

Review Copy

Town of Holliston

Open Space and Recreation Plan Update

2013-2020

PREFACE

It is a pleasure to finally put the final touches on this review draft of Holliston's 2013 – 2020 Open Space and Recreation Area Plan (OSRP) update. Throughout this year-long process I have rediscovered the resourcefulness of my colleagues, the throng of resident volunteers who comprise the community's many boards, commissions and committees, as well as the many civic organizations which provide a strong backing for community facilities and activities. Many thanks to you all!

Holliston is, in many ways, the little Town that could. While the Town has limitations on staffing and resources, many projects come together through creative fundraising strategies and in-kind services. Many deliberate choices have been made to preserve community character and limit unplanned growth. The Great Recession may have slowed down population growth and development pressure since the last plan update in 2006, but remarkable progress has been made in the past decade or so to preserve targeted open spaces, upgrade and expand existing facilities, expand recreational programming for all ages, adopt thoughtful and fair regulations, and participate in regional efforts to plan for, protect and connect open spaces and recreational facilities.

Notably, efforts to acquire and develop the Upper Charles Trail through lease, purchase and donation; efforts to expand recreational opportunities and protect the water resources of Lake Winthrop; efforts to protect more than an additional 150 acres of open space through purchase, donation and voluntary restrictions; as well as the replacement of the Goodwill Park playground through efforts of Mission Possible, the Recreation Department, Parks Commission and countless volunteers stand out as accomplishments of the 2006 OSRP.

The themes of this plan update which will take the Town through the end of this decade seem to me to be **community, collaboration, volunteerism and stewardship**. This plan is a realistic venture; there are no "pie in the sky" objectives. I am pleased to report that many implementation items are well underway and it has been a challenge to track the many ongoing activities (Thanks to Holliston Reporter.com for keeping me up on things!).

Karen Sherman
Town Planner

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SECTION 1: PLAN SUMMARY

This updated Open Space and Recreation Plan (OSRP) is a complete revision of the Town of Holliston's 2006-2011 Open Space and Recreation Area Plan. This OSRP has been revised to reflect current conditions and issues. The update builds upon the earlier plan by continuing to inventory recreational and natural resources of the community, and incorporating the goals of protecting these unique resources for both its citizens and visitors, and protecting and acquiring open spaces. The updated OSRP seeks to address these goals simultaneously, where possible, by encouraging preservation of open space and allowing opportunities for its enjoyment through modest improvements and access for recreation. Pursuant to the guidance provided by the Massachusetts Executive Office of Energy and Environmental Affairs Division of Conservation Services (DCS), the OSRP will serve the community as a whole as a detailed reference for various information critical to the protection of open space and recreational resources.

This plan provides a set of actions to continue the past efforts to save open space and a means of prioritizing land that has multiple conservation values. This plan update establishes guidelines for citizens and government officials to consider as they make land use decisions. It also identifies boards and commissions that may take an active role in achieving the goals and objectives of the plan. This Plan presents some new ideas for management of open space areas, and incorporates new goals for increased availability and accessibility of both recreation and open space facilities. Several of the objectives identified in the plan are focused on increasing Holliston's planning capacity through better inter-departmental communication and increasing and optimizing the use of planning technologies such as Geographic Information Systems (GIS). Other strategies identified by the Town include the implementation of regulatory tools designed to redirect growth or provide higher levels of protection to natural resources. Examples of these tools include the use of conservation restrictions to increase greenways and the protected land inventory.

This Plan contains the following major elements:

- A description of the public input utilized in developing the Plan
- A demographic profile of the Town
- A summary of recent growth trends
- An environmental portrait
- An inventory of existing protected open space and recreation lands in Town
- An analysis of open space and recreation needs
- A statement of goals and objectives
- An action plan with recommendations through 2020

The Massachusetts Association of Conservation Commissioner's Environmental Handbook for Massachusetts Conservation Commissioners identifies the following "Advantages of an Open Space and Recreation Plan:"

- Provides a detailed natural inventory base for the community
- Sets community-wide natural resource goals and objectives
- Determines specific action items
- Becomes an important part of the Town's master plan
- Spells out major issues in concrete local terms, making them understandable in their larger context
- Helps residents think in terms of interrelated goals and priorities instead of just a specific issue
- Makes maps and other data available to everyone, thereby increasing general understanding
- Links conservation activities with those of other municipal bodies in a mutually supportive structure
- Provides a well-reasoned basis for discussion of proposed projects
- Makes landowners in open space areas ware of cost effective options for preserving their land
- Helps developers make preliminary assessments of site characteristics that make a particular property a promising or questionable building site
- Provides a source for articles in local publications and an educational resource for the school or library
- If prepared to EOEA standards, provides eligibility for state and federal DCS-administered grant programs

Basis for the Plan Update

Goals, objectives, and actions for the Holliston Open Space and Recreation Plan were designed to help fulfill the following vision of Holliston's future:

Vision Statement (from Phase I Master Plan Update, 1998)

In the future, Holliston will remain a primarily residential community with a diversity of other elements including active farms, employment opportunities, lush forests, and a network of wetlands, streams, and ponds that support a diversity of wildlife and the human spirit as well as protect the drinking water supply.

There will be a network of trails that provides opportunities for biking, walking and skiing and links neighborhoods to shopping, schools, and recreation facilities. At least 30% of the Town will be permanently protected open space owned by the Town, private individuals, or non-profit conservation organizations. Residents will enjoy active recreation at a set of diverse facilities including fields and courts for sports, indoor facilities, beaches, and well-maintained parks.

The plan addresses the following major goals:

- Protect and enhance the quality of Holliston's surface and groundwater.
- Provide and maintain conservation land that protects Holliston's natural resources.
- Increase and improve active and passive recreational opportunities to meet the diverse needs of all citizens.
- Increase environmental awareness and promote appreciation of natural features and resources among all sectors of the Holliston community.
- Provide a system of trails that addresses the demand and opportunity for walking, biking and skiing.
- Protect Holliston's community character with a focus on agriculture, scenic and historical landscapes and areas.

SECTION 2 – INTRODUCTION

A. Statement of Purpose

Holliston has been committed to open space and recreation planning since the appointment of the first Park Commission in 1940, Conservation Commission in 1961, the Town's first Master Plan in 1962, and the 1977, 1986, 1993, 1998 and 2007 Open Space and Recreation Plans. These plans have guided acquisitions and area development, provided eligibility for state and federal funding for projects, made regulatory and staffing recommendations, and provided a forum for self-evaluation of the community's efforts to preserve, protect, and enhance our natural and built environment. The purpose of this plan is to provide an organizational and rational framework for the next five years, identifying and prioritizing actions as well as fostering partnerships and targeting funding sources.

B. Planning Process and Public Participation

This plan update has been completed "in-house" through a collaboration of staff and volunteers. Mapping was contracted through the regional planning agency, Metropolitan Area Planning Council (MAPC), and was funded by the Conservation Commission. While the update has taken more than a year to complete, we feel that it has been a dynamic process and that implementation of some recommended improvements are already well underway.

Public Participation Highlights:

Working Group Meetings

Survey – May 7 thru June 8

Public Forum – May 24

Media – survey announcement, forum

Public Events – Annual Town Meeting, Celebrate Holliston

Interviews

The core "Working Group" was comprised of the following individuals:

- Recreation Director Kristen Hedrick
- Recreation Administrator Maureen Korson
- Conservation Agent, Chuck Katuska
- Town Planner, Karen Sherman
- Ann Marie Pilch, Conservation Commission and Open Space Committee
- Rachel Kane, Open Space Committee and Community Preservation Committee
- Metropolitan Area Planning Council staff Susan Brunton, Barry Fradkin and Bruce Leish

The authors of this plan gratefully acknowledge the effort, advice, and expertise of the following individuals, and regret any inadvertent omissions in this list:

- Paul LeBeau, Town Administrator
- Kathryn Peirce, Linda Caron, Peg Driscoll and Sarah Drake of the Holliston Assessor's Department

- Mary Bousquet, Town Treasurer
- Lina Arena-Derosa, Senior Center Director
- Diane Lynch, Planning Board Clerk
- Robert Weidknecht, Trails Committee
- Joanne Hulbert, Town Forest Committee
- George Johnson, Open Space Committee
- Marc Connelly, Conservation Associates
- Karen Fung, Dam Inspector and Conservation Associates
- Pete Westland, Agriculture Commission
- Mark Ahronian, Tree Warden
- Jim Wieler and Paul Saulnier from Upper Charles Conservation Land Trust, Inc.
- Elissa Landre and Heidi Ricci of Massachusetts Audubon Society
- Merlon Bassett and Luke Beasley of the US Army Corps of Engineers

Public Forum

Almost 30 people attended the Working Group's Public Forum on May 24th. Attendees included Working Group members, a Selectman, Recreation Director, Upper Charles Conservation Land Trust, Inc. members, Conservation Commission members, Open Space Committee and Trails Committee members, as well as concerned residents. The biggest advocacy message was delivered for the development of the Upper Charles Trail, followed by the protection of Lake Winthrop water quality.

Public Survey

The Open Space Committee utilized SurveyMonkey to launch a community survey in time for distribution at the 2012 Annual Town Meeting beginning on May 7th. The survey was available and publicized for a month through the Town's webpage as well as via hardcopy at the Town Clerk's Office and various other Town Hall Offices. The survey was completed by around 300 people or 2% of the Town's population. A copy of the full survey questions and results is included in Appendix.

In summary, just over half of respondents stated they were satisfied with the places available for and condition of active recreation facilities and just under half of respondents stated they were satisfied with the places available in Town for passive recreation. Over 60% of respondents indicated that Town purchase of land, accepting conservation restrictions to protect private land from development, zoning for open space conservation and a combination of public and private action were favored.

The most important 6 options identified for recreation included in order of ranking: bike trails (77%), children's play areas (65%), hiking and skiing trails (58%), public access to water bodies (57%), ball fields (47%), and local neighborhood parks (46%). Among the written comments offered, respondents identified first and foremost the need to focus on Lake Winthrop as a multi-dimensional resource and to develop the Upper Charles Trail, as well as the need for public facilities north of downtown, the need for restrooms and parking at facilities, the need to better serve teens, the need for a dog park, and the need to address impacts of beaver habitat expansion and impacts. These items have been included in our Action Plan.

SECTION 3 - COMMUNITY SETTING

A. Regional Context

Located in the Metrowest region of Massachusetts approximately 24 miles west of Boston, Holliston is part of Middlesex County. Surrounded by the six towns of Medway, Millis, Sherborn, Ashland, Hopkinton and Milford, the Town is crossed by state routes 16 and 126. Interstate 495 is located several miles to the west and provides excellent access to the rest of the region as well as the cities of Worcester (25 miles) and Providence (36 miles). The Town is 19.04 square miles or 12,186 acres. The Town regional context is shown on Figure 3.1.

Metropolitan Area Planning Council (MAPC)

Holliston is a member of the Metropolitan Area Planning Council (MAPC) Metrowest Regional Collaborative (the Collaborative) sub-region comprised of Holliston and the nearby towns of Ashland, Framingham, Marlborough, Natick, Southborough, Wayland, Wellesley, and Weston. During the development of this plan update, we have actively participated in the two-phase development of the Metrowest Regional Open Space Connectivity Plan through MAPC and the District Local Technical Assistance Program and we have participated in MAPC's "Most Wanted Datasets Project," which aims to create updated datasets for local and regional planning, including Water Management Act withdrawal permits and school enrollment forecasts. Continued participation in the Collaborative's Open Space Connectivity Plan working group is included in our work program. The Connectivity Plan is shown on Figure 3.2.

We have joined the MetroBoston Consortium for Sustainable Communities and utilize the 2008 MetroFuture Regional Plan in our local planning efforts. Many of the MetroFuture Regional Goals and Objectives as well as Implementation Strategies are incorporated into this document, including "A robust network of protected open spaces, farms, parks and greenways to provide wildlife habitat, ecological benefits, recreational opportunities, and scenic beauty" and "Access to safe and well-maintained parks, community gardens and appropriate play spaces..."

MAPC completed "The Metro Boston North/West Multi-Hazard Mitigation Plan: The Holliston Annex" in 2008 through a grant. MAPC worked with nine communities to develop plans to mitigate potential damages of natural hazards such as floods, winter storms, hurricanes, earthquakes and wild fires before such hazards occur. The federal Disaster Mitigation Act of 2000 requires that all municipalities adopt a Pre-Disaster Mitigation Plan for natural hazards in order to remain eligible for FEMA Disaster Mitigation Grants. Many of these issues are discussed later in this document, especially with regard to dams

495/Metrowest Development Partnership and Compact

Holliston is also one of the thirty-seven 495/Metrowest Development Compact communities. Adopted in 2012, the 495/Metrowest Development Compact Plan is a 20-year planning horizon comprehensive land use and development plan for the region, identifying both priority development (PDA) and preservation areas (PPA) for the region.

Additionally, significant transportation and infrastructure improvements are identified. Collaborators in this planning effort include the Executive Office of Housing and Economic Development, MAPC, Central Massachusetts Regional Planning Council, Metrowest Regional Collaborative, the 495/Metrowest Partnership, and MassAudubon.

Priority Preservation Areas are areas within a town that deserve special protection due to the presence of significant environmental factors and natural features, such as endangered species habitats or areas critical to drinking water supply, scenic vistas, areas important to the cultural landscape, or areas of historical significance that are not considered permanently protected. Four properties in Holliston are identified in the Compact Plan as both State and Regional Priority Preservation Areas. They include Bullard Memorial Farm, Whitney Street, Breezy Hill Farm and Arcadian Farm. These areas are highlighted in our inventory and action plan mapping. Tools for protection of land, water and other natural resources are available in the on-line toolkit assembled by MassAudubon to assist in the implementation of the Development Compact found at www.massaudubon.org/shapingthefuture.

Boston Region Metropolitan Planning Organization

In 2010, the Boston Region Metropolitan Planning Organization (MPO) completed the "Route 126 Corridor Transportation Improvement Study: Bellingham to Framingham". This plan calls for roadway improvements at the intersection of Rte. 126/Rte 16 and Oak Street as well as new sidewalks to be installed on Rte. 126 (Summer Street) from the Medway town line to downtown. Sidewalks in this area of Town would benefit access to the Upper Charles Trail as well as usage of the fields and court at Mission Springs.

B. History of the Community

"Boggastow. Chabboquasset. Wennakeening. Harness-town. Jalaam. Holliston. Many were the names that once were connected with the town located at the southernmost point of Middlesex County." These are the first lines of the Introduction to the book entitled "Holliston, A Good Town" which was written by our very own Town Forest Committee member, OSRD Working Group member, and historian Joanne Hulbert.

Members of the Nipmuck Tribe were the original inhabitants of the area now known as Holliston. Their village, Mucksquit, was located on the southwest shore of Lake Winthrop, where many Native American artifacts have been found. Their paths were utilized by the settlers and eventually developed into many of today's roads. Holliston retains some of the original Native American names such as "Wenakeening" which means pleasant smile.

What is now a region was originally one town - Dedham. Medfield separated from Dedham in 1649, and Sherborn broke off from Medfield in 1674. Originally a part of Sherborn, Holliston was settled in 1659, and incorporated in 1724. Ashland's incorporation in 1846 changed the town lines once again, as a northern portion of Holliston was linked to portions of Hopkinton and Framingham to create the new town.

As is the case today, early settlement patterns were dispersed. When the first church was established in 1728, there were 150 residents on 30 farms scattered throughout town. But the public buildings—the oldest being taverns and the meeting house—have historically been located along Washington Street. The meeting house was sited “under the shading tree and near the willowrun” in an area now occupied by the Congregational Church, the Town Common and central cemetery. This is part of the Thomas Hollis Historic District, entered into the National Register for Historic Places in 1989, and which includes all properties with frontage on Washington Street, between Winter and Highland Streets.

In 1728, when the first church was established, Holliston’s population was 150 residents on 30 farms scattered throughout the Town. However, the public buildings, including taverns and the meetinghouse, were generally situated along Washington Street, a major route linking New England to New York. The Congregational Church, Town Common and central cemetery are located in the general area once occupied by the meetinghouse.

The Town’s population began to grow rapidly around the beginning of the 19th century due to new jobs created by factories taking advantage of waterpower provided by several of the Town’s streams and brooks. In 1793, Holliston’s first shoe factory was built. As time progressed, more small factories developed, producing combs, boots, copper, pumps, and nails. The Williams Shoe Factory on Water Street is still standing today. During this prosperous industrial era, Holliston saw the highest population (3,339 residents) it would see until after World War II.

Industry in Holliston encouraged the development of an efficient transportation network to get goods to markets outside of the Town. The first railroad ran through Town in 1847. The first train to link Holliston directly to Boston was in 1896, and most of Holliston’s major roads were in existence by 1866: Washington and Prentice Streets (Old Cedar Swamp Road – 1683), Winter Street (1736), Concord Street (1745), Marshall Street (now Adams Street – 1738), Summer Street (1736), and Jennings Road (1737), are among the oldest. From its earliest days, the major part of Holliston’s town budget was the cost of laying out of roads, paid through taxes. Those unable to come up with the cash could work out their share of the cost.

One of Holliston’s claims to fame (sometimes contested by Stockton, California) is to have been the site of Mudville, the mythical community that inspired the 1888 poem by Ernest Lawrence Thayer “Casey at the Bat”.

Holliston’s open spaces—and in particular the many waterways—have shaped the character of the community since its earliest settlement. In fact, the quality of the land is reflected in the names originally given by its indigenous Nipmuck and Massachusetts settlers, who called their village Mucksquit (“Place where there is much grass”), named Lake Winthrop Wenakeening Pond (“Pleasant smile”), and identified their major transportation route, Bogastow Brook (“water full grown”), which carried their canoes all the way to the Charles River. (Note: information in this section is taken from the 250th anniversary commemorative booklet, *Holliston, Massachusetts 1724-1974; The Story of*

a New England Town, by Dorothy Drinkwater Rees, and in conversation with Elizabeth Pulford, former chair of the Holliston Historical Commission).

The rivers, source of food as well as transportation, served a continuing purpose for European settlers as well, providing power for the many mills that were sited on Jar and Bogastow Brooks, Chicken Brook, Linden Pond, and elsewhere. The mills reflected a life lived off the land: sawmill, corn mill, cooper's shop, and scythe factory. Thus the Town's earliest industrial areas were situated along the rivers, a common historical pattern that has subsequently threatened water quality throughout New England.

Known for its shoe factories, Holliston residents first started making shoes in 1793, with many residents at the end of town known as "cordwainers". A grain mill and wheelwright shop on Chicken Brook grew to include a tannery, cloth mill, cooper shop, thread shop, and carriage shop under the ownership of one of Holliston's first great entrepreneurs, Elihu Cutler. The Cutler Brothers are also credited with establishing the first town center, by creating the first "residential development" on land they purchased opposite the church common.

As industry grew, so did the town. By 1819, the town was redistricted because of its growth (it now had 1,042 residents). The mid-1800s were a period of prosperity and growth, when factories churned out boots, combs, copper pumps, and nails. By 1860, the population was 3,339, a high not met again until after World War II.

Farming was still an important part of the economy. In 1850, there were 700 acres of tilled land, including orchards, plus 2000 acres of mowing fields. The commercial production of cranberries began in 1854. Some of these old cranberry bogs, while not in active production, are still intact. The original town farm, inherited from Deacon Aaron Eames in 1829, became part of Ashland in 1846, so a new one was purchased in East Holliston in 1893.

Additional inns and taverns were established along the rail line, which paralleled Washington Street in large part. The street railway, linking Holliston with Boston, was started in 1896. According to *Holliston, Massachusetts 1724-1974; The Story of a New England Town*, "The intricate stonework of the arched bridge on Woodland Street and the tunnel under Highland Street are a rare and beautiful part of our heritage". A devastating fire in May 1875 destroyed 22 buildings in the center of town, and led to the formation of the Holliston Water Company shortly thereafter. The first pipes were laid in the center of town before 1892.

A report from the Board of Selectmen in 1906 indicates that Holliston's rural location and scenic open spaces – Lake Winthrop in particular – were seen as a tremendous asset: "Holliston is finely situated for a summer resort – one of the most beautiful towns. There are many locations for building upon high ground overlooking Lake Winthrop, one of the prettiest lakes in the state with good fishing for trout and pickerel. Pine groves are nearby and the fine bracing air makes it an ideal location for a summer resort."

Several large summer homes were built, as well as recreational facilities and organizations such as the Mount Hollis Golf Club, the Canoe Club on Lake Winthrop, the dance pavilion at Pleasure Point, and the baseball club. Farming had become hard to sustain, and abandoned farms were being reused as vacation spots and “gentlemen’s estates.”

The groundwork of the Town’s open space acquisitions was initiated through the generosity of several private landowners. In 1935, Mr. and Mrs. Arthur Ashley Williams donated “Goodwill Park” on Green Street to the Town as a recreation area. In 1937, Dr. Ernest C. Stoddard gave a section of his property bordering the lake as a recreation area, which has since been enlarged and also is the site of one of the Town’s six municipal wells. The Sportsmen’s Association was formed in 1939 by a group of men interested in sports and outdoor activities on land donated by a Mr. Lovewell on Bullard Street.

Except for Stoddard and Goodwill Parks, Pleasure Point, and the designation of 175 acres of town forest in 1925, no lands were set aside for general recreation and open space prior to 1962, when the first Master Plan was adopted. The tremendous growth spurt in the 1950’s and 1960’s (the population grew from 3,753 in 1950 to 6,222 in 1960, then doubled to 12,365 by 1970), opened up new areas for building and created little neighborhoods.

The Conservation Commission was first organized in 1961 to accomplish this task as well as to preserve wetlands and other fragile land in Town. As part of this plan, the Town purchased the former family-run Camp Patoma in 1969, located on Strawberry Hill above and adjacent to Stoddard Park, for public recreational use.

C. Population Characteristics

The 495/Metrowest Compact Plan identifies Holliston as one of the 25 “Developing Suburbs” in the region. With the exception of the high rate of growth experienced by our neighboring communities in the last decade, Holliston seems to fit the description with its strong mixed-use town center, overall low density, limited extent of economic development, and primarily single-family home construction.

Population projections issued for 2010 estimated a growth of almost 7% between 2000 and 2010. However, according to the 2010 US Census, the Town’s population actually dropped by 1.8% to 13,547 in that same period. The population over 65 has doubled in the last 20 years (10% of total) while the under 14 population has remained steady in the same period. The 2010 school enrollment accounted for just over 20% of the population. The largest cohorts are between 40 and 65, representing 40% of the population. 96% of the population is Caucasian. The town’s median household income has increased to over \$100,000 and non-family households of slightly smaller size (just under 3) are becoming a more significant part of the population. The Town Clerk’s Office reports that the 2013 population is 14,824, a gain of 1,277 over three years.

Consistent with the Town Clerk's census, MAPC continues to estimate that Holliston will experience an increase in population growth over 14% between 2000 and 2030 or a net of just under 1,000 new residents. Regionally the population growth is expected to be 1/3 of that of the nation. Due to the expected continued decline in household size, the number of households is projected to increase 17% from 2000 to 2030. MAPC projects that the region will also experience significant demographic shifts, including a relative decrease in all age groups under 55 and substantial increases in empty-nesters and elders as the "baby boomers" age.

The MetroWest Economic Research Center (MERC) at Framingham State University tracks trends for the nine Metrowest towns, including Holliston and its immediate neighbors Ashland, Hopkinton, and Sherborn as well as Framingham, Natick, Southborough, Sudbury and Wayland. Preliminary data released by MERC indicate that Holliston's unemployment rate was 5.1% in the month of February 2013, slightly higher than the 4.6% reported for the Metrowest region, 0.8% lower than the adjacent town of Milford, and 0.4% lower than the 495/Metrowest Corridor region. Holliston has almost 450 business establishments (roughly 4.5% of the region) that employ roughly 5,300 individuals. Utilizing the North American Industry Class System of 11 jobs supersectors, Business/Professional Services is Holliston's biggest supersector, with more than 70% of all establishments and 67% of the jobs in the Service-Providing Domain rather than the Goods-Producing Domain. Holliston remains a net exporter of labor; the town's workforce is significantly greater than employment.

In addition to traditional population, employment and labor statistics, MERC tracks important quality of life indicators in a Cost of Living Index. Since 1991, MERC has conducted a survey twice a year, in April and October, to calculate the cost of living in Metrowest. The prices of a market basket of 57 representative goods and services are collected. MERC uses the data to create indexes that measure the percentage change in living costs in MetroWest over a period of time for six categories including housing, utilities, transportation, health care, and miscellaneous goods and services. The categories are weighted, based on importance, using information provided by the Bureau of Labor and Statistics (BLS) to create an overall index. Although the overall cost of living in Metrowest has been consistently higher than that of the Boston area, the spread is growing.

The "MERC Economic Update" (Fall 2012) indicates that from October 1997 to October 2005, the Metrowest Cost of Living Index experienced its largest increase, during the recession the overall index increased but kept pace with the Boston area and the nation as a whole with housing and transportation costs dropping, and between October 2005 and April 2012 the overall index increased 10.9%. Only the cost of utilities in the Metrowest area has decreased after the recession and the biggest increase occurred in the transportation category. The costs of health, transportation and housing currently exceed pre-recession numbers. The median price of a single family home in Holliston in 2012 was \$360,000 which is over the \$290,000 median for the state and under the \$430,000 median for the Metrowest region.

The take-away message? Given that Holliston's cost of living is high, quality of life issues, including maintaining and enhancing open space and recreational resources and values hold more sway with current and future residents.

D. Growth and Development Patterns

The August 1999 buildout analysis completed by MAPC and the Massachusetts Executive Office of Environmental Affairs provided some summary buildout statistics based on an estimated 4,890 acres of developable land which would include an additional 3,070 residential lots and 11,027,157 square feet (s.f.) of commercial and industrial floor area. Development since 1999 has not approached these numbers but they remain an indicator of how the community could ultimately develop unless further steps are taken to protect additional land from development through both acquisition and refined development regulations.

As indicated on Figure 3.2, over 85% of the Town's land area is zoned for residential development with 13% zoned Industrial and slightly less than 1% zoned Commercial. Approximately 50% of the Town is zoned AR-2 with 40,000 s.f. required for a single-family dwelling (also known as a builder's acre). The AR-1 zoning district, located in the western portion of town requires 80,000 s.f. for a single-family dwelling, and represents 24% of the Town's land area. The R-1 or 30,000 s.f. zoning district covers 15% of the town. Figure 3.1 Regional Context shows existing land use (2005) by developed and undeveloped land categories.

The 2010 US Census indicates that the quantity of housing units increased 6.7% between 2000 and 2010 from 4,750 units to 5,090. Just over 10% of the town's housing stock was built after 1990 while 23% was constructed before 1950. The ratio between owner-occupied and rental housing is 86:14.

Development in the past decade has been geographically scattered and primarily single-family home construction. Notable exceptions to this are a 72-unit townhouse development begun in 2004 on Highland Street, the 30-unit Cutler Heights rental project completed by Cutler Heights Housing LP in early 2012 as well as two age-restricted condominium projects built between 2006 and present. 334 single-family building permits were issued between 2000 and 2010. Of those, 162 are located in newer residential subdivisions, 67 are in age-restricted developments, 29 are in a townhouse-style development, and 76 may be considered in-fill, primarily created by the Approval Not Required Subdivision (MGL c. 41, s. 81-P) process. The highest number of building permits issued since 2000 was in calendar year 2005 with an average of 30 permits issued annually in the first half of the decade. In 2011, permits were issued for 7 new single-family units as well as 4 age-restricted units and 15 townhouse units. This number increased dramatically in 2012 with the issuance of permits for twenty single-family homes and 11 townhouses.

Nine approved subdivisions continue to have lots available for construction (approximately 100 lots), while six additional approved subdivisions have not commenced construction and represent an inventory of 73 approved lots.

Between 2001 and 2006, the Town Meeting approved zoning overlays for five Senior Residential District sites. Only two of the projects were built, given the onset of the recession. The three remaining Senior Residential sites have the potential to create an additional 160 units with at least 16 affordable units and 25% protected open space (roughly 20 acres).

In May 2008, the Town Meeting created a new zoning district in the downtown area known as Village Residential. Developed with the residents who had homes that were non-conforming in the Village Center Commercial zone, the district allows for single-family development on 10,000 s.f. lots. Exploring expansion of this district is included in our projected 7-year planning period.

The percentage of affordable housing units certified by the Commonwealth's Department of Housing and Community Development has remained approximately 4% with 40 units added in the last decade. In an effort to maintain a diverse housing stock, the Town Meeting adopted an Inclusionary Housing By-Law in October 2005. Units created under this by-law are meant to add to the MGL c.40B inventory regulated by the Department of Housing and Community Development. The by-law regulates the division and subdivision of land into 8 or more lots or dwelling units. To date, no projects have been constructed under the by-law. The Town's Affordable Housing Plan has been certified until 2015 and the Town's Housing Trust is working toward implementation. In addition, working toward the shared goal of better quality development is included in our Action Plan.

The Town also has two overlay districts that provide more stringent development requirements on lands that are environmentally sensitive.

The Flood Plain District has been established as an overlay district. The district is comprised of flood hazard areas designated on the Holliston Flood Insurance Rate Maps (FIRM), and the Flood Boundary and Floodway Maps, dated June 2010. Any encroachments into the District are prohibited unless certification by a registered professional engineer states that the encroachment will not result in any increase in flood levels during a 100-year flood event. The Inspector of Buildings is the approving authority for buildings within the Flood Plain District. Under the Wetlands Protection Act, the Conservation Commission is also responsible for reviewing projects proposed within flood plains.

The Groundwater Protection District has been established as an overlay district for the protection and preservation of existing and potential groundwater supplies. The District, which includes the aquifer, land above the aquifer and significant recharge areas, is delineated on maps entitled "Groundwater Protection District, Town of Holliston." Use restrictions within this overlay District are structured for the three areas of the district, as delineated on "Aquifer Protection District, Town of Holliston" maps, with the most stringent restrictions directly over a well's area of influence call "Zone I and include prohibited uses and uses requiring a special permit. Prohibited uses generally include disposal of solid wastes, storage of road salt, etc. Special permits can be sought for

various developments including increases in allowed impervious areas, expansion of existing nonconforming structures, etc. The Board of Appeals is the approving authority under this bylaw.

The Town's Groundwater Protection District zoning bylaw is intended to protect and preserve the groundwater by restricting certain land uses. In Zone I (the area within 400 feet of a well), the bylaw permits only those uses directly related to the operation and maintenance of the public water supply system or to other land uses that the public water supplier has demonstrated have no significant impact on water quality. Within Zone IA, the bylaw prohibits disposal into the ground, or into the groundwater by any means, of any waste material, solid or liquid, other than domestic sanitary waste. Storage or transfer of toxic, hazardous materials, fertilizers, petroleum products, road salt and deicing compound or similar products are also prohibited in Zone I. Additionally, the bylaw requires that lots supporting the development of single-family homes be a minimum of 80,000 square feet in area and that domestic sewage disposal not exceed 55 gallons per 10,000 square feet of land. Special Permits can reduce this size to 40,000 square feet for cluster developments within Zone I. Commercial development within Zone I of the Aquifer Protection District is limited to retail shopping, business or professional offices or industrial development limited to storage of non-toxic, non-hazardous materials on lots a least 80,000 square feet in area.

Approximately 23% of the Town's Zone IIs are residentially developed. Malfunctioning septic systems; household hazardous materials such as solvents, pesticides, and fertilizers; underground and aboveground heating oil tanks; and stormwater can all contribute to drinking water contamination. Commercial uses and transportation corridors also occur within the Zone IIs and present even more potential for contamination. The Groundwater Protection District allows the uses permitted in the underlying zones with special requirements for "Best Management Practices" for certain activities.

Requirements in Zone II (major aquifers and primary areas of recharge) and Zone III (areas of recharge) have recently been strengthened to further protect Holliston's groundwater supply. For example, underground storage of hazardous or toxic materials, storage of salt or deicing materials that would permit leakage into the groundwater, disposal of solid waste other than brush and stumps are prohibited in both Zone II and III. Zone II also prohibits a variety of other activities unless they meet state regulations administered by the Department of Environmental Protection. Some activities may be allowed only under provisions of a Special Permit issued by the Special Permit Granting Authority.

Article XXX of the Holliston General By-Law creates the Conservation Commission and grants the Commission various powers and duties with respect to promotion and development of the Town's natural resources and protection of watershed resources, acquisition of land for conservation purposes, and regulation and protection of wetlands. The Conservation Commission also reviews filings under the Wetlands Protection Act (WPA).

Under Article XXX, no person shall fill, dredge, build upon or alter resources areas including land within 100 feet of any freshwater wetland, or within 100 feet of land subject to flooding or inundation by groundwater or surface water. Notice of Intent filings to the Conservation Commission generally result in Orders of Conditions under the WPA and Wetland and Watershed Resource Protection Permits under Holliston General By-Law.

E. Infrastructure

Transportation System

Holliston benefits from the region's excellent rail, air, and highway facilities. State Routes 16 and 126 provide the primary access for the Town. Massachusetts Bay Transportation Authority commuter rail service is available in nearby Framingham, Ashland, and Natick. Regional bus service is provided by the Metrowest Regional Transit Authority. No major highways cross Holliston; however, Interstate 495 is located in nearby Milford and Route 128 (I-95) is located approximately ten miles east of Town.

The regional transportation system helps make Holliston a desirable place to locate and increases pressure for development. This pressure contributes to the value of land and may entice many landowners to consider selling their land. Identifying valuable open space and working to see that it is protected becomes increasingly important.

Water System

Approximately 95% of the Town is served by the Holliston water supply system (15,033 residents, commercial businesses and industries). There are a few outlying areas, including Highland Street near the Ashland town line which are currently not serviced by the water system. Currently, there are no plans to extend service to these areas. The Holliston water system is fed by groundwater obtained from five active gravel-packed wells located throughout the Town: Stoddard Park Road, Maple Street, Washington Street, Central Street and Mayflower Landing. Well No. 3, also located on Washington Street adjacent to Well No. 4, is available as an emergency standby water supply. In 2012, the wells pumped a total of 272 million gallons of metered potable water or 45 gallons per person per day. The average daily demand was 0.92 million gallons per day (MGD), less than the DEP allocated withdrawal of 1.14 million gallons per day.

The DEP, through the Source Water Protection Program (SWAP), has prepared a SWAP report of the water sources serving our water system. The report assessed a susceptibility ranking of our water system and assigned rankings for Wells 1,2,4,5 and 6. The report commended the Water Department for taking an active role in promoting source protection measures through land acquisition in water protected areas for Wells 5 and 6. The report recommends we continue to inspect and remove any non-water supply activity in our Zone I, a 400 foot radius around the wells.

In response to the September 11, 2001 terrorist attacks, President Bush signed into law the new Bioterrorism Preparedness and Response Act of 2002. The Act required all water systems to evaluate their water system's security. The Holliston Water Department conducted a Vulnerability Assessment study and prepared an Emergency Response Plan (ERP). The Plan is continually updated and integrated with the Town's ERP. An important element of the Water Department's security includes surveillance information provided by the public.

The Town operates six pumping facilities, one for each groundwater well and one booster pumping station located off Cedar Street which boosts the water pressure at peak demands for a small service area located on high ground. Potable water is pumped through 90 miles of pipeline. Five storage tanks have a total holding capacity of 5.6 million gallons. An Assets Management plan was completed in 2010 and evaluated the integrity and adequacy of the water mains, many of which are more than 70 years old.

Since the summer of 1997, Holliston has found it necessary to enact an annual seasonal water ban, limiting outside water use during periods of peak demand as well as enforcing an irrigation sprinkler policy that requires rain sensors to better manage outside water use, and a conservation based water rate structure of ascending block rates. Holliston has a good supply of water however the Town facilities are sometimes unable to pump enough water to meet the demand. The Holliston Water Department is continuously searching for additional water supplies. Landscape design and maintenance guidelines are made available to educate consumers and enhance water conservation.

Protection of the Town's water supply is a growing concern as development occurs. As noted above, the Town of Holliston has a groundwater protection district to protect our groundwater sources. All of the Town's wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers, such as clay or ledge, which can prevent migration of pollutants from sources within or adjacent to the aquifer. Acquisitions of open space within the Groundwater Protection Districts help maintain the quality of drinking water as well as protect other natural resources.

SECTION 4: ENVIRONMENTAL INVENTORY AND ANALYSIS

Section 4 is an inventory of the community's natural and cultural resources based on the text of our previous plans with few updates. This data helps support the plan's overall goals and objectives of Section 6 as well as the Analysis of Needs of Section 7.

A. Geology, Topography and Soils

The geology and topography of Holliston help to define the landscape as well as the land's ability to support various uses. For example, steep slopes can be a limiting factor in developing a parcel of land. Bedrock outcrops or bedrock just beneath the surface can also be a deterrent to development by increasing the potential cost of construction. However, with modern technology and increased demand for the shrinking supply of undeveloped land, many such areas are now considered buildable. Prime agricultural soils and surficial geologic resources are shown on Figure 4.1.

Geology

The last major geological event to affect Holliston was the Wisconsin Ice Age, the last of 4 ice ages affecting New England, ending approximately 12,000 years ago. A 60,000-year period of increased winter snow and decreased summer melting, the Wisconsin Ice Age produced continental ice sheets or glaciers that spread from the north and, in various melting stages, slowly retreated back to the Arctic. The remaining surficial geology, as produced by the action of the glacier, is the underlying basis for both natural systems and human use and provides us with important information about an area's environmental potentials and vulnerabilities.

The glaciers that covered New England more than 20,000 years ago left their mark on Holliston. As the two-mile thick layer of ice slowly ground its way south and southeast, it scraped older soil materials from the solid bedrock beneath it, both carrying along rocks and soil and riding up and over bedrock hills and ridges or denser pre-existing soils. About 19,000 years ago, the temperature began to rise and the ice slowly retreated. Unsorted mixtures of material ranging from clay to boulders (glacial till) were deposited over the landscape in two general ways - at the base of the glacier as it advanced over the area (lodgement till) and along the surface of the land as the glacier melted in retreat (ablation till). As the ice melted, the moving water sorted and redeposited these materials into sand and gravel beds, referred to as outwash deposits. As a result of the glacial invasion, Holliston was left with dense lodgement till from the glacier's advance and less dense ablation till, as well as sorted areas of sand and gravel from the glacier's retreat. Additionally, the north-south direction of the glacier's movement is responsible for the generally north-south alignment of Holliston's major geological and topographic features such as Chicken Brook, Dopping Brook, Broad Hill, and Cedar Swamp.

More recently, by overbank flooding along streams and rivers, spring runoff has deposited a shallow layer of fine-textured silt and clay particles (floodplain alluvium) along many watercourses and in wetlands in the time since the glacier's retreat. And, finally, when plant materials accumulate in water-saturated areas where they decompose slowly, organic soils (peat and muck) form. Most areas of organic soils are too soft and

wet for development, have previously been developed for agricultural use, or support wetlands.

Holliston's surficial geology contributes to making many areas prime targets for new development. However, large amounts of land in Town are also considered undesirable for development because of constraints to septic systems resulting from the shallow bedrock or thin soils left behind by the glacier.

Topography

The Town's topography is characterized by low, rolling hills interspersed with stream corridors, swamps and ponds. The hills are all fairly low with the highest being Bald Hill at elevation of approximately 450 feet above sea level. The majority of Holliston is relatively flat with slopes less than 8%, but there are few slopes greater than 20% within the Town. The steepest areas are located east of Jennings Road above Dopping Brook (currently under development); the east side of Bald Hill west of Winter Street; and east of Highland Street. Mt. Hollis rises steeply to the east of Hollis Street and north of Washington Street in the center of Town. Due to the relatively flat topography of the Town, steep slopes are not often a limiting constraint for development.

Soils

Soils play roles as diverse as nourishing our agricultural crops to supporting the buildings that we live and work in. Soils that drain poorly and/or have a high water table may restrict development options of a parcel of land because of an inability to support structures or to provide a suitable medium for on-site sewage disposal or because of other environmental constraints such as wetlands. Muck soils, frequently found in wetlands; are rarely subject to new development because they pose constraints in all three areas. Soils will continue to be a development constraint for many areas of Town.

As mentioned above, steep slopes (greater than 15%) or bedrock close to or at the surface may also deter development. Identification and delineation of the soils in the Town of Holliston provide a basis for sound land use planning decisions in the future. Physical characteristics, landscape position and past management of soils may impact many environmental factors such as wetlands, drainage characteristics, permeability, and depth to water table or bedrock.

Permeability/Drainage Characteristics

All soils have permeability and drainage characteristics that affect their management requirements and potential land uses. Permeability is defined as the quality that enables the soil to transmit water or air, and is generally measured as the speed water moves through the soil (in inches per hour). Soils with slow permeability may have to be modified through artificial drainage when land is used for development. New development or existing homes may be adversely affected by water in soils with slow permeability rates and high water tables. Soils with slow permeability rates limit the use of land unless they are modified—a costly option. Where appropriate, these areas should be encouraged for conservation, recreation, or open space.

Soils with rapid permeability rates can also have impacts on development potential. The permeability of a soil is an important factor in determining the risk of groundwater contamination. The faster water and dissolved pollutants can flow through soil, the higher the risk for groundwater contamination because the pollutants have less time to be filtered out by adhering to soil particles. These coarse-textured (sandy) soils are often located near aquifer recharge areas and Wellhead Protection Areas (Zone II) as well. The protection of land with high permeability, within recharge or well protection areas, is essential to ensure continued high quality drinking water.

Prime Farmland

Holliston's largest remaining agricultural areas are ideally situated on prime agricultural soils, as defined by the U.S. Department of Agriculture. Prime farmland soils have the best combination of physical and chemical characteristics for agricultural production (see Figure 4.1). They have qualities such as a balanced texture and an adequate moisture supply to economically produce sustained high-yield crops when treated and managed according to acceptable methods. Unfortunately, these soils may also have few limitations for development.

Prime farmland soils should be protected for agricultural and open space activities. Offering tax incentives, such as Chapter 61A/61 designations to qualifying local farmers, has helped reduce but not stop the loss of farmland. As another sign of the recognition that preservation of farmland will help Holliston maintain its rural atmosphere into the future, the Town adopted a Right-to-Farm By-Law in 2006. This General By-Law, which applies to all areas of town, encourages the pursuit of agriculture, promotes agriculture-based economic opportunities and protects farmlands in Holliston by allowing agricultural uses and related activities to function with minimal conflict with abutters and town agencies.

Holliston's Agricultural Commission was formed in 2005 to support, promote, and enhance the long term viability of Holliston agriculture with the aim of helping this town's agricultural businesses become as economically and environmentally sound as possible. The Commission maintains an active page on the Town's website, providing links to its event calendar and local farm profiles as well as to resources such as the Massachusetts Farm Bureau Federation, UMass Extension Outreach, and Massachusetts Grown and Fresher.

B. Landscape Character and Scenic Resources

Low rolling hills; north to south running valley streams; ponds; farmland (especially along Highland Street) church steeples and historic structures; cemeteries; and open and wooded wetlands are landscape features that give Holliston a special character. Unique Landscape Character resources are mapped on Figure 4.2.

Scenic resources are not limited to a specific view or location but may be a combination of features, such as a tree-lined street, a rolling meadow, a hilltop, or an old farmhouse and its outbuildings that together create an aesthetically pleasing situation.. The

following scenic resources have been mapped: Farmland/forest/golf course vistas on Highland and Prentice Streets, Upper Charles Trail, National Register Districts (Thomas Hollis and East Holliston) and Structures (Metcalf Pump House, Bullard Farm, Holliston Town Hall, and Holliston National Bank), cemeteries, Balancing Rock/glacial erratics on Washington Street, Arch St. and 8-Arch Railroad Bridges and the Holliston Historical Society building (Asa Whiting House).

It has been noted over the past decade that a significant part of the scenic vista on Highland Street had been lost due to construction of single-family homes and the associated mounded leaching fields along the western side of the street. Still, Highland Street remains the strongest and most visible reminder of Holliston's agricultural heritage.

These farmland views have long been identified as favored scenic vistas. Historic districts and structures demonstrate the Town's appreciation of its heritage; while the Town's many ponds provide visual relief and active recreation opportunities; and historic cemeteries offer peaceful and passive reminders of past generations of Holliston residents.

Additionally, reviewers have noted that the Winthrop Canal, the Town Forest parcels on Highland and Adams Streets, the Miller Hill Quarry Aqueduct, and natural cranberry bogs located throughout the community are notable scenic resources as well.

New development can have dramatic impacts on many of these features. For example, recent construction to provide housing at the Balancing Rock Village on Washington Street has eliminated the topiaries that were identified as a favorite scenic feature in the 1998 Open Space and Recreation Plan. As noted above, farmland soils may have few limitations for development and frequently are lost to new subdivisions. On the other hand, historic cemeteries and many of the Town's historic structures are more likely to remain as features of the landscape's character in the future. In other parts of Town, open space has been acquired that will maintain scenic quality of the area. Future land acquisitions can serve to protect scenic resources throughout the Town.

In addition to specific structures, vistas and environmental features, much of Holliston's scenic character is embodied in its roadway network. The Scenic Roads Act (M.G.L. Chapter 40, section 15C) allows a municipality to designate any non-numbered route or state highway as a "scenic road" and the Town of Holliston has designated twenty-seven (27) roadways as scenic roads. . Once designated, any proposed repair, maintenance, reconstruction or paving work that involves the cutting of trees or destruction of stone walls needs prior approval of the Planning Board. Designating a road as scenic will allow for the preservation of existing rural and natural aesthetic qualities, and thereby contribute to the overall rural character of a community.

The following roads have been designated as scenic roads in Holliston and are shown on the Scenic Resources Map:

Adams Street	Granite Street	Mellen Street
Brook Street	Hanlon Street	Mill Street
Bullard Lane	Highland Street	Norfolk Street
Bullard Street	High Street	Oak Street
Central Street	Hill Street	Prentice Street
Courtland Street	Jennings Road	Rockland Street
Fisher Street	Linden Street	Underwood Street
Fiske Street	Locust Street	Wilson Street
Gorwin Drive	Marshall Street	Winter Street

C. Water Resources

The Town's surface water resources are a combination of rivers, streams and ponds and their associated wetlands and floodplains. Groundwater resources are shown as non-potential medium yield drinking water aquifers as well as zones of contribution (Zone II) to the Town's six (6) public wells. Figure 4.3 illustrates Holliston's water resources, including both surface and groundwater.

Ponds and streams scattered throughout the Town enhance Holliston's aesthetic character at the local scale; but in order to appreciate the true value of the Town's water resources, they need to be viewed through a regional perspective. Holliston is located primarily (>99%) within the Charles River Drainage Basin. A very small portion of Holliston's land area (<1%) west of Highland Street at the Ashland town line is within the watershed of the Assabet River and the Sudbury Assabet Concord (SuAsCo) Basin.

Within the Town's boundaries are located three major headwater tributaries to the Charles River: the Beaver Brook-Hopping Brook system, the Chicken Brook system and the Jar Brook-Dopping Brook-Bogastow Brook system. Controlling the human activities within the headwaters of a watershed is often the easiest and most effective way to prevent downstream flooding and preserve water quality. The Army Corps of Engineers recognized this fact in 1975 and purchased or obtained permanent flowage easements on much of the Charles River headwaters including approximately 560 acres of floodplain wetlands in the Dopping Brook and Cedar Swamp/Hopping Brook areas of Holliston. Holliston has approximately 211 acres of surface water and approximately 2,443 acres of wetlands (5.6 square miles or 20% of the Town).

Holliston's wetlands and water resources serve important public functions, as identified under the Massachusetts Wetlands Protection Act, including:

- Public and private water supply
- Groundwater supply
- Flood Control
- Storm damage prevention

- Prevention of pollution
- Fisheries
- Wildlife habitat

In addition, these areas also provide open space and passive and active recreation for various public uses such as nature study, photography, boating and swimming.

Surface Waters

A watershed is the area of land that drains all its water to a common point of discharge such as a lake, the ocean, or a larger stream system. Holliston is located within two watersheds, the Charles River and Sudbury Assabet Concord (SuAsCo). Identifying the boundaries of watersheds is an important step for securing future water quality. Knowing what areas contribute water to a water body can help identify potential pollution sources. When examining the likelihood of a water body becoming polluted, the land use, soil type, groundwater level, and percolation rate of the watershed should be considered. High groundwater and rapid percolation rates are two soil characteristics that affect how fast and how much pollution reaches the water supplies. Current land use should be evaluated as possible pollution sources. Zoning can also be used to protect water supplies by limiting high pollutant risk uses within aquifer recharge areas or other significant watershed areas.

Lake Winthrop

Holliston's surface water also creates recreational activities for the residents. Holliston's only "Great Pond", Lake Winthrop (137 acres), provides key recreational opportunities for boating and swimming. As a recreational resource, Lake Winthrop attracted summer residents from the Victorian Era onward, providing a country refuge for city dwellers. During this era (1840-1900), Lake Winthrop was a popular resort area, and its shores bustled with the activity of many boat liveries and picnic areas. Since that time, Lake Winthrop's recreation values have been developed and utilized by private purveyors, who established Camp Patoma on the lake's eastern shore in the 1920's, by the Girls Scouts, who established a summer camp on the lake's southwest shore and maintained it until the 1960's, and by the residents of the Town of Holliston, who have purchased, operated, maintained and enjoyed lakeside recreational facilities at Stoddard Park, Patoma Park, and Pleasure Point.

Lake Winthrop is also home to a population of the Eastern Pondmussel (*Ligumia nasuta*), a rare and endangered species last documented in 2000. As a result, the lake has been designated by the Massachusetts Natural Heritage and Endangered Species Program as an area of Priority and Estimated Habitat for rare species. The lake has a history of dioxin contamination as well as infestation with several species of noxious weeds. Lake Winthrop was sampled in 1983 as part of a six-pond dioxin study. At that time, dioxin was found in brown bullhead and a fishing advisory was issued by the Department of Environmental Protection (DEP). In 1997, fish were re-sampled. Dioxin concentrations in yellow bullhead, yellow perch, and largemouth bass appeared to be much lower than those found in the early 1980s. It is unclear if these data are indicative of a decrease in available dioxin within lake food webs, or if this is a result in differences in analytical

methodology or sampling error. DEP's Office of Research and Standards and the Massachusetts Department of Public Health (MDPH) are in the process of reviewing the Lake Winthrop dioxin data and performing a health risk assessment as well as addressing data quality issues. Yellow bullhead and largemouth bass samples collected in 1996 also contained mercury concentrations that exceeded the MDPH's trigger level of 0.5 mg/Kg. As a result, it does not appear that the fish consumption advisory for Lake Winthrop will be lifted; however, it may be modified. The presence of these levels of mercury and dioxin poses no risk for swimming or boating.

Land use surrounding Lake Winthrop is a mix of residential and forested open space. There are a number of year round homes along the shoreline that have on-site septic systems. Nutrient enrichment of Lake Winthrop, and the accompanying growth of aquatic vegetation, was identified as a municipal concern in the 1930's and remains an issue of concern today. Maintenance of on-site septic systems is essential toward minimizing the effect of shoreline development on further eutrophication of the lake. Requirements under the strengthened Title V will help reduce problems from failing systems as they are eventually replaced. Since 1977, the Zoning By-Law has prohibited the erection of dwellings or other structures within 200 feet of the high water line of the Lake, except for the limited expansion of existing structures and placement of graves.

The Conservation Commission commissioned an Aquatic Vegetation Management Plan in 2008 and followed up with a successful request for FY13 Community Preservation Act funding in partnership with the Recreation Department to complete a Management Plan to "preserve, restore, and improve a variety of public uses and environmental benefits."

Groundwater/Aquifer Recharge Areas

Groundwater, the source of publically-supplied drinking water for Town residents, is one of its most important natural resources in the community. While groundwater, as saturated soils, is widespread, usable groundwater is contained in aquifers, underground "reservoirs" of permeable, porous soils formed primarily in glacial outwash deposits. Groundwater is pumped from four aquifers: the Beaver Brook-Hopping Brook aquifer in the western portion of Town, the Lake Winthrop aquifer in the south-central section, the Upper Jar Brook aquifer in the north-central part of Town, and the Dopping Brook-Bogastow Brook aquifer along the Town's eastern boundary.

Protection and preservation of Holliston's aquifer deposits is of critical importance. The same factors that contribute to surface water contamination may also affect groundwater. The amount of protected open space and development, the type of development, and highly permeable soils, are related to the likelihood of contamination. For example, the Maple Street Well (Well #2/#8), which was built in the 1940s, has now been surrounded by dense residential development and is vulnerable to septic system failure and other non-point-source pollution. More protected open space in the surrounding area would also decrease the likelihood of contamination.

The Town has adopted a Groundwater Protection District overlay in its zoning by-laws to provide some protection for its water supply zones (I, II and III), because of their high

vulnerability to contamination due to the absence of hydro-geologic barriers, such as clay or ledge, which can prevent migration of pollutants. Zoning by-law amendments made in October 2012 were made based on a management letter from DEP issued with the provisional approval for the development of Well #7. The changes impact impervious cover and manure storage provisions in the Zone II.

Flood Hazard Areas

Because of Holliston's extensive waterway system, many flood hazard areas are found throughout the Town. These areas are delineated on the Water Resources Map and on official Flood Insurance Rate Maps (FIRM) issued by the Federal Emergency Management Agency (FEMA). Special flood hazard areas subject to inundation by the 1% annual chance flood (100-year flood), also known as the base flood, is defined as the flood that has 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% chance flood. Areas of Special Flood Hazard in Holliston include Zones A, AE, AH, AO, AR, and A99. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood. These mapped special Flood Hazard Areas are generally protected from development due to the likelihood of flooding and the potential for destruction of any structures built within these zones and FEMA has only completed Base Flood Elevations for a very limited number of areas in Town. New base maps were issued by FEMA for Middlesex County effective June 2010 and the Town modified its zoning by-law provisions (Section V-J) to reflect the pending change in May 2010.

After soliciting assistance from FEMA, the Town has recently received draft Letter of Map Revision materials from FEMA for updated flood hazard information for the Winthrop Canal and Lake Winthrop. The Town solicited this study because of concerns raised about the accuracy of mapping in the area. A new hydrologic and hydraulic study have been completed. Proposed FIRM revisions will impact both Special Flood Hazard Areas and Base Flood elevations in the area.

Wetlands

Wetlands are areas that, in undisturbed condition, are flooded or ponded or saturated within the plant root zone long enough during the growing season to exclude oxygen (develop anaerobic conditions) and favor the growth and regeneration of so-called hydrophytic (water-loving) vegetation. Generally, wetlands can be found in low elevations in the landscape including floodplains, closed basin depressions, and bordering bodies of water such as lakes, ponds, and rivers. They are valuable areas because they provide storage for floodwater, control erosion, filter pollutants out of water, replenish aquifers, offer opportunities for recreation and education, enhance biodiversity, and provide habitat for fish and wildlife.

Holliston's largest wetland system is Cedar Swamp. It is comprised of Atlantic White Cedar, Hemlock, Yellow Birch, and other species. A large part of the swamp has been protected as part of the Brentwood Conservation Land or as important flood control lands by the Army Corps of Engineers. There are also cranberry bogs scattered throughout

Town, remnants of when Holliston was a major producer of cranberries, extending as far back as the first commercial production in the mid-nineteenth century.

Wetland areas offer important visual resources to Holliston as well. The predominant type of vegetated wetland is the red maple swamp (deciduous wooded swamp). There are several large red maple swamps in Town including; the Town Forest north of Adams Street, Rocky Woods Conservation land, and the land bordering Dopping Brook. The visual character of these areas has, in several parts of Holliston, changed dramatically over the past ten years. With the recolonization of Holliston's watersheds by beaver (*Castor canadensis*), many of the red maple swamps now experience raised water levels incompatible with tree survival. Many areas of mature red maple swamp are now stands of dead or dying trees interspersed with newly established herbaceous wetland plants. From an ecological perspective, environmental change is the only constant and these new marshes and wet meadows serve as habitat for host of plant and animal species long uncommon within Holliston's boundaries. The value of these formerly forested wetlands as a visual and noise buffer, however, has been drastically reduced in many locations.

Water conditions that create wetlands - flooding or ponding of rainwater or saturated soils - may not be evident at all times. Fortunately, the presence of hydric soils - soils that developed under wet conditions and display certain visual characteristics - are a strong indicator of wetlands. Delineation and identification of hydric soils can assist in identifying wetland boundaries within the Town. The importance of hydric soils in open space planning relates to both wetland enhancement and protection and avoidance of development in unsuitable areas. Urban growth development should be restricted in areas of hydric soils for several reasons including tendency to flood, high water table, slow permeability rates, and water quality protection. Land comprising hydric soils should generally be restricted to conservation, wetland wildlife habitat, and recreational uses.

D. Vegetation

The value of vegetation is often overlooked or taken for granted in many communities. The usefulness of vegetation extends beyond its traditional role of providing aesthetically pleasing views and variety in the landscape. Holliston's woodlands, wetlands, abandoned fields and orchards:

- Protect surface and groundwater by stabilizing soils and preventing erosion
- Act as a visual and noise buffer between incompatible uses
- Provide wildlife habitat
- Provide recreational opportunities
- Improve air quality

The natural vegetation of Holliston can be divided into three distinct groups: forest areas, wetlands, and fields.

Forest

In the 1800s, much of Holliston's forests had been cleared to provide farmlands. As the fields were abandoned, the forests regenerated. Therefore, much of Holliston's existing forested uplands are second growth oak-pine forests. Other forested areas in Town include the planted coniferous forest of the Henrich Town Forest, the predominately oak Town Forest, managed tree farms, mature beech forests (as in Brentwood Conservation Land) and other stands of various species of trees scattered through Town. Forest Management Plans are currently being implemented for Wenakeening Woods and Bullard Farm as well as several Ch. 61 properties.

Oak-Pine Forest

The oak-pine forest typically consists of a variable mix of oak species that dominate the canopy including black oak, red oak, and white oak. A variety of other species can reach into the canopy including white pine, hickory, gray birch, paper birch, black cherry, tupelo, American elm, white ash, pitch pine, and red cedar. The understory consists of saplings of the canopy species as well as gray birch, aspen, sassafras, big-toothed aspen, black birch, red maple, and chestnut is sometimes in dense patches. Blueberries, huckleberry, witch hazel, raspberry, sweet fern, chokeberry, maple-leafed viburnum, wild raisin, wild indigo, arrow-wood, buckthorn, honeysuckle, multiflora rose, bittersweet, grapes, and scrub oak are also often found in the understory. Sheep laurel and mountain laurel are also often found in dense patches. Sweet pepperbush and swamp azalea can occur in wetter areas. A patchy herbaceous layer often includes Pennsylvania sedge, wild sarsaparilla, ferns, poverty grass and other grasses, goldenrods, whorled loosestrife, pipsissewa, creeping dewberry, wild strawberry, partridgeberry, wintergreen, princess pine, Indian cucumber, ground cedar, pink lady's slipper, pinweed, and pale corydalis.

This primarily deciduous community with its supply of acorns is often preferred habitat for a wide diversity of wildlife including such indicator species as white-tailed deer, gray squirrels, northern flying squirrels, eastern chipmunks, white footed mice, and other small rodents, blue jays, red-eyed vireos, hermit thrush, wood peewee, ovenbirds, black and white warblers, great crested flycatchers, downy woodpeckers, hairy woodpeckers, red-bellied woodpeckers, wild turkeys, scarlet tanagers, Baltimore oriole, warbling vireo, rose-breasted grosbeaks. Typical amphibians include northern redback salamanders and spotted salamanders. Ringneck snake and garter snake would also be expected. Cavities in dead trees or dead limbs are especially valuable for wildlife. More generalist species such as black-capped chickadees, American robin, northern cardinal, goldfinches, and white-breasted nuthatches are also likely to occur here along with a large variety of other birds and mammals such as coyotes, raccoons and skunks that will occasionally pass through this and neighboring habitats.

American chestnuts would have made up a significant portion of the canopy of this type of forest prior to the arrival of the chestnut blight fungus in 1906. The fungus kills the above ground portion of the tree while the roots continue to sprout. These sprouts may reach 20 feet or so before they are attacked by the blight and killed.

White oaks, with their rounded leaf lobes, produce huge numbers of acorns every 4 to 10 years. In a good year, a single tree may produce 2,000 to 7,000 acorns. However, an individual tree may go several years with virtually no acorn production. Acorns and other nuts and fruits provide a rich resource for roving flocks of blue jays as well as for gray squirrels and chipmunks. Wild turkeys are becoming more common and also use this resource. Local variations in the abundance of these species are clearly tied to acorn production. White oaks can reach 150 feet in height (though 100 feet is more common) and four feet in diameter, living to an age of 600 years.

Northern red oak, black oak and scarlet oak have leaves with sharply pointed lobes. Red oak and black oak can hybridize and be confusing to identify. Northern red oak is less shade tolerant than white oak, but more tolerant than either black or scarlet oak. Consequently, both black and scarlet oak are generally more abundant in more open woodlands. Black oak can often occur in pure stands on drier, more exposed sites, where both northern red oak and white oak are at a disadvantage.

White Pine Forest

The majority of the Town's coniferous forests are White Pine Forest, also known as Successional White Pine Forest and Old-Field White Pine Forest. This community type develops on abandoned agricultural land, usually pasture. The forest floor is typically carpeted with needles, often with only a sparse layer of herbaceous plants. White pine dominates the canopy but a variety of other scattered species can include white oak, red oak, tupelo, black cherry, pitch pine, gray birch, big-toothed aspen, and red maple. The shrub layer can vary in density from sparse to thick. It may include saplings of the canopy species and huckleberry, blueberries, witch hazel, sheep laurel, bayberry, sweet fern, elderberry, maple leaved viburnum, and often non-native species such as buckthorn, honeysuckle, and/or multiflora rose. A variety of blackberry vines (often forming thickets) and poison ivy often covers the ground near openings or in formerly open disturbed areas. The herbaceous layer is variable; large patches of Canada mayflower and starflower with clubmosses or princess pine are particularly common on formerly plowed soil. Bracken fern is often common on drier sites. Partridgeberry, wintergreen, ferns, fringed polygala, grasses, and pink lady's slipper grow in many longer established sites.

This community type, if large enough, is often a preferred habitat for blackburnian warblers, ovenbirds, yellow warblers, and Cooper's hawks. American crows, a variety of hawks, and great-horned owls are likely to use large white pines as roosting perches or nesting sites. More generalist species such as black-capped chickadees, pine warblers, and red breasted nuthatches are also likely to occur here along with a large variety of other birds and mammals that will occasionally pass through this habitat.

Fields

Fields also provide a variety of vegetation in Holliston. While forests have succeeded many of Holliston's fields, there are still several hundred acres of farmlands with associated fields located in Town. Some of these farmlands are not visible from the street due to vegetation lining the streets. An example of this is much of the Bullard Memorial Farm from Bullard Street. Agricultural fields include croplands that are actively farmed and pastures. There are also a number of abandoned fields and utility line rights of way that provide early successional habitat.

Some owls may hunt the fields at night. Meadow voles, meadow jumping mice, and northern short-tailed shrews may also frequent these open areas and they would be hunted by garter snakes and long-tailed weasels.

The abandoned fields and utility lines are in varying stages of the Successional Northern Hardwoods community. Young gray birch, black cherry, red maple, mixed oaks, quaking aspen, red cedar, and white pine dominate. The understory is light and may include honeysuckle, blackberry, buckthorn, autumn olive, white mulberry, sweet fern, bittersweet, grapes, silky dogwood, smooth sumac, common mullein, birdsfoot trefoil, common stitchwort, cow-vetch, wild madder, pigweed, mugwort, rough-fruited cinquefoil, tower-mustard, white campion, goldenrods, common ragweed, milkweed, raspberry, dandelion, bittersweet nightshade, tall buttercup, clammy ground cherry, red clover, yarrow, alfalfa, common wintercress, and grasses.

The structure of successional communities changes quickly and the animals that use them change as the vegetation grows. For the first 10 years, trees may be dense but small with an understory of blackberry. Chestnut-sided warblers and mourning warblers prefer these early stages. Grouse and woodcock are also often found in this community type. New England cottontail is a mammal that is often found in this community. More generalist species such as black-capped chickadees are also likely to occur here along with a large variety of other birds and mammals that will occasionally pass through this habitat.

Wetlands

Holliston has a diversity of wetlands that not only serve a role as important water resources, but also provide critical habitat for wildlife and variety for views. Article XXX of the Town Bylaws protects areas subject to flooding or inundation and land within 100 feet of wetland areas and within 200 feet of vernal pools. The types of Holliston's wetland types are briefly described below:

Bog

A mixture of shrubs that are predominately members of the heath family characterizes this community type. They include sheep laurel and rhodora. Labrador tea, cranberry and leatherleaf may also be present. Sphagnum moss makes up much of the surface and there are often sundews and other specialized bog plants. There are also cranberry bogs scattered throughout Town, remnants of when Holliston was a major producer of cranberries, extending as far back as the first commercial production in 1854.

The high acidity and low oxygen content of the water in bogs make them inhospitable to most reptiles, fish and amphibians. However, several state-listed rare animals, such as the four-toed salamander, can be found in bogs.

Deep Marsh

Deep marshes border many open water areas. Water depth averages between 6 inches and 3 feet. Broad-leaved cattail and phragmites or common reeds can form extensive stands. Other characteristic plants include common arrowhead and several grasses, sedges, and rushes. Deep marshes are excellent waterfowl habitat and also provide important habitat for frogs and newts, especially leopard, pickerel, green and bull frogs.

Shallow Marsh

Shallow marshes occur in similar settings to deep marshes like pond and stream edges. Water depth averages less than 6 inches. Grasses, sedges and rushes dominate. Cattails, phragmites, and wool-grass can occur but are never dominant. Other characteristic plants include duckweed, water lilies, and pondweeds. Shallow marshes are excellent habitat for muskrats and also provide important habitat for a variety of frogs and newts. Rare animals that use this habitat include spotted turtles and Blanding's turtle.

Shrub Swamp

Shrub swamps are often found in the transition zone between marsh and wooded swamps, and have a mixture of speckled alder, silky dogwood, northern arrow-wood, smooth alder, buttonbush, high-bush blueberry, winterberry, and scattered red maples. There may also be sedges, rushes, grasses, ferns, sphagnum moss, and skunk cabbage. These shrub swamp areas may serve as breeding habitat for a variety of salamanders and other amphibians if fish are not present.

Red Maple Swamp

Red Maple Swamp is the most common forested wetland in Massachusetts. It occurs in a variety of hydro-geologic settings, including areas along streams or lakes, areas with high ground water, hillside seeps, and areas of overland water flow. Red maple is usually strongly dominant in the canopy often providing more than 90% of the cover. Other canopy trees include a mix of oaks; especially swamp white oak, tupelo, white ash, white pine, pitch pine, gray birch, sassafras, and American elm. The understory is often dense and consists of saplings of the canopy species as well as sweet pepperbush, swamp azalea, common winterberry, spicebush, arrow-wood, high-bush and low bush blueberry, huckleberry, elderberry, buckthorn, Japanese barberry, poison ivy, chokeberry, alternate-leaved dogwood, wild raisin, grapes, sheep laurel, speckled alder, nannyberry and poison sumac. Sedges, ferns, skunk cabbage, princess pine, swamp dewberry, false hellebore, spotted touch-me-not, marsh marigold, and grasses occur in the herbaceous layer.

Yellow warblers, Louisiana waterthrushes, alder flycatchers, blue-gray gnatcatchers, and barred owls are typical of this forest type. More generalist species such as red-winged blackbirds, black-capped chickadees, common grackle, and tufted titmouse are also likely to occur here along with a large variety of other birds and mammals that will occasionally pass through this habitat.

Atlantic White Cedar Swamp

A large stand of Atlantic White Cedar exists in the Cedar Swamp, and is possibly the largest stand in Middlesex County, as noted in the Final Report submitted by Glen Motskin (University of Massachusetts) to the Massachusetts Natural Heritage and Endangered Species Program, July 1990. This area is an excellent example of the mixed hemlock-atlantic white cedar-red-maple-yellow birch vegetation association. Other plants located in the Cedar Swamp wetland system include wetland species such as tupelo, white pine, tamarack, winterberry, swamp azalea, sweet pepperbush, high-bush blueberry, cinnamon fern, cranberry, sphagnum moss and others. This habitat provides excellent cover for deer, rabbits and birds. Atlantic white cedar foliage and twigs are preferred winter browse for white-tailed deer. Red-breasted nuthatch, brown creeper, black-and-white warbler, and blacked-capped chickadee have typically been observed nesting in Atlantic white cedar swamps. Blue-spotted salamander, spotted turtle, and four-toed salamander are also known to use Atlantic white cedar swamps.

Portions of the Cedar Swamp forest are within the Brentwood Conservation land, which also included a mature beech forest along the sand and gravel deposits on the eastern portions of the property, with good public access trails throughout the upland islands.

Vernal Pools

Forty-six vernal pools have been certified in Holliston by Massachusetts Department of Fish & Game, through the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP). The pools are in the following general locations: the northeastern area of the Cedar Swamp watershed, the Weston Pond watershed, the Miller Hill area, the southern portion of Chicken Brook, near Factory Pond, the northeastern corner of Town, and the eastern edge of Town at Bullard Farm, just east of Dirty Meadow Brook. An additional 120 areas have been identified as potential vernal pools. If any of these areas are confirmed as vernal pools, the Natural Heritage and Endangered Species Program will certify them.

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

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act (MESA), MGL 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.

There are several species of rare wetlands wildlife occurring in Holliston. The two species of *Ambystoma* or mole salamanders are usually found in deciduous or mixed forests of hardwood/hemlock where they spend the majority of their life underground. They depend on the occurrence of seasonal pools of standing water in the spring (*A. laterale*) and in the fall (*A. opacum*) to breed and lay their eggs. These pools are often called spring pools or vernal pools. Since these important breeding sites are temporary, they are frequently filled by development activities. The identification and protection of the vernal pools in Holliston should be one of the resource protection priorities of the Conservation Commission. The four-toed salamander breeds in wetland swamps which are dominated by red maple and Atlantic white cedar, vernal pool habitats, and moist sphagnum moss and blueberry wetlands and are quite tolerant of acidic conditions. The adults are terrestrial and are generally found in forested areas near their breeding habitat.

Blanding's Turtle is primarily aquatic, preferring densely vegetated shallow ponds, marshes, or small streams. It is most often observed on land during nesting activities, but has been known to feed and wander there as well. In Massachusetts, only seven nesting sites are known, containing an undetermined number of individuals. The wood turtle is found in or near slow moving streams with sandy bottoms and heavily vegetated banks. In the spring and summer, they are often found in meadows, roadsides, hayfields, and upland forests near the streams they use for breeding and winter hibernation.

The Eastern Pond Mussel (previously only known historically in Town) has recently been observed in Holliston. It is a freshwater mussel that prefers silty sand and sandy/gravelly substrates in slow moving to standing water. The species is only rarely found in streams with moderate current, but has been found to flourish below the falls of old, undisturbed impoundments.

Species of Conservation Concern, Priority and Exemplary Natural Communities

Mussels

Eastern Pondmussel, (*Ligumia nasuta*), SC

Insects

Beetles

Purple Tiger Beetle, (*Cicindela purpurea*), SC

Moths

Chain Dot Geometer, (*Cingilia catenaria*)

Barrens Metarranthus, (*Matarranthus apiciaria*), E

Butterflies

Hessel's Hairstreak, (*Callophrys hesseli*), SC

Oak Hairstreak, (*Satyrrium favonius*), SC

Dragonflies

Coppery Emerald, (*Somatochlora georgiana*), E

Mocha Emerald, (*Somatochlora linearis*), SC

Spatterdock Darner, (*Rhionaeschna mutata*), SC

Amphibians

Blue-spotted Salamander, (*Ambystoma laterale*), SC

Marbled Salamander, (*Ambystoma opacum*), T

Reptiles

Blandings' Turtle, (*Emydoidea blandingii*), T

Eastern Box Turtle, (*Terrapene carolina*), SC

Wood Turtle, (*Glyptemys insculpta*), SC

Priority Natural Communities

Inland Atlantic White Cedar Swamp, S2

E= Endangered, T=Threatened, SC=Special Concern, S2=Imperiled communities, typically 6-20 sites or few remaining acres in the state.

Lake Winthrop supports four of the state's twelve freshwater mussel species, including the rare Eastern Pondmussel. The Lake Winthrop population of this rare species is particularly significant because young and old, as well as, male and female mussels have been found here, which suggests that they are successfully reproducing. The lake has good water clarity, and some mussels can be readily seen in sections of the pond that have a sandy bottom and few aquatic plants. A population of a freshwater jellyfish thought to be *Craspedacusta sowerbii* was observed in Lake Winthrop in the summer of 2005. This jellyfish is not rare, but its appearance is described as sporadic and unpredictable. The obvious adult form, or medusa, appears in some lakes in August and September one year, but not in another.

BioMap2

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. In 2012, Holliston was issued its community report by NHESP. The report characterizes both Core Habitat and Critical Natural Landscapes. BioMap2 is a conservation planning tool that does not, in any way, supplant the Estimated and Priority Habitat Maps produced and regulated by NHESP.

Figure 4.3 depicts both the Core Habitat and Critical Natural Landscapes identified and mapped for the community. By definition, Core Habitat identifies specific areas necessary to promote the long-term persistence of rare species, other species of Concern, exemplary natural communities and intact ecosystems, and 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.

Holliston's BioMap 2 Components include the following Core Habitats: 1 Exemplary or Priority Natural Community, 1 Forest Core, 2 Aquatic Cores, and 19 Species of Conservation Concern Cores and the following Critical Natural Landscapes: 1 Landscape Block, 1 Wetland Core Buffer and 2 Aquatic Core Buffers. The community report describes each of the identified Core Habitats and Critical Natural Landscapes in detail and an example is shown below:

Core 1354

Located in the extreme western portion of the community, Core 1354 is a 1,617-acre Core Habitat and overlapping 1,220-acre Critical Natural Landscape featuring Forest Core and Species of Conservation Concern as well as Aquatic core Buffer and Wetland Core Buffer. Its location west of Adams Street corresponds with the largest tracts of protected land in the community and the Charles River Headwater Area.

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. Orange Sallow Moths inhabit dry, open oak woodlands on rocky uplands. Their eggs are laid on false foxgloves (*Aureolaria* spp.) where the larvae feed on the flowers and developing seeds.

In Massachusetts, the Oak Hairstreak inhabits xeric and open oak woodland and barrens on rocky uplands and sandplains. Adults are often found nectaring in dry, open, weedy or scrub areas, such as old fields, clearings, powerline or pipeline cuts, abandoned gravel pits, etc. New Jersey tea (*Ceanothus americanus*), dogbanes (*Apocynum* spp.), milkweeds (*Asclepias* spp.), and blueberries (*Vaccinium* spp.) are favored nectar sources, although others are used. Larvae feed on various oaks (*Quercus* spp.) across the species' range; particular oak species have not been documented in Massachusetts.

Four-toed Salamanders live in forested habitats surrounding swamps, bogs, marshes, vernal pools, and other fish-free waters that are used as breeding sites. Most breeding sites in MA are characterized by pit-and-mound topography with significant sphagnum-moss cover. Eggs are typically laid in mounds or patches of sphagnum moss that overhang water. Upon hatching, the larvae wriggle through the moss and drop into the water, where they will develop for several weeks prior to metamorphosis.

Strong population 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.

Using the MassGIS data layer "Protected and Recreational Open Space" (March, 2012), Holliston's identified areas under BioMap 2 are as follows:

- BioMap2 Core Habitat: 2,726 acres (Protected: 1,229 acres or 45.1%) and
- BioMap2 Critical Natural Landscape: 1,168 acres (Protected: 741 acres or 63.5%).

E. Fisheries and Wildlife

The Division of Fisheries and Wildlife manages land along Bogastow Brook, south of Route 16. This area is managed primarily for wildlife habitat, particularly waterfowl. Black duck and wood duck, both of which are experiencing reductions of their populations in New England, nest along Bogastow Brook. Artificial nesting boxes for breeding wood duck have been established, but are not regularly maintained. Other fisheries and wildlife resources in this area include trout, pheasants, songbirds, beavers and small mammals.

According to the Division of Fisheries and Wildlife, there is semi-annual stocking of approximately 2,500 brown trout and brook trout measuring 9 to 12 inches into Bogastow Brook. This area is open to the public for fishing.

The Holliston Conservation Commission and the Army Corps of Engineers presently maintain ownership of the Holliston Cedar Swamp. The Division of Fisheries and Wildlife manages the wildlife resources in this area, although there are presently no active wildlife management activities on this land. A series of upland islands run north to south through the center of the Cedar Swamp, and most of the significant cedar habitat occurs west of these islands. Bat boxes have been placed in the woods to encourage roosting by these insectivorous mammals.

Some of the wildlife identified within the Town includes coyote, fisher, beaver, otter, opossum, fox, muskrat, bluebird, great blue heron, turtles, frogs, salamanders, snakes, bats, deer, turkey, waterfowl, trout, pheasant, many species of songbirds and several small mammals. A bear was seen in Millis in June 2005. The same bear may also have been seen in Westwood and Norwood. While such sightings are unusual, it is only a matter of time before a bear is spotted in Holliston. The bear population in Massachusetts is increasing and now is estimated to be between 2,500 and 3,000. Most bear occur in the western part of the state, but along with moose, they are increasing and being seen in Worcester County and the area to the east. Large areas of undeveloped land such as the Town Forest, Waseeka Reservation, Brentwood Conservation Area and Wenakeening Woods, provide valuable wildlife habitat. Holliston also has a variety of significant wildlife corridors. Some of these corridors are located along wetlands and brook systems that traverse the Town, including the Dopping Brook area, Chicken Brook area and the Cedar Swamp area. Transmission lines also provide opportunities for animals to move from one area to another and serve as wildlife corridors. Many of these corridors also connect the Town's open spaces with open space in other towns. Hunting

is not allowed in Holliston except with the consent of the Selectmen on public property or the consent of the owner on private property.

F. Scenic Resources and Unique Environments

Visual and cultural values consist of an array of interrelated, intangible values that benefit the public, but are often very difficult to measure. These include aesthetic, recreational, educational and other heritage values. The term "heritage value" is used to define special uses or meanings that individuals have attached to a particular area because of personal or cultural interactions with that area.

Marshes and other wetlands, for example, contribute directly to the scenic value of landscapes and add to landscape diversity. This value of aesthetics is achieved through direct recreational usage as well as from distance viewing. The recreational values vary greatly according to user and landform type. Recreational activities may range from bird watching and picnicking, to walking, canoeing, hunting, and fishing.

Jasper's Rock

In 1660, Henry Adams of Medfield purchased part of the Lusher Grant in Holliston that included Mount Hollis and the meadowlands below it. He mowed the meadows and pastured his livestock, sending his sons Eleazur and Jasper to tend his flocks. Tradition tells us that a cabin was built on or near the hill, and from a large rock on the top of the hill, Jasper sent smoke signals to his family in Medfield to assure them that he was still on duty. The rock from which the signal fires were sent was later used as a point in surveying the surrounding towns. Today, Jasper's Rock is designated as a historical marker and can be reached from the upper part of Fairlane Way.

Many scenic areas may also serve as areas of scientific research and as outdoor educational exhibits to demonstrate the dynamics of ecological relationships or the natural or manmade history of a culture, landform, town, or entire region. Holliston has several important natural and historical manmade features that contribute both visually to the Town and historically, including, Lake Winthrop, Weston Pond, Mount Hollis, Jasper's Rock (see above), the Metcalf Pump House, the stone railroad bridge on Woodland Street, and the stone pile at the golf course.

Public Shade Trees

Trees keep roads cool, making them more enjoyable to ride, walk or run on. They also allow wildlife, such as turtles, frogs, toads and salamanders, to cross from one side of the street to another without becoming dehydrated. An added benefit of a shaded roadway is that it protects the road's surface from scorching heat, cracking and cooling.

Public shade trees are protected by Chapter 87 of the Massachusetts General Laws and include all trees within a public way or planted by or caused to be planted by the Tree Warden on adjoining land (with the permission of the owner) within 20 feet of a public way.

The powers of the Tree Warden are detailed in MGL, Ch. 87, Section 2: Under this Act, the Town can hire a Tree Warden to care and have control over all public shade trees, shrubs and other vegetation (except those within the state highway), as well as within public parks and open space areas under the jurisdiction of park commissioners. The Tree Warden is charged with preserving trees, shrubs and other vegetation.

As detailed in the Act, public shade trees shall not be cut, trimmed or removed, by anyone other than the Tree Warden or his Deputy, except by written permit from the Tree Warden. Neither the Tree Warden nor his Deputy shall cut down or remove public shade trees without a public hearing, posted in at least two public places in Town, on the tree proposal for removal, and legally noticed in a town newspaper for two weeks, at least for seven days before the hearing. Tree Wardens shall not cut down, remove or permit the cutting or removal of a public shade tree if, at or before a public hearing, written objection is made by one or more persons, unless approved by the Selectmen.

Holliston's public shade trees are managed by a Tree Warden who is responsible for both their care and maintenance. The Tree Warden is a one-year termed position appointed by the Board of Selectmen. The Tree Warden works closely with the Highway Department to schedule in-house tree work as well as scheduling outside contractors.

Tree City USA – Holliston might want to consider applying for the designation of Tree City USA. The National Arbor Day Foundation and the National Association of State Foresters set the standards that each community must meet to be eligible for the designation. Standards include the designation by the community of a tree board or department; a tree care ordinance; a community forest program with an annual budget of at least \$2 per capita and an Arbor Day proclamation. Benefits of the Tree City USA designation include a plan for management of the Town's Forest resources, community education, environmentally conscience public image, a sense of pride among citizens, financial assistance for planting trees and managing forests, and publicity for the community's accomplishments.

Cultural and Historic Areas

Well-preserved physical evidence of a community's past helps to give each resident and the community a sense of its location in time and space. The present form of Holliston is derived from the numerous decisions made by those who lived here in the past – where to live, the type of structure to live in, how to support families. The evidence of each of these individual decisions is still present in many ways and can remain for our own pleasure and that of future generations, if steps are taken to preserve this heritage.

In 1989, the Massachusetts Historical Commission designated the Thomas Hollis Historic District. This district includes Washington Street, from Highland Street to Winter Street. In 2002, they designated the East Holliston Historic District, also on Washington Street between Locust Street and Concord Street. This new district includes over 40 Washington Street homes most of which were built in the late 1700s and early 1800s. The Isaac Bullard House is listed on the Massachusetts State Register of Historic Places as a National Register individual property and also as part of the First Period Buildings of Eastern Massachusetts National Register Thematic Resource Area, which includes 113

properties from 46 towns. The Bullard Farm is also listed as a National Register property.

The natural and cultural unique features of the Town contribute to the overall Town character and also create a sense of common history and community bond. Unique natural features are important to protect for their visual impact and their functions as part of the natural environment. Cultural, historic and man-made features are also important scenic resources. Historic resources provide a connection to the past and a reminder of what the Town was like in the years past. Holliston strives to maintain its historic nature and promote new development in harmony with the existing environment.

G. Environmental Challenges

There are several challenges, both in the community and in the region, which may affect the future of the Town's open space and recreation resources. These include hazardous waste sites, landfills, erosion, flooding, sedimentation, and effects of continued development, water, pollution, and others.

Hazardous Waste Sites and Brownfield Sites

The Massachusetts Contingency Plan or "MCP" (310CMR 40.0000) sets out the requirements for reporting, assessing and cleaning up contaminated sites. The law requires that each spill is reported to DEP and depending on its seriousness, a clean up and monitoring plan is prepared and followed. According to data maintained by the Massachusetts Department of Environmental Protection's "Reportable Release Lookup", there are 51 locations in Holliston that have been the sites of spills of oil or hazardous materials. All 51 are listed in the Appendix. Most spills are relatively minor and are cleaned up successfully.

DEP has set up a Tier system to classify the seriousness of the listed disposal sites. Tier 1 sites must obtain a permit from the DEP to conduct comprehensive response actions, and the most serious of these sites (Tier 1A) are subject to continuous DEP oversight. Tier 2 sites also require comprehensive response actions, but do not require a permit or the direct oversight of the DEP. DEP takes into account several factors in determining the classification of a site; such as, whether or not the site is within an aquifer that supplies a drinking water supply; the degree of contamination; potential exposure; and the past compliance of the operators of the site with the Massachusetts Contingency Plan.

Of the DEP sites inventoried, several qualify as brownfields. The term "brownfield site" means a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Such sites are typically abandoned or for sale or lease; they typically have been used for commercial or industrial purposes; they may have been reported to DEP because contamination has been found; or they may not have been assessed due to fear of unknown contamination conditions. The Massachusetts brownfields program encourages reuse of such abandoned sites by providing incentives to buyers, and sometimes sellers, of contaminated property provided there is a commitment to cleanup and redevelopment.

Landfills and DEP Regulated Facilities

Holliston's public landfill was located off of Marshall Street and has been capped and inactive for more than twenty years. Household solid waste is collected on a "pay as you throw" basis by a contractor. The first forty-pound bag or barrel of trash each week does not require a sticker. Additional bags or barrels require a sticker which is available from the Town Hall and several local stores. The waste is eventually transported from Holliston and disposed of outside of the Town. Small recyclable materials are also picked curbside by a contractor. Portions of the former Marshall Street landfill are utilized for a Town composting area and recycling center. Un-bagged yard debris is accepted at the Marshall Street landfill for composting. The recycling center is utilized for larger recyclables that cannot be collected curbside.

There is also an inactive landfill located on Union Street, which has been abandoned for decades. This landfill is capped, although not by today's standards, and unlined. The landfill was used for household wastes, the waste was burned and what remains is ash.

Several private companies in Town have operations that are regulated by the DEP Bureau of Waste Prevention, including the TransRiver site noted below. Inclusion on this list does not indicate that a release of oil and/or hazardous materials has occurred; only that hazardous materials are generated on site or that the company has a treatment, storage and/or disposal facility. These could be considered "high risk" sites, particularly if they are located within an aquifer or Zone II. These sites are subject to inspection by DEP and the Board of Health to ensure compliance with waste prevention regulations.

TransRiver: A Case Study

Operating since 1972, this 16.5 acre industrial site has been used to process and recycle solid waste by numerous operators and expanded in an ad hoc way until 2003. The site is located on the Dopping Brook aquifer and less than ½ mile from the Town's #6 well. There were illegal sub-surface disposals of refuse and waste materials within one hundred feet of a wetland in 1975 that prompted the Conservation Commission to issue a Cease and Desist order. In 1989 and again in 1995, there was evidence of hazardous chemical spills associated with the operation and the Department of Environmental Protection issued cleanup orders.

The most recent Department of Environmental Protection (DEP) permit allows TransRiver (a division of Covanta) to process an average of 637 tons per day of solid waste. TransRiver is permitted to handle municipal solid waste (MSW) and construction and demolition debris (C&D) or any combination thereof. Between April 2003 and October 2006, Casella sought and received approval from the Conservation Commission for proposed improvements to its stormwater management system, Board of Health amended site assignment, and Planning Board special permits for expansion of the pre-existing non-conforming use, outdoor storage of materials and equipment, the construction of a second building to handle C&D waste, driveway widening, scale and scale house installation and to allow overnight storage of unprocessed waste. The Special Permit included a requirement for a permanent restrictive covenant on 8.6 acres of land

adjacent to the transfer station as well as series of best management practices to control odor, dust, and noise.

Elimination of the waste hauling operation which was the source of many earlier concerns about noise, traffic, and non-point source pollution was a huge step in minimizing impacts of the facility. In 2012 BFI removed contaminated sediments from a vernal pool and associated wetlands. This effort will be followed by five years of biological monitoring to document restoration of vernal pool processes. Improvements to the physical plant as well as a change in ownership have tempered the immediate and severe threats posed to the community by this site.

Underground Storage Tanks

Underground storage tanks (UST) for oil or other chemicals are another potential source of groundwater contamination. The Underground Storage Tank regulations are designed to protect public safety from the hazards posed by the leakage of flammable and combustible liquids and to prevent environmental damage caused by leaking tanks. All regulated UST's must incorporate equipment to prevent and detect leaks, including cathodic protection, double walls, and monitoring systems. Massachusetts regulations required that all existing tanks be upgraded to include leak detection and cathodic protection or be removed by December 22, 1998.

Erosion

Environmental quality at a particular location can be notably diminished through the loss of soil or erosion. Erosion reduced the land's capability to restore its vegetative cover. Steep slopes are particularly susceptible to erosion when plant cover is removed or when the surface is paved. Surface runoff is accelerated by erosion that may lead to increasing pollutants in surface waters.

As the easily developable flat terrain in Holliston is being built out, development is encroaching into the steeper areas. The steeper areas are more likely to erode and cause sedimentation in downstream waters. The Conservation Commission under the Wetlands Protection Act require erosion and sedimentation barriers as part of Orders of Conditions issued for work within the Conservation Commission's jurisdiction. These barriers are placed at the limit of work between the disturbed area and wetland resource areas prior to construction. The Commission also requires that the disturbed soils be stabilized prior to the removal of the erosion control barriers.

Chronic Flooding

As previously mentioned, several flood prone areas have been identified by FEMA. These areas are generally associated with the many brooks that cross the Town as well as the Winthrop Canal. One area of chronic flooding is located on Washington Street (Route 16), east of Hopping Brook Road. Prior to the previous OSRP update, the Massachusetts Highway Department performed work in this area that had temporarily alleviated the flooding problem, but recent flooding has occurred. Current field investigations suggest that recently-developed "beaver ponds", both upstream and downstream of Washington Street, may be causing an increase in the frequency of

flooding at this location. Occasional flooding of other streets may occur when culverts are temporarily blocked; however, no other chronic flooding problems have been identified in Town.

Sedimentation

Sedimentation occurs when solid material that is in suspension is transported or has been moved from its original location. Sedimentation can have various effects on water quality. High concentrations of suspended sediment in water bodies and waterways can alter the physical and chemical composition of the water. Sedimentation can increase turbidity, reduce light penetration, clog gills of fish and aquatic invertebrates, fill in the water body/way, and can carry toxic materials and trace metals.

The primary source of sedimentation in Holliston is from construction activities. Sedimentation is generally controlled at construction sites by erosion and sedimentation control barriers required by the Conservation Commission. Additionally, the Conservation Commission also ensures that new construction near wetlands meet the nine standards required under the DEP Stormwater Management Policy that was issued in March 1997. The standards cover pre-construction activities to improve the water quality of stormwater runoff from developed area, provide recharge to groundwater, and otherwise protect resource areas that may be negatively affected by stormwater runoff. The nine standards are listed below.

STANDARD 1: No new stormwater conveyance (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

STANDARD 2: Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

STANDARD 3: Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post development site should approximate the annual recharge from the pre-development or existing conditions, based on soil types.

STANDARD 4: For new development, stormwater management systems must be designed to remove 80% of the average annual load (post-development conditions) of Total Suspended Solids (TSS).

STANDARD 5: Stormwater discharges from areas with higher potential pollutant loads require the use of specific stormwater management Best Management Practices. The use of infiltration practices without pretreatment is prohibited. (See summary after Section 4.3.4 for a definition of BMPs).

STANDARD 6: Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas. Critical areas are

Outstanding Resource Waters, shellfish beds, swimming beaches, coldwater fisheries and recharge areas for public water supplies.

STANDARD 7: Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

STANDARD 8: Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.

STANDARD 9: All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

The Planning Board and Conservation Commission should work together to provide consistent stormwater management review of all projects, not just those located near wetlands.

Development Impact

The primary concern for residents regarding development is both its effects on the quality of life in Holliston and its impacts on the environment. Residential housing development continues, and it can be expected that the population will increase. Holliston has reworked the Zoning By-Laws making the Town more attractive to businesses. Growth can strain existing drainage systems, increase road maintenance and repair costs and generally overburden the Town's infrastructure. However, the greatest concern is that development will continue to impinge on undeveloped land, or partially protected areas. The Open Space Committee in conjunction with the Conservation Commission has identified several properties and/or areas that are of interest for open space purposes (see Action Plan). Maintaining the open space qualities of designated Chapter 61 agricultural lands is also important.

Ground and Surface Water Pollution

Groundwater pollution can generally be described in terms of point and non-point source pollution. Point source pollution can be traced to a particular storm drain or there identifiable source of pollution. Non-point source pollution cannot be traced back to a particular point source (such as pipe) and is usually associated with surface runoff. Driveways and lawns, for example, serve to collect oil, fertilizers, and other harmful substances. Water that cannot be absorbed into these surfaces will continue flowing until a new drainage path is found. Water bodies serve as the final destination for non-point pollution.

SECTION 5: INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

Overview

As noted in the MACC Environmental Handbook (Mass. Assoc. of Conservation Commissioners, 2006), the public perception of open space is broad and the values of open space are related to public health and safety, environmental quality, and quality of life factors such as vistas, recreation and enjoyment of the natural world. The benefits or values of open space include protecting water quality and water supply, preserving habitat and diversity, providing recreation and aesthetics, preserving community character and agriculture, and providing educational opportunities. MGL c. 61B defines open land as that “retained in substantially a natural, wild or open condition in such a manner as to allow to a significant extent the preservation of wildlife and other natural resources.” For purposes of this plan, we have inventoried and mapped Holliston’s open spaces, that is, public, non-profit and private lands of conservation and recreation interest. The term “open space” generally includes land protected from development and managed by the Conservation Commission; Town-owned parcels not intended for sale or development but managed by an organization other than the Conservation Commission, such as Water Department lands and Parks Commission lands; parcels owned as open space by the State or Federal government; non-profit conservation land; and some private farm, forest and open space land.

Open space lands can be grouped into the two major classifications of protected and unprotected lands:

Protected – Formal dedication by deed or restriction for “conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources” is needed to give land protection under the Massachusetts Constitution. Land is considered permanently protected if the Town of Holliston Conservation Commission, Park Commission, or Water Department, state conservation agency or other public or private entity owns the land and a deed or conservation restriction has been filed at the County Registry of Deeds specifying that the land has been reserved in perpetuity and is devoted to conservation, recreation and/or water supply protection purposes. “Article 97” lands (referring to the Articles of Amendment to the Massachusetts Constitution) cannot be converted to any other use without receiving a vote from the Conservation Commission, 2/3 Town Meeting and Massachusetts Legislature vote, as well as approval from the Massachusetts Secretary of Energy and Environmental Affairs (EOEEA). In the case of recreation lands, the deeds to the parks should dedicate the land to park and recreation purposes under the provisions of MGL, c. 45, s. 3 or 14.

Unprotected – Private land areas regulated under Massachusetts General Law, Chapter 61, 61A and 61B; State-assessed recreational, agricultural, and forested lands, respectively, are considered unprotected. These programs are voluntary, whereby land can be sold by landowners at any time. Land is also considered unprotected if it is owned by a private entity other than the private nonprofit entities listed above, and does not include a deed/conservation restriction, filed at the County Registry of Deeds, specifying that the land has been reserved in perpetuity as open space and devoted to conservation purposes.

Inventory

As part of this plan update, we have re-created the prior plan's inventory matrix and mapping based on a parcel by parcel review of recorded deeds, record plans and Town Meeting votes in accordance with the Division of Conservation Service's "Open Space and Recreation Planner's Workbook (March 2008). The following results are of note:

- Beginning with the 1962 Master Plan, planning documents have recommended that 25% of the Town or just over 3,000 acres "be set aside as public lands". At the time, Holliston owned a total of 811 acres or 6.6% of the Town's land area.
- We have inventoried more than 30% of the Town's land area -- 1,095 acres of private land, 276 acres of non-profit conservation land and 2,573 acres of public land -- and categorized them as either protected or unprotected.
- In summary, almost 2,500 acres or 20.5% of the Town's land area may be considered protected.
- Additionally, we have identified 1,652.75 acres of unprotected parcels or 13.5% of the Town's land area.
- Since the last OSRP update in 2006, just over 320 acres has been added to the Town's open space inventory, 299.6 acres of which is considered protected. The Conservation Commission has acquired 213.6 acres in fee (protected) and the Town has acquired 22.35 acres for the development of the Upper Charles Trail through efforts of the Trails Committee (unprotected). Additionally, a private landowner has placed an additional 86 acres under permanent protection through Conservation Restrictions granted to Mass. Audubon Society (protected).

Where some information was not readily available on some parcels, action items suggesting title research, Selectmen and Town Meeting action, and/or the recording of confirmatory deeds is included in the Action Plan. The table below provides a summary of the land identified as protected and unprotected in our larger inventory (see Appendix 5-1). The attached detailed inventory not only describes the ownership, but also management responsibility, current use, condition, recreation potential, public access, zoning, degree of protection, and type of grant or funding received for each parcel. We have also worked with the Assessing Department to update property type classification codes as modified by the Department of Revenue Division of Local Services in March 2012.

Open Space Inventory

Owner	2012 Acreage	% Land Area
Protected		
Federal	563.47	4.6
State	102.25	0.8
Local	1,372.22	11.2
Non-Profit	276.9	2.2
Private	333.81	2.7
	2,648.65	21.7
Unprotected		
Federal	-	-
State	-	-
Local	658.5*	5.4
Non-Profit	315.65	2.5
Private	676.11**	5.5
	1,661.56	13.6

*This number does not include public buildings but does include a portion of school sites (50.2 acres) and the McCormick Fire Station site (5.43 acres).

**This number represents the number of acres registered in the Ch. 61 and 61A programs (964.66 acres) minus the areas protected under three CR's and two APRs (288.56 acres).

Protected Land Inventory

Our calculations would indicate that 2,648.65 acres of land may be considered "protected" which translates to 21.7% of the community's land area.

1. Federal Land – 347.66 acres in fee (2.8% of Town's area)

71.88 acres of easements on private property (0.5% of Town's area)

The prior inventory showed 424.9 acres in federal ownership. We are representing that the US Department of the Army protects 563.47 acres in the community or 4.6% of the Town's land area. We have verified the individual "tracts" taken in the 1980s for flood control by the Department of the Army Corps of Engineers (USACOE) to establish the Charles River Natural Valley Storage Area as authorized and funded under Public Laws 93-251 and 97-377 respectively. Between 1980 and 1987, the USACOE utilized the authority of Public Law 93-251 to negotiate for and take parcels by condemnation in US District Court by civil action in order to "maintain the natural overflow, flooding and submerging that occasionally and seasonally occurs from the Charles River and its tributaries; the right to maintain mosquito control; all right, title and interest in and to the structures and improvements now situated on the land..."(source: United States of America Civil Action 82-2000).

Within the Dopping Brook area along the Sherborn town line in the eastern portion of Holliston, 10 parcels or 84.96 acres were taken in fee with permanent easements on an additional 7.7 acres. Within the Cedar Swamp/Hopping Brook area in the western portion of town, the federal government took 262.7 acres (45 parcels) and holds permanent

easements on another 208.1 acres. Interestingly, a significant portion of these easements are on Town-owned parcels (136.21 acres) with 71.88 acres on private parcels. For purposes of calculating the total area protected as noted above and not double counting layers of protection, we have counted only the federal fee interests and private easement properties in this portion of the inventory sub-total; town-owned parcels are in the Town category.

Charles River Natural Valley Storage Area

After torrential rains from hurricanes in the early and mid-20th century caused water levels to rise and rivers to overflow their banks in communities across New England, the Corps of Engineers conducted a study to determine the best way to protect both the populous lower basin of the Charles River as well as the middle and upper portions of the river system from future flooding. In 1974 Congress authorized the Charles River Natural Valley Storage Area, allowing for the acquisition and permanent protection of 17 scattered wetlands to protect their natural storage capacities in the middle and upper Charles River Watershed. Final acquisition totaled 8,103 acres in eastern Massachusetts, with 3,221 acres of land acquired in fee and 4,882 acres in flood easement, at a project cost of \$8,300,000. Per mandate to be a multi-purpose project for flood control, the Massachusetts Division of Fisheries and Wildlife manages the fish and wildlife resources in some of the fee-owned land.

Source: US Army Corps of Engineers New England Division

2. State Land – 102.25 acres (0.8% of Town's area)

Since the acquisition of 1.25 acres on the eastern side of Lake Winthrop by the Division of Fisheries, Wildlife and Recreational Vehicles in 1976, the Commonwealth's fee interests in land in Holliston has remained unchanged. For purposes of this inventory, we have counted 101 acres of Lake Winthrop for the first time based on the information noted below. Two agencies of the Commonwealth do have an interest in four privately owned yet permanently protected parcels in the form of a conservation restriction and two agricultural preservation restrictions, totaling 360.23 acres but again, for purposes of avoiding double-counting areas, those parcels are inventoried below in the private category.

Lake Winthrop is Holliston's only Great Pond and occupies an estimated 101 - 136 acres. Historical records would indicate that the lake was originally 101 acres but has grown to 136 acres because of flooding (likely caused by dam construction). The term Great Pond is defined by statute as any pond which contained more than ten acres in its natural state, as calculated based on the surface area of lands lying below the natural high water mark. The title to land below the natural low water mark is held by the Commonwealth in trust for the public, subject to any rights which the applicant demonstrates have been granted by the Commonwealth. "(The Commonwealth) shall presume that any pond presently larger than ten acres is a Great Pond, unless the applicant presents topographic, historic, or other information demonstrating that the original size of the pond was less than ten acres, prior to any alteration by damming or other human activity."

3. Town Land – 1,364.31 acres in fee (11.2% of the Town's area)

A. Conservation Commission: 1,249 acres in fee (10.2% of the Town's area)

Recent Additions (June 2006-December 2012) – 213.60 acres in fee

The source of the Conservation Commission's most recent acquisitions totaling 213.60 acres is varied and includes use of Community Preservation Act funds for two significant purchases in the Finn and NSTAR properties totaling 115.64 acres. These acquisitions utilized CPA funds and were done in partnership with Massachusetts Audubon Society on the 29.39 acre Finn parcel and the Trustee of Reservations, who will hold the required Conservation Restriction on the 11 NSTAR parcels which total 86.25 acres. The Conservation Commission also received 58.20 acres from three Open Space Residential Developments (Rocky Woods, Wilson Acres, and Courtland Pines), 15.04 acres from a Senior Residential Development (Hollis Hills Preserve), 1.2 acres in transferred Tax Possession land, and two gift parcels totaling 23.49 acres.

Cluster, Open Space Residential Developments and Senior Residential Developments (May 1975 – December 2012) – 254.80 acres in fee

Since first enacted in 1975, provisions of the Zoning By-Law allowing for cluster subdivision have protected 254.8 acres in fee and 21.37 acres via conservation restrictions. These parcels are scattered across the community. The largest parcels are from Miller Hill Estates (aka Holliston Hunt). Those 122 acres provide a core of protected land between Underwood Street, the Brentwood neighborhood and Highland Street, and they abut the Pinecrest Golf Course parcels.

In May 2007, Town Meeting enacted significant changes to the prior cluster zoning provisions in the form of by-right Open Space Residential Development (OSRD) which is approved utilizing the Site Plan Review and Definitive Subdivision public hearing process. The percentage of open space dedication was modified from 15% to 50%. Development of the OSRD by-law and accompanying Planning Board regulations were funded by the Community Preservation Act Committee and were developed utilizing the Commonwealth's Smart Growth Tool Kit and model by-law. Since enactment, 58.2 acres have been given to the Conservation Commission in three developments with four additional OSRD developments approved with 23.18 acres in open space pending protection. In total the OSRD have resulted in the creation of 28 new building lots and the potential protection of 81.38 acres of open space.

Based on market demand, regulations for age-restricted "Senior Residential Developments" were added to the Zoning By-Laws between 2001 and 2006, ultimately resulting in the dedication and protection of 15.04 acres in fee at Hollis Hills Preserve and a conservation restriction of 6.15 acres at Balancing Rock (noted above). The minimum percentage of protected open space in Senior Residential Developments is 25% of the total land area. The two developments resulted in the approval of 81 units (5 certified affordable) and the protection of 21.19 acres of open space.

Other Parcels – 838.7 acres

Since its inception in 1961, the Conservation Commission has been a steward and advocate for protecting open spaces in Holliston. In addition to the parcels described above, the Conservation Commission owns 838.7 additional acres on 118 parcels with a size range of 0.11 acres to 210.2 acres. The most well known conservation areas owned and managed by the Conservation Commission include the Littlefield parcel off Bullard and Central Streets, Stratton Woods on Central Street, Factory Pond on Woodland Street, the Poitras and Daniels parcels connecting Washington Street and Hollis Street, Brentwood Conservation Land off Gorwin Drive, Cedar Swamp and Weston Pond off Courland and Washington Streets, the Adams Street Conservation Area off Dunster Road (including the David Reed Fairbanks Conservation Land) and Rocky Woods, located off Hanlon Road.

The areas are well described in the flyer/map entitled “Conservation Lands in Holliston 2009” prepared by the Holliston Conservation Associates:

Adams Street Conservation Area: This area is part of a three-town project to preserve the land between Adams Street in Holliston, Route 495 in Milford, and Route 85 in Milford and Hopkinton. Encompassing almost 2500 acres, it is considered to be the largest remaining piece of open space between Metrowest and Boston. Holliston had made significant progress in protecting this land over the years through purchases for Town Forest and Conservation Land. The Open Space Committee was able to obtain grants and funding to add the Fairbanks Property (210 acres) in 2002, off Dunster Road, and the 87 acre N-Star property in 2008, making this the largest contiguous piece of protected land in Holliston. This property has it all: boulder strewn uplands, vernal pools, wetlands, mammals, birds, quiet streams, and plenty of trails to explore. Parking is at the end of Dunster Road and in a lot off Adams Street just before Marshall Street.

Weston Pond: This 73-acre site is to the west of town off of Washington Street near Courtland Street. There is also a parking area on the southern side of the parcel with access to the pond and soccer field. There is an island containing benches on the pond accessible by a bridge. The benches, bridge and trail system were built as part of an Eagle Scout project. Deer, otter, geese and great blue heron are commonly seen. The pond also provides a significant waterfowl nesting area. The Boy Scouts have placed wood duck nesting boxes on-site. On the east side of the pond is a recreation area containing soccer fields and walking paths. The recreation area was developed jointly by various Town Boards using local and federal funding.

Rocky Woods: Although there is access through a right of way from Adams Street, it is best to enter from the College Rock area in Hopkinton (off of Rte. 85). The 162-acre site is composed of the Rocky Woods and the former Bowker Property and it abuts the corner where the towns of Holliston, Hopkinton, and Milford come together. A major trail circles the land's periphery. It is very wild and mostly dry,

whereas most of our other Conservation Land contains wetlands. Some of the outstanding features are large, picturesque granite boulders.

Joseph Cohen Conservation Land: This land was named for a past Chairman and longtime member of the HCC and the Associates. It is in the Queens area, on the west side of Westfield Drive, near Travis Road. It encompasses a small stream as it meanders through swampland, connecting back with Westfield Drive and the edge of Houghton's Pond. It has been preserved as an example of urban wetlands in the midst of a built-up area.

Houghton's Pond: This 33-acre pond extends between Washington Street and Westfield Drive in the Queens area. Access may be gained from beyond the dam located to the rear of the parking lot at 441 Washington Street or from the concrete head wall on Westfield Drive. Homeowners' property lines are very close to the edge of the property. Town residents can often be seen fishing from the culvert. It has been reported that three pound bass have been taken here. The pond contains many turtles and frogs. Waterfowl use it as a nesting site. Although it is quite shallow, some people do canoe on it.

Daniels' Property: This 20-acre parcel was donated by the Daniels' family. It was formerly a home site with a variety of gardens and fruit trees. Evidence still remains of the house and garage that were torn down a number of years ago. A former cranberry bog exists beneath the large vernal pool located on the property.

Poitras Memorial Land: The Poitras family donated this 44-acre parcel to the town in 1986 in memory of their parents. Access to it is off of Washington Street by the Historical Society and is marked. This is a long, relatively narrow, parcel that leads to the top of a hill with good views in winter.

Factory Pond: This 11-acre pond is off of Woodland Street near the Miller and Placentino Schools. It is very picturesque and is often used by fishermen. The Cutler brothers owned a variety of industries that were located in this area. In the mid-1880's they operated a cooper and wheelwright shop, a grist mill, a tannery and a thread mill near the dam.

Other Conservation Lands: Some other parcels include the Haak Land on Birch Road, the Young Land on Birch Road and Cottage Drive, and the Landau Land, all of which are located near Lake Winthrop. Other parcels include the Rachel Capone Land off of Donna Road and the Esther Fischer Land off of Lowland Street. The Hamilton/Crocker Land off of Central Street and Oak Ridge are both near Willowgate Rise. Denham Land is off of Jar Brook Road and the Ethel Vaughan Land is off of Wilson Street. Stratton Woods is off of Central Street and the Goodall-Murch Land is off of Beatrice Road. There is also the North Mill Street Development Land and the Winter Street Land. The Arch Land borders the Winthrop Canal.

Two other groups support the landowner role of the Conservation Commission – The Holliston Conservation Associates and the Open Space Committee. The Conservation

Associates of the Conservation Commission focus their efforts on land management, public education, and recreation on public land. Activities on conservation land are monitored, periodic guided walks are held on open space land, and conservation and ecology lectures are sponsored. The Open Space Committee, appointed by the Board of Selectmen, was founded to facilitate the acquisition of open space. Since the inception of the Open Space Committee in February 1999, over 325 acres have been purchased, all in part with CPA funds.

B. Water Department – 86.18 acres in fee (0.7% of Town's area)

Since making several acquisitions totaling 1.01 acres for storage improvements in the past decade, the Water Department has increased its inventory to just over 86 acres of protected land. These lands include protection of the Zone I and surrounding areas of six municipal wells and multiple storage tanks. In addition, the Department has two lease agreements on 11.5 acres to access and protect the Zone I of Well #7, which is currently under development. The Army Corps of Engineers owns and protects 8.78 acres of that Zone I and the Highlands at Holliston Homeowners Association (Phase II) owns the other 2.75 acres. The 2.75 acres is part of a pending conservation restriction within that cluster subdivision that will be considered permanently protected when executed. For purposes of this plan, we have credited the Water Department with ownership of just over ½ acre of land at Stoddard Park. This represents the wellhead itself and upland portion of the Zone I. Most of the Zone I for this well is actually under Lake Winthrop and is owned by the Commonwealth.

C. Recreation – 29.13 acres in fee (0.25 of Town's area)

After researching deeds, state and federal grant funding and Town Meeting restrictions on some recreational parcels, we have added 29.13 acres to the protected inventory under the category of recreation. These parcels are managed by the Park Commission and include Stoddard Park, Goodwill Park, Weston Pond, and Mission Springs. All of those areas were deeded to the Town for the express purpose of recreation area development and all have received state and/or federal grants which have Town Meeting "blessings," one of which is permanent restriction of the land for recreation under the provisions of MGL c. 45.

4. Non-Profit Conservation Organizations – 276.90 acres in fee (2.3% of Town's area)

Two non-profit conservation organizations own and manage parcels in Holliston -- the regional Upper Charles Conservation Land Trust, Inc. (UCCI) and Massachusetts Audubon (MAS). No additions have been made to their fee interests for more than 10 years.

UCCI owns 7 parcels comprising the 111.60-acre Wenakeening Woods. Acquired from the Massachusetts Farm and Conservation Lands Trust, the Dennison Manufacturing Company and New Hope Housing, Inc., most of the area is also protected by Conservation Restrictions held by the Conservation Commission (4.98 acres) and the Trustees of Reservations (102.43 acres). Public access and trails are available from both Summer (Route 126) and Highland Streets just north of the Medway town line. The property is very popular for walking, cross country skiing and snowshoeing. An "all-

ages” Forest Management Plan has recently been prepared for the site for the 2013 – 2022 planning period with a goal of improving access for recreation as well as preserving the scenic beauty of the site.

MAS owns three parcels in Holliston and an additional 63 acres in Hopkinton that comprise the 228-acre Waseeka Wildlife Sanctuary. Parking for Waseeka is located in Hopkinton off Clinton Street on East Street. The sanctuary is undeveloped and parking is not maintained in the winter. A trail system includes a pond loop into Holliston. Within Holliston, Waseeka is bordered by many parcels and acres of Chapter 61, Chapter 61A, and Agricultural Preservation Restriction land (Highland Hill Farm) as well as the Highland Meadows townhouses located off Highland Street. The sanctuary has several hundred feet of frontage along Mill Street at the Hopkinton town line.

5. Less-than-Fee Interests – 333.81 privately-owned acres (2.7% of Town’s area)

Many property owners have parcels that have some form of “less-than-fee” interests or rights that are owned by the town, another governmental body, or by a non-profit organization. In these cases the owner, or a prior owner, has agreed to give or sell some portion of their ownership rights to another party. These transferred rights may limit future development or “restrict” the use of the land. Conservation Restrictions are one form of a less-than-fee ownership that would render a parcel “protected” as are Agricultural Preservation Restrictions.

The following table shows all land with some form of less-than-fee interests held by another owner. Of the 687 acres subject to restrictions, 333.81 acres are privately owned and the balance is owned by a combination of the Conservation Commission and Upper Charles Conservation Land Trust, Inc. There are two Agricultural Preservation Restrictions in place protecting just over 160 acres as well as 23 Conservation Restrictions protecting or reinforcing protection of 526.95 acres. It should be noted that the Community Preservation Act regulations require restrictions for acquisitions and so parcels such as the Conservation Commission’s 210-acre Fairbanks parcel, which was purchased by the Town utilizing CPA monies as well as federal grant monies in partnership with the Trustees of Reservations, are “doubly protected.” Also of interest are the restrictions that are privately owned that remain enrolled in either Chapter 61 or 61A programs. These 128.33 acres in the Highland Street area are actively managed by the restriction holder MassAudubon and are partially sublet for agricultural pursuits as these landowners are committed to maintaining Holliston’s agricultural heritage.

Table 5.11: Less-Than-Fee Interests

Assessors Map/Book/ Lot	Owner	Restriction Owner	Type	Public Access	Level of Protection	Acres
10/2//24	Highland Farm	Dept. of Ag.	APR	No	Permanent	147.8
11/3/3	Marion Smith	Dept. of Ag.	APR	No	Permanent	2.6
11/8/331	Marion Smith	Dept. of Ag.	APR	No	Permanent	9.87
9/4/42 etc	Oakridge	Con Com	CR #1	No	Permanent	3.78
4/4/322.1 etc	Generazio	ConCom	CR #2	No	Permanent	5.95
9/6/101	Nagog RT	ConCom	CR #3	No	Permanent	.66
9/4/39.76	Robbins	ConCom	CR#5	No	Permanent	.67
9/4/28	Olde Oaks Assoc.	ConCom	CR #6	No	Permanent	15.82
11/6/42.1	Carl Kuniholm	ConCom	CR#7	No	Permanent	3.7
11/6/37	Carl Kuniholm	ConCom	CR#8	No	Permanent	2.36
14/4/18.4	Carl Kuniholm	ConCom	CR#9	No	Permanent	3.77
14/4/18.4 etc	Carl Kuniholm	ConCom	CR#10	No	Permanent	.72
11/6/42.1	Carl Kuniholm	ConCom	CR#11	No	Permanent	1.35
9/1/75	UCCI	ConCom	CR #12	No	Permanent	1.01
9/1/72	UCCI	ConCom	CR #13	No	Permanent	4.54
11/8/422	Adams	ConCom	CR#14	Yes	Permanent	1.23
5/1/17.B	UCCI	TTOR	CR#15	Yes	Permanent	3.69
none	Fafard	ConCom	CR#17	Yes	Permanent	.15
5/1/44.2	UCCI	ConCom	CR#18	Yes	Permanent	4.98
1/2/35	ConCom	TTOR/DCR	CR#20	Yes	Permanent	210.2
11/2/10, 23	ML Carter Trust	MAS	CR#22	No	Permanent	42.3
11/3/1.1	ConCom	MAS	CR#23	Yes	Permanent	29.39
11/2/6.1, 7, 146	ML Carter Trust	MAS	CR#24	No	Permanent	81.03
11/2/6.2	Greendale Trust	MAS	CR#25	No	Permanent	5
4/3/18	Balancing Rock Village Condo. Tr.	ConCom	CR#	No	Permanent	5.92
5/1/1,17(part) 17.C, 18	UCCI	TTOR	CR	Yes	Permanent	98.73
TOTAL						687.18

Source: Holliston Assessors' records, EOEEA, and S. Middlesex Registry of Deeds

Unprotected Land Inventory

Other Local Lands – 658.5 acres in fee (5.4% of Town's area)

As noted above, the Town of Holliston owns an additional 658.5 acres of land ranging from Town Forests to Tax Possessions. For purposes of this inventory, we have not included town buildings and other facilities such as parking.

In terms of recreation lands, the Parks Commission manages an additional 42 acres of unprotected park lands at Potoma and Pleasure Point. In 1986, the Town purchased 184.1 acres that is the Pinecrest Golf Course. Since 1987, the Selectmen have appointed a Golf Course Advisory Committee and have contracted with a management company to run the facility. In addition, the Board of Selectmen has a long-term lease agreement with Holliston Youth Soccer Association for development and operation of a field complex on 22.27 acres on Marshall Street. The Trails Committee has facilitated the acquisition of 22.35 acres of former rail line for development of the Upper Charles Trail with an additional 2.5 acres pending. Part of this area at the intersection of Central and Railroad Streets has recently been named "Blair Square." The Town has a lease agreement on the remainder of the abandoned rail line from Church Street to the Sherborn town line.

Based on historical accounts of land area, the Town has 195.3 acres of designated Town Forests in three parcels. Two of the parcels are located amid the Adams Street Conservation Area (171.1 acres) and a single 24.23 acre parcel on Highland Street (Heinrich Memorial). These areas are managed by the Town Forest Committee. The Town intends to protect the Adams Street Town Forest through Conservation Restriction in partnership with the Trustees of Reservations in this planning period.

The Town owns three cemeteries on Washington Street, including the burial ground next to Town Hall, the East Village Burying Ground and the Braggville Cemetery. Additionally, the Town owns the Patty Lincoln Cemetery on Gorwin Drive and a Native American cemetery on Cedar Street for a total of 3.62 acres.

The Town owns an additional 21 parcels totaling 86.49 acres and 47.44 acres in unassigned tax possessions that are included in this open space inventory. With follow-through on approved Cluster subdivisions that never properly executed their open space restrictions in accordance with the provisions of their Special Permits under the Zoning By-Laws, 5 parcels representing 22.41 acres from three cluster subdivisions are on the current list of 22 Tax Possession parcels that should be added to the Conservation Commission's inventory (The mechanism for this is a vote of the Selectmen and Town Meeting and a Certificate of Land Transfer per the provisions of MGL c. 40, s. 15A.). The Assessor's currently have 13 parcels on 62.93 acres labeled as "Owner Unknown" which are not accounted for in the inventory. One focus of any additional acquisitions should be to evaluate and target these additional unprotected Town of Holliston, Tax Possession, and Owner Unknown parcels for protection review, especially if they have multiple open space values such as watershed and habitat protection.

Non-Profit Lands and Facilities – 259.05 acres in fee (2.1% of Town's area)

We have included 259.05 acres of non-profit land to the inventory, which includes the three parcels of the Bullard Memorial Farm (151.1 acres), the Holliston Historical Society (2.89 acres), the Washekum Live Steamers facility (24.35 acres), Northeastern University "Warren Woods" property (36.09 acres), the Holliston Sportsmen's Association (14.76 acres), and the Boston University property (34.6 acres). Also included are the 29.9 acres of cemeteries not included in the municipal inventory, including Lake Grove, Aaron Bragg and St. Mary's.

Private Lands – 742.75 acres in Chapter 61 and 61A (6% of Town's area)

Incentive programs give landowners tax breaks while their land is kept open. Property in the Chapter 61 program (M.G.L. Chapter 61, 61A or 61B) allows the Town a right of first refusal to purchase the land should the property owner decide to take the land out of the program. Land may be taken out of program by notifying the Town and paying a withdrawal penalty tax. The Town has 120 days to exercise its right of first refusal, if the withdrawal coincides with an ownership transfer. Should this time period pass and/or the Town state in writing that it will not act on its option, the land may be developed for alternative use(s), removing it from its "open" status as forest, farm or recreation land. Therefore, it is critical to assess the properties currently held under this program to identify those parcels that are most likely to be subjected to development pressure in the near future.

We have identified 38 private parcels that comprise Chapter 61 and Chapter 61A lands for FY13. With a total assessed value of \$300,000 there are 33 Chapter 61A parcels totaling 665.43 managed and registered acres and 5 Chapter 61 parcels totaling 151.47 acres. Subtracting the land in Chapter 61 programs that is already inventoried in the protected category above in conservation restrictions yields 81 acres of Chapter 61 land and 661.75 acres in chapter 61A.

Since 2001, the Town has purchased more than 250 acres of land that was enrolled in the Chapter 61 programs in the Fairbanks and Finn parcels. Since the 2006 OSRP Plan, the Bullard Memorial Trust has removed 151 acres from the tax rolls by incorporating as a non-profit. Additionally, the 29.95-acre Brooksmont Farm on Concord Street was removed from the program. Three parcels have been added to the Chapter 61A inventory (33.55 acres) and one to the Chapter 61 inventory (28.3 acres), resulting in a net loss of 119.57 acres from the program in the last 6 years.

Farmland in the Chapter 61A program requires a minimum of five contiguous acres "actively devoted" to agricultural or horticultural use, including animals, fruits, vegetables, and forest products. To qualify as "actively devoted," a minimum of \$500 in gross sales during the prior two years is required. One must apply to the Town Board of Assessors for consideration, and the status must be renewed every year. A reduced property tax is applied if approved. As noted in Section 4, the Highland Street area includes much of the existing agricultural land as well as much of the Town's most significant agricultural soils.

It is important to note that if there is a home on a parcel, the minimum required land area in the underlying zoning district is subtracted from the total area for tax purposes and is not counted in this inventory. In addition, several landowners have chosen not to utilize the provisions of Ch. 61 and 61A for all their acreage. This "excess land" should be evaluated on an individual basis and we have noted those areas in our Action Plan.

Many of the parcels that were once active farmland are now primarily residences. Many of the larger parcels have on-going agricultural and forestry activities and contribute to the town's character. Threats continue as family circumstances change and as the value of land increases. The action plan will propose priorities for protecting farming as a viable part of the town's landscape.

Table 5.2: Chapter 61A Land (Agricultural and Horticultural)

Assessors Map/Block/Lot	Owner	Level of Protection	Program	Acres in Program
11/1/1.3	Carter Realty Trust	None	Chap 61A	4
11/1/1.2	Carter Realty Trust	None	Chap 61A	18.86
11/2/10	Carter Realty Trust	Part CR	Chap 61A/CR	14.31
5/4/19	Kase	None	Chap 61A	69.06
5/4/39	Kase	None	Chap 61A	55.4
8F/9/32.1	Koshivas Estate	None	Chap 61A	60
8F/5/33	Koshivas	None	Chap 61A	3.65
8F/9/12	Koshivas, M	None	Chap 61A	19.03
4/1/3	Kramer	None	Chap 61A	45.09
4/2/52	Kramer	None	Chap 61A	41.21
8/5/1.1	Finn	None	Chap 61A	40.54
12/4/16	Serocki, E	None	Chap 61A	41.1
12/4/20	Serocki, E	None	Chap 61A	8.31
4/2/58	Foote	None	Chap 61A	32.11
10/1/4	Nickerson	None	Chap 61A	31.64
5/5/10	Kadlik	None	Chap 61A	13.29
12/4/17	Serocki, F	None	Chap 61A	8
12/4/18	Serocki, J	None	Chap 61A	17.19
4/2/41	Dewolf	None	Chap 61A	8.17
8/7/85	Dubin	None	Chap 61A	8.86
12/3/25	Trum	None	Chap 61A	8.3
7/6/23	Brigham	None	Chap 61A	13.17
11/4/6	Lovewell	None	Chap 61A	13.5
7/7/366.1	Collins	None	Chap 61A	6.75
11/5/39	Tashjian	None	Chap 61A	6.97
4/4/68	Patt	None	Chap 61A	9.82
4/4/53	Patt	None	Chap 61A	5.66
7/7/351	Smith, J	None	Chap 61A	5.48
4/2/58	Foote	None	Chap 61A	32.11
4/2/41	Dewolf	None	Chap 61A	8.17
			Total	665.43

Source: Holliston Assessors' records (FY13)

To qualify for the Chapter 61 program, forestlands require a minimum of ten contiguous acres under a minimum 10-year management plan certified by the State Forester. Once the application has been received and approved, the classification statement functions as a lien upon the land for taxes levied under the provisions of M.G.L. Chapter 61. The landowner must reapply every ten years or the Town Assessor removes the land from classification. A tax is payable on stumpage income for the two years prior to management and a much reduced property tax is payable once per year.

Table 5. 3: Chapter 61 (Forest Land)

Assessors Map/Book/Lot	Owner	Level of Protection	Acres
11/2/6.1	Carter Realty Trust	Portion CR	71.21
11/2/6.2	Greendale Investment Tr.	Portion CR	6.17
11/2/23	Carter RT	None	61.39
11/2/146	Carter RT	None	12.7
9/1/2.2	Geremia	None	28.3
		Total	151.47

Source: Holliston Assessors' records (FY'13).

There are no Chapter 61B lands in Holliston. To qualify for Chapter 61B, private recreation land must have a minimum of five acres that is left wild and/or maintained for wildlife habitat or used for recreational purposes by the public or non-profit private group. The owner must apply to the Town Board of Assessors for consideration and the status must be renewed yearly. As with Chapter 61 and Chapter 61A, a reduced property tax results if approved. The land is privately owned, but community use is allowed based upon membership and/or compensation of some form. Use of Chapter 61B should be encouraged in Town. The Chamberlain Pines Tennis Club (10 acres) on Chamberlain Street, Washakum Live Steamers (19.9 acres) on Arthur Street, and the Holliston Sportsmen's Association (14.3 acres) on Bullard Street appear to be the only private recreation sites in Holliston that could qualify. These parcels all appear in the Action Plan in the Multiple Open Space Values table. With the exception of Chamberlain Pines, they are currently owned and managed by non-profit entities.

Undeveloped Parcels over 10 acres

We have also inventoried 77 partially developed and undeveloped parcels over 10 acres in all zoning districts, many of which have multiple open space values (e.g. abut existing protected lands or are located in valuable groundwater protection areas). Those are included in Section 9: Action Plan as Targeted Acquisitions.

SECTION 6: COMMUNITY VISION

Description of Vision Process

Several strategies were used to update the community vision for the future of the Town's open space and recreation resources: public forum, survey, and a series of meetings/interviews with various interested parties. These efforts confirmed the goals articulated in the 1998 and 2006 Open Space and Recreation Plan as well as the 1998 Master Plan.

Community Vision Statement

The Town of Holliston envisions itself as a progressive, yet traditional New England community with....

- ❖ Neighborly citizens from diverse socio-economic backgrounds who care about Holliston and whose active involvement in Town ensures that Holliston will always be a highly desirable place to live and work;
- ❖ A historic downtown with viable shops and public buildings, services and parks within comfortable walking distances;
- ❖ Plentiful open spaces, wooded areas, and recreational areas linked with easily accessible walking and biking trails;
- ❖ The Town of Holliston pro-actively manages its growth through a continuous and comprehensive planning approach which is supported by the actions of public officials, volunteer organizations, and citizens who demonstrate their commitment to the planning process on a regular basis;
- ❖ The Town of Holliston proudly supports its public school system that provides a superior education in state of the art facilities and that is recognized nationwide for its excellence;
- ❖ The Town of Holliston offers residents and businesses a high level of cost effective services operating from well-maintained public facilities; Town employees, who want to live in Town can afford to do so;
- ❖ The Town of Holliston treasures its natural environment, and is especially proud of the degree to which it has protected its high quality water resources;
- ❖ The Town of Holliston provides a safe and healthy environment where families spanning many generations continue to choose to live and raise their children;
- ❖ The Town of Holliston's tree-lined country roads can be traversed in safety to the greatest extent possible by pedestrians, cyclists, and vehicles;
- ❖ The Town of Holliston entices sustainable businesses in tune with Holliston's community character to relocate and remain in Holliston and to contribute tax revenues to create and maintain a balanced tax base;
- ❖ The Town of Holliston is managed by fiscally responsible government comprised of decision-makers who are responsive to the needs of Holliston's residents.

Achieving this vision will take a concerted effort over a long period of time, but there will be many benefits for each individual:

- ❖ Generations of families will continue to enjoy the scenery of farms, forests, ponds, and wetlands that help determine the character of Holliston.

- ❖ They will be able to walk or bike to the downtown, schools, conservation lands, and recreation facilities on a network of safe and attractive trails and walkways.
- ❖ Individuals will derive health benefits from being able to walk, run, ski, bike, swim, and play sports.
- ❖ Seniors will choose to stay in Town because of these facilities, walking opportunities, and programs catering to their interests.
- ❖ The future supply and quality of drinking water will be protected.

Statement of Open Space and Recreation Goals

The following goals are generally the same as those stated in the 1998 and 2006 Open Space and Recreation Plan.

Goal 1. Protect and enhance the quality of Holliston's surface and groundwater.

Goal 2. Provide and maintain conservation land that protects Holliston's natural resources.

Goal 3. Increase and improve active and passive recreational opportunities to meet the diverse needs of all citizens.

Goal 4. Increase environmental awareness and promote appreciation of natural features and resources among all sectors of the Holliston community.

Goal 5. Provide a system of trails that addresses the demand and opportunity for walking, biking, and skiing.

Goal 6. Protect the Holliston's community character with a focus on agriculture, scenic, and historic landscapes and areas.

Section 8 will discuss the above goals in more detail and develop a comprehensive set of objectives aimed at realizing these goals.

SECTION 7: ANALYSIS OF NEEDS

A. Summary of Resource Protection Needs

Aquifers, Groundwater and Recharge Areas

A Water System Master Plan was completed in 2010 which evaluated a 20-year demand, provided a computer model of the system, evaluated the adequacy of water supply as well as treatment and distribution systems, and prioritized capital improvements to meet needs, regulations, fire protection requirements, and distribution system operating pressures. The reliability and redundancy of community wells is a major issue as well as adequate usable storage. Since 2005 the Water Department has expended over \$11,000,000 in capital improvements including water treatment facilities at Wells #4 and #6, Well #8 (aka Well #2 replacement) and wellhouse, water storage tank rehabilitation, water main replacement, meter replacement, and coagulant feed system at well #6. Ongoing projects include conversion of the pH adjustment system, Well #4 rehabilitation and Well #7 wellhouse and water main for additional expenditures of over \$4,000,000.

After over a decade of negotiations with the Army Corps of Engineers (ACOE), the Water Department has begun construction on Well #7. Well #7 has a combined approved rate with Well #6 of 600 gallons per minute (gpm) or 0.86 million gallons per day. Long-term surface water monitoring under pumping conditions is required to evaluate impacts to Dopping Brook and the associated wetlands due to pumping. After review of monitoring data, DEP may increase the rate to 700 gpm. The increase in the approved maximum daily rate will be completed through a 5-year review of Holliston's Water Management Act Permit. A positive result would allow for some future growth in the system.

Well #7: A Case Study in Real Estate and Permitting

The well site is located on land owned by the ACOE in the 100-year flood plain and is surrounded by land designated as Priority Habitat for Rare Species by the Natural Heritage and Endangered Species Program. The Town worked for years to obtain control of the wellhead and surrounding Zone I (400' radius). Permanent protection of the Zone I is pending execution of a Conservation Restriction on a cluster subdivision open space parcel. The Department of Environmental Protection (DEP) approved the Well #7 permit in July 2012 after an extensive permitting and review period and issued some specific permit conditions requiring actions by the Town, namely modifications to the Zoning By-Law and a non-zoning floor drain control. At the October 2012 Special Town Meeting, the Zoning By-Laws were amended at Section V-L Groundwater Protection District to reflect DEP's permit requirements. Floor Drain Regulations aimed at protecting the Zone II of the public water supply were adopted by the Board of Health pursuant to MGL c. 111, s. 31 and 122. Well #7 is located approximately 1,500 feet north of existing Well #6 and a raw water pipeline is currently being constructed to the treatment plant adjacent to Well #6.

The Water Department continues to complete a program of hydrant flushing and has revised its Regulations as of June 30, 2010. The Water Department has published "Design and maintenance techniques to promote water quality and conservation" and other public education efforts.

Surface Waters

In 2003, Holliston filed a Notice of Intent for coverage under the National Pollution Discharge Elimination System General Permit for stormwater discharges from "small MS4s". The subsequent permit issued by The United States Environmental Protection Agency (EPA) allows the Town to discharge stormwater. A Phase II Stormwater Management Plan has guided the Town since and annual reports have been filed with EPA and DEP to document implementation measures. Products of the effort are a GIS drainage layer, municipal operations inventory, as well as recommended Best Management Practices.

As a result of regulatory recommendations in the Stormwater Management Plan, a series of regulatory amendments have been enacted, including performance standards for water quality in the Zoning By-Law, a Stormwater Management and Land Disturbance By-Law (General By-Laws Article XLI) and Regulations for Stormwater Management and Land Disturbance (Planning Board Regulations Article XI). The two stormwater regulations target activities disturbing more than 250 square feet of land with 10% or greater slope and more than 10,000 square feet of soil disturbance (regardless of slope) or 25% of a lot and provide for stormwater management as well as soil erosion and sedimentation. Additionally, the Town's Wetland Administration By-Law (General By-Laws Article XXX) and Conservation Commission's Wetlands Administration Bylaw Regulations regulate development activity.

Dams

In 2007, Holliston received three Certificate of Non-Compliance and Dam Safety Orders from the Department of Conservation and Recreation (DCR) for the Houghton Pond, Factory Pond and Lake Winthrop dams. All three dam structures are characterized as "Intermediate Size, Significant Hazard Potential" that may cause loss of life and property damage in the event of dam failure. A program of follow-up inspections and evaluation of structural integrity and spillway hydraulic adequacy of the dams has followed. A sum of \$40,000 was approved by Town Meeting to fund preliminary efforts to survey and analyze the structures. Additionally money will need to be allocated to develop a package for submittal to DCR and actually construct improvements.

Wildlife, Rare and Endangered Species Habitat, and Wetlands

We have included an assessment of each of our identified targeted acquisition parcels with regard to Priority Habitat and BioMap2 locations as part of our Action Plan. In addition to inventorying and targeting BioMap2 parcels for permanent protection (1558 acres of identified BioMap2 Core Habitat acres and 427 acres of BioMap2 Critical Natural Landscape that remain unprotected), the Conservation Assessment and Prioritization System (CAPS) Index of Environmental Integrity (IEI) is available to the community through the resources of the UMass Cooperative Extension Center for Agriculture. The EIE delineates the relative wildlife habitat and biodiversity value of any point on the landscape based on landscape ecology principles and expert opinion. According to MAS "Losing Ground", between 1971 and 2005 Holliston lost 49.4% of its IEI to development. Between 1999 and 2005, 184 acres in Holliston were converted to developed land.

Holliston's habitats for rare and threatened species of plants and animals, surface water bodies and aquifers remain the most threatened natural resources in town. Lake Winthrop and the Town's water supplies are at risk from failing septic systems, accidental spills, buried tanks, and the effects of non-point source pollution. Some critical habitat areas are threatened by development and fragmentation.

Beaver Management

Holliston's beaver population has expanded markedly throughout the community in the past decade. The Holliston Conservation Commission, working with the Board of Health, has issued several emergency permits for beaver management in the past decade due to threats to public safety. Both regulatory boards actively follow the state guidance documents implementing MGL c. 131, s. 80A. In addition, the Conservation Commission has developed a local Beaver Management Plan/Policy which creates a three-tiered management overlay: areas with no action required, areas where non-lethal methods are effective and no-tolerance areas.

Actions taken to clean the water resources may be wasted if a concerted campaign of education and management is not undertaken to inform residents about these highly valued recreational areas and how they should be monitored and managed.

Greenbelts and Core Areas

Once protected, the major open spaces or core areas in town need management plans. These management plans would provide a natural and cultural inventory of each property and address issues of ecological management, control of invasive exotic species, public access, linkage to other properties, competing or conflicting uses, regulations, and define the resources necessary to sustainably manage these important resources. The management plans should be prepared with the participation of abutters and the various stakeholders and may be accomplished "in-house". For example, the New England Mountain Biking Association should be asked to participate in planning for the Fairbanks/Upper Charles Headwaters Area. The Trails Committee has a shared management interest with the Conservation Commission and Upper Charles Conservation Land Trust in the development of the Upper Charles Trail and planning for potential trail offshoots and hubs/trailheads into conservation parcels and Wenakeening Woods.

Protected Open Spaces

The local capacity for open space acquisition remains limited. Although the Town established an Open Space Acquisition Fund with a revenue stream (cell tower leases), CPA funds remain the "go to" source of funds and matching funds for open space acquisition. Other sources of funding for open space acquisition are LAND grants and partnerships with environmental organizations such as MAS and the Trustees of Reservations.

While Holliston has substantial conservation lands, many if not most of the residents of Holliston don't know where they are. These parcels, and the trails on them, are largely unmarked. Awareness of, and access to, existing conservation lands is therefore a need

to be addressed. Some residents have also voiced a concern that certain conservation lands should be retained purely for their conservation or wildlife value, and not made accessible to human use. The Town needs to establish priorities for access and protection.

Access needs vary. While some residents speak of hiking and cross country skiing on upland portions of conservation land, others would like increase access to water bodies for boats, such as on Weston Pond. There are few trails which are accessible to people with limited mobility. Access to trails for people with physical disabilities as well as recreational facilities is needed.

Warren Woods

(Excerpted from MAS Gaining Ground Land Protection Blog 4/29/13)

“Warren Woods was recently acquired for conservation by the Town of Ashland from Northeastern University (NU). Warren Woods (comprising 120 acres) represents the last and largest remaining piece of open space in Ashland, and connects to a wildlife corridor of over 1,000 acres, one of the largest protected corridors of open space in the Metro West Region (see map). Mass Audubon was instrumental in assisting the Town with protecting Warren Woods and we are now working with Ashland town officials on the conservation restriction (CR) Mass Audubon will hold, which will permanently protect the land.

In addition to our efforts in Ashland, Mass Audubon has been working simultaneously with NU, Holliston residents, and town officials to protect an abutting portion of Warren Woods (22 acres, shown in red on map) located in Holliston. These 22 acres serve as an important link connecting the recently protected Ashland portion of Warren Woods to other protected land in Holliston (see map), including Mass Audubon CR holdings, town-owned conservation land, and agricultural preservation restrictions. Mass Audubon recently learned exciting news that NU and Holliston officials have reached an agreement to protect this land for conservation. It is anticipated that a Town Meeting vote will be necessary to fund any purchase, as well as private fundraising, and that Mass Audubon will hold the CR as we are in Ashland. Holliston Town Meeting will consider the purchase on May 6 which is supported by various town boards including the Open Space Committee, Board of Selectmen, Community Preservation Committee, and Finance Committee. Stay tuned for more updates as this project continues to take shape.”

Note: Holliston Town Meeting passed two funding articles for this project in early May 2013.

Farmland

The Agricultural Commission’s website identifies eleven active farms in Town: Arcadia, August, Breezy Hill, Bullard Memorial, Highland, Lil Folk, Little Beehive, MacArthur, Newfound, Outpost and Patt’s Blueberries. The farm locations are scattered throughout the Town and individually offer a variety of goods to the local and regional community. In addition, Bullard Memorial Farm offers historical programming and hosts a variety of community events in its role as an educational non-profit organization. With the exception of Little Beehive and Newfound, Holliston’s active farms are all enrolled in c. 61 and 61A programs in addition to other parcels.

The Agricultural Commission manages the Community Garden plots (12 in 2013) located at the Pinecrest Golf Course site and hosts Farm Days and several other events annually. In addition to maintaining its programming, the Commission is committed to building a stronger market for local agricultural products and making Holliston's agricultural business environment more friendly, whether through creation and support of a farmer's market or through amended zoning provisions to allow for diversified agricultural operations (e.g. expansions of use to encourage farm tourism and expanded retail and food service opportunities). Establishing and fostering an active dialog with farm owners remains key to preserving the Town's diverse agricultural base. These efforts are directly in line with Implementation Strategy #7 of the MetroFuture Regional Plan entitled Protect Natural Landscapes.

Recreation Resources

The Town's recreation resources include the parks listed in the Section 5 inventory, the Pinecrest Golf Course, school department facilities, and in other town buildings like the Senior Center. These facilities include indoor and outdoor recreation resources.

Primary Recreation Facilities											
	Trails/ Fishing	Meeting Room	Basket- ball ct	Gym	Tennis Courts	Ball Field	Soccer Field	Golf Course	Track/ Field	Program Site	Play- ground
Placentino School				1							1
High School		x	1	1		2	1		1		
Flagg/ Adams/ Damigella		x		1		3	1			1	
Miller School		x		1							1
Senior Center		x									
Goodwill Park			1		4	1	1				1
Pinecrest Golf Course								x			
Mission Springs			1			1					
Stoddard Park	1					2	1		1		1
Patoma Park	1	x	1		3	1	1			1	
Pleasure Point											1
Weston Pond	1						3			1	
Total	3	x	4	4	7	10	8	x	2	3	5

Lake Winthrop Recreation Facilities									
	Beach	Picnic	Bath-house	Ramp for Beach	Boat Launch				
Stoddard Park	1	x	1	x	1				
Pleasure Point	1	x	1	x	1				
Total	2	x	2	x	2				

Recreation Department

The Park Commission through the Recreation Department provides year-round programming for all ages, with a focus on youth. Adult programs include a wide variety such as fitness boot camp, Over 35 basketball, and Mommy & Me. Programs for youth include programs through F.A.S.T. Athletics, US Sports and Skyhawks Cheerleading, the elementary and middle school iStrong Girlz program, Home Alone and Baby Sitter Lessons & Safety Training. Weekly summer camp programs include Outdoors at Goodwill Park (ages 4-6), Junior Patoma (grades 2-5), and Senior Patoma (grades 6 & 7). In addition, the department offers a variety of programming including basic sports (e.g. tennis, t-ball, soccer, basketball, flag football and dodgeball) as well as art and science. Golf fundamentals for all ages are taught at the Pinecrest facility. A Counselor in Training Program is available for 14 and 15 years olds as is a Great Get-A-Ways program for high schoolers. The Recreation Department has recently partnered with Breezy Hill Horse Farm for the Summer Horse Buddies program (ages 6-15). Arts, crafts, music and science are offered indoors at the Flagg Building. In addition the Recreation Department sponsors programs held in regional facilities located out of town such as Boating is FUN Camp (ages 8-15) at the nearby Hopkinton State Park.

Public beach access on Lake Winthrop is provided and maintained at Stoddard Park and Pleasure Point. Lifeguards are provided at Stoddard Park from mid-June through mid-August. Parking, bathhouse, picnic and playground areas are available to residents and non-residents purchasing beach passes. In FY13, 399 residents and 189 non-residents purchased day pass admission for the use of Stoddard Park and Lake Winthrop. In addition to the public beaches, the Recreation Department works cooperatively with the Department of wildlife and Fisheries to maintain boat ramp access on both the Stoddard Park and Pleasure Point sides of Lake Winthrop.

The Recreation Department manages facility rentals for practices, games and events including Stoddard Picnic Area, Adams and Damigella fields and lights, as well as scheduling for field usage, including but not limited to Holliston Boys Scout and Girl Scout troops, Holliston School Department, Holliston Youth Lacrosse, FC Spartans (soccer), Panther Premier Soccer, Holliston Girls Soccer, Panther Football Academy, Super Senior Softball, Womens over 40 Soccer, Holliston Youth Field Hockey, Holliston Field Hockey, Holliston Youth Basketball, Holliston Mariners Baseball, Winning Pitchers Baseball, Tri Hard Sports, Celebrate Holliston, Friends of Holliston Baseball, Tims Trot, Lions Club Triathlon, Autism Walk, Athletic Based Training, Paul Mangan

Kids Track, and All-out Soccer. The Holliston Youth Soccer Association (www.hysa.net) has leased land from the Board of Selectmen for 20 years near the Marshall Street Landfill and has developed a field complex there. The Holliston Youth Lacrosse, Youth Baseball/Softball Assoc., Youth Basketball and Pop Warner Football all maintain active websites.

The Recreation Department works cooperatively with the School Department to oversee, maintain and schedule athletic fields. A shared groundskeeper position is funded cooperatively by the Highway, Park and School Departments to keep the facilities at peak performance levels.

Senior Center

The mission of the Council on Aging is to identify and serve the diverse needs of all Holliston citizens 55 and older, as well as disabled adults. The Senior Center offers a variety of exercise programs, ranging from Zumba, Pilates, line dancing, and big band dancing to chi gong and yoga. Programming includes health and nutrition, safety and security, as well as travel, entertainment, culture and education. Outreach social service for transportation, fuel assistance, and mobility support are available to all Holliston residents to help maintain their independence and dignity. Presently the Senior Center has two full-time staff and one part-time staff person, as well as two part-time van drivers and many individual instructors who teach the many classes offered. All programs are paid through donations, fundraising and grants. There are over 60 regular weekly volunteers.

2012 Senior Center Program Participation:

- Total estimated senior population (over 60): 3,186
- Total unduplicated program participants (2012): 1,302 (41%)
- Total duplicated participants: 11,458
- Total volunteer hours: 10,836

While the Recreation Department, Council on Aging and Pinecrest Golf Course have all expanded recreational programming tremendously in the past decade, facilities and therefore program size remain limited. All programming is currently financially self-supporting through the use of revolving funds. Only the Goodwill Park facility has an endowment. The Arthur Williams Park Fund was established with the land gift of the park and relies upon investment returns on its modest principal for income.

Legislative changes to the Community Preservation Act (CPA) in 2012 recently allowed for appropriation of \$255,000 for the tennis and basketball courts at Goodwill Park in November 2012. The improvements to be completed by November 2014 will include drainage mitigation, reconstruction and resurfacing of the four tennis courts, resurfacing the basketball court and replacement of backboards, and the upgrade and installation of court lighting. The project will be completed with some additional monies from the Capital Expenditure Fund, but CPA funds will comprise 85% of the total expenditure.

Upper Charles Trail

The Upper Charles Trail (UCT) is planned to connect to the completed sections of the Milford section of the UCT on the southwestern end of Town and to the Sherborn section of the trail on the northeastern end of the Town. The UCT will provide an accessible trail system with connections to downtown recreational areas. The trail will also provide the spine linking numerous conservation lands and their associated hiking trails along the corridor. The UCT also provides a linear greenbelt linking open space and providing a wildlife corridor.

The Upper Charles Trail has been cleared on its entire 6.7 miles, providing an open, but mostly unimproved trail for limited use. As funding is made available, the surface will be improved to provide an accessible trail for a variety of uses. The Conservation Commission is currently reviewing an application for improvements to the 1.4 mile stretch of trail between Cross and Church Streets, which include creating a 10' wide trail of reprocessed bituminous concrete with stone dust. This approach is similar to prior trail work completed between Cross and South Streets and is being completed utilizing the Department of Conservation and Recreation's "Trail Guidelines and Best Practices Manual". Other recent improvements include removal of the buried and rotted railroad ties in the half mile stretch of trail west of South Street, drainage improvements at the Phipps Tunnel under Highland Street, and re-dedication of the "Blair Square" park area at the intersection of Central and Railroad Streets in the downtown. Volunteer trail clean ups have been occurring on a frequent basis with a variety civic groups lending a hand. The Friends of the Holliston Trails maintains an active Facebook page and coordinates fundraising efforts. Additionally local corporate sponsors such as Tree Specialists, STAR Sign and Grace Bicycles support efforts to develop the trail.

The Town obtained funding through the Massachusetts Department of Conservation and Recreation (DCR) in the amount of \$800,000 for acquisition of sections of the railbed. The Town lost \$1.5 million of funding for construction of section from Cross Street to Hopping Brook road due to the delay in the acquisition of corridor from CSX. The Town obtained a \$10,000 grant for construction of trail improvements from REI, and obtained a Recreational Trails Grants from the DCR for construction of improvements on a section of the trail from Hopping Brook Road to South Street.

The section of the Upper Charles Trail that was purchased contains historic granite bridges, including a buried replica of the Arch Street Bridge. It is the intent to partially open up one side of the buried bridge and provide access to view it as an historic exhibit. Another bridge at a stream crossing is protected by the purchase of this section.

The Town of Holliston has a lease with CSX on additional land that provides a direct connection to the designated sections of the Bay Circuit Trail in Ashland and Sherborn. The Town also leases the land surrounding the 8-arch trestle, allowing the opportunity for a park near the structure. The UCT will provide for the reuse and protection of a number of historic structures. The Trails Committee will seek funds for the restoration of Phipps Tunnel and its associated stone walls, the 8-Arch Bridge, and cattle passes and other bridges in the corridor.

B. Summary of Regional Needs

The Statewide Comprehensive Outdoor Recreation Plan

The Massachusetts Statewide Comprehensive Outdoor Recreation Plan's (SCORP) survey of the Northeastern Region suggests that Holliston's needs are similar to the needs of its neighbors. The list of recreation planning recommendations is based on the demand for specific types of recreational activities in the region. Planning suggestions that should be taken into consideration by Holliston, in light of its specific local needs, include the following:

- Improve water-based recreation for such activities as boating and fishing and increase access to inland waters.
- Improve maintenance of recreation facilities through the development of incentive programs.
- Improve opportunities for tennis and golf through public-private partnerships.
- Increase and improve the opportunities for quality experiences for cross-country skiing, picnicking and hiking.
- Maintain a balance between acquisition and development of both recreation and conservation areas.
- Develop educational or technical assistance programs that help towns and cities deal with liability issues.
- Develop site plans for the management of outdoor recreation vehicles within the region.

Not included in specific planning recommendations, but of regional importance, was a high level of dissatisfaction with field-based activities that is echoed in local survey results. Beyond this concern, other high priority issues include:

- Development and expansion of trail corridors.
- Acquisition and protection of cultural areas.
- Acquisition and protection of wildlife habitat areas, and
- Development and expansion of handicapped access.

The specific needs identified in Holliston seem to typify regional needs outlined in the SCORP, especially with regard to maintaining and improving field-sport areas and providing additional passive recreation opportunities. Other important regional issues that were documented locally were the acquisition of conservation and recreation lands, the expansion of handicapped access to facilities and the development and expansion of trail corridors. The "Five-Year Action Plan" (Section 9) includes recommendations specifically identified for Holliston that also reflect some of the open space needs identified in the SCORP'S Northeast Massachusetts Region.

Regional Context

The Department of Conservation and Recreation owns and manage the nearby Ashland State Park (470 acres) and Hopkinton State Park (1,450 acres). Ashland State Park includes the historic Ashland Reservoir. It was not staffed from 2009 – 2012 due to state budget cuts but will be staffed in 2013 as a swimming area. Hopkinton State Park, located in the abutting towns of Hopkinton and Ashland, includes the Hopkinton

Reservoir and Split Rock Group Picnic Site. Activities and amenities include handicapped accessible beach, swimming, bicycling, hiking, canoeing, fishing, boat ramp, boating, picnicking and cross-country skiing. Trail maps are available for both facilities.

The MetroWest Regional Open Space Connectivity Plan noted in Section 2 is in its implementation phase and Holliston has several designees to the working group. A more detailed study of the possible intra- and inter-community trail connections and possible acquisition/protection areas is the primary focus. Prioritizing trail and open space actions and suggested implementation/funding strategies will be done both regionally and locally. According to the MetroWest Regional Collaborative's former Director in a start-up memorandum of April 2012, the Working Group would "provide advocacy for implementation of key regional connections by promoting awareness and supporting grant funding requests and local initiatives."

Holliston is also connected to the abutting communities of Milford, Hopkinton, Ashland, Framingham and Sherborn by the Upper Charles Trail. The Holliston Trails Committee has continually participated in the regional planning efforts for the trail, including the recent regional trail symposium hosted by the Friends of the Milford Upper Charles Trail in Spring 2013. Figure 7.1 provides a graphic of the Upper Charles Trail Regional Context, including potential connections to the Bay Circuit Trail.

Abutting Communities

The Town of Ashland physically connects Holliston to the MAPC MetroWest sub-region. Review of its Open Space plan indicates that issues of mutual interest include the completion of the acquisition of Northeastern University's Warren Woods in Holliston, development of the Upper Charles Trail (UCT), resources of the Ashland State Park, and participation in the Bay Circuit Alliance.

Although the abutting communities of Hopkinton, Milford, Medway, Millis and Sherborn are part of the MAPC SWAP sub-region, many issues are common because of shared transportation networks (Routes 16 and 126), natural resources and community characteristics. Only Hopkinton and Medway have current Open Space and Recreation Area Plans (OSRP) according to the Dept. of Conservation and Recreation's website. Review of their OSRP plans indicate that Hopkinton and Holliston have shared interests in the Charles River Headwaters Area, specifically in the College Rock and Rocky Woods Conservation Areas, as well as the UCT, Mass. Audubon's Waseeka Wildlife Sanctuary, and the Hopkinton State Forest. In addition Hopkinton is the location of the regional MetroWest YMCA Family Outdoor Center.

Medway and Holliston have shared interests in the Upper Charles Conservation Land Trust's Wenakeening Woods as well as the water resources of Hopping Brook and Chicken Brook and the Department of the Army Corps of Engineers Charles River Valley Natural Storage Area.

Holliston also shares an interest in the UCT development with Milford and Sherborn. While Milford's portion of the UCT is completed, Sherborn's planning and development is in its infancy. Holliston and Sherborn also share Dopping Brook and its associated Department of the Army Corps of Engineers Charles River Valley Natural Storage Area as a common border.

C. Summary of Community Needs

Passive Recreation Needs

Many of the areas owned by the Conservation Commission (conservation lands) have been maintained in their natural state and, as such, are more difficult to access. Most conservation lands are identified by signs, and some of the areas have trails that support passive recreational uses. These trails require periodic trail grooming and brush cutting. The Conservation Associates do a lot to provide stewardship for those areas but the tasks are ongoing. Parking at conservation areas is often limited or non-existent. Development of the Upper Charles Trail provides an excellent resource to bridge the gap between active and passive recreation facilities. Long-term maintenance needs to be planned for at the local government level as complete reliance on volunteers and civic groups is not likely sustainable.

Active Recreation Needs

Due to the popularity of youth sports, there is a significant shortage of athletic field space and the development of new space continues to be a critical need to meet both current and future demand. Many have expressed a need to expand existing programs by providing additional lighted fields for night games, and anticipating winter sports needs such as skating, skiing and sledding.

Additionally, the National Recreation and Parks Association publishes a standard for "Local/Close to Home Space" including mini-parks, neighborhood park/playgrounds and community parks which have service areas, sizes, and site characteristics. Mini-parks are within neighborhoods and neighborhood parks/playgrounds are suited for intense usage and are geographically centered to neighborhood populations with safe biking and walking access. Holliston's existing active recreation facilities (especially mini-parks) fall short in many areas of town such as Brentwood (Precinct 1), the Queens and Stagecoach (Precinct 2) neighborhoods, and the western portions of Town (Precincts 1 and 4). The 1986 Open Space Plan Update provides a detailed analysis of both active and passive opportunities by Precinct. The addition of the Weston Pond field on Washington Street in Precinct 1 and Mission Springs Recreation Area in Precinct 4, since that update was published, do not appear to alter the need for additional mini-parks and neighborhood parks and playgrounds.

Special Needs

Special needs of Holliston residents and the general public also need to be considered. Many of Holliston's parks are not accessible. Generally, hard-packed paths with railings and signage are lacking. Some handicapped parking is available at Holliston's various parks, but some of these spaces are not wide enough to accommodate a vehicle with an automated chairlift (or "Universal" parking space).

Due to the small special needs population in Holliston, the Town offers few if any special needs programs. As the special needs population increases, the Holliston Parks Commission and School Department will need to develop recreational programs for the handicapped in the Town. Through the elimination of physical and other barriers and the development of organized recreational activities, Holliston will be able to provide opportunities for special needs population so that they may participate in a variety of recreational experiences. These same improvements also make it easier for a broad range of seniors or people with injuries to use these areas.

The Miller Elementary School Playground Replacement Project - 2013

This project focused on implementing a new school playground that develops physical, educational and social skills by providing a safe environment while promoting healthy behaviors with a focus on accessibility to students of all abilities. The project was a partnership between the Holliston PTSA, civic organizations, community members, and elementary school administration and staff. The following goals will be achieved by the project: establish ADA compliancy, offer age appropriate structures, provide a multi-sensory play experience, promote cognitive development, and support components of the curriculum. Donations and \$90,000 of CPA funds totaled over \$215,000.

Summary of Management Needs

Holliston and its many volunteer and elected boards and commissions in concert with active community groups has done a great deal to preserve the character as well as both passive and active recreational opportunities available. While not undergoing severe development pressures which result in completely overburdened town services, Holliston has some clear conservation and recreation needs.

Like most communities, Holliston has to find creative ways balance its needs and its resources. Trying to maintain natural resources and expand recreational opportunities for all residents while keeping property taxes affordable remains a major challenge. Improved management of conservation areas and recreational facilities and programs may become critical as the Town tries to adjust to a growing population. It is not enough to simply state that improvements and additions to park and recreation facilities in Holliston will be "maintained." Specific decisions should be made regarding appropriate management of town recreation facilities and conservation areas.

High priority issues include development and expansion of trail corridors, acquisition and protection of critical habitat areas, acquisition and development of additional active recreation areas, rehabilitation and expansion of existing recreation facilities, and the

expansion of handicapped access to active and passive facilities. Additionally, there are opportunities to integrate conservation and recreation needs and interests with historic interpretation. By incorporating historic sites into trail networks, or including facts about ground water protection in recreational areas, multiple needs may be met.

Furthermore, there needs to be greater communication among the various boards and agencies responsible for the management of Holliston's various open parcels, so that a comprehensive strategy may be implemented for open space protection and recreational access. Similarly, greater coordination with abutting towns will result in improved protection of natural and cultural resources.

The following sections of the OSRP update provide the basis for prioritizing and programming community goals and actions for the next seven years (2013-2020).

SECTION 8: GOALS AND OBJECTIVES

Section 6 identified community goals and Section 7 analyzed community needs. The following section will synthesize the goals and needs and expand them into a series of objectives:

- Goals are broadly worded statements about enduring desires toward which actions by the Town and its residents are directed.
- Objectives are concretely worded statements about courses of action that lead to the attainment of goals.

The goals identified in Section 6 are followed by objectives that drive the development of more specific recommendations, action items, which are listed under the respective objectives. The parties responsible for accomplishing the action items have also been identified. The "Five-Year Action Plan" (Section 9) sorts the action items by responsible party and the year in which they should be accomplished.

Key (group responsible for action): AC=Agriculture Commission, AO=Assessor's Office, Arts=Arts Council, BOH=Board of Health, BOS=Board of Selectmen, CCTF=Community Center Task Force, CC=Conservation Commission and Conservation Associates, CPC=Community Preservation Committee, COA= Council on Aging, DAC=Disability Advisory Committee, FOYFS=Friends of Youth and Family Services, GCC=Golf Course Committee, HD=Highway Department, HIST=Historical Commission, HTC=Holliston Trails Committee, HS=Historical Society, HYSA=Holliston Youth Soccer Association, HYC=Holliston Youth Council, OSC=Open Space Committee, PARK=Park and Recreation Department/Park Commission, PB=Planning Board, SCH=Schools, TFC=Town Forest Committee, TW=Tree Warden, UCC=Upper Charles Conservation Land Trust, Inc., VOL=Volunteers (Civic Organizations, Newcomers Club, Garden Club, Scouts), WD=Water Department/Commission.

Goal 1. Protect and enhance the quality of Holliston's surface and groundwater.

Goal 1A. Protect the quality of the drinking water supply.

Objectives:

1. Continue to evaluate bylaws and amend as necessary to increase protection of ground and surface water supplies (e.g. floor drains, fertilizers and other chemicals). BOH, PB, WD.
2. Continue to identify future water needs and seek acquisition and protection of future well sites. WD
3. Develop and maintain a Wellhead Protection Plan. WD.
4. Inspect the areas surrounding the town wells yearly, and seek mitigation of potential threats to water supply. WD.
5. Continue to review BOH regulations to ensure adequate design of subsurface sewage disposal systems to ensure protection of groundwater quality. BOH.
6. Research and devise methods for the Town to purchase additional land surrounding current and future town wells (>400'), in particular up gradient of well and within Zones of Contribution. BOS, WD.

Goal 1B. Protect the quantity of the drinking water supply.

Objectives:

1. Continue to work to minimize the use of chemicals at Town facilities. PARK, WD, GCC, CC.
2. Work on implementing innovative septic alternatives and stormwater management that would recharge groundwater within the watershed. BOH.
3. Educate the residents and businesses about water conservation issues such as benefits of low water-use plantings and low flow plumbing fixtures with water bill mailings. Consider developing pamphlets for inclusion in water bills. CC, WD.
4. Encourage water conservation efforts, especially for landscape use. CC, WD.
5. Continue to research and amend bylaws to require water conservation in new developments (e.g., sprinkler system, landscape design for commercial and multi-family developments, depth of topsoil). BOH, PB.
6. Continue to research and incorporate resource-based zoning into bylaws. CC, PB, WD.

Goal 1C. Protect the quality of the town's surface water resources.

1. Develop a program to monitor the quality of the town's streams and lakes. CC.
2. Develop and implement an Aquatic Resource Management Plan with particular emphasis on Lake Winthrop. CC, PC.

Goal 2. Provide and maintain conservation land that protects Holliston's natural resources.

Goal 2A. Create greenbelts/wildlife corridors through Holliston.

Objectives:

1. Complete acquisition and development of the Upper Charles Trail. HTC, BOS
2. Actively seek acquisition of potential links of conservation land and wetland areas to create wildlife corridors through and across town and joining to adjacent towns, using such vehicles as conservation restrictions, land acquisition, subdivision permits, etc. OSC, CPC, CC, PB.
3. Continue to identify areas of significant rare and/or endangered species habitats and BioMap2 areas and seek their protection or acquisition. OSC, CC, VOL.

Goal 2B. Increase the amount of permanently protected open space to achieve a minimum of 25% protected land.

Objectives:

1. Maintain catalog of high priority parcels for acquisition and prioritize list. (See Section 7). CC, OSC.
2. Petition the Board of Selectmen and Town Meeting to transfer custody of identified parcels to the jurisdiction of the Conservation Commission, Park Commission or Water Department to add to the protected land inventory. Record confirmatory deeds, making reference to MGL, c. 40, s. 8C as amended by Article 97 of the Massachusetts Constitution. OSC, CC, PARK, WD.
2. Work cooperatively to protect additional land within and around the Upper Charles River Headwaters Area by acquisition or other means such as conservation restrictions. OSC, CC, TFC, CPA.
3. Maintain communication with the Treasurer's Office to identify tax-title parcels with potential for open space/recreation purposes. OSC, CC, AO.
4. Establish a policy to rapidly assess and track sales of Chapter 61 and 61A lands for town acquisition. AC, OSC, PB.

Goal 2C. Seek funding for purchase of open space lands.

Objectives:

1. Continue to document the costs and benefits of purchasing open space lands and continue to review tax advantages for landowners. OSC.
2. Continue to seek a variety of mechanisms and collaborations for funding open space acquisition. OSC.
3. Continue to work with Community Preservation Committee to fund the acquisition of open space. OSC, CPC.
4. When necessary, seek Town Meeting approval for the acquisition of open space. CC, OSC.

Goal 2D. Promote bylaw revisions to increase utility of open space provided under Open Space Residential Development (OSRD) subdivisions and protect natural resources from effects of construction activities.

Objectives:

1. Revise Zoning Bylaw and Planning Board Rules and Regulations for OSRD subdivisions to include bonuses for promoting or creating linkages or trails connecting to existing open space. PB, CC, OSC.
2. Ensure open space in OSRD's include public access and parking. PB, CC.
3. Revise OSRD bylaw and regulations to better protect environmentally sensitive areas and to provide additional benefit to the town. PB, CC, OSC.
4. Evaluate and amend bylaw to limit tree clearing and disturbance of steep slopes for subdivisions and projects subject to site plan review. PB.

Goal 2E. Improve conservation land management and maintenance.

Objectives:

1. Develop management plans for key open spaces, beginning with Fairbanks Land and other parcels in the Upper Charles River Headwaters Area. CC.
2. Encourage and expand stewardship programs for conservation land. CC, VOL (e.g., Newcomers Club, Garden Club, New England Mountain Biking Association). CC, SCH, VOL.

Goal 2F. Identify and preserve natural and scenic areas.

Objectives:

1. Continue identification, certification and protection of vernal pools. CC.
2. Work restoration of Holliston's historical cranberry bogs. AC, CC.
3. Work on the restoration of millpond dams, Lake Winthrop dam and the Winthrop Canal. HIST, HS, CC, HD, BOS.
4. Consider replacing the Town Forest Committee with a Tree and Forest Advisory Committee for advocacy and education. BOS, TW, TFC
5. Incorporate and fund town-wide tree planting program. Seek Tree City designation. TW, HD, VOL.
6. Video document and map important trees and scenic features on designated scenic roads. TW, PB, VOL.
7. Develop and implement certified Forest Stewardship Plans for Town Forests and other appropriate parcels. TW, CC
8. Seek acquisition of lands prioritized for scenic value. OSC.

Goal 3: Increase and improve active and passive recreational opportunities to meet the diverse needs of all citizens.

Goal 3A. Provide recreational opportunities for all Holliston citizens.

Objectives:

1. Continue to seek funding for Upper Charles Trail as an accessible trail for persons with disabilities. HTC, CC, DAC.
2. Develop safe parking areas at all publicly accessible open spaces and recreation areas. CC, PARK, HD.
3. Continue fund-raising efforts and organize activities for teens. PARK, FOYFS, CCTF.
4. Increase recreational opportunities for disabled people, such as accessible trail systems and play equipment. CC, PARK, DAC.
5. Seek reuse of the Andrews School, or other potential buildings or sites for a Community Center. CCTF, BOS, HYC, FOYFS.
6. Continue to develop an environmental education/recreation outdoor program for all ages, with a focus on Holliston's youth. HYC, CC, PARK.
7. Develop additional recreation programs for Seniors. PARK, COA.

Goals 3B. Maintain existing and develop additional Town recreational facilities and programs.

Objectives:

1. Seek acquisition of or redevelopment of land for recreational purposes. PARK.
2. When possible, expand existing recreation areas to accommodate additional facilities, such as developing additional outdoor tennis and basket ball courts at the High School. PARK.
3. Make parking and building repairs and improvements at Patoma and Stoddard Parks. PARK.
4. Develop walking trails, passive recreation and athletic practice fields on the Marshall Street old landfill cap. PARK.
5. Identify areas suitable for recreation/open space in high population density areas, and seek acquisition. CC, PARK.
6. Prepare a maintenance plan and funding source for ongoing maintenance of recreation facilities, including playing fields and play equipment. PARK.
7. Continue to work with Community Preservation Committee to fund the maintenance and development of additional recreational facilities and programs. PARK.
8. Encourage use of private property for sports practice. PARK, VOL.
9. Perform yearly mowing of hill at Weston Pond to maintain grassland habitat. HD.

Goal 4: Increase environmental awareness and promote appreciation of natural features and resources among all sectors of the Holliston community.

Goal 4A. Utilize conservation lands for educational purposes.

Objectives:

1. Increase use of conservation lands by school groups, youth groups, and civic groups. CC, SCH, VOL.
2. Encourage teachers to utilize conservation lands for field trips/scientific studies. CC, SCH.
3. Repair interpretive signage at vernal pool behind Miller School. CC, SCH, VOL.
4. Utilize school system to educate students on environmental and conservation issues. SCH.
5. Sponsor public walks at conservation lands. CC.
6. Advertise seminars/lectures offered by outside groups. CC.
7. Promote appreciation of open space lands through art and/or education. SCH, ARTS, CC.

Goal 4B. Educate citizens on the importance and fiscal advantages of land conservation.

Objectives:

1. Encourage local media to publicize open spaces and recreation opportunities. PARKS, CC.
2. Provide seminar, articles regarding the amount of protected open space in town, how much of the town could be developed. CC, PB.
3. Provide seminar and public information on fiscal advantages of Open Space. CC, OSC.
4. Utilize the Town of Holliston's webpage to increase environmental and conservation awareness. CC.
5. Provide seminar on forest protection and wildlife enhancement to owners of large areas of land. TFC, CC.
6. Educate landowners on the advantages to placing conservation restrictions on land. OSC, CC;
7. Hold a minimum of 3 lectures each year on environmental issues such as rare and endangered species, conservation restrictions, etc., and provide informational pamphlets at town functions. CC.

Goal 4C. Promote public awareness of conservation lands.

Objectives:

1. Improve and maintain database and map of conservation lands. CC, AO
2. Continue local programs on conservation lands such as sponsored walks. CC.
3. Improve signage of trails within conservation lands. CC, VOL.
4. Provide trail maps at entrances to conservation lands. CC.
5. Accommodate parking in all trailhead areas. CC.
6. Publicize trails with trail maps at town functions, on Holliston's web page, local cable channel, public library. Distribute information about availability of trail maps with tax bill or water bill. CC.
7. Define and manage access, posting signage of rules for use of conservation lands. CC.

Goal 4D. Participate in regional environmental planning issues.

Objectives:

1. Maintain inter-town communication to protect sources of public water supplies. WD, BOS, CC.
2. Work with area towns to minimize sources of air and water pollution. BOS, CC, WD, BOH.
3. Coordinate with the regional planning agency, neighboring towns and private organizations to develop unified use plans.

Goal 5. Provide a system of trails that addresses the demand and opportunity for walking, biking, and skiing.

Goal 5A. Develop a comprehensive Trail Plan.

Objectives:

1. Expand role of Holliston Trail Committee to develop a town-wide Trails Plan. CC, HTC.
2. Define potential trail linkages. CC, HTC, PARK.
3. Evaluate potential trail linkages. CC, HTC, PARK.
4. Choose routes and begin work on implementation. CC, HTC, PARK, OSC, VOL.

Goal 5B. Promote coordination with private organizations, neighboring towns, and regional agencies to provide recreation links.

Objectives:

1. Seek funding for the acquisition of land to be incorporated into regional and local trail systems. CC, HTC.
2. Seek designation of portions of local trails into the Bay Circuit Path System. CC, HTC.
3. Seek construction of trail link to connect Cole Court and the Miller/Flagg/Adams School complex. CC, HTC.

Goal 6. Protect the Holliston's community character with a focus on agriculture, scenic, and historic landscapes and areas.

Goal 6A. Promote and enhance long-term viability of local farms and their land resources.

Objectives:

1. Enhance community-based initiatives and programming efforts. AC
2. Participate in regional agencies and state events such as Mass. Association of Agricultural Commissions and Agricultural Day at the Statehouse. AC
3. Provide resources on best management practices to local farmers. AC
4. Investigate and implement agricultural business zoning provisions. AC, PB

Goal 6B. Maintain and increase the number of farms and farmland.

Objectives:

1. Continue to have an open dialog with landowners about c. 61 and c. 61A programs as well as other protection options. AC, AO
2. Promote funding and protection programs such as Farm Viability Enhancement Program, Agricultural Environmental Enhancement Program and the Agricultural Preservation Restriction Program. AC
3. Continue the development of a cranberry bog for educational purposes. AC, CC

Goal 6C. Preserve and protect historic, natural and man-made features (e.g., outdoor artwork, arch bridges, and Winthrop canal).

Objectives:

1. Provide interpretive signage at Linden and Factory Ponds, highlighting the former historic mills. CC, HS.
2. Identify historic resources on present conservation lands and seek funding for interpretive signage to identify and describe significant features. HIST, HS, CC.
3. Coordinate with the Bullard Memorial Farm, Inc. to seek protection of the historic Bullard Farm and its significant resources. OCS, CC, AC.
4. Preserve Arch Bridges and maintain views of structures from roadways and conservation lands. HD, HTC, CC, VOL.
5. Seek acquisition of land adjacent to arch trestle for a potential park at the 8-Arch Bridge. CC, BOS, OSC.
6. Clean up and maintain Winthrop Canal and seek establishment of 5'-10' zone around canal for open space/maintenance. HD, CC, VOL.
7. Seek planning and development funding for Blair Square, the park/Town Common in downtown area and Upper Charles Trail "hub". CC, HTC, BOS, VOL.
8. Protect outdoor art and stone structures (including stone walls). HIST, CPA, PB.

SECTION 9: ACTION PLAN

The Action Plan has been developed to reflect what the Town believes is a realistic timetable to work toward accomplishing its stated goals and objectives. The "Action Plan" sorts the action items of Section 8 by responsible party and the year in which they should be accomplished. Many of the items are tagged on "Ongoing" or "Annual". The Action Plan is meant to be flexible to respond to specific opportunities and circumstances presented to the Town during this seven-year planning period and will also be impacted by budgetary constraints and other funding opportunities as they occur.

The Key to the tables is as follows:

Key (group responsible for action): AC=Agriculture Commission, AO=Assessor's Office, Arts=Arts Council, BOH=Board of Health, BOS=Board of Selectmen, CCTF=Community Center Task Force, CC=Conservation Commission and Conservation Associates, CPC=Community Preservation Committee, COA= Council on Aging, DAC=Disability Advisory Committee, FOYFS=Friends of Youth and Family Services, GCC=Golf Course Committee, HD=Highway Department, HIST=Historical Commission, HTC=Holliston Trails Committee, HS=Historical Society, HYSA=Holliston Youth Soccer Association, HYC=Holliston Youth Council, OSC=Open Space Committee, PARK=Park and Recreation Department/Park Commission, PB=Planning Board, SCH=Schools, TFC=Town Forest Committee, TW=Tree Warden, UCC=Upper Charles Conservation Land Trust, Inc., VOL=Volunteers (Civic Organizations, Newcomers Club, Garden Club, Scouts), WD=Water Department/Commission.

The Action Plan Map (Figure 9.1) shows the major recreation and open space facilities as well as targeted acquisitions and infrastructure improvements, including Water Department capital improvements. We have identified 21 groupings of open space parcels which are targeted for planning efforts, beginning with the Upper Charles Headwaters Area in the western portion of Town. Potential Upper Charles Trail "hubs" and linkages to other open space and recreation resources are identified as well as potential connections between large tracts of nearly contiguous open space.

For all community recreation facilities, planned improvements are noted in the attached spreadsheet. For the major open space parcels, linkages and management planning efforts are noted in the spreadsheet, beginning with the large tracts of open space in the western portion of the community. Additionally, the Targeted Acquisitions noted at the conclusion of Section 5 are included along with matrix for evaluating parcels.

Goal 1. Protect and enhance the quality of Holliston's surface and groundwater.

Goal 1A. Protect the quality of the drinking water supply.

Objective	Schedule
Continue to evaluate bylaws and amend as necessary to increase protection of ground and surface water supplies (e.g. floor drains, fertilizers and other chemicals). BOH, PB, WD.	Ongoing
Continue to identify future water needs and seek acquisition and protection of future well sites. WD	Ongoing
Develop and maintain a Wellhead Protection Plan. WD.	Year 3-4
Inspect the areas surrounding the town wells yearly, and seek mitigation of potential threats to water supply. WD.	Ongoing
Continue to review BOH regulations to ensure adequate design of subsurface sewage disposal systems to ensure protection of groundwater quality. BOH.	Ongoing
Research and devise methods for the Town to purchase additional land surrounding current and future town wells (>400'), in particular up gradient of well and within Zones of Contribution. BOS, WD	Ongoing

Goal 1B. Protect the quantity of the drinking water supply.

Objectives	Schedule
Continue to work to minimize the use of chemicals at Town facilities. PARK, WD, GCC, CC.	Ongoing
Work on implementing innovative septic alternatives and stormwater management that would recharge groundwater within the watershed. BOH.	Ongoing
Educate the residents and businesses about water conservation issues such as benefits of low water-use plantings and low flow plumbing fixtures with water bill mailings. Consider developing pamphlets for inclusion in water bills. CC, WD.	Ongoing
Encourage water conservation efforts, especially for landscape use. CC, WD.	Ongoing
Continue to research and amend bylaws to require water conservation in new developments (e.g., sprinkler system, landscape design for commercial and multi-family developments, depth of topsoil). BOH, PB.	Ongoing
Continue to research and incorporate resource-based zoning into bylaws. CC, PB, WD.	Ongoing

Goal 1C. Protect the quality of the town's surface water resources.

Objectives	Schedule
Develop a program to monitor the quality of the town's streams and lakes. CC.	Ongoing
Develop and implement an Aquatic Resource Management Plan with particular emphasis on Lake Winthrop. CC, PC.	Ongoing

Goal 2. Provide and maintain conservation land that protects Holliston's natural resources.

Goal 2A. Create greenbelts/wildlife corridors through Holliston.

Objectives	Schedule
Complete acquisition and development of the Upper Charles Trail. HTC, BOS	Ongoing
Actively seek acquisition of potential links of conservation land and wetland areas to create wildlife corridors through and across town and joining to adjacent towns, using such vehicles as conservation restrictions, land acquisition, subdivision permits, etc. OSC, CPC, CC, PB.	Ongoing
Continue to identify areas of significant rare and/or endangered species habitats and BioMap2 areas and seek their protection or acquisition. OSC, CC, VOL.	Ongoing

Goal 2B. Increase the amount of permanently protected open space to achieve a minimum of 25% protected land.

Objectives	Schedule
Maintain catalog of high priority parcels for acquisition and prioritize list. (See Section 7). CC, OSC.	Ongoing
Petition the Board of Selectmen and Town Meeting to transfer custody of identified parcels to the jurisdiction of the Conservation Commission, Park Commission or Water Department to add to the protected land inventory. Record confirmatory deeds, making reference to MGL, c. 40, s. 8C as amended by Article 97 of the Massachusetts Constitution. OSC, CC, PARK, WD.	Year 1, Ongoing
Work cooperatively to protect additional land within and around the Upper Charles River Headwaters Area by acquisition or other means such as conservation restrictions. OSC, CC, TFC, CPA.	Ongoing
Maintain communication with the Treasurer's Office to identify tax-title parcels with potential for open space/recreation purposes. OSC, CC, AO.	Ongoing
Establish a policy to rapidly assess and track sales of Chapter 61 and 61A lands for town acquisition. AC, OSC, PB.	Year 2

Goal 2C. Seek funding for purchase of open space lands.

Objectives	Schedule
Continue to document the costs and benefits of purchasing open space lands and continue to review tax advantages for landowners. OSC.	Ongoing
Continue to seek a variety of mechanisms and collaborations for funding open space acquisition. OSC.	Ongoing
Continue to work with Community Preservation Committee to fund the acquisition of open space. OSC, CPC.	Ongoing
When necessary, seek Town Meeting approval for the acquisition of open space. CC, OSC.	Ongoing

Goal 2D. Promote bylaw revisions to increase utility of open space provided under Open Space Residential Development (OSRD) subdivisions and protect natural resources from effects of construction activities.

Objectives	Schedule
Revise Zoning Bylaw and Planning Board Rules and Regulations for OSRD subdivisions to include bonuses for promoting or creating linkages or trails connecting to existing open space. PB, CC, OSC.	Year 1
Ensure open space in OSRD's include public access and parking. PB, CC.	Ongoing
Revise OSRD bylaw and regulations to better protect environmentally sensitive areas and to provide additional benefit to the town. PB, CC, OSC.	Year 2
Evaluate and amend bylaw to limit tree clearing and disturbance of steep slopes for subdivisions and projects subject to site plan review. PB.	Year 2

Goal 2E. Improve conservation land management and maintenance.

Objectives	Schedule
Develop management plans for key open spaces, beginning with Fairbanks Land and other parcels in the Upper Charles River Headwaters Area. CC.	Year 1, Ongoing
Encourage and expand stewardship programs for conservation land. CC, VOL (e.g., Newcomers Club, Garden Club, New England Mountain Biking Association). CC, SCH, VOL.	Ongoing

Goal 2F. Identify and preserve natural and scenic areas.

Objectives	Schedule
Continue identification, certification and protection of vernal pools. CC.	Ongoing
Work restoration of Holliston's historical cranberry bogs. AC, CC.	Ongoing
Work on the restoration of millpond dams, Lake Winthrop dam and the Winthrop Canal. HIST, HS, CC, HD, BOS.	Ongoing
Consider replacing the Town Forest Committee with a Tree and Forest Advisory Committee for advocacy and education. BOS, TW, TFC	Year 1
Incorporate and fund town-wide tree planting program. Seek Tree City designation. TW, HD, VOL.	Year 4
Video document and map important trees and scenic features on designated scenic roads. TW, PB, VOL.	Year 3
Develop and implement certified Forest Stewardship Plans for Town Forests and other appropriate parcels. TW, CC	Year 3
Seek acquisition of lands prioritized for scenic value. OSC	Ongoing

Goal 3: Increase and improve active and passive recreational opportunities to meet the diverse needs of all citizens.**Goal 3A. Provide recreational opportunities for all Holliston citizens.**

Objectives	Schedule
Continue to seek funding for Upper Charles Trail as an accessible trail for persons with disabilities. HTC, CC, DAC.	Ongoing
Develop safe parking areas at all publicly accessible open spaces and recreation areas. CC, PARK, HD.	Ongoing
Continue fund-raising efforts and organize activities for teens. PARK, FOYFS, CCTF.	Ongoing
Increase recreational opportunities for disabled people, such as accessible trail systems and play equipment. CC, PARK, DAC.	Ongoing
Seek reuse of the Andrews School, or other potential buildings or sites for a Community Center. CCTF, BOS, HYC, FOYFS.	Ongoing
Continue to develop an environmental education/recreation outdoor program for all ages, with a focus on Holliston's youth. HYC, CC, PARK.	Ongoing
Develop additional recreation programs for Seniors. PARK, COA.	Ongoing

Goals 3B. Maintain existing and develop additional Town recreational facilities and programs.

Objectives	Schedule
Seek acquisition of or redevelopment of land for recreational purposes. PARK.	Ongoing
When possible, expand existing recreation areas to accommodate additional facilities, such as developing additional outdoor tennis and basket ball courts at the High School. PARK.	Ongoing
Make parking and building repairs and improvements at Patoma and Stoddard Parks. PARK.	Ongoing
Develop walking trails, passive recreation and athletic practice fields on the Marshall Street old landfill cap. PARK.	Year 4
Identify areas suitable for recreation/open space in high population density areas, and seek acquisition. CC, PARK.	Ongoing
Prepare a maintenance plan and funding source for ongoing maintenance of recreation facilities, including playing fields and play equipment. PARK.	Ongoing
Continue to work with Community Preservation Committee to fund the maintenance and development of additional recreational facilities and programs. PARK.	Ongoing
Encourage use of private property for sports practice. PARK, VOL.	Ongoing
Perform yearly mowing of hill at Weston Pond to maintain grassland habitat. HD.	Annual

Goal 4: Increase environmental awareness and promote appreciation of natural features and resources among all sectors of the Holliston community.

Goal 4A. Utilize conservation lands for educational purposes.

Objectives	Schedule
Increase use of conservation lands by school groups, youth groups, and civic groups. CC, SCH, VOL.	Ongoing
Encourage teachers to utilize conservation lands for field trips/scientific studies. CC, SCH.	Ongoing
Repair interpretive signage at vernal pool behind Miller School. CC, SCH, VOL.	Year 1
Utilize school system to educate students on environmental and conservation issues. SCH.	Ongoing
Sponsor public walks at conservation lands. CC	Ongoing
Advertise seminars/lectures offered by outside groups. CC. Promote appreciation of open space lands through art and/or education. SCH, ARTS, CC.	Ongoing

Goal 4B. Educate citizens on the importance and fiscal advantages of land conservation.

Objectives	Schedule
Encourage local media to publicize open spaces and recreation opportunities. PARKS, CC.	Ongoing
Provide seminars and articles regarding the amount of protected open space in town and how much of the town could be developed. CC, PB.	Ongoing
Provide annual seminar and public information on fiscal advantages of Open Space. CC, OSC.	Ongoing
Utilize the Town of Holliston's webpage to increase environmental and conservation awareness. CC.	Ongoing
Provide seminar on forest protection and wildlife enhancement to owners of large areas of land. TFC, CC.	Ongoing
Educate landowners on the advantages to placing conservation restrictions on land. OSC, CC.	Ongoing
Hold a minimum of 3 lectures each year on environmental issues such as rare and endangered species, conservation restrictions, etc., and provide informational pamphlets at town functions. CC.	Ongoing

Goal 4C. Promote public awareness of conservation lands.

Objectives	Schedule
Improve and maintain database and map of conservation lands. CC, AO	Ongoing
Continue local programs on conservation lands such as sponsored walks. CC.	Ongoing
Improve signage of trails within conservation lands. CC, VOL.	Year 1
Provide trail maps at entrances to conservation lands. CC.	Ongoing
Accommodate parking in all trailhead areas. CC.	Ongoing
Publicize trails with trail maps at town functions, on Holliston's web page, local cable channel, public library. Distribute information about availability of trail maps with tax bill or water bill. CC.	Ongoing
Define and manage access, posting signage of rules for use of conservation lands. CC.	Ongoing

Goal 4D. Participate in regional environmental planning issues.

Objectives	Schedule
Maintain inter-town communication to protect sources of public water supplies. WD, BOS, CC.	Ongoing
Work with area towns to minimize sources of air and water pollution. BOS, CC, WD, BOH.	Ongoing
Coordinate with the regional planning agency, neighboring towns and private organizations to develop unified use plans. PB, WD, BOS	Ongoing

Goal 5. Provide a system of trails that addresses the demand and opportunity for walking, biking, and skiing.

Goal 5A. Develop a comprehensive Trail Plan.

Objectives	Schedule
Expand role of Holliston Trail Committee to develop a town-wide Trails Plan. CC, HTC.	Ongoing
Define potential trail linkages. CC, HTC, PARK.	Ongoing
Evaluate potential trail linkages. CC, HTC, PARK.	Ongoing
Choose routes and begin work on implementation. CC, HTC, PARK, OSC, VOL.	Ongoing

Goal 5B. Promote coordination with private organizations, neighboring towns, and regional agencies to provide recreation links.

Objectives	Schedule
Seek funding for the acquisition of land to be incorporated into regional and local trail systems. CC, HTC.	Ongoing
Seek designation of portions of local trails into the Bay Circuit Path System. CC, HTC.	Ongoing
Seek construction of trail link to connect Cole Court and the Miller/Flagg/Adams School complex. CC, HTC.	Ongoing

Goal 6. Protect the Holliston's community character with a focus on agriculture, scenic, and historic landscapes and areas.

Goal 6A. Promote and enhance long-term viability of local farms and their land resources.

Objectives	Schedule
Enhance community-based initiatives and programming efforts. AC	Ongoing
Participate in regional agencies and state events such as Mass. Association of Agricultural Commissions and Agricultural Day at the Statehouse. AC	Ongoing
Provide resources on best management practices to local farmers. AC	Ongoing
Investigate and implement agricultural business zoning provisions. AC, PB	Ongoing

Goal 6B. Maintain and increase the number of farms and farmland.

Objectives	Schedule
Continue to have an open dialog with landowners about c. 61 and c. 61A programs as well as other protection options. AC, AO	Ongoing
Promote funding and protection programs such as Farm Viability Enhancement Program, Agricultural Environmental Enhancement Program and the Agricultural Preservation Restriction Program. AC	Ongoing
Continue the development of a cranberry bog for educational purposes. AC, CC	Ongoing

Goal 6C. Preserve and protect historic, natural and man-made features (e.g., outdoor artwork, arch bridges, and Winthrop canal).

Objectives	Schedule
Provide interpretive signage at Linden and Factory Ponds, highlighting the former historic mills. CC, HS.	Ongoing
Identify historic resources on present conservation lands and seek funding for interpretive signage to identify and describe significant features. HIST, HS, CC.	Ongoing
Coordinate with the Bullard Memorial Farm, Inc. to seek protection of the historic Bullard Farm and its significant resources. OCS, CC, AC.	Ongoing
Preserve Arch Bridges and maintain views of structures from roadways and conservation lands. HD, HTC, CC, VOL.	Ongoing
Seek acquisition of land adjacent to arch trestle for a potential park at the 8-Arch Bridge. CC, BOS, OSC.	Ongoing
Clean up and maintain Winthrop Canal and seek establishment of 5'-10' zone around canal for open space/maintenance. HD, CC, VOL.	Ongoing
Seek planning and development funding for Blair Square, the park/Town Common in downtown area and Upper Charles Trail "hub". CC, HTC, BOS, VOL.	Ongoing
Protect outdoor art and stone structures (including stone walls). HIST, CPA, PB.	Ongoing

SECTION 10: COMMENTS

SECTION 11: REFERENCES

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APPENDICES