enhance and preserve the scenic town entrances.	2 / A	BOS, DPW, HC, HDC / CPC
Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -

Determine the eligibility requirements for a "Distinctive Destination" designation and nominate the Town, if appropriate.	2 / E	HC / -
Build a splash pad and/or playground at Hingham Harbor.	3 / B	RC / CPC
Consider establishing a designated off-leash area, including trails and rotating fenced-in fields, on a trial basis at Bare Cove Park.	3 / B	BCPC, CC, RC / -
Explore and implement canoe and kayak launch sites at suitable waterfront areas across Town.	3 / B	CC, RC / CPC
Connect Cranberry Pond to Brewer Reservation via the landfill.	3 / D	CC, RC / CPC, Grants
Develop and implement greywater reuse policies for new development.	4 / C	BOH, CC, DPW, PB / -
Develop and implement an irrigation bylaw.	4 / C	BOH, CC, DPW, PB / -

Year Four: 2020

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Determine if a parcel on Central Street could provide permanent access to Burns Memorial Park, and acquire the land if would benefit the Town.	1 & 3 / D & D	CC, OSAC / CC, CPC, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -
Evaluate the Town's fish runs and implement strategies to restore and protect spawning habitat.	1 / C	BCPC, CC, DPW, WREPC, WRWA / CPC, DFG
Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Seek CPC funds for renovation of the historic East Street Skate House, including porch reconstruction and dredging/weed control of pond.	2 & 3 / C & A	CC, HC, RC / CPC
Continue adding more wayfinding and educational signage to the Hingham trail network – ongoing.	2 & 3 / C & D	CC, HC, RC / CPC, V
Add accessible equipment to the Hull Street playground and improve the ball field drainage to allow it to be developed.	3 / A, B	RC / CPC
Continue maintaining open trail corridors on Town-owned open spaces – ongoing.	3 / D	CC, RC / CPC, V

Investigate ways to connect the eastern and western portions of Foundry Pond.	3 / D	CC, RC, WREPC, WRWA / CPC, Grants

Year Five: 2021

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire farmland on east side of Hersey Street or assist owner in maintaining the land as farmland.	1 & 2 / D & A	CC, OSAC / CPC, DAR, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -
Create a forest management and habitat restoration plan for George Washington Forest and Burns Memorial Park.	1 / A	CC, DCR / -
Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Install historic district and scenic road signage – ongoing.	2 / A, E	CP, DC / PPF, Grants
Construct a new Town-owned and operated swimming pool.	3 / B	RC / CPC, TM
Negotiate a public access easement to South Elementary School with the residents of the Liberty Pole Neighborhood.	3 / D	OSAC / CC, CPC, TM
Identify private land that has a water supply potential and guide future development away from that land through zoning, where possible.	4 / B	CC, PB, WSC, ZBA / -

Year Six: 2022

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire land contiguous to Wompatuck State Park.	1 / B, D	CC, DCR, OSAC / CPC, DCR, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -

Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Replace the outdated play structures at Powers field with safe and accessible equipment.	3 / A	RC / CPC
Develop and implement a stormwater bylaw.	4 / C	CC, PB / -

Year Seven: 2023

Action	Goal / Objective	Lead / Funding
Hold an annual public meeting to discuss Action Plan accomplishments and priorities.	All	CP / -
Identify and protect open spaces that will create or enhance wildlife corridors – ongoing.	1 / C	CC, OSAC / CPC, TM, Grants
Acquire or protect open spaces using CPC funds or other resources. Be aware of opportunities that may arise separately from those listed in this Plan – ongoing.	1 & 3 & 5 / D & C & A	CC, OSAC, RC / CPC, Grants
Promote tax incentives for the sale of private land to the Town for open space purposes – ongoing.	1 / D	CC, OSAC / -
Identify and document historical and archaeological resources – ongoing.	2 / A	HC / -
Continue adding more wayfinding and educational signage to the Hingham trail network – ongoing.	2 & 3 / C & D	CC, HC, RC / CPC, V
Regrade and re-sod the infield at Powers field.	3 / A	BOS, RC / CPC
Renovate the softball/baseball infield at Kress field.	3 / A	RC / CPC
Continue maintaining open trail corridors on Town-owned open spaces – ongoing.	3 / D	CC, RC / CPC, V
Connect Sydney Pond to Foundry Pond and the Weir River Estuary	3 & 5 / D & B	CC, OSAC, RC, WREPC / CPC, Grants

List of Agencies / Funding Sources

BCPC	Bare Cove Park Committee
BOH	Board of Health
BOS	Board of Selectmen
CC	Conservation Commission
CP	Community Planning Department
CPC	Community Preservation Committee
DAR	Department of Agricultural Resources
DC	Historic Districts Commission
DCR	Department of Conservation and Recreation
DFG	Department of Fish and Game
DPW	Department of Public Works
GC	Garden Club of Hingham
HC	Historical Commission
HLCT	Hingham Land Conservation Trust
HDC	Harbor Development Committee
NPS	National Park Service
OSAC	Open Space Acquisition Committee
PB	Planning Board
PPF	Preservation Projects Fund
RC	Recreation Commission
SC	School Committee
TB	Trustees of the Bathing Beach
TM	Town Meeting
V	Volunteers
WREPC	Weir River Estuary Park Committee
WRWA	Weir River Watershed Association
WSC	Water Supply Committee
ZBA	Zoning Board of Appeals

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Chapter 10: Public Comments

To be compiled.

Chapter 11: References

To be compiled.

Appendices

BioMap2

CONSERVING THE BIODIVERSITY OF MASSACHUSETTS IN A CHANGING WORLD

Hingham

Produced in 2012

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is <u>not</u> intended for use in state regulations.

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife

The Nature Conservancy
Protecting nature. Preserving life.™

Table of Contents

Massachusetts Division of Fisheries and Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
phone: 508-389-6360 fax: 508-389-7890

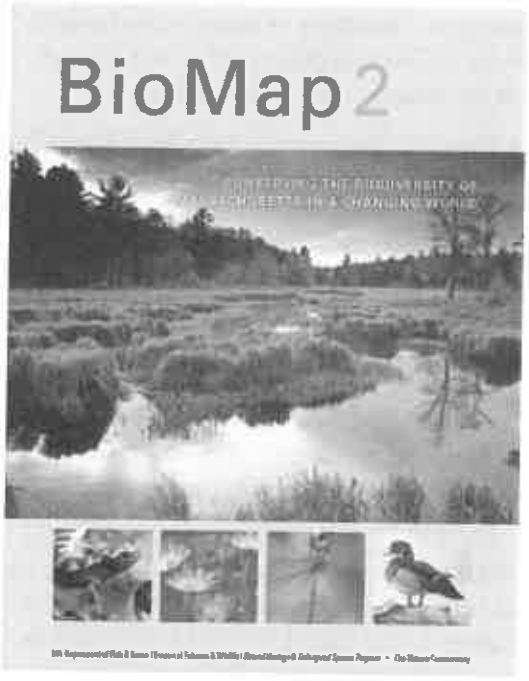
BioMap2
Conserving the Biodiversity of Massachusetts in a Changing World

Introduction

The Massachusetts Department of Fish & Game, through the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP), and The Nature Conservancy's Massachusetts Program developed *BioMap2* to protect the state's biodiversity in the context of climate change.

BioMap2 combines NHESP's 30 years of rigorously documented rare species and natural community data with spatial data identifying wildlife species and habitats that were the focus of the Division of Fisheries and Wildlife's 2005 State Wildlife Action Plan (SWAP). *BioMap2* also integrates The Nature Conservancy's assessment of large, well-connected, and intact ecosystems and landscapes across the Commonwealth, incorporating concepts of ecosystem resilience to address anticipated climate change impacts.

Protection and stewardship of *BioMap2* Core Habitat and Critical Natural Landscape is essential to safeguard the diversity of species and their habitats, intact ecosystems, and resilient natural landscapes across Massachusetts.



Get your copy of the *BioMap2* report! Download from www.mass.gov/nhesp or contact Natural Heritage at 508-389-6360 or natural.heritage@state.ma.us.

What Does Status Mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations 321 CMR 10.00. Rare species are categorized as Endangered, Threatened or of Special Concern according to the following:

- Endangered species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- Threatened species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- Special Concern species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition NHESP maintains an unofficial watch list of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated by any law or regulations, but they can help to identify ecologically important areas that are worthy of

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For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.

protection. The status of natural communities reflects the documented number and acreages of each community type in the state:

- Critically Imperiled communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- Imperiled communities typically have 6-20 sites or few remaining acres in the state.
- Vulnerable communities typically have 21-100 sites or limited acreage across the state.
- Secure communities typically have over 100 sites or abundant acreage across the state; however, excellent examples are identified as Core Habit to ensure continued protection.

In 2005 the Massachusetts Division of Fisheries and Wildlife completed a comprehensive State Wildlife Action Plan (SWAP) documenting the status of Massachusetts wildlife and providing recommendations to help guide wildlife conservation decision-making. SWAP includes all the wildlife species listed under the Massachusetts Endangered Species Act (MESA), as well as more than 80 species that need conservation attention but do not meet the requirements for inclusion under MESA. The SWAP document is organized around habitat types in need of conservation within the Commonwealth. While the original BioMap focused primarily on rare species protected under MESA, *BioMap2* also addresses other Species of Conservation Concern, their habitats, and the ecosystems that support them to create a spatial representation of most of the elements of SWAP.

BioMap2: One Plan, Two Components

BioMap2 identifies two complementary spatial layers, Core Habitat and Critical Natural Landscape.

Core Habitat identifies key areas that are critical for the long-term persistence of rare species and other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems across the Commonwealth. Protection of Core Habitats will contribute to the conservation of specific elements of biodiversity.

Critical Natural Landscape identifies large natural Landscape Blocks that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. Areas delineated as Critical Natural Landscape also include buffering upland around wetland, coastal, and aquatic Core Habitats to help ensure their long-term integrity.

The long-term persistence of Massachusetts biological resources requires a determined commitment to land and water conservation. Protection and stewardship of both Critical Natural Landscapes and Core Habitats are needed to realize the biodiversity conservation vision of *BioMap2*.

Components of Core Habitat

Core Habitat identifies specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, exemplary natural communities, and intact ecosystems.

Rare Species

There are 432 native plant and animal species listed as Endangered, Threatened or Special Concern under the Massachusetts Endangered Species Act (MESA) based on their rarity, population trends, and threats to survival. For

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Table 1. Species of Conservation Concern described in the State Wildlife Action Plan and/or included on the MESA List and for which habitat was mapped in *BioMap2*. Note that plants are not included in SWAP, and that marine species such as whales and sea turtles are not included in *BioMap2*.

Taxonomic Group	MESA-listed Species	Non-listed Species of Conservation Concern
Mammals	4	5
Birds	27	23
Reptiles	10	5
Amphibians	4	3
Fish	10	17
Invertebrates	102	9
Plants	256	0
Total	**413**	**62**

BioMap2, NHESP staff identified the highest quality habitat sites for each non-marine species based on size, condition, and landscape context.

Other Species of Conservation Concern

In addition to species on the MESA List described previously, the State Wildlife Action Plan (SWAP) identifies 257 wildlife species and 22 natural habitats most in need of conservation within the Commonwealth. *BioMap2* includes species-specific habitat areas for 45 of these species and habitat for 17 additional species which was mapped with other coarse-filter and fine-filter approaches.

Priority Natural Communities

Natural communities are assemblages of plant and animal species that share a common environment and occur together repeatedly on the landscape. *BioMap2* gives conservation priority to natural communities with limited distribution and to the best examples of more common types.

Vernal Pools

Vernal pools are small, seasonal wetlands that provide important wildlife habitat, especially for amphibians and invertebrate animals that use them to breed. *BioMap2* identifies the top 5 percent most interconnected clusters of Potential Vernal Pools in the state.

Forest Cores

In *BioMap2*, Core Habitat includes the best examples of large, intact forests that are least impacted by roads and development, providing critical habitat for numerous woodland species. For example, the interior forest habitat defined by Forest Cores supports many bird species sensitive to the impacts of roads and development, such as the Black-throated Green Warbler, and helps maintain ecological processes found only in unfragmented forest patches.

Wetland Cores

BioMap2 used an assessment of Ecological Integrity to identify the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Aquatic Cores

To delineate integrated and functional ecosystems for fish species and other aquatic

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Species of Conservation Concern, beyond the species and exemplary habitats described above, *BioMap2* identifies intact river corridors within which important physical and ecological processes of the river or stream occur.

Components of Critical Natural Landscape

Critical Natural Landscape identifies intact landscapes in Massachusetts that are better able to support ecological processes and disturbance regimes, and a wide array of species and habitats over long time frames.

Landscape Blocks

BioMap2 identifies the most intact large areas of predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes.

Upland Buffers of Wetland and Aquatic Cores

A variety of analyses were used to identify protective upland buffers around wetlands and rivers.

Upland Habitat to Support Coastal Adaptation

BioMap2 identifies undeveloped lands adjacent to and up to one and a half meters above existing salt marshes as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

The conservation areas identified by *BioMap2* are based on breadth and depth of data, scientific expertise, and understanding of Massachusetts' biodiversity. The numerous sources of information and analyses used to create Core Habitat and Critical Natural Landscape are complementary, and outline a comprehensive conservation vision for Massachusetts, from rare species to intact landscapes. In total, these robust analyses define a suite of priority lands and waters that, if permanently protected, will support Massachusetts' natural systems for generations to come.

Legal Protection of Biodiversity

BioMap2 presents a powerful vision of what Massachusetts would look like with full protection of the land most important for supporting the Commonwealth's biodiversity. While *BioMap2* is a planning tool with *no regulatory function*, all state-listed species enjoy legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Wetland habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.00). The *Natural Heritage Atlas* contains maps of Priority Habitats and Estimated Habitats, which are used, respectively, for regulation under the Massachusetts Endangered Species Act and the Wetlands Protection Act. For more information on rare species regulations, and to view Priority and Estimated Habitat maps, please see the Regulatory Review page at http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/.

***BioMap2* is a conservation planning tool that does not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the *BioMap2* vision is fully realized, we must continue to protect our most imperiled species and their habitats.**

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Understanding Core Habitat Summaries

Following the Town Overview, there is a descriptive summary of each Core Habitat and Critical Natural Landscape that occurs in your city or town. These summaries highlight some of the outstanding characteristics of each Core Habitat and Critical Natural Landscape, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific fact sheets at www.mass.gov/nhesp.

Additional Information

For copies of the full *BioMap2* report, the Technical Report, and an interactive mapping tool, visit the *BioMap2* website via the Land Protection and Planning tab at www.mass.gov/nhesp. If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program

By phone	508-389-6360
By fax	508-389-7890
By email	natural.heritage@state.ma.us
By Mail	100 Hartwell Street, Suite 230 West Boylston, MA 01583

The GIS datalayers of *BioMap2* are available for download from MassGIS at www.mass.gov/mgis.

Town Overview

Hingham lies on the border of the Boston Basin and the Southern New England Coastal Plains and Hills Ecoregions. The Boston Basin Ecoregion is an area defined by a rim of low hills and outlying hilly suburban towns. The basin itself has low rolling topography and numerous urban reservoirs, lakes, and ponds. The flat areas were once tilled, but are now almost exclusively urban and suburban developments. The Southern New England Coastal Plains and Hills Ecoregion is comprised of plains with a few low hills. Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine. Many major rivers drain this area.

Hingham at a Glance

- Total Area: 14,558 acres (22.7 square miles)
- Human Population in 2010: 22,157
- Open space protected in perpetuity: 4,521 acres, or 31.1% percent of total area*
- *BioMap2* Core Habitat: 1,672 acres
- *BioMap2* Core Habitat Protected: 1,333 acres or 79.7%
- *BioMap2* Critical Natural Landscape: 2,193 acres
- *BioMap2* Critical Natural Landscape Protected: 1,980 acres or 90.3%.

BioMap2 Components

Core Habitat

- 2 Exemplary or Priority Natural Community Cores
- 2 Forest Cores
- 4 Wetland Cores
- 1 Aquatic Core
- 2 Vernal Pool Cores
- 16 Species of Conservation Concern Cores**
  - 2 birds, 4 reptiles, 3 insects, 1 plants

Critical Natural Landscape

- 1 Landscape Block
- 4 Wetland Core Buffers
- 1 Aquatic Core Buffer
- 8 Coastal Adaptation Areas
- 1Tern Foraging Area

* Calculated using MassGIS data layer "Protected and Recreational Open Space—March, 2012".

** See next pages for complete list of species, natural communities and other biodiversity elements.

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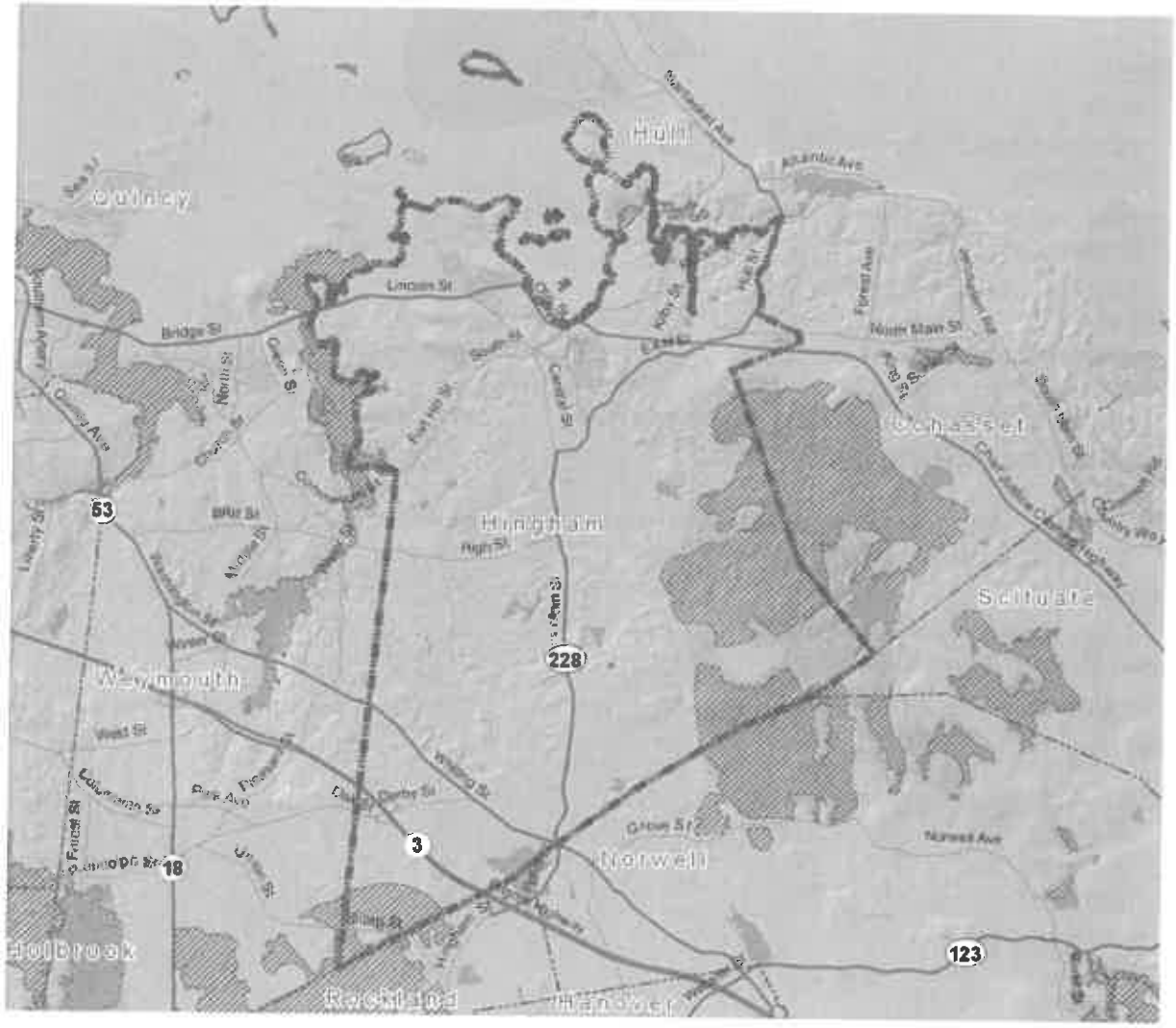
BioMap2 Core Habitat and Critical Natural Landscape in Hingham



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

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Species of Conservation Concern, Priority and Exemplary Natural Communities, and Other Elements of Biodiversity in Hingham

Insects

Moths

Spartina Borer, (*Photedes inops*), SC

Damselflies

New England Bluet, (*Enallagma laterale*), Non-listed SWAP species

Dragonflies

Mocha Emerald, (*Somatochlora linearis*), SC

Reptiles

Eastern Hognose Snake, (*Heterodon platirhinos*), Non-listed SWAP
Northern Black Racer, (*Coluber constrictor*), Non-listed SWAP
Spotted Turtle, (*Clemmys guttata*), Non-listed SWAP
Eastern Box Turtle, (*Terrapene carolina*), SC

Birds

Black-crowned Night-heron, (*Nycticorax nycticorax*), Non-listed SWAP
Snowy Egret, (*Egretta thula*), Non-listed SWAP

Plants

Seabeach Dock, (*Rumex pallidus*), T

Priority Natural Communities

Maritime Juniper Woodland/Shrubland, S1

Other *BioMap2* Components

Forest Core
Aquatic Core
Wetland Core
Vernal Pool Core
Landscape Block
Aquatic Core Buffer
Wetland Core Buffer
Coastal Adaptation Area
Tern Foraging Area

E = Endangered
T = Threatened
SC = Special Concern
S1 = Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.
S2 = Imperiled communities, typically 6-20 sites or few remaining acres in the state.
S3 = Vulnerable communities, typically have 21-100 sites or limited acreage across the state.

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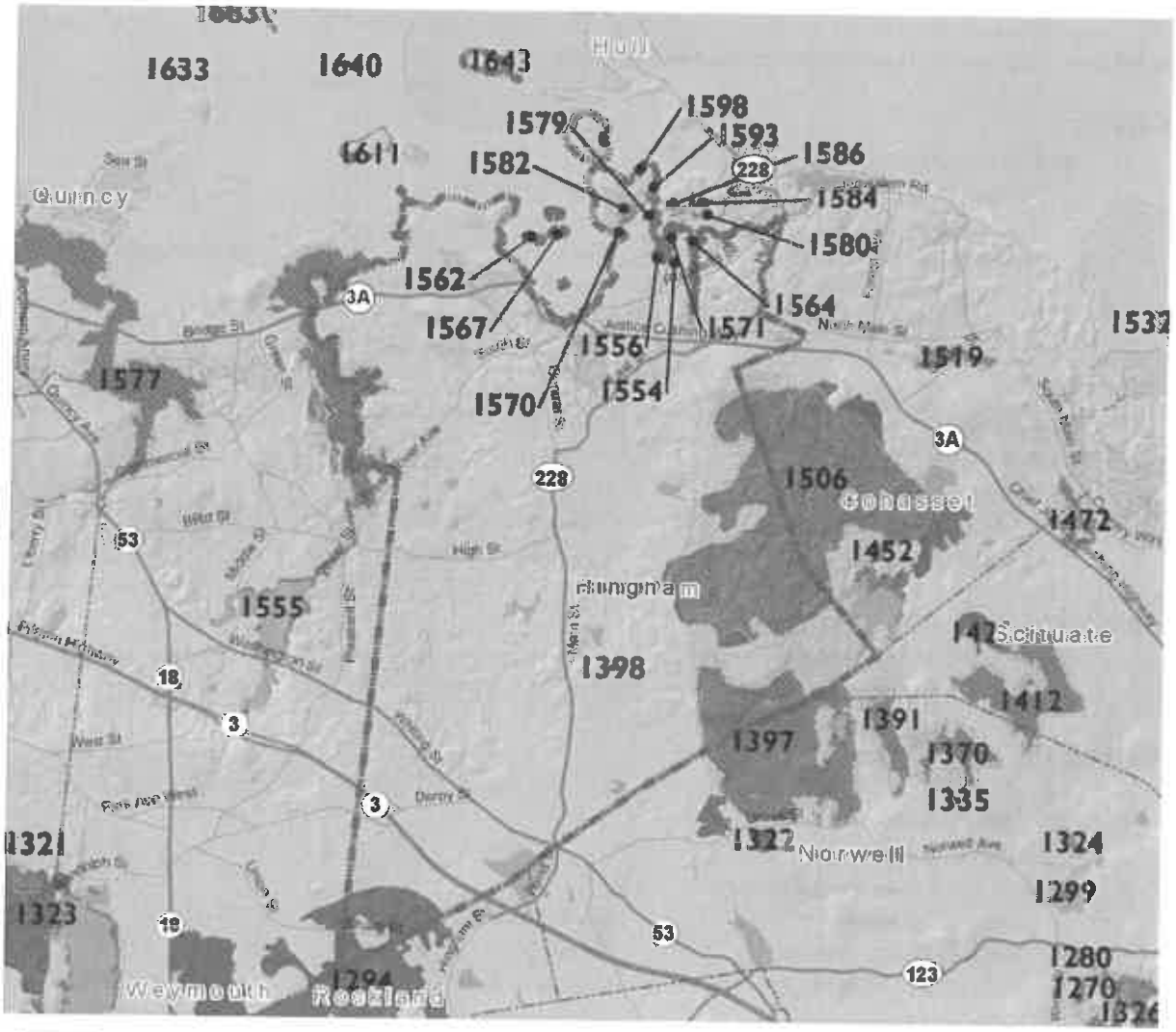
BioMap2 Core Habitat in Hingham

Core IDs correspond with the following element lists and summaries.



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

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Elements of *BioMap2* Cores

This section lists all elements of *BioMap2* Cores that fall *entirely or partially* within Hingham. The elements listed here may not occur within the bounds of Hingham.

Core 1294

Species of Conservation Concern

Mocha Emerald	*Somatochlora linearis*	SC
Eastern Box Turtle	*Terrapene carolina*	SC
Spotted Turtle	*Clemmys guttata*	Non-listed SWAP
Grasshopper Sparrow	*Ammodramus savannarum*	T
Upland Sandpiper	*Bartramia longicauda*	E

Core 1397

Forest Core
Wetland Core
Species of Conservation Concern

New England Bluet	*Enallagma laterale*	Non-listed SWAP
Mocha Emerald	*Somatochlora linearis*	SC

Core 1398

Species of Conservation Concern
A data-sensitive species

Core 1506

Forest Core
Wetland Core
Vernal Pool Core
Species of Conservation Concern

Attenuated Bluet	*Enallagma daeckii*	T
Umber Shadowdragon	*Neurocordulia obsoleta*	SC
Eastern Hognose Snake	*Heterodon platirhinos*	Non-listed SWAP
Northern Black Racer	*Coluber constrictor*	Non-listed SWAP

Core 1554/1556/1564/1566/1570/1571/1579/1582

Species of Conservation Concern

Spartina Borer Moth	*Photedes inops*	SC

Core 1555

Aquatic Core

Core 1560/1561/1562/1575

Priority & Exemplary Natural Communities		
Maritime Juniper Woodland/Shrubland		S1

Core 1567

Species of Conservation Concern		
Black-crowned Night-heron	*Nycticorax nycticorax*	Non-listed SWAP
Snowy Egret	*Egretta thula*	Non-listed SWAP

Core 1593

Priority & Exemplary Natural Communities		
Maritime Juniper Woodland/Shrubland		S1
Species of Conservation Concern		
Spartina Borer Moth	*Photedes inops*	SC

Core 1598

Priority & Exemplary Natural Communities		
Maritime Juniper Woodland/Shrubland		S1
Species of Conservation Concern		
Spartina Borer Moth	*Photedes inops*	SC

Core 1643

Species of Conservation Concern		
Seabeach Dock	*Rumex pallidus*	T

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Core Habitat Summaries

Core 1294

A 1,914-acre Core Habitat featuring Species of Conservation Concern.

The Mocha Emerald dragonfly breeds in small to medium-sized streams that flow through woods or swamps. The young spend a year or more in the streams, then emerge as adults that live in surrounding upland forests.

The Eastern Box Turtle is a terrestrial turtle, inhabiting many dry and moist woodland and early successional habitat. Development, roads, collection, and disease are the primary conservation concerns.

Strong populations of Spotted Turtles in good habitat - large, unfragmented, protected open space - continue to be of interest for the conservation of this species. This small, dark-colored turtle with yellow spots on its carapace inhabits a variety of wetlands year-round and nests in nearby uplands during spring. Road and collection are the primary conservation concerns.

Grasshopper Sparrows nest in dry grasslands. Natural situations include sandplain grasslands, but they have adapted well to anthropogenic habitats such as airports and landfills. They are very sensitive to changes in plant composition and respond well to the effects of fire management.

Upland Sandpipers require very large, unbroken tracts of grassland, and in Massachusetts are now relegated mostly to anthropogenic habitats such as airports. They are very sensitive to changes in plant composition and respond well to the effects of well-planned fire management and thoughtful mowing regimes.

Core 1397

A 1,068-acre Core Habitat featuring Forest Core, Wetland Core, and Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

New England Bluets are damselflies whose habitat includes coastal plain ponds, open water in swamps, and other ponds and lakes. It occurs only in the northeastern United States and is most common from eastern Massachusetts into Connecticut.

The Mocha Emerald dragonfly breeds in small to medium-sized streams that flow through woods or swamps. The young spend a year or more in the streams, then emerge as adults that live in surrounding upland forests.

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Core 1398

A 2-acre Core Habitat featuring a data-sensitive Species of Conservation Concern.

The Natural Heritage & Endangered Species Program does not release information on particularly vulnerable species.

Core 1506

A 2,415-acre Core Habitat featuring Forest Core, Wetland Core, Vernal Pool Core, and Species of Conservation Concern.

Forest Cores are the best examples of large, intact forests that are least impacted by roads and development. Forest Cores support many bird species sensitive to the impacts of roads and development and help maintain ecological processes found only in unfragmented forest patches.

This 1,752-acre Forest Core is the sixth largest in the ecoregion and provides important and relatively large forest interior habitat in highly developed eastern Massachusetts.

Wetland Cores are the least disturbed wetlands in the state within undeveloped landscapes—those with intact buffers and little fragmentation or other stressors associated with development. These wetlands are most likely to support critical wetland functions (i.e., natural hydrologic conditions, diverse plant and animal habitats, etc.) and are most likely to maintain these functions into the future.

Vernal pools are small, seasonal wetlands that provide important wildlife habitat, especially for amphibians and invertebrate animals that use them to breed. *BioMap2* identifies the top 5 percent most interconnected clusters of Potential Vernal Pools in the state.

Attenuated Bluets are small blue damselflies with exceptionally long abdomens. They inhabit a variety of types of wetlands.

Umber Shadowdragons are dragonflies that are found on lakes with rocky shores and medium to large rivers that have relatively little aquatic vegetation. Shadowdragons fly only at dusk when they feed and mate in a frenzy of activity.

Eastern Hognose Snakes are shy, slow-moving, thick-bodied snakes that specialize in feeding on toads, although they eat other amphibians or other small animals as well. They require sandy soils in their habitat; both wooded and open habitats are known.

The Northern Black Racer is a snake of young upland forests, shrublands such as pitch pine/scrub oak communities and rock cliffs. Although relatively common, its range appears to be constricting and its abundance has been declining.

Core 1554

A 2-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

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Core 1555

An 814-acre Core Habitat featuring Aquatic Core.

Aquatic Cores are intact river corridors within which important physical and ecological processes of the river or stream occur. They delineate integrated and functional ecosystems for fish species and other aquatic Species of Conservation Concern.

Core 1556

A 2-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1560

A <1-acre Core Habitat featuring a Priority Natural Community.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. Maritime Juniper Woodlands on Langlee and Ragged Islands are combined as one community occurrence that has an unusual plant assemblage for the Boston Harbor Islands, with a higher proportion of native species than most upland communities there.

Core 1561

A <1-acre Core Habitat featuring a Priority Natural Community.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. Maritime Juniper Woodlands on Langlee and Ragged Islands are combined as one community occurrence that has an unusual plant assemblage for the Boston Harbor Islands, with a higher proportion of native species than most upland communities there.

Core 1562

A <1-acre Core Habitat featuring a Priority Natural Community.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. Maritime Juniper Woodlands on Langlee and Ragged Islands are combined as one community occurrence that has an unusual plant assemblage for the Boston Harbor Islands, with a higher proportion of native species than most upland communities there.

Core 1564

A 2-acre Core Habitat featuring a Species of Conservation Concern.

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In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1566

A <1-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1567

A 5-acre Core Habitat featuring Species of Conservation Concern.

The breeding colonies of Black-crowned Night-herons, stocky, short-legged herons, are widely distributed along the Massachusetts coast. Habitats of Black-crowned Night-herons in Massachusetts include salt marshes and tidal flats, fresh and brackish marshes, ponds, and creeks. Night-herons are primarily nocturnal and crepuscular foragers on small fish, amphibians, crabs and other crustaceans, and insects.

Medium-sized white herons, Snowy Egrets nest in mixed colonies with other species of egrets and herons. The nests are in trees or patches of shrubs on coastal islands, presumably to reduce the likelihood of mammalian predation. Snowy Egrets forage in marshes and ponds near their breeding colonies for small fish, snails, and aquatic invertebrates.

Core 1570

A 1-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1571

A 13-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1575

A <1-acre Core Habitat featuring a Priority Natural Community.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. Maritime Juniper Woodlands on Langlee and Ragged Islands are combined as one community occurrence that has an unusual plant assemblage for the Boston Harbor Islands, with a higher proportion of native species than most upland communities there.

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Core 1579

A 3-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1582

An 18-acre Core Habitat featuring a Species of Conservation Concern.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1593

A 6-acre Core Habitat featuring a Priority Natural Community and a Species of Conservation Concern.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. The Maritime Juniper Woodland on Rocky Neck's open ledges is a narrow band along the rocky headlands. Invasive species are uncommon, except for English oak which threaten the community by overshading cedars and other plants dependant on direct sunlight.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1598

A 5-acre Core Habitat featuring a Priority Natural Community and a Species of Conservation Concern.

The Maritime Juniper Woodland/Shrubland is a predominantly evergreen community within the coastal salt spray zone. The trees tend to be short (less than 15 feet) and scattered, with the tops sculpted by winds and salt spray. The Maritime Juniper Woodland on Rocky Neck's open ledges is a narrow band along the rocky headlands. Invasive species are uncommon, except for English oak which threaten the community by overshading cedars and other plants dependant on direct sunlight.

In the Midwest the Spartina Borer is found in mesic prairies; in Massachusetts, it typically inhabits coastal marshes, where larvae feed on prairie cordgrass (Spartina pectinata).

Core 1643

An 11-acre Core Habitat featuring a Species of Conservation Concern.

Seabeach Dock, a medium-sized, herbaceous perennial, is a plant of beaches and coastal swamps. Its habitats in Massachusetts include upper beaches with cobble, cobble and gravel, shale and shell, or gravelly sand substrates.

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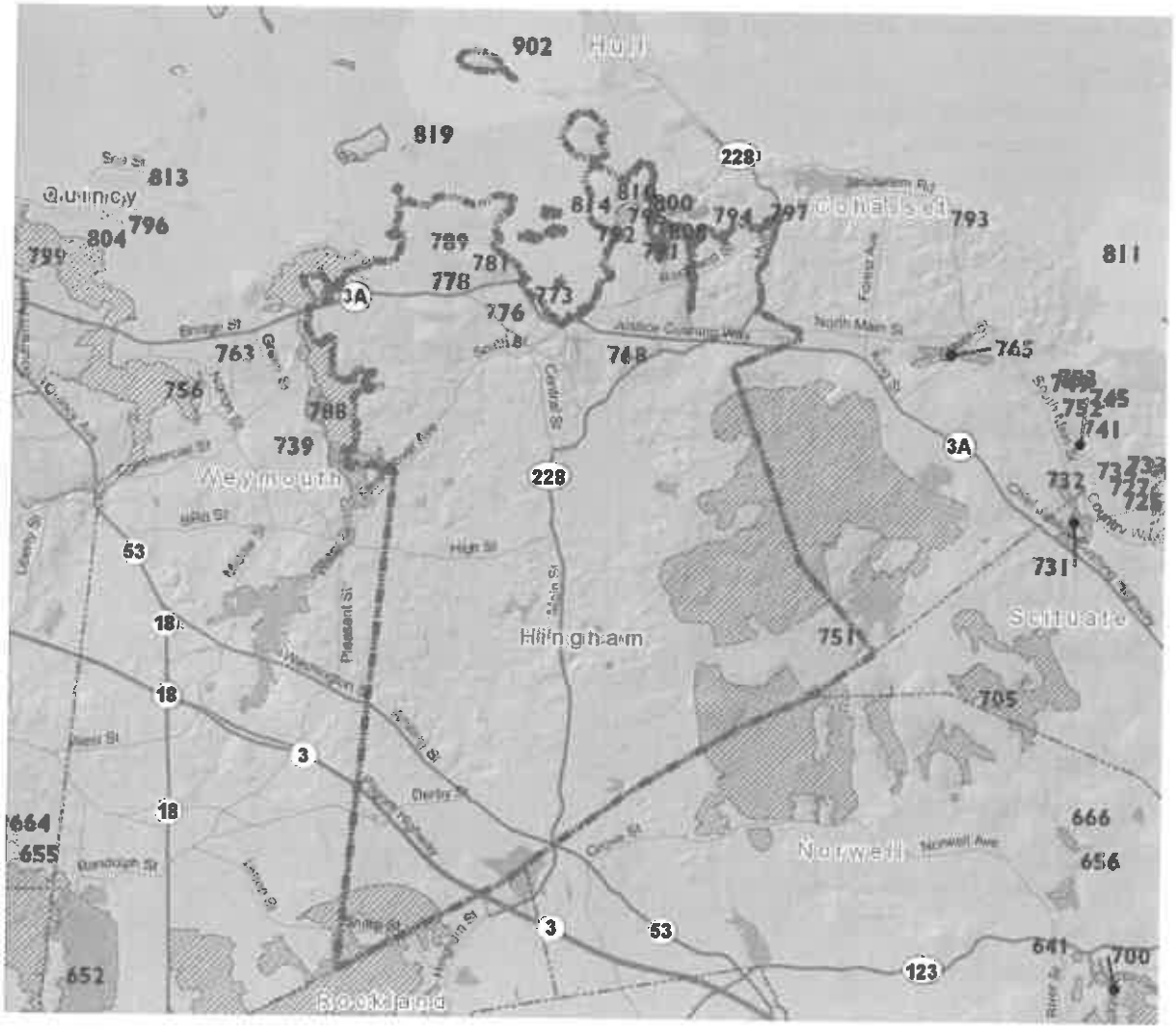
BioMap2 Critical Natural Landscape in Hingham

Critical Natural Landscape IDs correspond with the following element lists and summaries.



BioMap2 Core Habitat

BioMap2 Critical Natural Landscape

1 Mile

Natural Heritage & Endangered Species Program

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For more information on rare species and natural communities, please see our fact sheets online at www.mass.gov/nhesp.

Elements of *BioMap2* Critical Natural Landscapes

This section lists all elements of *BioMap2* Critical Natural Landscapes that fall *entirely or partially* within Hingham. The elements listed here may not occur within the bounds of Hingham.

CNL 751
- Aquatic Core Buffer
- Landscape Block
- Wetland Core Buffer

CNL 768
- Coastal Adaptation Area

CNL 773
- Coastal Adaptation Area

CNL 776
- Coastal Adaptation Area

CNL 778
- Coastal Adaptation Area

CNL 781
- Coastal Adaptation Area

CNL 788
- Aquatic Core Buffer
- Coastal Adaptation Area

CNL 789
- Coastal Adaptation Area

CNL 791
- Coastal Adaptation Area

CNL 792
- Coastal Adaptation Area

CNL 794
- Coastal Adaptation Area

CNL 795
- Coastal Adaptation Area

CNL 797
- Coastal Adaptation Area

CNL 800
- Coastal Adaptation Area

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CNL 814

Coastal Adaptation Area

CNL 902

Tern Foraging Area

Natural Heritage & Endangered Species Program

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Critical Natural Landscape Summaries

CNL 751

A 4,735-acre Critical Natural Landscape featuring Aquatic Core Buffer, Wetland Core Buffer and Landscape Block.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

Landscape Blocks, the primary component of Critical Natural Landscapes, are large areas of intact predominately natural vegetation, consisting of contiguous forests, wetlands, rivers, lakes, and ponds, as well as coastal habitats such as barrier beaches and salt marshes. Pastures and power-line rights-of-way, which are less intensively altered than most developed areas, were also included since they provide habitat and connectivity for many species. Collectively, these natural cover types total 3.6 million acres across the state. An Ecological Integrity assessment was used to identify the most intact and least fragmented areas. These large Landscape Blocks are most likely to maintain dynamic ecological processes such as buffering, connectivity, natural disturbance, and hydrological regimes, all of which help to support wide-ranging wildlife species and many other elements of biodiversity.

In order to identify critical Landscape Blocks in each ecoregion, different Ecological Integrity thresholds were used to select the largest intact landscape patches in each ecoregion while avoiding altered habitat as much as possible. This ecoregional representation accomplishes a key goal of *BioMap2* to protect the ecological stages that support a broad suite of biodiversity in the context of climate change. Blocks were defined by major roads, and minimum size thresholds differed among ecoregions to ensure that *BioMap2* includes the best of the best in each ecoregion.

This 4,541-acre Landscape Block is the twelfth largest of 62 Blocks in the ecoregion, largely forested but including over 25% important wetland habitat as well.

CNL 768

A 84-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

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CNL 773

A 9-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 776

A 15-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 778

A 9-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 781

A 25-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

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CNL 788

A 970-acre Critical Natural Landscape featuring Aquatic Core Buffer and Coastal Adaptation Area.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 789

A 20-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 791

A 2-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 792

A <1-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine

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where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 794

A 17-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 795

A 15-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 797

An 8-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 800

A <1-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with

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high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 814

A 31-acre Critical Natural Landscape featuring Coastal Adaptation Area.

The coastal habitats of Massachusetts are particularly vulnerable to potential sea-level rise in the next century, which many estimates suggest is likely to exceed one meter. Therefore, in addition to prioritizing current coastal habitats, the creators of *BioMap2* examined the landward side of salt marshes to determine where these habitats might move to as sea levels rise. Undeveloped lands adjacent to and up to one and a half meters above existing salt marshes were identified, and included as Critical Natural Landscapes with high potential to support inland migration of salt marsh and other coastal habitats over the coming century.

CNL 902

An 11,336-acre Critical Natural Landscape featuring Tern Foraging Area.

Terns range widely from their breeding colonies to forage. While the breeding and staging areas for Roseate, Arctic, Common, and Least Terns were included in the Species of Conservation Concern Core Habitat for *BioMap2*, tern foraging areas were included in *BioMap2* as part of Critical Natural Landscape. The extent of foraging habitat for Arctic, Common, and Roseate Terns depends on the size of the breeding colony. For Least Tern, all shallow marine and estuarine waters within 2 miles of recent colony sites and up to 1 mile offshore were mapped as foraging habitat.

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Natural Heritage & Endangered Species Fund

To learn more about the Natural Heritage & Endangered Species Program and the Commonwealth's rare species, visit our web site at www.mass.gov/nhesp.

Town of Hingham
Open Space and Recreation Questionnaire

The Town is updating its 2009-2016 Open Space and Recreation Plan. Massachusetts requires cities and towns to have an approved Open Space and Recreation Plan in order to qualify for state funding for projects related to protecting open space and creating and maintaining recreation facilities. This survey is being conducted as part of the plan update in order to better understand the needs and concerns of Hingham residents.

For the purpose of this questionnaire, "open space" is defined as publicly (town or state) or privately (land trust, non-profit, etc.) owned, undeveloped land that is important for recreation, agriculture, forestry, biological diversity, or scenic value.

Please help the Town update its plan by completing this important survey.

Please bring in or mail your completed survey to:

Hingham Conservation Department
210 Central Street
Hingham, MA 02043

Or

Email a scanned copy to: Polina Supin- Assistant Conservation Officer
Email: *supinp@hingham-ma.gov*
With a subject line: Open Space and Recreation Survey

1. How many adults and children are in your household (including yourself)?

Adults: _____ Children: _____

2. How many years have you lived in Hingham?

- ☐ Less than 1
- ☐ 1 to 4
- ☐ 5 to 9
- ☐ 10 to 15
- ☐ 16 to 25
- ☐ More than 25

3. What is your age?

- ☐ Less than 18 years old
- ☐ 18 to 24 years old
- ☐ 25 to 34 years old
- ☐ 35 to 44 years old
- ☐ 45 to 54 years old
- ☐ 55 to 64 years old
- ☐ 65 to 74 years old
- ☐ 75 years or older

4. How important are the following in your perception of Hingham's character?
(5= very important, 1=not important)

____Open fields and farmlands
____Street trees
____Historic buildings
____Lawns and landscaping
____Forests
____Views across water
____Marshes, bogs, wetlands
____Other (please specify): _____

5. Which of the following activities do you participate in while visiting the Town's open spaces?
(Check all that apply)

- ☐ Walking
- ☐ Sports/games
- ☐ Bicycling
- ☐ Beach
- ☐ Fishing
- ☐ Hunting
- ☐ Boating
- ☐ Bird watching
- ☐ Jogging
- ☐ Swimming
- ☐ Dog walking
- ☐ Other (please specify): _____
- ☐ Ice skating
- ☐ Playground
- ☐ Horseback riding
- ☐ Cross-country skiing
- ☐ Photography

6. How often do you visit the Town's open spaces?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Once or twice a year
- ☐ Never

7. When do you typically visit the Town's open spaces?

- ☐ Weekdays only
- ☐ Weekends only
- ☐ Both weekdays and weekends

8. How do you usually travel to and from the open spaces in Town?
(Check all that apply)

- ☐ Drive
- ☐ Walk
- ☐ Bike
- ☐ Bus
- ☐ Other

9. How satisfied are you with the recreation facilities for children and youth?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Neutral
- ☐ Unsatisfied
- ☐ Very unsatisfied

10. How satisfied are you with the recreation facilities for adults?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Neutral
- ☐ Unsatisfied
- ☐ Very unsatisfied

11. How satisfied are you with the general condition of the Town's recreation facilities?

- ☐ Very satisfied
- ☐ Satisfied
- ☐ Neutral
- ☐ Unsatisfied
- ☐ Very unsatisfied

12. What additional recreation facilities, if any, do you feel are needed in Hingham?
(Check all that apply)

- ☐ No additional facilities needed
- ☐ Dog parks
- ☐ Athletic fields
- ☐ Picnic areas
- ☐ Other (please specify): _____
- ☐ Tennis courts
- ☐ Trails
- ☐ Playgrounds
- ☐ Basketball courts
- ☐ Swimming areas
- ☐ Bike trails
- ☐ Walking paths

13. Do you think the Town could benefit from a designated, fenced in area where dogs could safely play off-leash?

- ☐ Yes
- ☐ No
- ☐ No opinion

14. What improvements, if any, would you like to see in the Town's existing open spaces?
(Check all that apply)

- ☐ No improvements needed
- ☐ Improve access (paths and trails)
- ☐ Improve or add parking
- ☐ Improve maintenance
- ☐ Improve or add programs and special events
- ☐ Improve public safety
- ☐ Improve signage
- ☐ Improve maps
- ☐ Improve landscaping
- ☐ Other (please specify): _____

15. How important is it to you that each of the following be protected?
(5= very important, 1=not important)

____Places of historical value.
____Agricultural fields.
____Open spaces for water and conservation needs.
____Open spaces for active recreational needs.
____Open spaces for aesthetics or passive recreation.
____Easements across private land to access open spaces.

16. How important do you feel the following are when considering what properties should be acquired for conservation purposes?
(5= very important, 1=not important)

____Scenic qualities.
____Passive recreational opportunities.
____Connections to other protected land.
____Protection of drinking water.
____Cultural/historical preservation.
____Vegetation and wildlife protection.

17. Should Hingham acquire more open space?

- ☐ Yes
- ☐ No
- ☐ Not sure

18. Is there a specific property in Town that you would like to see protected for recreation or conservation purposes? If so, which property?

_____

_____

19. What Town actions do you favor to acquire open space?
(Check all that apply)

- ☐ Partnering with public and private entities.
- ☐ Acquiring conservation restrictions.
- ☐ Purchasing land in fee.
- ☐ Zoning for open space conservation.
- ☐ Requiring developers to preserve open space.

20. To preserve open space in Town, would you:
Please check Yes, No, or Not sure for each question.

	Yes	No	Not Sure
Contribute land to the town, state, or land trust?			
Donate money to buy land?			
Sell or contribute a conservation restriction to protect your land from development?			
Support initiatives to acquire open space?			
Vote at Town Meeting on articles related to open space?			
Allow a conservation restriction on your land to obtain tax benefits?			

21. Do you feel the Town should focus its efforts on maintaining its current open spaces or acquiring additional open spaces?
Please check one answer.

- ☐ Maintain current recreation facilities and conservation land.
- ☐ Acquire additional recreation facilities and conservation land.

22. Any additional comments?

23. Would you be willing to volunteer for Town-organized trail maintenance or clean-up events?

- ☐ No
- ☐ Yes

**If you have selected "Yes", please provide us with your:

Name: _____

Phone: _____

Email: _____

Are you 18 years or older? ____YES ____ NO

Thank you for your time.

Open Space and Recreation Survey Results

Total Number of Participants: 616

Question 1:

How many adults and children are in your household (including yourself)?

Answer Options	Response Average	Response Total	Response Count
Adults	2.10	1,282	609
Children	1.83	940	515
	answered question		609

Question 2:

How many years have you lived in Hingham?

Answer Options	Response Percent	Response Count
Less than 1 year	2.8%	17
1 to 4 years	12.0%	73
5 to 9 years	18.5%	112
10 to 15 years	18.1%	110
16 to 25 years	17.5%	106
More than 25 years	31.1%	189
	answered question	607

Question 3:

What is your age?

Answer Options	Response Percent	Response Count
Less than 18 years old	0.7%	4
18 to 24 years old	0.2%	1
25 to 34 years old	5.8%	35
35 to 44 years old	35.5%	214
45 to 54 years old	27.4%	165
55 to 64 years old	15.1%	91
65 to 74 years old	11.1%	67
75 years or older	4.3%	26
	answered question	603

Question 4:

How important are the following in your perception of Hingham's character?

(5= very important, 1=not important)

Answer Options	1	2	3	4	5	Rating Average	Response Count
Open fields and farmlands	15	19	58	155	367	4.37	614
Street trees	17	18	46	141	390	4.42	612
Historic buildings	17	19	87	144	344	4.27	611
Forests	9	30	83	179	311	4.23	612
Views across water	16	17	47	133	398	4.44	611
Marshes, bogs, wetlands	23	38	117	177	258	3.99	613
Lawns and landscaping	29	74	193	185	127	3.50	608
Other	14	3	16	8	83	4.09	126
Other (please specify)							118
						answered question	614

Other answers include:

- Boats
- Beach
- Harbor
- Schools
- Stone fences
- Street cleanliness
- Well maintained property
- Parks & recreation areas

Question 5:

Which of the following activities do you participate in while visiting the Town's open spaces?

Answer Options	Response Percent	Response Count
Walking/running	97.1%	597
Sports/games	57.7%	355
Bicycling	60.8%	374
Beach	72.8%	448
Fishing	22.9%	141
Hunting	2.8%	17
Boating	42.0%	258
Bird watching	21.3%	131
Cross-country skiing	17.6%	108
Swimming	36.4%	224
Dog walking	49.4%	304
Horseback riding	3.1%	19
Photography	37.9%	233
Ice skating	29.1%	179
Playground	55.6%	342
Other (please specify)	8.9%	55
	answered question	615
	skipped question	1

Other answers include:

- Snowshoe
- Picnicking
- Nature education
- Trail running
- yoga/ meditating
- Mountain biking
- Outdoor workouts
- Sports fields
- Rowing
- Tennis
- Dancing
- Golfing
- Sledding
- Painting

Question 6:

How often do you visit the Town's open spaces?

Answer Options	Response Percent	Response Count
Daily	21.9%	134
Weekly	58.4%	358
Monthly	17.1%	105
Once or twice a year	2.6%	16
Never	0.0%	0
	answered question	613
	skipped question	3

Question 7:

When do you typically visit the Town's open spaces?

Answer Options	Response Percent	Response Count
Weekdays only	3.7%	22
Weekends only	16.9%	99
Both weekdays and weekends	79.4%	466
	answered question	587
	skipped question	29

Question 8:

How do you usually travel to and from the open spaces in Town?

Answer Options	Response Percent	Response Count
Drive	95.4%	586
Bike	32.9%	202
Bus	0.8%	5
Walk	59.9%	368
Other (please specify)	2.8%	17
answered question		614
skipped question		2

Other answers include:

- Run
- Boat or kayak

Question 9:

How satisfied are you with the recreation facilities for children and youth?

Answer Options	Response Percent	Response Count
Very satisfied	29.3%	178
Satisfied	46.2%	281
Neutral	17.9%	109
Unsatisfied	5.6%	34
Very unsatisfied	1.0%	6
answered question		608
skipped question		8

Question 10:

How satisfied are you with the recreation facilities for adults?

Answer Options	Response Percent	Response Count
Very satisfied	17.8%	107
Satisfied	44.2%	266
Neutral	29.7%	179
Unsatisfied	8.0%	48
Very unsatisfied	0.3%	2
answered question		602
skipped question		14

Question 11:

How satisfied are you with the general condition of the Town's recreation facilities?

Answer Options	Response Percent	Response Count
Very satisfied	21.4%	120
Satisfied	60.7%	340
Neutral	18.6%	104
Unsatisfied	5.7%	32
Very unsatisfied	0.7%	4
answered question		560
skipped question		16

Question 12:

What additional recreation facilities, if any, do you feel are needed in Hingham?

Answer Options	Response Percent	Response Count
No additional facilities needed	12.3%	73
Athletic fields	12.6%	75
Picnic areas	29.2%	174
Bike trails	36.6%	218
Tennis courts	8.1%	48
Trails	36.3%	216
Playgrounds	22.9%	136
Basketball courts	6.9%	41
Swimming areas	34.3%	204
Walking paths	45.4%	270
Dog parks	21.5%	128
Other (please specify)	20.7%	123
	answered question	595
	skipped question	21

Other answers include:

- Community gardens
- Fenced in dog park/ area
- Indoor swimming pool
- New outdoor pool
- Parks with paved walkways for wheelchair accessibility
- Turf athletic fields
- Workout facilities
- Ice rink
- Additional boating facilities
- Sidewalks
- Deer hunting acreage
- Obstacle course facility
- kayak racks at the harbor

Question 13:

Do you think the Town could benefit from a designated, fenced in area where dogs could safely play off-leash?

Answer Options	Response Percent	Response Count
Yes	58.7%	355
No	19.8%	120
No Opinion	21.5%	130
	answered question	605
	skipped question	8

Question 14:

What improvements, if any, would you like to see in the Town's existing open spaces?

Answer Options	Response Percent	Response Count
No improvements needed	12.0%	69
Improve access (paths and trails)	44.3%	254
Improve or add parking	23.6%	135
Improve maintenance	27.9%	160
Improve or add programs and special events	31.2%	179
Improve public safety	15.7%	90
Improve signage	29.1%	167
Improve maps	23.0%	132
Improve landscaping	15.0%	86
Other (please specify)	20.9%	120
	answered question	573
	skipped question	40

Other answers include:

- Phragmites control
- Install sidewalks
- Improve beach
- Create safe bike routes
- Improve/ create access to water sport activities
- Improve/ create wheelchair accessibility
- Improve athletic fields
- Improve existing playgrounds
- Im prove connectivity between neighborhoods
- Instal lreceptacle in parks
- Improve/ create accessibility and activities for senior citizens

Question 15:

How important is it to you that each of the following be protected?

(5= very important, 1=not important)

Answer Options	1	2	3	4	5	Rating Average	Response Count
Places of historical value	18	22	67	159	347	4.30	613
Agricultural fields	11	27	115	192	262	4.10	607
Open spaces for water and conservation needs	13	10	41	143	405	4.50	612
Open spaces for active recreational needs	15	19	65	188	325	4.29	612
Open spaces for aesthetics or passive recreation	12	27	86	182	305	4.21	612
Easements across private land to access open	32	27	131	198	218	3.90	606
						answered question	614
						skipped question	2

Question 16:

How important do you feel the following are when considering what properties should be acquired for conservation purposes?

(5= very important, 1=not important)

Answer Options	1	2	3	4	5	Response Count	Average Rating
Scenic qualities	20	19	82	220	273	614	4.2
Passive recreational opportunities	16	27	126	222	218	609	4.0
Connections to other protected land	17	35	132	214	206	604	3.9
Protection of drinking water	15	7	32	117	440	611	4.6
Cultural/historical preservation	19	24	103	192	274	612	4.1
Habitat protection	17	23	77	153	339	609	4.3
					answered question	612	
					skipped question	1	

Question 17:

Should Hingham acquire more open space?

Answer Options	Response Percent	Response Count
Yes	65.0%	398
No	9.5%	58
Not sure	25.5%	156
answered question		612
skipped question		4

Question 18:

Is there a specific property in Town that you would like to see protected for recreation or conservation purposes? If so, which property?

- Lehner Property
- Baker Hill easements
- Hingham Harbor Marina
- Lincoln building site at South / Main
- Hingham mutual insurance on beal street
- Viking Lane
- Land abutting Carson Field
- Land abutting Bare Cove Park
- Wetland area at the end of North St.
- Land along Crooked Meadow River
- Land off Prospect St.
- Land by Fulling Mill Pond
- Land abutting schools
- Land off Ward St.
- Land abutting Triphammer Pond
- Kress Field
- Land around Crow Point
- Land by Glad Tidings

Question 19:

What Town actions do you favor to acquire open space?

Answer Options	Response Percent	Response Count
Partnering with public and private entities	68.8%	395
Acquiring conservation restrictions	54.7%	314
Purchasing land in fee	49.1%	282
Zoning for open space conservation	63.8%	366
Requiring developers to preserve open space	80.3%	461
answered question		574

Question 20:

To preserve open space in Town, would you:

Please check Yes, No, or Not sure for each question.

Answer Options	Yes	No	Not sure	Response Count
Contribute land to the town, state, or land trust?	187	216	150	550
Donate money to buy land?	239	169	150	555
Sell or contribute a conservation restriction to protect	189	167	183	536
Support initiatives to acquire open space?	494	29	53	573
Vote at Town Meeting on articles related to open	524	19	42	582
Allow a conservation restriction on your land to obtain	286	91	167	541

Question 21:

Do you feel the Town should focus its efforts on maintaining its current open spaces or acquiring additional open spaces?

Answer Options	Response Percent	Response Count
Maintain current recreation facilities and conservation	51.3%	302
Acquire additional recreation facilities and	48.7%	287
answered question		589
skipped question		27

Question 22:

Any additional comments?

(Some comments)

- Athletic fields are below average and need improvement
- "Develop a master plan for open space, development and redevelopment. (I.e. Present the town with answers, not questions.)"
- Enforce leash rules for dogs in Bare Cove Park
- "Very opposed to connecting BCPark to GT esker in Weymouth"
- "The priority should be to maintain and improve what we already own and only purchase unique parcels. "
- "Add safe access to open spaces."
- "Keep Bare Cove Park leash free. "
- "Please, not ONE more athletic field!"
- "We are blessed with a beautiful town with beautiful open space, we should continue to maintain and expand that open space where judicious."
- "Protect the watershed, and estuaries, habitat for birds and animals"
- "Scenic vista preservation is less possible as the town continues to be developed with architecturally-challenged mcmansions"
- "Please do not build another swimming pool!"
- "We are blessed with a beautiful town with beautiful open space, we should continue to maintain and expand that open space where judicious."
- Please pick up trash that washes ashore
- "I think we could do a lot more in the Bare Cove entrance area near the fields (hockey rink, indoor pool, etc.)"
- "Bare cover water is under utilized for recreational activities"
- "Land acquisition is critical to this town's character"
- "Further development of high density properties will only denigrate the character of our town."
- "Bathrooms at Bare Park Carlson Fields"
- "Clean up of Hingham harbor green space (goose poop) is a must!"
- "We have plenty of recreational facilities in Hingham. Proper maintenance and care are the focus now."
- "More sidewalks and connecting paths/trails are needed."
- "Restrict boat mooring in the Weir River Estuary opposite Worlds End."
- "Would love to see updates to Kress field playground"
- Improve Hull Street Playground
- "Prioritize acquisition of land which if developed would threaten the integrity of existing conserved land. Prioritize acquisition of connection parcels."
- "Trash receptacles in Wompatuck for dog poop collection"
- "The town should establish a fund to accept donations to acquire and maintain open space."
- "Need the rivers cleaned up and support fish runs"
- "Need to balance preservation of open space with need for revenue. Some development could be beneficial."
- "I don't think open space is maintained well, less grass! More native planting a, more boardwalks, paths and ways for citizens to use the land."
- "The Town seems overrun with recreational facilities and the costs associated. Preserve unimproved open space and allow for public access through the least" encroaching parking.
- "I would love to see an outdoor fitness area either near the Rec Center or at Wompatuck."