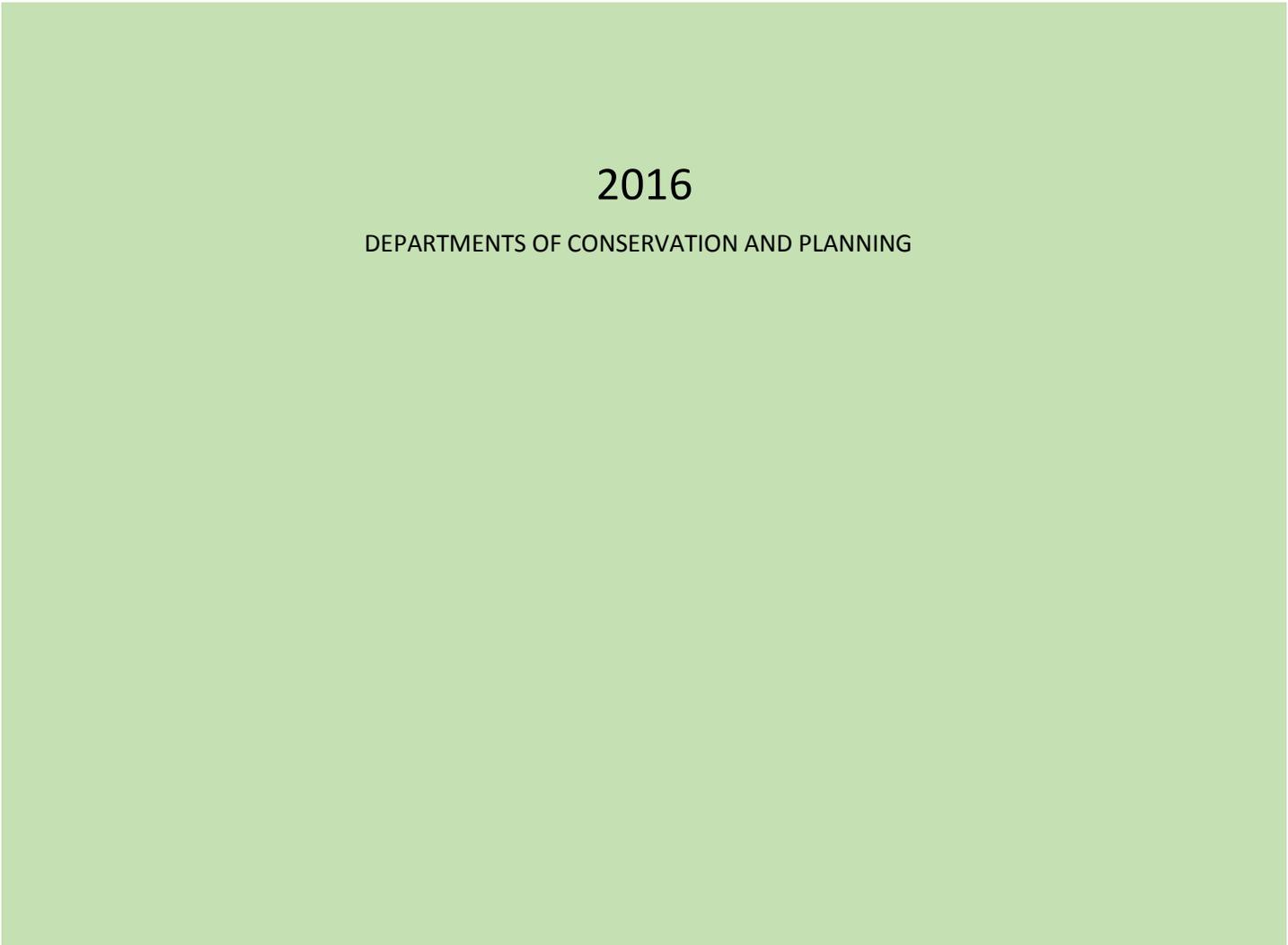




TOWN OF NORTH ANDOVER OPEN SPACE AND RECREATION PLAN

2016

DEPARTMENTS OF CONSERVATION AND PLANNING



This 2016 Open Space and Recreation Plan Update was prepared by the Departments of Conservation and Planning with assistance by Brown Walker Planners, Inc. and Merrimack Valley Regional Planning Agency.

The Departments of Conservation and Planning wish to acknowledge the assistance provided by town staff, board and committee members and the many private citizens and other local and regional stakeholders.

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Table of Contents

1.0	PLAN SUMMARY.....	1
2.0	INTRODUCTION.....	3
2.1	STATEMENT OF PURPOSE.....	3
2.2	PLANNING PROCESS AND PUBLIC PARTICIPATION	4
3.0	COMMUNITY SETTING	7
3.1	REGIONAL CONTEXT.....	7
3.2	COMMUNITY HISTORY.....	8
3.3	POPULATION CHARACTERISTICS.....	9
3.4	GROWTH AND DEVELOPMENT PATTERNS	11
4.0	NATURAL RESOURCE INVENTORY AND ANALYSIS	19
4.1	GEOLOGY	19
4.2	LANDSCAPE CHARACTER	20
4.3	WATER RESOURCES.....	22
4.4	VEGETATION.....	25
4.5	FISHERIES AND WILDLIFE.....	29
4.6	SCENIC RESOURCES AND UNIQUE ENVIRONMENTS.....	34
4.7	ENVIRONMENTAL CHALLENGES.....	35
5.0	INVENTORY OF CONSERVATION AND RECREATION LAND	39
5.1	PROTECTED OPEN SPACE	40
5.2	UNPROTECTED LAND OF CONSERVATION INTEREST	55
5.3	PUBLIC RECREATION AREAS	56
5.4	PRIVATE RECREATION AREAS.....	62
6.0	COMMUNITY GOALS.....	63
6.1	DESCRIPTION OF PROCESS.....	63
6.2	STATEMENT OF OPEN SPACE AND RECREATION GOALS	68
7.0	NEEDS ASSESSMENT	69
7.1	SUMMARY OF RESOURCE PROTECTION NEEDS.....	69
7.2	SUMMARY OF COMMUNITY’S NEEDS.....	71
7.3	MANAGEMENT NEEDS	74
8.0	GOALS AND RECOMMENDATIONS	76
8.1	IMPLEMENTATION GOALS	76
8.2	ENVIRONMENTAL GOALS.....	76
8.3	RECREATIONAL GOALS	81
8.4	HISTORICAL AND CULTURAL GOALS.....	83
8.5	EDUCATIONAL GOALS.....	84
9.0	SEVEN YEAR ACTION PLAN.....	87
9.1	POTENTIAL FUNDING/WORK SOURCES.....	89
9.2	IMPLEMENTATION GOALS	92
9.3	ENVIRONMENTAL GOALS.....	93
9.4	RECREATIONAL GOALS	96
9.5	HISTORICAL AND CULTURAL GOALS.....	98
9.6	EDUCATIONAL GOALS.....	99
10.0	PUBLIC COMMENTS	101
11.0	REFERENCES	103
	APPENDICES.....	1

1.0 PLAN SUMMARY

This Plan continues the ongoing efforts by the Town of North Andover to preserve and manage its natural areas and to provide and maintain accessible parks and recreational areas for the enjoyment of the town's residents, workforce and visitors. In recent years the town has made considerable progress in improving its recreational and conservation assets, which are identified in Section 2.

Building on these positive achievements, the 2014 Open Space and Recreation Plan includes a revised Seven-Year Action Plan (Section 9). A community survey, public meeting, and stakeholder interviews have informed the development of the community vision (Section 6) and goals and objectives (Section 8); and have provided local knowledge for the updated inventories (Sections 4 and 5) and identification of issues and analysis of needs (Section 7).

The community vision, and goals and supporting objectives provide a framework for the action steps that will guide the town in open space and recreation management over the next decade. Goals are categorized as follows.

Environmental Goals

1. Improve Water Resource Protection
2. Improve Open Space Management
3. Expand Conservation Lands
4. Protect and Enhance Habitats for Biodiversity

Recreational Goals

- ❖ Link Open Space Parcels and Trails
- ❖ Improve Bicycle and Pedestrian Network
- ❖ Provide Universal Access to Recreational Opportunities
- ❖ Maintain and Improve Existing Recreational Facilities and Programs
- ❖ Create New Recreational Opportunities

Historical and Cultural Goals

- ❖ Protect Scenic Landscapes and Farmland
- ❖ Preserve Historic Landscapes and Other Historic Resources

Educational Goals

- ❖ Support On-Going Education and Networking Opportunities
- ❖ Facilitate Environmental Education Opportunities and Public Outreach

The Action Plan is designed to guide those responsible for open space and recreation management and land acquisition and protection. The Plan identifies responsible parties and partners, potential funding sources (where applicable), and priorities (high, medium, low).

- ❖ To protect lands of conservation and recreational interest, the Plan identifies strategies for increasing collaboration, education and stewardship and for identifying opportunities within new or redevelopment projects.
- ❖ To encourage and support healthful recreational opportunities, the Plan outlines opportunities for expanding recreation facilities and programs and improving management of existing parks and recreational areas.
- ❖ The Plan highlights the benefits of municipal policies, education and collaboration to increase access, connectivity and awareness.
- ❖ The Plan outlines actions to protect and promote a diversity of community characteristics identified as vital to the town's sense of place.

2.0 INTRODUCTION

2.1 STATEMENT OF PURPOSE

This updated plan continues the ongoing work by the Town of North Andover through its Conservation and Planning departments to guide open space protection, recreation area management and programming. It builds on previous open space and recreation planning efforts outlined in the 2010 Open Space and Recreation Plan, including acquiring additional lands for the protection of the town's natural and cultural resources, expanding pedestrian and bicycle paths, and increasing access to parks and open spaces. This plan also presents a work plan for the next seven years to guide open space protection and the provision of recreational opportunities to North Andover's residents and visitors alike.

Since the turn of the century, the town has:

- ❖ Approved CPA funding for renovation of the McEvoy playing fields (2013). Constructed 2014.
- ❖ New soccer field on town-owned land at Town Farm (Dale Street) (2013/14)
- ❖ Constructed new and improved existing trails at Osgood Hill, James Swamp and Harold Parker State Forest at the Molly Towne Subdivision (Eagle Scout Projects) (2012)
- ❖ Installed kiosks at trailheads (2012-2013)
- ❖ Purchased 15 acres of open field and woodlands adjoining the Town's Osgood Hill and Half Mile Hill properties (2012)
- ❖ Through collaboration with the Edgewood Retirement Community, constructed new parking lot with handicap space at Half-Mile Hill (2010)
- ❖ Continued Town Common Restoration Project (2010)
- ❖ Contracted for weed control management at Stevens Pond (2010)
- ❖ Secured a new mountain bike/hiking trail at Boston Hill (New England Mountain Bike Association (NEMBA) with support from the Trustees of Reservations (TTOR)) as part of the Brightview North Andover development (2012)
- ❖ Conservation Restriction purchased with CPA funds and Water Supply Protection Grant at Rolling Ridge including a trail easement and saving nearly 2,200-feet of frontage along the Lake Cochichewick waterfront (2011)
- ❖ Restored Grogan's playground (2009)
- ❖ Installed new playground at Aplin playground (2006)
- ❖ Completed a new high school (in 2005) with state of the art athletic fields (baseball, softball, lacrosse, football, field hockey, soccer) and a complete track and field area.

The acquisition of significant open space parcels with Community Preservation Act funding over the past decade has further heightened the need for continued progress in

documenting and managing information including mapping resources and maintaining records of the new and existing town-owned properties. Needs identified in the previous Open Space and Recreation Plan were:

- ❖ Accurate Open Space maps
- ❖ Additional trail maps
- ❖ Acquisition of targeted Open Space sites
- ❖ Creation of Open Space interconnections
- ❖ Community paths and village ways

These needs have become greater with additional Open Space purchases. Consequently, the need for well-designed Management Plans and implementation of those plans by the town Departments and volunteer organizations is the logical next step to the land acquisition process. As steward of town-owned Open Spaces, the Conservation Department and Commission have taken the lead in developing a revised concept of Open Space Management, and related organizational and resource needs. The Community Preservation Committee is once again a key partner in achieving the town's Open Space management goals.

This updated Open Space and Recreation Plan helps to ensure that the town remains eligible for state funding for open space preservation and park improvement projects including Parkland Acquisitions and Renovations for Communities (PARC), Local Acquisitions for Natural Diversity (LAND), and the federal Land and Water Conservation Fund, which are administered by the Massachusetts Executive Office of Energy and Environmental Affairs.

2.2 PLANNING PROCESS AND PUBLIC PARTICIPATION

The town hired Brown Walker Planners (BWP), a community planning firm with extensive open space and recreation planning experience to be responsible for updating the written sections of the Open Space and Recreation Plan and the public outreach process. Merrimack Valley Planning Commission (MVPC) developed the maps. Members of the Conservation Department, Planning Department and community stakeholders played an integral role in the completion of the plan, providing information throughout the process and on-going review of submitted drafts. BWP worked with the Disability Commission to develop the ADA Self-Assessment.

With the assistance of BWP, North Andover's Conservation and Planning Departments gathered input for community goals in 2013 with a series of public forums, an online survey and stakeholder interviews.

The public forums were held on Wednesday, April 24, 2013 and July 10, 2013 in the 2nd floor meeting room in Town Hall.

Additionally, BWP conducted an online community survey that was open to the public from May 21 to June 21, 2013. The survey was advertised in the Eagle Tribune, the North Andover Citizen, on cable access television, was posted at on the town website and

circulated among various organizations and departments. 202 people participated in the survey.

As a follow up to the community survey, the Planning and Conservation Departments identified a group of stakeholders that were interviewed by BWP with respect to their own unique recreation and conservation needs. Stakeholders included members of town departments, schools, the Youth Center, the Fields Committee, Friends of North Andover Trails (FONAT), regional planning agencies, local and regional land trusts, and others.

Review of the final draft was solicited from town departments, boards and committees, the Merrimac Valley Planning Commission, and other stakeholders who assisting in the planning effort. (See Section 10 Public Comments)

3.0 COMMUNITY SETTING

This section discusses how North Andover has evolved with the history of the town's settlement, growth and development. While each community is unique, growth and development occurs as a result of interactions with other communities. The regional factors that have had an effect on the community's development are also presented. The town's current and continuing settlement patterns may determine the future challenges that North Andover will face.

3.1 REGIONAL CONTEXT

The Town of North Andover lies along the banks of the Merrimack River in the Merrimack Valley in the northeast corner of Massachusetts. The river has undoubtedly driven the growth and development of most of the communities in the Merrimack Valley. In the late 18th century and throughout the 19th century, mills sprouted up along the river and its countless tributaries. The smaller tributaries were less prone to devastating floods and were very valuable mill sites. Two of those tributaries, the Shawsheen River and Cochichewick Brook were located within the original Andover settlement. These waterways saw intense mill development, particularly in the 19th century, which transformed the community from an agricultural village to a more diverse one of mills and farmland.

North Andover is a highland on the outer edge of the Merrimack Valley. The prominent hills drain waters into numerous wetlands. These wetlands are the headwaters of three separate rivers: the Ipswich River, the Parker River and Cochichewick Brook. The Ipswich River flows twenty miles to the sea through Boxford, Middleton, Topsfield, Hamilton, and Ipswich. The Ipswich River provides drinking water to over 335,000 people and thousands of businesses. In 1997 the Ipswich River was designated as one of the "20 Most Threatened Rivers in America", as determined by American Rivers. In 2003 that designation was upgraded to one of the "10 Most Endangered Rivers in America" due to worsening flow conditions. The Ipswich is still considered a "stressed basin" under the hydrologic criteria developed by the Massachusetts Water Resources Commission. The Parker River flows through Boxford, Georgetown, and Newbury twenty miles to the sea. Along the way this river supplies water to underground aquifers, comprising the largest watershed in Georgetown. Countless private wells are also served by underground aquifers in the Parker and Ipswich River watersheds. The Town of North Andover has recognized the importance of the Ipswich River relative to the water supplies by requiring the same minimum lot size in much of the Ipswich River watershed as in the Lake Cochichewick Watershed District.

Cochichewick Brook flows from Lake Cochichewick, which is the sole source of public drinking water for the people of North Andover. Lake Cochichewick watershed is approximately 2,732 acres in size, 378 acres (14%) of which lies within the Town of Boxford. This part of Boxford is zoned residential and is sparsely developed.

The Town of North Andover must continue to keep a watchful eye on the future development of this portion of the watershed since the town has little control over it. Experience has shown that controlling growth has been very difficult in the portion of the watershed that lies within North Andover; controlling growth in another community will present even more challenges. Working with Boxford to identify lands that may be acquired or otherwise protected to maintain water quality is a strategy the town will pursue. The towns should work together to afford protection via acquisition, Conservation Restrictions or required standards for development or management.

North Andover's regional transportation routes have a major impact on the town's character and environment. Secondary highways such as Routes 114, 125 and 133 have been important local and regional transportation routes. Historically, Route 114 brought goods to and from the bustling port of Salem. Route 125 was the direct route to the prosperous mill town of Haverhill, while Route 133 was the major route to the mill centers of Andover and Lowell. When they were first laid out, these early roads were the only dependable routes to the regional centers of commerce. Such roadways made it possible to transport raw materials to, and finished goods from the local mills.

These roads are now secondary highways that funnel traffic to the two major interstate highways, Routes 93 and 495. These highways have had perhaps the greatest impact on the community's growth and development in the latter half of the twentieth century. Route 93 makes North Andover accessible for those who work in Metropolitan Boston, while Route 495 provides quick access to the job markets, which have filled the void left by the failure of the mills throughout the Merrimack Valley.

3.2 COMMUNITY HISTORY

The original settlement of Andover was located in the area bounded by Andover, Osgood and Court Streets and Academy Road. It was based on the jointly held field system from the part of England most of the founders came from. The small cluster of house lots was surrounded by land used for planting, woods and swamps. By the end of the 17th century, the common field system had devolved into individual holdings. Settlement had spread into the southern part of town that would eventually become the "South Parish" and even later, in 1855, become "Andover", taking the name of the original settlement.

In the early 1690s, Andover was caught up in the witchcraft hysteria of Essex County when dozens of residents were imprisoned and three hanged. Andover men were involved in the several French and Indian Wars, taking part in raids up into Canada. Andover was active in the Revolutionary War, sending minutemen to Concord and publishing the full text of the Declaration of Independence in the Town Meeting report.

In the early 19th century, the North Parish was still primarily agricultural, although a thriving, but short-lived shoe industry grew up around the crossroads village in what is now the old center. A carding mill was built in 1802 on the Cochichewick near the Merrimack and still exists today. Other mills were built along the brook, which at one time supported 4 major mills connected with textile manufacture. The outlet of Cochichewick Brook to the Lake Cochichewick was dammed to regulate the flow of waterpower to the mills, which in turn, would increase the size of the lake several times. The original millponds still exists, hidden behind mill and business buildings, and residential condominiums. This offers a possible scenic pathway connecting the Merrimack River with Lake Cochichewick.

The founding of the City of Lawrence was the catalyst, which led to the division of the town into three (3) segments before the Civil War. In the North Parish, now North Andover, the mills along Cochichewick Brook grew, and a new commercial center developed closer to the Merrimack River and to Lawrence. "Machine Shop Village" is a Local Historic District in the downtown area that contains examples of the former textile industry buildings, as well as factory-built workers housing, stores, a church and an owner's residence.

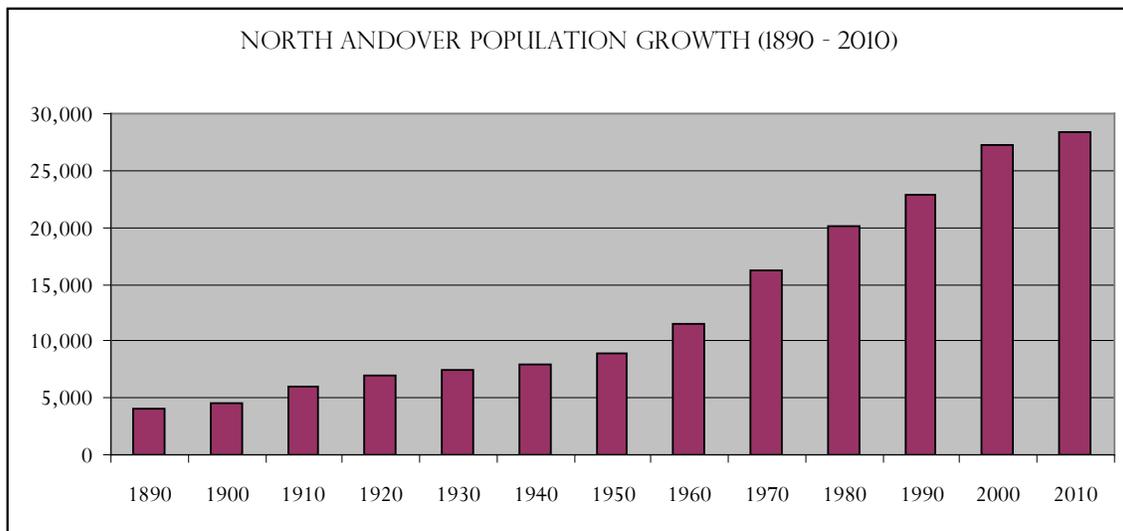
The old center village escaped pressure for development and largely retains its 19th century appearance today. Several of the structures around the Common are owned or protected by the North Andover Historical Society. The Common itself, created in the 19th century by the North Andover Improvement Society was turned over to the town in the 1950s after the last house had been removed. It serves as a location for town celebrations and for a variety of passive recreation uses. It is also the focus of the town’s first local historic district. North Andover residents appreciate the historic character of their community, which still retains many examples of buildings and landscapes from former days.

Population continued to rise during the 20th century, although the shift of textile manufacturing to the South after WWII meant the loss of factory jobs. Some of these jobs were replaced with new industry such as the large Western Electric plant (now 1600 Osgood Street commercial center). Until the 1960s, however the eastern and southern sections of town were still largely undeveloped open space. Residential development continues to place pressure on this shrinking resource.

3.3 POPULATION CHARACTERISTICS

The population of North Andover has grown steadily throughout the 20th century and into the 21st. Figure 3.3.1 demonstrates this growth over the past 120 years.

Figure 3.3.1



As immigrants came to work in the woolen mills, they tended to settle within walking distance of those mills. This led to a concentration of factory housing, modest homes and a few owners’ mansions in a relatively dense settlement in the northwest part of town along Cochichewick Brook. Many of the town’s recreational areas are located in these older neighborhoods, and are heavily used.

Up until the last quarter of the century, the rest of the town was mainly undeveloped, with a number of farms and few large country estates bordering Lake Cochichewick, built by wealthy mill owners. From 1950 to 1970, the population almost doubled. During this period, Routes 93 and 495 were completed, putting North Andover within driving distance of employment in the

Metropolitan Boston region; therefore, making the town attractive as a residence for commuters. Rapid growth has continued throughout the 21st century.

North Andover’s population has grown to 28,352 as estimated by the Census in 2010. This population increase has led to a corresponding decrease in open space, even though the perception of North Andover as a town with a great deal of open space is one of the reasons given for moving here. Past surveys indicate that many residents thought that the town’s undeveloped open spaces were somehow protected and would remain open.

In conjunction with the overall population growth, there’s been growth in the senior and teenage populations that have separate recreational needs. The Senior Center that flanks Town Hall was built in 1984 and expanded in 1997. Construction of a new Youth Center in the Old Town Center was completed in the summer of 2000, and a new High School complex was completed in 2004 - 05.

Employment

Changes in employment trends in Massachusetts can be seen in Table 3.3.1.

Table 3.3.1 Employment Trends

Area of Employment	Percent in the Workforce - 2001	Percent in the Workforce - 2010	Percent Change
Construction	3.87%	3.49%	-0.38%
Manufacturing	38.69%	14.85%	-23.85%
Trade, Transportation and Utilities	11.74%	15.50%	3.77%
Information	3.56%	3.52%	-0.04%
Financial Activities	2.18%	3.52%	1.35%
Professional and Business Services	15.10%	18.39%	3.30%
Education and Health Services	16.72%	26.31%	9.59%
Leisure and Hospitality	5.19%	9.00%	3.81%
Other Services	1.73%	3.66%	1.93%

Source: Commonwealth of Massachusetts, Division of Employment and Training (ES-202 Series)

As with many towns in the state of Massachusetts, North Andover has seen a shift away from manufacturing jobs and toward high tech, service employment. Much of the recent population growth has changed North Andover from a blue collar to a white-collar community. This may increase interest in open space protection and conservation issues. There has been an increased demand for recreational facilities, particularly playing fields for rapidly growing sports programs, such as soccer and baseball. In previous Open Space Plans, it was clear that the Town was not meeting the community’s recreational needs. However, the town has recently added recreational fields to begin fulfilling this need, including the Carter Farm Soccer Fields (3), Foster Farm Soccer Fields (2), Town Farm Soccer Field (1) and an entire new track and field facility, as well as soccer, football, baseball and softball fields at the high school.

When the Planning Board adopted North Andover’s first master plan (1957), manufacturing jobs comprised more than 95% of the town’s total employment. A “company town” making the transition from textiles to technology, North Andover had recently attracted a new Western

Electric Company manufacturing plant on Osgood Street near Haverhill.⁷ Although North Andover aspired to be one of the region's top industrial centers, manufacturing employment paralleled regional trends and gave way to growth in other industries. During the 1990s, manufacturing employment declined by nearly 50% in North Andover. Manufacturing still exceeds other industries for total employment, but service jobs have become an increasingly prominent part of the town's economy. In 1990, North Andover had 3.55 manufacturing jobs for every service job; by 2001, the ratio had dropped to 1.43.⁸ Similar rates of decline have occurred throughout North Andover's region, yet some communities with a much smaller manufacturing base absorbed modest growth in manufacturing employment toward the end of the decade.

Household Income

North Andover's median household income is \$95,199, more than 80% higher than the Commonwealth's median income of \$52,762. 17.3% have annual incomes of \$200,000 or more – a rate that in North Andover's region is surpassed only by Andover, Boxford and Topsfield.

Household type is also important in influencing total household income. Families in North Andover generally have higher incomes than non-family households and this applies to North Andover as well, but the difference is somewhat more pronounced.

3.4 GROWTH AND DEVELOPMENT PATTERNS

Patterns and Trends

North Andover is comprised of distinct geographic areas that have evolved in different ways over the centuries, due to the prevalence of the natural resources in the area. The fertile land and abundant water supply fostered agriculture when the town was settled near the Old Center in the 1640s. During the 19th century, water power from the Merrimack River and the Cochichewick Brook brought industrialization to the northern section of town, permanently changing the land use and development pattern to an intensely settled enclave which serves today as the town's commercial and governmental center. The shift of development from the Old Center to the north sparked a period of significant physical and social change. Development in the Old Center ceased as industrial enterprises blossomed in the northern section of town. This change ultimately helped to preserve the rural character of the Old Center.

Two additional factors have contributed to development of town: the location of transportation infrastructure and physical characteristics, such as the rolling topography and dramatic hills.

The placement and development of transportation corridors has played a significant role in North Andover's development from a rural, agrarian village to the suburban community it is now. In the 1850s, the introduction of rail service contributed to the industrialization of the northern area. During the last half of the 20th century, the development of highway corridors, in particular Routes 114 and 125, contributed to the subdivision of former estates and farmstands, which became residential house lots and large office parks. The construction of the interstate highway system, most notable Interstate 93 and 495 provided fast and efficient access to major business centers such as Lowell, Portsmouth and Boston. These advances brought an unprecedented number of people into North Andover, doubling the population between 1950 and 1970 and increasing it another 44% between 1970 and 1990.

Among the influential landscape features of the community are the many large oval-shaped hills that once gave North Andover a rural, open appearance. Most of these hills are drumlin formations

comprised of clay, sand and boulders. In the past, Master Plans (1972) and Open Space Plans have recommended that the town take steps to protect these hilltops from development due to their rural and aesthetic contributions to the community's image.

The introduction of public infrastructure, such as water and sewer also played a significant role in the advancing development of outlying areas. Realizing that the community's character-defining open space may be lost forever, various government and non-government organization have worked to preserve significant parcels from further development.

Transportation

North Andover's regional highways, Routes 114, 125 and 133 and the two major interstate highways, Routes 93 and 495 are important to the town's development and economy. Of North Andover's 13,896 employed residents, 80% of them commute in single-occupant automobiles with an average commute time of just under half an hour. Interstate 495 runs through the northern corner of town, providing access to the Lawrence Municipal Airport, industrial parks and residential areas. Route 114 crosses through the southern half of North Andover and offers connections to Routes 125 and 133.

Of the town's commuters, only 3.4% use some form of public transportation on a daily basis, mainly on commuter rail. It is easy to see why. According to federal census data, only a small percentage of North Andover's residents (10.4%) work in Boston or Cambridge, where inbound public transportation service is available to commuters. Most residents work in suburbs elsewhere in Essex County or in Middlesex County along I-93 or I-495. Additionally, the MBTA does not have a commuter rail station in North Andover. The options for taking the train exists outside of town, along the Haverhill/Reading line in Reading (113 parking spaces), North Wilmington (20 spaces), Ballardvale (120 spaces), Andover (152 spaces) or Lawrence (163 spaces). North Andover is also a member of the Merrimack Valley Regional Transit Authority. In addition to regular bus routes that service in and around North Andover, the MVRTA provides special employment shuttles to the Osgood Landing (1600 Osgood) site that depart from Lawrence and Haverhill. In 2015 MVRTA added service from North Andover to Boston via commuter bus.

Water and Sewer

The Town of North Andover has both water and sewer infrastructure throughout the town. Current estimates show that at least 90% of the town is connected to the town's water system and that at least 70% is connected to the sewer system. Because the town has Lake Cochichewick as a high quality surface water supply system, a priority has been placed on reducing the number of septic systems within the Watershed Overlay District. This zoning overlay was designed to protect the water supply by limiting the type of activities to those with the least potential for harm to the lake. Since 1996, the total number of septic systems has decreased by 87%, from 396 to the present count of 53.

The town has prioritized areas of primary interest for connection to the sewer system, as part of a long-term plan, to protect contributing groundwater and surface water systems, and to promote economic growth. The priority areas include Route 125 near 1600 Osgood Street, the site of the town's newly re-zoned 40R district, as well as various "pockets" of neighborhoods adjacent to a sewer serviced area.

Long-Term Development Patterns

North Andover first adopted local zoning in 1943. The current zoning map is included in the appendix. The North Andover Zoning Bylaw and Map have been revised and updated on numerous occasions, most recently in May 2013. Recent changes included the following.

- ❖ A Phased Growth Bylaw to ensure that growth occurs in an orderly and planned manner, and to reduce large year-to-year variations in the development rate (adopted in 1998, amended in 2004 and 2008)
- ❖ Corridor Development Districts to control design of commercial and residential development along primary travel routes (Routes 114, 125 and 133) (adopted in 2006 and 2008)
- ❖ The Osgood Smart Growth Overlay District (OSGOD) with three subdistricts (Residential Mixed-Use, Mixed Use Development, and Business Opportunity to promote Smart Growth (adopted in 2007)
- ❖ Downtown Overlay District to preserve and enhance the existing mixed uses of downtown North Andover (adopted in 2009)
- ❖ Establishment of a Wind Facilities Bylaw (adopted in 2014)
- ❖ Establishment of a Medical Marijuana Overlay District (adopted 2014)
- ❖ Establishment of a Downtown Overlay Sub-district A: Historic Mill Area (adopted 2015).

North Andover's current Zoning Bylaw allows for Planned Residential Development (PRDs) also known as Cluster Development, Large Estate Conversions, and Site Plan Review. Zoning Districts include seven (7) residential zones, ten (10) business and commercial districts, four (4) industrial districts, two overlay zones: Osgood and Downtown, as well as a Watershed Protection and a Floodplain District,

North Andover's Wetlands Protection Bylaw and its Regulations, as well the Board of Health's septic system regulations are more restrictive than the MA Wetlands Protection Act (M.G.L. c.131 .40) and Title V, State Sanitary Code, (310 CMR 11.00). The Conservation Commission has also specified eight (8) rivers protected under the MA River's Protection Act and in the local Wetlands Protection Bylaw. These rivers include the Merrimack River, Cochichewick Brook, the Shawsheen River, Mosquito Brook, Boston Brook, Fish Brook, Cedar Brook and Rocky Brook. These local regulations have been necessary because of the large amount of wetlands in town. An increase in conservation applications coupled with the increased need for sewer connections are indicators of poor land. Smaller developers are unable to capitalize developments with high on and off site costs. The trend to larger development firms is related to the greater infrastructure and wetland issues.

North Andover's zoning has always heavily favored residential development over commercial or industrial growth. Eighty-five percent (85%) of the town is zoned residential. The town's Master Plan stresses the need for greater commercial and industrial growth to offset costs of providing services. The "out country" area has seen significant development over the last ten (10) years, necessitating the building of a new elementary school, the rebuilding and enlargement of two (2) existing elementary schools, and expansion of the Middle School. Town growth has also produced a student population that exceeds the capacity of the High School facility, which was redeveloped for up to 1400 students in 2004. This growth pressure has also prompted unsuccessful override

proposals for a third fire station, and a new Public Safety Center. The town completed a Facilities Review and Assessment in 2012 to document general use, conditions and needs of public facilities: Schools, Department of Public Works Facilities, Stevens Memorial Library, Fire Department Stations One and Two, Police Department Facility, Youth Center, Senior Center, the Stevens Estate, and Town Hall. Identified needs are the focus of maintenance and capital improvements.

As in many other Massachusetts towns, much of the new residential development has resulted in large and expensive homes. Even some homes originally marketed as empty-nester homes have become very desirable with prices reflecting that, and have become havens for families with children. North Andover's traditional diversity of home styles and prices has become less diverse in the past decade.

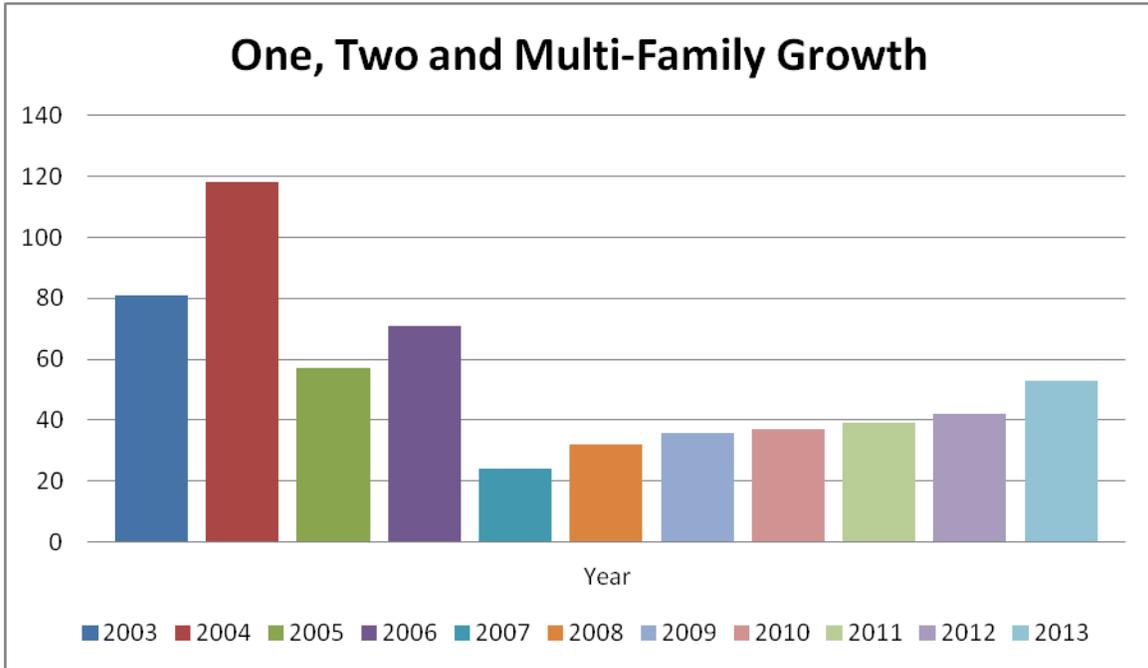
The Town of North Andover understands the importance of preserving open space, farmland and historic scenic vistas as a break in the expanse of residential development, and as a cost-containment move. In attempting to identify funding sources to pay for the needed public buildings and services, a corridor study of Rte. 114 is underway to find appropriate space for small industrial parks and commerce without adversely affecting adjacent residential areas or traditional rural and farmland vistas.

North Andover is a mature, developed community, still comprised of a considerable amount of vacant, developable land, mainly for residential development. According to a build-out study prepared by Merrimack Valley Planning Commission for the Executive Office of Environmental Affairs' Community Preservation Initiative (2000), North Andover has enough developable land for about 2,300 new dwelling units and 8.37 million square feet (ft²) of commercial and industrial space.⁹ However, most of the non-residential land in MVPC's study is in parcels held by existing companies and is not currently available.

This residential housing growth can be seen in Figure 3.4.1 for the years 2003 to 2013.

Figure 3.4.1

Household Growth 2003-2013



While North Andover is fortunate to host part of Harold Parker State Forest, land owned by the Essex County Greenbelt Association and The Trustees of Reservations, only 30% of land in the Lake Cochichewick Watershed District is protected. Acquiring and protecting land within the Lake Cochichewick watershed is the Community Preservation Committee’s highest Open Space priority. In partnership with the CPC, the town has purchased over 100 acres within the watershed district since 2001: Carter Hill, Half Mile Hill and Summit parcels, the Cullen property and the Ousler property, the last being purchased in 2013. With acquisition of these key properties, the focus has shifted towards effective care and management of all watershed properties both public and private for the long-term preservation of a high quality watershed. There are still significant parcels of land abutting the lake, which have no protection and are vulnerable to development. These include North Andover Country Club, Brooks School and other fairly large private parcels. Since the last Open Space and Recreation Plan, the town has acquired a Conservation Restriction and trail easement on the Rolling Ridge Conference Center and has purchased another property adjacent to the Stevens Estate.

Forested land has decreased because of many new developments, and the new Title V regulations have had the unintended consequences of clear-cutting whole parcels for septic systems for the new developments. The recent displacement of farms and forests is reflected in the names of recent developments, such as Forest View Estates, Peachtree Farm, Maplewood Reserve / Oakridge Village, Rocky Brook Estates, Carter Farm Reservation, Woodland Estates, Brookview Estates, Meetinghouse Commons, Mathews Way and Stanton Woods. The town’s remaining forestlands are highly valuable for their contributions to ecological diversity, wildlife habitat protection and scenic and historic preservation.

Today, there are a limited number of active farms in North Andover. Many farmers have sold portions of, or all of their farmland off to developers, or the lands have been acquired by the town through the state’s ‘Right of First Refusal’ under M.G.L. Chapter 61A. However, there are successful producing farms in North Andover, which are supported by the townspeople. Community input from the 2013 online survey and public meetings shows strong interest in preserving open scenic vistas and historic ways of life. The town’s Master Plan reflects this same desire. We encourage the use of Chapter 61, 61A and 61B tax classifications, as well as Agricultural Preservation Restrictions (APRs) and Conservation Restrictions (CRs) as methods to preserve these farms.

A concern of the previously active Open Space Committee, which is also reflected in the Master Plan, was the use and amount of open space in Planned Residential Developments (PRDs). Incursions into the open space by homeowners and the use of severe slopes as open space have violated the spirit of the PRD Bylaw. When last operational, the Open Space Committee held the opinion that the percentage of open space required be increased and that it be more visibly marked, more usable and accessible.

The following chart, a build out study from the 1997 Interim Master Plan Report shows in two ways how many acres and / or lots could be built in each of the seven residential zones or six regions of town.

Figure 3.4.2

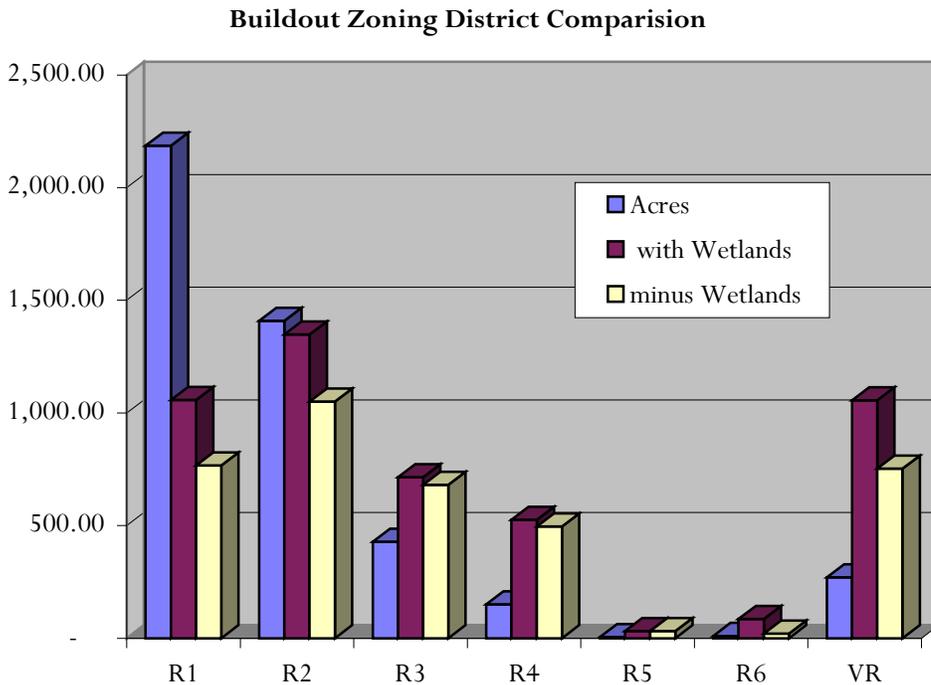


Table 3.4.1 shows that wetlands reduce the number of buildable lots by 1,020, from 4,820 to 3,800. The 3,800 lots without wetlands may be seen as generally favorable for development. If all of these lots were built on this could result in 30,400 more traffic trips and 1,900 more children. The Conservation Commission’s enhanced ability to manage growth through its Wetland Protection Bylaw is key to preserving these valuable lands.

Table 3.4.1

Zone	Acres	# of Lots With Wetlands	# of Lots Without Wetlands	Wetland Differences	Traffic Trips per Lot	School Children per 0.5 lot
R1	2186.75	1057	767	290	6136	383.5
R2	1408.1	1348	1051	297	8408	525.5
R3	428.68	715	681	34	548	340.5
R4	150.06	526	496	30	3968	248
R5	4.75	32	32	-----	256	16
R6	9.9	86	21	65	168	10.5
VR	269.67	1056	752	304	6016	376
TOTALS	4457.91	4820	3800	1020	25500	1900

In recent years, developers have taken advantage of the State’s Chapter 40B: Affordable Housing statute, a Comprehensive Permit Law that allows the developer to bypass local zoning laws, as long as 25% of the development is considered “affordable”, and if less than one-tenth of the homes in the community are affordable. The term "affordable" refers to a rent or sale price affordable to households that earn 80% or less of the area median income. A city or town is required to have a minimum of 10% of its year-round housing as affordable. North Andover has several 40B developments including: Kittredge Crossing, Meetinghouse Commons, The Residences at Champion Hall, Oakridge Village / Maplewood Reservation, Waverly Oaks, Orchard Village, Stevens Corner and Merrimac Condominiums. Other affordable developments include Morkeski Meadows and Wood Ridge Homes. In 2015, an additional 196 units were permitted and are under construction on Berry Street, all of which qualify as affordable. According to the Massachusetts Office of Housing and Economic Development's Subsidized Housing Inventory database, North Andover has reached 8.55% of the required 10% number of affordable units.

4.0 NATURAL RESOURCE INVENTORY AND ANALYSIS

4.1 GEOLOGY

Surficial Geology

The North Andover landscape shows the unmistakable influence of continental glaciations. This is most notable in the presence of a number of oval-shaped hills, as well as many irregularly shaped swamps and bogs resulting from the disrupted drainage patterns. "These hills are known as drumlins. They are oval shaped hills made of a jumbled combination of clay, sand and boulders called till. The till can be recognized by the mixed distribution of boulders, pebbles, and clay. Till is very hard and generally gray in color. The soil at the top of the till where it has been weathered is typically a brownish color. Till is sediment deposited directly by the glacier" (Roberts, 1977).

There are a dozen large hills in North Andover. Roberts identifies two (2) drumlins, but one, Claypit Hill, may be a kame. A kame is the remnant of deposits of a glacial stream that formed on the valley wall while the glacier filled the valley. Claypit Hill shows deposits of "fine sand to gravel to rocks of several inches in diameter. One fresh cut in the hillside showed well defined layering of gravel" (Doucette, 1990). Perhaps this is an ancient kame reshaped by a later glacier into a drumlin.

Much of the southern and southeastern portion of town is made up of ground moraine, "bedrock covered by a thin sheet of till" (Roberts, 1977). The combination of poorly drained clay-rich till and the disruption of drainage patterns mentioned above has resulted in the many swamps, marshes and bogs found throughout town, particularly in the southern and southeastern portion. These poorly drained soils and broad wetlands present serious limitations for development (particularly with the lack of public sewer), but do provide opportunities for protecting open spaces.

Bedrock Geology

Two major bedrock zones underlie North Andover; the Merrimack Belt traverse along the extreme northern portion of town and the Nashoba Zone underlies the remainder (Zen et al, 1983). The Merrimack Belt is mostly composed of metamorphosed sandstone and siltstone. The Nashoba Zone is primarily dominated by Andover granite and Sharpners Pond Diorite.

These two major bedrock zones are split by the Clinton-Newbury fault that runs southwest to northeast just north of Lake Cochichewick. This major structural feature runs through southern New England and was most active over 250 million years ago (Skehan and Murray, 1980). There have been minor earthquakes associated with this fault including a quake measuring 2.5 on the Richter scale that was felt in Littleton, MA in 1990 (Cook, 1990). A second fault, the Assabet river fault, may run through town in a north / south direction along the eastern edge of the main mass of Andover granite (Goldsmith, 1991).

Soils

The soils found in North Andover can be classified into four major associations (United States Soil Conservation Service, 1981). For definitions, please refer to Appendix E.

- ❖ Paxton-Woodbridge-Montauk Association
- ❖ Canton-Charlton-Sutton Association
- ❖ Charlton-Rock Outcrop-Medisaprists
- ❖ Hinckley-Windsor-Merrimac

These general soil associations are intended for broad planning purposes only and include a wide variety of soil types. Determination of actual soil types, their extent and suitable uses is made on a site-specific basis through field identification. Such detailed investigations of soil characteristics and boundary determinations are made as part of individual land use decisions.

4.2 LANDSCAPE CHARACTER

Hilltops

North Andover's landscape is noted for its drumlins. These hills have had an impact on the community's development patterns. Until recently, the development constraints and lack of infrastructure left the hillsides untouched, but the inflated property values of recent years have promoted extensive hillside development. Some of these hilltops offer expansive views of the Merrimack Valley, Nashoba Valley, Mount Monadnock, and even Boston. Erosion and sedimentation during hillside construction have proven to be very problematic. The Planning Board revised their Subdivision Rules and Regulations in 2002. One of the revisions requires any natural slope exceeding 25% over a horizontal distance of 10-feet as measured perpendicular to the contour to be protected and remain in its natural state. In 2011 the town adopted Stormwater Management and Erosion Control Regulations to address the impacts of stormwater runoff and sedimentation. Regulations require applicants to secure a Land Disturbance Permit and to submit soil erosion and sedimentation control plans along with plans for the proposed development.

The town's large, gently sloped hills were referred to as "Major Heights" in the only town-wide natural resource inventory as discussed in the town's first Open Space Plan of 1970. "These hills provide an outlook over the whole town as well as great parts of the Merrimack Valley. They also form the skyline of the town when seen from the valleys. Such natural landscape tends to give the town an open appearance much desired by suburban dwellers and highly valued by North Andover residents." The 1970 Open Space Plan recommended the "Protection of the skyline which gives the town an open appearance..." (North Andover Conservation Commission, 1970).

The 1972 Comprehensive Plan also recommended the protection of eight (8) prominent hills from intense development to "retain the rural character of natural hills" (Brown, 1972). Of these eight (8) hills, Town Farm Hill and Claypit Hill have since been covered by large subdivisions. Planned Residential Developments (PRD) have been approved and constructed on Barker Hill, and a portion of Woodchuck Hill, preserving some open space. Portions of Boston Hill were protected under a Conservation Restriction when an assisted living facility was constructed at the base in 2012. Weir Hill is protected by the Trustees of Reservations, and the Town of North Andover now owns Osgood Hill/Half Mile Hill and Carter Hill. The 1987 Balanced Growth Bylaw also recommended the protection of the town's hills. North Andover needs to be more proactive in protecting these hilltops before landowners produce development proposals, which can only promote a reactive response.

Farmland

Farmland has defined the town's character since the first settlers arrived. As previously discussed, most of North Andover's farmland has been replaced by residential development since the 1950s. As a response to this, the 1972 Comprehensive Plan's first long-range goal was to "Retain the natural character of woodlands, fields, and farms throughout the town so that they can be used for recreation, conservation and enjoyment of open space to the extent possible" (Brown, 1972).

Some landowners file their property under certain taxation classifications such as Chapter 61, Forestry; Chapter 61A, Agricultural and Horticultural Lands; and Chapter 61B, Open Space / Nature Area /

Recreation. Presently fifteen (15) landowners protect 1,094.81 acres through the Chapter 61A. This is a 13% decrease since the 2000 Open Space & Recreation Plan. Additionally, there are four (4) landowners that have filed under Chapter 61 and protect approximately 59.62 acres of forested areas, and three (3) landowners are classified under Chapter 61B, preserving 62.17 acres of open space. When the landowner decides to sell the chapter land or convert to a different use, the town can exercise its first right of refusal to purchase the land. The former Mazurenko Farm was purchased using this option in 1988 for the purpose of watershed protection and the preservation of farmland. Acquiring this parcel kept the crop and hay fields active, and eliminated the development of a residential subdivision with potentially harmful impacts on the community's water supply. This acquisition also triggered the Conservation Commission to create a farming program (agricultural use license) that allows local farmers to rent usable hay or crop fields. Not only does this program keep the old agricultural fields active, but it also provides the farmer with additional income and crop. To date, the Conservation Commission rents fields at Mazurenko Farm, Foster Farm, Carter Hill and Half Mile Hill. The most recent first right of refusal purchases were the Foster Farm (Chapter 61A) and the Cullen property (Chapter 61).

One reason why many people accept the loss of more natural landscapes is the common misconception that there is a financial gain to the community from the conversion of these land uses to residential or commercial development. A better understanding of the positive financial impact of land preservation would hopefully improve the attitude of not only landowners, but also municipal policy-makers toward land preservation. Various studies, such as the American Farmland Trust (AFT) study previously cited, have shown that residential growth is more of a strain on local services than preserving open land, forests and farmland. Over the last five (5) years, Massachusetts' prime farmland has seen a 66% loss as a result of development.

Table 4.2.1

Ratio of Dollars of Revenue Received/Expenditure Providing Services by Different Land Uses

Residential	Commercial/Industrial	Farms & Open Land
\$1:1.14	\$1:0.45/1:0.29	\$1:0.26

(Source: The Economic and Fiscal Contribution of Farm and Open Land in Dartmouth, Massachusetts, American Farmland Trust, 2009)

In the 2009, the American Farmland Trust completed a cost of community services study to determine the fiscal contributions of different land uses (residential, commercial, industrial and farm and open land) in Dartmouth, MA. The study concluded that residential development of open space lost money for the community while commercial / industrial and farm / open land uses generated more in revenue than they required in services. Therefore, “a municipality with a mix of commercial and industrial as well as farm and open land is more likely to achieve a fiscal balance.” Hopefully, a better understanding of this issue will generate a more positive economic view of farmland and open space.

4.3 WATER RESOURCES

The term 'water resources' is a broad one, which encompasses standing and moving water bodies, and vegetated wetlands such as swamps and marshes, floodplains and groundwater. These water resources are described in this section.

Most municipalities within the state of Massachusetts are required to implement a stormwater bylaw as part of the EPA's National Pollutant Discharge Elimination System (NPDES) permit program. In 2008, North Andover adopted a town-wide stormwater bylaw applying to "land disturbances of 43,560 square feet or more of land associated with construction or reconstruction of structures". Any project requiring approval by the town Planning Board or Conservation Commission is exempt from the provisions of this bylaw and subject to the stormwater regulations of the individual permitting authority. The town also adopted a set of regulations to guide implementation of the bylaw in 2011. The regulations make maximum use of Low Impact Development (LID) techniques and promote more sustainable and environmentally sound building and development practices.

Watersheds and Surface Waters

In 2003, the Department of Environmental Protection (DEP) released its Source Water Assessment and Protection (SWAP) report for North Andover. This program was established under the federal Safe Drinking Water Act, requiring every state to inventory land uses within the recharge areas of all public water supply sources, assess the susceptibility of drinking water sources to contamination from these land uses and, publicize the results to provide support for improved protection. This report makes a series of observations and recommendations regarding North Andover's drinking water resources and should be considered in future policy-making decisions. Furthermore, it identifies potential hazards to the town's drinking water and recommendations for protection.

In a regional context, much of North Andover is a highland at the junction of three watersheds: the Merrimack River and the headwaters of two rivers: the Ipswich River (via Boston Brook and Mosquito Brook) and the Parker River. Much of the southern and southeastern portion of town drains into the Ipswich River. The northern and western portion of town drains into the Merrimack River. Two (2) Merrimack River sub-drainage areas of note are the Shawsheen River and Cochichewick Brook. As we have seen, water resources have driven the town's origin and development, hydropower in particular. Early in the town's history there was "hardly a stream or brook of any size that was not put in requisition by the settlers as waterpower for grinding or sawing" (Bailey, 1880).

Today, Lake Cochichewick is the sole source of public drinking water. An understanding of the vulnerability of water resources has been learned the hard way - through the degradation of our public water supply. Pollutants from a number of sources including: house construction, septic systems and urban stormwater degraded water quality until 1986 when giardia was discovered in the Lake. A 'boil water order' followed. A filtration plant was constructed, a three-year building moratorium was instituted throughout the watershed, and a comprehensive watershed study was commissioned. A portion of this study's Diagnostic Conclusions provides a picture of the threats to the water supply from increased growth and development:

- ❖ Water quality of the inlet streams is degraded compared to water quality in-lake. Given the present degraded quality of inflows, there is potential for in-lake water quality to deteriorate in the future even without a corresponding degradation of inflows.
- ❖ The watershed to the lake has residential and agricultural uses, which contribute to these periodic water quality problems. Erosion of soils in areas of new construction and agricultural

areas, and urban storm water runoff appear to be the primary sources of elevated suspended solids, nutrients and bacteria concentrations.

- ❖ Over half of the watershed to the lake is presently forested, and is a prime site for future residential development. Further development in the watershed will lead to increases in nutrient loading and urban stormwater runoff. Lake development is experiencing low growth and is expected to continue in that fashion. (IEP, 1987)

As a result of the Lake Cochichewick Watershed Plan (in conjunction with the Balanced Growth Plan), a number of steps were taken to protect the water supply. These included major revisions to the Zoning Bylaw, Board of Health Rules and Regulations, Wetlands Regulations, land acquisition, increased street sweeping, and an extension of sewer system. The level of success in protecting the water supply, particularly in promulgating comprehensive recommendations has been considerable.

Watershed protection measures should manage all threats to the water supply. Updates to the Zoning Bylaw aid this. In February 1999 the Zoning Bylaw implemented the following” zones and regulations to assist in preserving the purity of groundwater, Lake Cochichewick, and its tributaries; to maintain the groundwater table; and to maintain the filtration and purification functions of the land while preserving the natural environment and protecting the public safely health and welfare. The Watershed District is divided into the following zones:

A General Zone within the Watershed District consists of all land located beyond four hundred (400) feet horizontally from the annual mean high water mark of Lake Cochichewick and all wetland resource areas located within the Watershed. In addition, the following Zones are defined as:

Lots created after 10/24/94	<u>Conservation</u>	<u>Non-Disturbance</u>	<u>Non-Discharge</u>
From Annual High Water Mark of Lake Cochichewick	100 Feet	250 Feet	400 Feet
From Edge of all Wetland Resource Areas within the Watershed District	75 Feet	150 Feet	400 Feet
Lots created on or before 10/24/94	<u>X</u>	<u>Non-Disturbance</u>	<u>Non-Discharge</u>
From Annual High Water Mark of Lake Cochichewick	X	250 Feet	325 Feet
From Edge of all Wetland Resource Areas within the Watershed District	X	100 Feet	325 Feet

Approximately 30% of land in the watershed is protected open space. These parcels include Osgood Hill, Half-Mile Hill and Summit, Mazurenko and Rea's Pond Conservation Areas, Carter Hill, and a large portion of the Town Farm; all of these properties are owned by the Town of North Andover. The Trustees of Reservations owns the Weir Hill Reservation and has Conservation Restriction (CR) on Edgewood Farm. The Town of North Andover holds a CR on the Rolling Ridge property. In addition, a portion of Smolak Farm is protected under an Agricultural Preservation Restriction and the Essex County Greenbelt Association owns several properties within the watershed including Carter Fields Reservation. The remaining land in the watershed is not protected and will likely be developed at some point. Reservoirs should be surrounded by as much protected land as possible. Much more must be done to protect land in the watershed, whether through conservation restrictions or acquisition.

Land in the watershed is sought after for residential development since the open spaces, lake views and larger lots increase the desirability and value of this land. Even when the real estate market was at its most recent depressed state in 2008-2013, land in the watershed continued to be developed at a higher rate than

non-watershed land. Therefore, the community must not only be vigilant in its protection of these resources, but also be open to new protection measures such as improved regulations and acquisition.

Aquifers

According to MassGIS and information from the Water Department, there are no viable groundwater sources for public water supply (see Appendix, Water Resources Map). The Water Department is pursuing inter-connections with Andover and Haverhill for additional water supply from distribution systems during emergencies, but they are not groundwater sources.

Flood Hazard Areas

North Andover lies in the floodplain of the Merrimack and Shawsheen Rivers to the north and west and various tributaries of the Ipswich River in the south and east. In an effort to protect the community from lost flood storage, floodplain zoning was adopted in 1979 (most recently updated in 2012 with the issuance of new maps by FEMA), which restricts building in the flood plain.

During major storm events such as the 100-year event, flooding generally occurs in the same areas. Such floodplains are associated with all rivers and perennial streams in North Andover. Some lands in the Shawsheen and Merrimack River floodplains have been taken in lieu of taxes. These land holdings are not only valuable for flood control purposes, but also for open space and recreation. Potential for trails and wildlife habitat improvement projects are now being considered for these floodplains. Such tax takings, or other acquisitions, should be encouraged since these floodplains help preserve flood control, water quality, wildlife habitat and are potential sites for both active and passive recreation.

Wetlands

North Andover was one of the first communities in the Commonwealth to organize a Conservation Commission in 1961 when it adopted Chapter 40, §8C of the Massachusetts General Laws. The Commission quickly went to work on the very general task of protecting the town's natural resources. Since the passage of the Wetlands Protection Act (M.G.L. Chapter 131, §40) in 1972, the Commission has rigorously enforced the provisions of this Act. The Commission not only enforces the state Wetlands Protection Act, but also a local Wetlands Protection Bylaw and Regulations. This Bylaw (and its subsequent revisions) has been in effect since 1979. Comprehensive Wetlands Protection Regulations were adopted early in 1991. These regulations provide detail and performance standards to support the local Bylaw. The Town of North Andover's Wetlands Protection Bylaw was last revised in 1998 and the Regulations most recently in 2015. The Wetlands Protection Regulations implements the following setbacks:

25-foot No Disturbance Zone: No activity is permitted within 25-feet of the edge of the wetland resource areas identified in section 1.3 of the North Andover Wetlands Protection Regulations.

50-foot No Build Zone: Construction of any kind is prohibited within 50-feet of the edge of the wetland resource areas identified in section 1.3 of the North Andover Wetlands Protection Regulations.

50-foot No Disturbance Zone: No activity shall be permitted within 50-feet of the delineated edge of a vernal (ephemeral) pool or vernal (ephemeral) pool habitat (whichever is greater and / or more restrictive).

75-foot No Build Zone: No structures shall be permitted within 75-feet of the delineated edge of a vernal (ephemeral) pool or vernal (ephemeral) pool habitat (whichever is greater and / or more restrictive).

100-foot Septic System Setback: No septic system leaching field shall be permitted within 100-feet of the delineated edge of a vernal (ephemeral) pool or vernal (ephemeral) pool habitat (whichever is greater and / or more restrictive). Any permitted work shall not obstruct the migratory pathways of the ephemeral pool breeders.

The Conservation Commission is vigilant in its efforts to better protect wetland resource areas and wildlife habitat. The Commission meets twice a month to review development projects and issue permits for work near wetlands. In addition, the Conservation Commission manages several parcels of open space land for agricultural and recreational uses.

In an effort to better protect wetlands, a town-wide wetlands mapping project was completed in 1998 by IEP Inc. Vegetated wetlands were delineated using aerial photography. Additional data was gathered on vegetation types, hydrologic data and soils through field checking. This information is now out of date; however, a MassGIS data layer does show approximate locations of surficial wetland resource areas. This information is only for general information but serves as a starting point for planning staff and landowners alike.

4.4 VEGETATION

The specific open space and recreation values we all cherish are dependent on a particular setting. These various settings are defined, to a great extent, by the vegetation, which grows there. The plant community not only provides for the visual setting for human enjoyment, but also provides important food, shelter and breeding areas, and species and structural diversity to sustain countless wildlife species. It's difficult to think of an open space recreational pursuit that does not rely on a particular setting defined by its vegetation:

- ❖ Wooded trails and hilltop vistas for the hiker, photographer, mountain biker or cross-country skier.
- ❖ Old fields or farmlands that attract pheasant, turkey, grouse and deer for the hunter.
- ❖ Dense, unbroken forest for uncommon wildlife such as raptors, neo-tropical migrant birds and larger mammals such as fisher, coyote and moose.
- ❖ Thick shoreline cover along streams and ponds providing cover for fish, mammals and waterfowl.
- ❖ A quiet meadow in which to picnic.

Non-Forested Resources

Most people think of forests when protecting open space, but the picture is much more complex than that. As we can see from the settings described above, two of the five - the old fields and quiet meadows - are defined by the absence of trees. Some species of bird and wildlife along with various recreational pursuits require non-forested areas. This diversity must be taken into consideration when protecting and managing open spaces. Areas of diverse vegetation, such as old fields and wet meadows can be protected through acquisition or created / maintained on existing conservation land.

Non-forested resource areas are some of the most vulnerable to invasive plant species including purple loosestrife (*Lythrum salicaria*), Common reed (*Phragmites arundinacea.*), Japanese knotweed (*Polygonum cuspidatum*), and Multiflora rose (*Rosa multiflora*). These non-natives seen in numerous areas in North Andover alter native habitat and occupy space that native species would otherwise use. It is important to routinely monitor conservation land, and remove non-native species before they become a problem and

impact native species. In areas where these invasive species already exist, efforts to control them must be on-going. In 2015 with the assistance of a Community Forest Stewardship Implementation Grant, contractors and volunteers removed invasive bittersweet and knotweed from forested areas on Osgood Hill. The work will continue with additional grant funds in 2016.

Forest Resources

North Andover's percent of forested land has remained relatively unchanged for the last 40 years. Table 3.42 indicated that in 1951, 53% of North Andover was forested while 48% was forested in 1985. This statistic is misleading since many residential subdivisions in a forested landscape will be classified as forest in aerial photograph interpretation. When one reviews aerial photos along with road maps, a better understanding of North Andover's forests can be gained. There are relatively few areas of unbroken forest remaining. These remaining forests include lands that are unbuildable such as swamps and protected open space. As part of BioMap2, the Natural Heritage and Endangered Species Program published individual town reports. The 2012 report for North Andover identifies a 2,352-acre Forest Core in the southeast portion of the town. According to the report, this Core "is the third largest in the ecoregion and provides important and relatively large forest interior habitat in highly developed eastern Massachusetts."

North Andover's forests are typical for the southern New England region. The younger forests, those taking root after clearing, are characterized by the presence of gray birch (*Betula populifolia*), poplars (*Populus sp.*) and (particularly in the wet areas) red maple (*Acer rubrum*). Post-agricultural forest may include black cherry (*Prunus serotina*), white ash (*Fraxinus alba*), locust (*Robinia pseudo-acacia*), red maple (*Acer rubrum*) and apple (*Pyrus spp.*). The more mature upland forests are dominated by red oak (*Quercus rubra*), hickories (*Carya sp.*), white pine (*Pinus strobus*), and a wide variety of hardwoods. Red maple dominates the majority of forested wetlands. A large Atlantic White Cedar Swamp encompasses Cedar Pond in the southeastern part of North Andover and southwestern portion of Boxford State Forest. This is ideal habitat for the Hessel's Hairstreak butterfly (*Callophrys hesseli*), a species of special concern. These may be the remnants of the cedar swamps that were an important resource for the earliest settlers. "Sawing wood for shingles was a profitable business, and there was such a demand for them in the town that the inhabitants were forbidden to sell them out of town without special permission" (Bailey, 1880). Only a few cedar swamps exist in Massachusetts, most being logged for shipbuilding and shingles many years ago.

No stands of old growth forests exist in North Andover. Approximately 0.05% of Massachusetts has been identified as old growth. This is a result of extensive agricultural land use over the last 200 years. There are some individual specimens that are quite old, particularly 'boundary oaks' and street trees, such as white oak, various red oaks, sugar maples, beech, white pine and others. A 2013 Forest Management Plan prepared for the Greater Osgood Hill properties identified several "legacy trees." These trees are healthy and have reached a diameter of 25-30" DBH. Such specimens should be sought out and preserved to remind us of what the primeval forest held when the land was first settled.

Only four (4) landowners protect 72.67 acres of forested land through Chapter 61, the Massachusetts Forest Tax Law tax. While some landowners are considering this tax classification, the participation is very low. This limited acreage may be a reflection of a lack of public knowledge of this program and /or the limitations of this tax classification as a method of protection. The primary limitation of these programs is a requirement that the land remain in that land use for ten years. From previous discussions with the Assessor's Office, landowners are wary of such restrictions. Information regarding this tax classification program should be made more available to landowners.

Today, the forests of North Andover (and New England) are faced with a myriad of stresses. Air pollution weakens numerous species, particularly white pines and other evergreens. The gypsy moth threatens many

species. The once-dominant American chestnut (*Castanea dentata*) and stately American elm (*Ulm americana*) were decimated years ago by introduced pests. More recently, the woolly adelgid, a small aphid like insect from Asia, is threatening the health and sustainability of eastern hemlock (*Tsuga Canadensis*) and Beech Bark disease is causing significant threat to American beech (*Fagus grandifolia*). In 2013, the Emerald Ash Borer was discovered in a stand of ash trees at the base of Osgood Hill. The exotic beetle was first found in Massachusetts in 2012 in Berkshire County. The larvae of this exotic beetle feed on the inner bark of ash trees, disrupting the tree's ability to transport water and nutrients. Some of our dominant forest trees such as maple and oak are also threatened by a variety of pests and other stresses (Houston, 1981). The wildlife that depends on the forest is in turn threatened by the loss of native tree species and forest fragmentation. The issue of fragmentation is a difficult one due to the limitations of working in a single community where the preservation of large tracts of forest is simply not practical. When protecting and managing forestland, biodiversity and the preservation of native species must be considered.

Public Shade Trees

North Andover's public shade trees include those at municipal facilities including town offices, library, schools, parks and cemeteries. Trees within the rights-of-way along town roads are also considered public resources. Public shade trees are recognized as valuable to the town's visual character and to residents' physical comfort and the town looks to preserve them whenever feasible.

In January, 2014, John Lavin, the town's practicing Tree Warden was honored by the Massachusetts Tree Wardens' and Foresters' Association (MTWFA) for his commitment and dedication to the protection of public trees, and for his work with his community to maintain and improve tree growth and health. While the North Andover Board of Selectmen formally holds the Tree Warden title, Mr. Lavin of the DPW is entirely responsible for the day-to-day operations of the job, Mr. Lavin's accomplishments include management and oversight of the tree program for North Andover, including

- ❖ The annual Arbor Day program
- ❖ Grant applications
- ❖ Tree City USA annual application and award
- ❖ Trimming and removal by electric companies
- ❖ Tree inventory
- ❖ Recommendations for effective replacement trees
- ❖ Maintaining records of when and where trees were planted

Agricultural Land

The principal use of agricultural lands in North Andover is for hay and field crops. While the vegetation produced through this type of farming doesn't contribute to the town's inventory of native vegetation, the open landscapes offer habitat for a number of animal and bird species. Agricultural land is also valued for its contribution to the character of the community, as well as for the opportunities it provides for locally sourced foods.

Wetland Vegetation

Wetland communities are well represented in North Andover and include marsh, wet meadow, shrub swamp, wooded swamp, flood plain, and bog communities. Here a rich variety of vegetation exists. Small herbaceous plants encountered include Arrow Arum, Pickerelweed, Sweet Flag, Larger Blue Flag, Skunk Cabbage, Marsh Marigold, Blue-eyed Grass, Spring-Cress, Pitcher Plant, Sundews, Spotted Jewelweed,

White Turtlehead, Swamp Milkweed and Cardinal-flower. Many species of rushes, sedges, cattails, bulrushes, waterlilies and mosses are also found. Larger, woody species include alders, buttonbush, and willow. Many of these species are important hosts to butterfly larvae or serve as important butterfly nectar sources. Other species are important food sources for breeding Ruby-throated Hummingbirds.

Rare and Endangered Species

The Massachusetts Natural Heritage & Endangered Species Program (NHESP) has identified fifteen (15) rare vascular plant species in North Andover. Only six of which have been documented since 2000, the others being documented in 1957 or before.

Table 4.4.2

Rare Vascular Plant Species Documented in the Town of North Andover as of March 28, 2014.

Scientific Name	Common Name	Status	Most Recent Observed
<i>Aristida purpurascens</i>	Purple Needlegrass	T	2000
<i>Betula nigra</i>	River Birch	WL	2011
<i>Botrychium oneidense</i>	Blunt-lobed Grape-fern	WL	2008
<i>Catamagrostis pickeringii</i>	Reed Bentgrass	E	1880
<i>Cardamine bulbosa</i>	Spring-Cress	WL	1900
<i>Carex buxbaumii</i>	Buxvaum's Sedge	WL	2010
<i>Carex exilis</i>	Bog Sedge	WL	2010
<i>Carex typhina</i>	Cat-tail Sedge	T	1879
<i>Celastrus scandens</i>	American Bittersweet	T	1885
<i>Corema conradii</i>	Broom Crowberry	WL	1866
<i>Gentiana andrewsii</i>	Andrews' Bottle Gentian	E	1916
<i>Liatris scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC	1884
<i>Lipocarpa micrantha</i>	Dwarf Bulrush	T	1957
<i>Nabalus serpentarius</i>	Lion'sFoot	E	1936

Source: Division of Fisheries and Wildlife – Natural Heritage Endangered Species Program

Note:

"Endangered" (E) species are native species which are in danger of extinction throughout all or part of their range, or which are in danger of extirpation from Massachusetts, as documented by biological research and inventory.

"Threatened" (T) species are native species, which are likely to become endangered in the foreseeable future, or which are declining or rare as determined by biological research and inventory.

"Special Concern" (SC) species are native species which have been documented by biological research or inventory to have suffered a decline that could threaten the species if allowed to continue unchecked, or which occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become threatened within Massachusetts.

Watch List (WL) species are unofficial designations and are not regulated but are tracked due to potential for conservation interest or concern.

4.5 FISHERIES AND WILDLIFE

Fisheries

The protection of an important local fishery was stated as a condition of the incorporation of the Town of Andover in 1646. All rights to the land were sold to the settlers "provided that the Indian called Roger and his company may have liberty to take alewives in Cochichewick River, for their own eating" (Bailey, 1880). As the early mills industries grew, this fishery was of such importance to cause what may have been the first environmental regulation. In 1695, the town granted permission for a saw mill on Cochichewick Brook "on condition that this does not stop the passage of the fish called alewives" (Bailey, 1880). Later, as the larger mills sprung up along the Merrimack and Cochichewick, the herring disappeared. Bailey mentions the presence of perch, bass and speckled trout in the 17th century (Bailey, 1880).

Today, our streams, ponds and lakes hold a variety of species including rainbow trout (*Salmo gairdnerii*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), largemouth bass (*Micropterus salmoides*), northern chain pickerel (*Esox niger*), yellow perch (*Perca flavescens*) and various panfish. The Massachusetts Division of Fisheries and Wildlife stock the Shawsheen River, Fish Brook and Boston Brook just outside the town boundaries with various species of trout. These trout travel throughout the river system and are an important recreational fishery. Lake Cochichewick is not stocked since this would attract recreational use, which has been considered a threat to water quality. The lake does hold catfish, sunfish, bluegill, common carp, panfish, pickerel, perch, pike and largemouth and smallmouth bass.

The Merrimack River has recovered greatly from the effects of the mills. Shad (*Alosa sapidissima*), striped bass (*Morone saxatilis*), the endangered short nose sturgeon (*Acipenser brevirostrum*) and Atlantic salmon (*Salmo salar*) have returned to the Merrimack while small mouth bass (*Micropterus dolomieu*) have been successfully introduced. The success of the Merrimack River fishery is an example of the great potential for success in reclaiming resources that were lost or seriously degraded.

Wildlife

In rapidly suburbanizing communities such as ours, wildlife species are displaced or threatened far sooner, and to a greater extent, than is commonly understood. A greater understanding of the interactions between species, between species and their surroundings, and between humans and wildlife can result in the preservation of a greater diversity of wildlife. In an effort to gain this understanding, various studies have been made at the Mazurenko Farm Conservation Area by local volunteer groups. These studies have shown a far greater diversity of plants and animals than was previously known. The diversity of wildlife is likely due to the presence of a large wetland and a diversity of habitats present.

Table 4.5.1

Mammals of the Mazurenko Farm Conservation Area

Common Name	Scientific Name
Bat	<i>Eptesicus fuscus</i>
American beaver	<i>Castor Canadensis</i>
Chipmunk	<i>Tamias striatus</i>
Cottontail rabbit	<i>Sylvilagus floridanus</i>
Coyote	<i>Canis latrans</i>
Great horned owl	<i>Bubo virginianus</i>
Grey squirrel	<i>Sciurus carolinensis</i>
Long-tail weasel	<i>Mustela frenat)</i>
Mice, shrews and voles	<i>Soricidae spp and Microtus spp</i>
Mink	<i>Mustela vision</i>
Mole	<i>Talpidae spp</i>
Raccoon	<i>Procyon lotor</i>
Red fox	<i>Vulpes vulpe)</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red squirrel	<i>Tamiasciurus hudsonicus</i>
River otter	<i>Lutra canadensis</i>
Whitetail deer	<i>Odocoileus virginianus</i>
Woodchuck	<i>Marmota monax</i>

(Source: Doucette, 1991)

These findings were the result of a winter tracking census. It was surprising to discover uncommon species such as mink, weasel and otter still inhabiting the open spaces and waterways of North Andover. Other uncommon species have been seen recently in North Andover. These include fisher (*Marte pennanti*), eastern coyote (*Canis latrans*) and the bald eagle (*Haliaeetus leucocephalus*). Beaver (*Castor canadensis*) and the great blue heron (*Ardea herodias*) have been long term residents at the Mazurenko Farm Conservation Area and on the Shawsheen River. Wild turkey (*Meleagris gallopavo*) has been sighted at a number of locations. These are likely turkeys or descendants from 33 individuals introduced to a sanctuary within the Boxford State Forest in 1988. The habitat requirements of these species should be considered when protecting and managing open spaces.

The diversity of bird species in North Andover can be seen from on-going counts at a number of local sites. The Merrimack Valley Bird Club hosts walks and conducts counts regularly throughout the Merrimack Valley including Mazurenko Farm Conservation Area in North Andover. At a recent count (at Mazurenko Farm (May, 2013) club members identified 41 different species including raptors such as red-tailed hawk (*Buteo jamaicensis*), songbirds such as bobolink (*Dolichonyx oryzivorus*), eastern bluebird (*sialia sialis*), black-capped chickadee and red bellied woodpecker (*Melanerpes carolinus*); (*Poecile atricapillus*) and game birds such as wood duck (*Aix sponsa*). Previous sightings have also included raptors such as barred owl (*Strix varia*), great horned owl (*Bubo virginianus*) broad-winged hawk (*Buteo platypterus*), northern harrier (*Circus cyaneus*), northern shrike (*Lanius excubitor*), and red-shouldered hawk (*Buteo lineatus*), songbirds such as northern oriole (*Icterus galbula*) and pileated woodpecker (*Drycopus pileatus*); and game birds such as ruffed grouse (*Bonasa umbellus*), and wild turkey (*Meleagris gallopavo*).

Sub-urbanization can either benefit or harm wildlife. Certain species have adapted to humans and now thrive. These include mammals such as the gray squirrel (*Sciurus carolinensis*), skunk (*Mephitis mephitis*), red

fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), as well as birds such as the starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rock dove (*Columba livia*) and American crow (*Corvus brachyrhynchos*). These successful species are characterized by two features: all are very adaptable to the human landscape and most are scavengers.

Open spaces can provide a haven for native species in a growing community such as North Andover, including the great blue heron, which are protected by the Federal Migratory Bird Treaty Act of 1918. It's illegal to capture, possess, or cause harm to a great blue heron or its nest or eggs. North Andover is the home to the largest great blue heron rookery in Essex County and is protected by the Essex County Greenbelt Association. Another large heron rookery can be found on Winter Street. One unfortunate result of the success of some species (particularly non-native ones such as the starling and house sparrow) is the displacement of native species. This displacement sometimes takes unique forms. In the case of the cowbird (*Molothrus ater*), it lays its own egg in the nest of another (likely native) bird. The unknowing foster parent raises the intruder as its own. This example of nest parasitism is related to fragmentation. The habitat needs of native species must be considered when managing open spaces.

North American Beavers

“The North American beaver (*Castor canadensis*) is an important ‘keystone’ species because the wetland it creates by damming small order streams support a myriad of species.” (Michael Callahan, 2005). Early settlers harvested beaver to almost extinction for their waterproof pelts. In 1996, Massachusetts’s voters passed a bill (M.G.L. c. 131 §80A) prohibiting / restricting the use of lethal traps, including, but not limited to steel-jaw leg hold traps, padded jaw traps, Conibear (body-gripping) traps, snares, and deadfalls on furbearing mammals. Massachusetts licensed trappers are allowed to use live catch box or cage traps, such as Hancock or Bailey traps. During this time the North American beaver population increased drastically. In July 2000, the State Legislature revised this bill to implement reasonable exception to the restrictions of trapping; therefore making trapping permits easier to obtain, while still retaining the spirit of the original bill.

During the 2004 Town Meeting, North Andover residents voted to adopt Chapter 73, Beaver Bylaw: Efficient Protection From Damage Due To Beaver Dams and Blockages, in strict compliance with M.G.L. c. 131 §80A, as amended, and all other applicable Federal and State laws, rules and regulations. This Bylaw is designed to effectively and efficiently resolve emergency problems caused by beavers or other animal-related dams and blockages that pose imminent human health and safety threats. The Board of Health and Conservation Commission actively assist and provide guidance to residents and property owners in an effort to remedy and properly manage the problem through long term management plans. Citizens who wish to live with the beavers, as nature intended, prefer to install a flow device rather than to simply trap and kill the beavers. Flow devices (a.k.a. beaver deceivers) are long-term and also cost-effective solutions to beaver related flooding. In some instances, trapping is a short-term solution with the implementation of a flow device to follow as part of the long-term management.

Vernal Pools

During the spring of 1999, a former Conservation Administrator and a few committed volunteers began identifying and certifying vernal pools throughout town. Today, North Andover has approximately one hundred (100) certified vernal pools according to MassGIS data. As well as containing certified vernal pools, North Andover has eleven (11) habitat sites that have been deemed rare and unique. Every effort to protect these areas from disturbance must be made as such habitats may house endangered species of plants and animals. North Andover Wetlands Protection Bylaw Regulations requires additional protection of these pools by implementing a 50-foot No Disturbance Zone, a 75-foot No Build Zone, and a 100-foot

Septic System setback from the delineated edge of a vernal pool or its habitat (whichever is greater or more restrictive). These setbacks have proven to be successful in preserving the vernal pools and the species' habitat. Nine (9) of these vernal pools in Harold Parker State Forest have been certified to contain state-listed species and many more are likely to exist. Further efforts must be made to identify and protect these ephemeral resources using a certification process through the Division of Fisheries and Wildlife.

Wildlife Migration Corridors

Most non-bird wildlife move to eat, breed and find new territories under the cover of darkness. However, daytime cover is also important. Riparian corridors under the protection of the Rivers Protect Act¹ plus conservation lands and undeveloped lands serve as excellent greenway corridors linking habitats. The town should strive to enlarge, round out to reduce the ratio of parcel edges, and link protected areas with each other as much as possible to protect wildlife migration corridors and sustain a diversity of wildlife species.

¹ The Rivers Protection Act, Chapter 258 of the Acts of 1996, protects nearly 9,000 miles of Massachusetts riverbanks - helping keep water clean, preserving wildlife habitat, and controlling flooding. The law creates a 200-foot riverfront area that extends on both sides of rivers and streams. In certain urban areas, the riverfront area is 25 feet.

Rare, Threatened, and Endangered Species

The Natural Heritage & Endangered Species Program has identified the following Species of Endangered, Threaten, and of Special Concern in North Andover:

Table 4.5.2: Rare Vertebrate and Invertebrate Species Documented in the Town of North Andover as of March 28, 2014

Scientific Name	Common Name	Status	Most Recent Observed
Vertebrates			
<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC	2004
<i>Hemidactylium scutatum</i>	Four-toed Salamander	Delisted	2002
<i>Circus cyaneus</i>	Northern Harrier	T	1956
<i>Clemmys guttata</i>	Spotted Turtle	Delisted	2000
<i>Emydoidea blandingii</i>	Blanding's Turtle	T	2012
<i>Notropis bifrenatus</i>	Bridle Shiner	SC	1962
Invertebrates			
<i>Callophrys hesseli</i>	Hessel's Hairstreak (butterfly)	SC	1989
<i>Callophrys irus</i>	Frosted Elfin (butterfly)	SC	2005
<i>Crangonyx aberrans</i>	Mystic Valley Amphipod	Delisted	1990
<i>Eubbranchipus intricatus</i>	Intricate Fairy Shrimp	SC	2010
<i>Euchlaena madusaria</i>	Sandplain Euchlaena (moth)	SC	2004
<i>Somatochlora kennedyi</i>	Kennedy's Emerald (dragonfly)	E	1973
<i>Somatochlora linearis</i>	Mocha Emerald (dragonfly)	SC	1973

Source: Division of Fisheries and Wildlife – Natural Heritage Endangered Species Program

Note:

"Endangered" (E) species are native species which are in danger of extinction throughout all or part of their range, or which are in danger of extirpation from Massachusetts, as documented by biological research and inventory.

"Threatened" (T) species are native species, which are likely to become endangered in the foreseeable future, or which are declining or rare as determined by biological research and inventory.

"Special concern" (SC) species are native species which have been documented by biological research or inventory to have suffered a decline that could threaten the species if allowed to continue unchecked, or which occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become threatened within Massachusetts.

Delisted species are no longer protected under Massachusetts Endangered Species Act (MESA)

Within the past few years there have been confirmed sightings of the Intricate Fairy Shrimp (*Eubbranchipus intricatus*) (SC) and Blanding's Turtles (*Emydoidea blandingii*) (T). The locations of these species are sensitive due to the tenuous nature of their existence. For this reason, their locations will not be made public, but will be considered when evaluating lands for protection. There are likely other state-listed species in North Andover, which have not yet been identified by the Natural Heritage Program.

Blue-Spotted Salamanders (*Ambystoma laterale*) (SC) is a state-listed species that need vernal pools (also known as ephemeral pools) to survive. A vernal pool is a confined basin that fills with water in the autumn or winter due to rising ground water and rainfall. These pools will hold water throughout the spring and into the early summer (typically March – May / June) before drying up. The frequent drying of these pools prevents fish from populating.

In 2004 the Natural Heritage & Endangered Species Program developed the BioMap and Living Waters, which identifies critical areas, or ‘core habitats’ of native biodiversities that need the most protection. An updated BioMap2 was completed in 2012 (and is included in the appendix). Specifically, this map recognizes state-listed rare species, wetlands and uplands, rivers, streams, lakes and ponds. The intent of this program is to further protect land that is critical for terrestrial and wetland plants, animal species and their habitats, as well as the natural community.

4.6 SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

Scenic Landscapes

The Massachusetts Department of Environmental Management (DEM) completed an inventory of scenic landscapes in 1982 that has not been updated since. This project sought to identify "large, contiguous areas of outstanding scenic quality" (Green, 1993). Surprisingly, the vast majority of the inland scenic landscapes contained open areas and farmland. The openings in the dense forest promote the scenic quality of New England's rolling topography. This program identified a scenic landscape of approximately seven acres in the "outstanding area of rolling farmland" north of, and surrounding, Lake Cochichewick. While DEM's designation carries with it no protection, it does highlight North Andover's unique scenic value that is worthy of protection.

Geologic Features

Previously noted, the most influential and distinctive features of the community and supplying enduring evidence of continental glaciation are North Andover's eight major hilltops or drumlins. Several have undergone development in the absence of timely, pro-active measures to preserve them including Town Farm Hill, Claypit Hill (not technically a drumlin), Barker Hill and portions of Woodchuck Hill. Permanently protected drumlins are Weir Hill (Trustees of Reservations), Osgood Hill and Carter Hill (Town of North Andover), and Boston Hill (Conservation Restriction /limited development). In addition to their geologic significance, each provides public access with stunning views of surrounding towns, cities, rivers and mountain ranges.

Prehistoric Resources

Prior to European settlement, inland sites such as North Andover were used as seasonal hunting grounds in the spring and fall and perhaps to till small gardens. Although no large-scale or town-wide archaeological survey has been undertaken, certain inferences can be made from the available data. The Massachusetts Historical Commission reports that a few archaeological sites have been unearthed along the present shoreline of Lake Cochichewick. (Other sites likely exist on the original shoreline, which has since been flooded.) According to information compiled by Ripley Bulen in "Excavations in Northeastern Massachusetts" (1949), over one hundred prehistoric sites have been discovered in the Shawsheen and upper Ipswich River drainages. All of these sites are along streams or ponds. Native people frequented water bodies since many of the fish, plants and animals they sought could be found there. Rivers also provided transportation routes.

Considering the high percentage of prehistoric sites along water bodies, a site's archaeological potential should be investigated when any waterfront site is considered for acquisition. Prehistoric sites are prone to disturbance, vandalism and illegal excavation. Due to the sensitive nature of these sites, if any are discovered the exact location should not be made public.

Historic Resources

North Andover includes a number of well-preserved buildings and landscapes from the date of original settlement in the 17th Century through the 20th Century. The Historic Commission has identified over 400 structures of historic interest (see also Stephen Roper, *A Good In-Land Town: Buildings and landscapes in North Andover, Massachusetts, from 1640 to 1940*, published by the North Andover Historical Society in 2001). There are three (3) National Register Districts in town; the Old Center, with a surprising number of existing structures from the early 19th century commercial center of the North Parish; Machine Shop Village, an unusually intact surviving example of a mid 19th century factory village from the early years of the industrial revolution; and Tavern Acres, an early 20th Century residential development surrounding an Olmstead-designed Memorial Park. Only one of these districts, the Old Center, is designated as a local historic district, which offers some protection against altering its significant character. A listing on the National and State Historic Register recognizes the value of the area and carries some protection from projects involving public funds, but its value is chiefly educational.

In 1995, the town purchased Osgood Hill, an 1886 estate listed on the National Register with 159 acres of land on Lake Cochichewick. Although there are several structures in town with historic preservation restrictions held by the Historical Society, Historic New England and the Massachusetts Historical Commission, most of the town's inventory of historic properties is relatively unprotected by law or regulation.

4.7 ENVIRONMENTAL CHALLENGES

This section discusses certain environmental problems that do not fall into other larger categories. These include hazardous waste sites, abandoned landfills and air quality issues.

Hazardous Waste & Brownfield Sites

The North Andover Fire Chief is the town's Hazardous Waste Coordinator. In this capacity, he investigates all reported, uncontrolled releases or improper storage of chemicals. After an initial investigation, the Fire Department notifies all authorities that may have an interest, such as the Health Department, Conservation Department, Department of Public Works, Police, the Massachusetts Department of Environmental Protection Emergency Response Team and the property owner.

In 1987 under SARA TITLE III, the Town of North Andover established the Local Emergency Planning Committee (LEPC). The LEPC has now expanded to a regional LEPC, which includes the communities of Andover, Haverhill, Lawrence, Methuen, Middleton and North Andover. Under the provisions of SARA TITLE III, all facilities and responsible parties that are responsible for spills or releases of hazardous materials, oils or chemicals must report the incident at the local level.

From the 1940s to the 1980s, the Town of North Andover operated its municipal landfill at a site on Holt Road near the Merrimack River. In 1981 and 1982, the Commonwealth of Massachusetts purchased this site with an agreement that the landfill would be properly capped. Though long overdue, the landfill has recently been capped and the Department of Environmental Protection. The capping of the landfill

safeguards the public health, particularly due to its proximity to the Merrimack River, which could quickly transport pollutants off site.

Land Fills and Air Quality

An active incinerator is located in North Andover, and another is located only two miles away in Haverhill. The presence of these waste facilities in the Merrimack Valley is a considerable burden to the air quality of the region. One is located adjacent to the former landfill on Holt Road that is managed by the Northeast Solid Waste Consortium (NESWC) as a trash-to-energy plant. This facility took the place of the landfill that closed in the 1980s.

The second incinerator is managed by the Greater Lawrence Sanitary District (GLSD), which used to burn solid waste produced by the regional wastewater treatment plant. However, this incinerator was closed in 1988 due to the release of high levels of air pollutants. In 2002, the GLSD retrofitted the incinerator with new technology that produces a product that pelletizes the sludge converting it to a usable fertilizer. A capped ash landfill is currently on site and has been tested within required environmental parameters. Due to the possible health effects of incineration, sludge can no longer be burned. Wheelabrator also has two (2) municipal waste facilities on Holt Road.

Erosion & Sedimentation

Erosion is the wearing away of the land surface by running water, wind, ice, or other causes. Sedimentation is the deposition of soil particles that have been transported by water and wind. Unchecked, erosion and sedimentation can contribute to on and offsite damages including increased stormwater runoff and decreased water recharge, unstable stream banks, air and water pollution and others. Massachusetts DEP and the federal EPA have adopted rules (Stormwater Standards) to prevent erosion, control sediment movement and stabilize exposed soils to prevent pollutants from moving offsite or entering wetlands or waters, and to require plans that document how pollution is managed at construction and land disturbance sites. All construction and land disturbance sites in North Andover must meet state, federal and local stormwater standards.

Erosion during the construction process and siltation of water bodies can have a variety of impacts, depending on the soil characteristics. "There are three general soil types - fine muck, clay, and sand - all of which must be kept from eroding into the water. Fine muck, if introduced into a stream, will cloud the water and create what is known as biological oxygen demand. This depletes the waters of dissolved oxygen (DO), causing a reduction in fish and other aquatic organisms that depend on the DO for respiration. Clays will create a milky cloud that can clog the gills of fish living in the streams' waters. Fine muck and clays impact waters on a short-term basis. Sand, however, may be the most harmful of all eroding soils because of its long-term implications. The sand fills in gravel beds, which is used by fish as spawning beds." (Maynard, 1992)

The Lake Cochichewick Watershed Plan (IEP, 1987) identified erosion in areas of new construction as one of the "primary sources of elevated suspended solids, nutrient and bacteria concentrations in Lake Cochichewick". The town's Stormwater and Erosion Control Bylaw (Chapter 160) contains provisions to reduce erosion.

Flooding

The November 2008 Merrimack Valley Region Natural Hazards Pre-Disaster Mitigation Plan identifies flooding as a major concern in North Andover. The report cites 4.8 square miles of Town of North Andover land in the 100-year floodplain and another 0.6 sq. mi. within the 500-year floodplain. These two flood zones constitute almost twenty percent (20%) of the total area of the community. Road closures

during flood events are typical including Great Pond Road and Massachusetts Avenue. Several neighborhoods near the Shawsheen and Merrimack Rivers have also been evacuated during recent extreme flood events.

Development Impacts

There are both short-term (during construction) and long-term (after construction) environmental impacts due to land development. These impacts are particularly negative with regard to wetlands and water bodies, especially when these wetlands and water bodies may be tributaries to a public water supply such as Lake Cochichewick.

In addition, future development could increase challenges faced due to flooding. According to MVPC analysis, 169 acres of “potentially developable” land under current zoning is within the 100-year and 500-year flood zones. According to the Natural Hazards Pre-Disaster Mitigation Plan (2008), “development of this open space would increase the area’s impervious surface cover and stormwater runoff, thereby exacerbating the existing flooding problems.”

Ground and Surface Water Pollution

In 2003 the Department of Environmental Protection (DEP) released its Source Water Assessment and Protection (SWAP) report for North Andover. This report makes a series of observations and recommendations regarding North Andover’s drinking water resources and should be considered in future policy-making decisions. It catalogs the potential hazards that are within the town’s water supply protection areas, their potential level of threat and recommendations. Only one site (North Andover Shell, 980 Osgood St.) is identified as a facility within a water supply protections area that meets state reporting requirements.

Invasive Species

"Invasive plants" are non-native species that have spread into native or minimally managed plant systems. These plants cause economic or environmental harm by developing self-sustaining populations and becoming dominant and/or disruptive to the native system. The continuing spread of “invasive” plant species and the introduction of new non-native species throughout New England continue to alter the landscape with the full consequences of these changes on the character of the landscape and on animal species that associate with the displaced native plants unknown.

The Massachusetts Invasive Plant Advisory Group² (MIPAG) a voluntary collaborative representing organizations and professionals concerned with the conservation of the Massachusetts landscape has identified 34 Invasive Species in Massachusetts, along with 29 species that are likely invasive and three that are potentially invasive. The list of invasives includes such commonly seen species as Norway (Acer platanoides) and Sycamore (Acer pseudoplatanus) maples, Japanese barberry (Berberis thunbergii), Japanese honeysuckle (Lonicera japonica) Burning bush (Euonymus alatus), yellow iriss (Iris pseudacorus), multi-flora rose (Rosa multiflora), purple loosestrife (Lythrum salicaria), Japanese knotweed or Bamboo (Polygonum cuspidatum) and common reed or Phragmites (Phragmites australis).

MIPAG notes in its 2012 Guide Guidance for the Effective Management of Invasive Plants³ that management of invasive plant species may be possible, but collectively and individually they are a problem

² Massachusetts Invasive Plant Advisory Group (MIPAG) Guidance for the Effective Management of Invasive Plants, 2012

³

that requires long-term solutions. Managing invasive plants demands a commitment to vigilance and some level of sustained action in perpetuity. Resources devoted to the management of invasive plants will never be sufficient to fund and staff all desirable management approaches; however, the cost of management decreases when invasive levels are lower. If we address invasive plants at the initial stages of an invasion when populations are low, the cost of maintaining a low level of invasion will be less than the control effort required to reduce a heavily invaded area to a lower level of invasion. Therefore, it is critical to find ways to identify priority species and populations and to target management efforts to areas of the greatest ecological significance so that available resources are allocated wisely.

Environmental Equity

Environmental equity refers to issues such as equal access to open space, lack of tree cover or other differences a person endures in one's environment based on that person's inclusion in a population identified as an environmental justice population. Environmental Justice Populations are those with high percentages of minority, non-English speaking, low income, and foreign-born populations. There are no environmental justice populations as identified by the state in North Andover.

Environmental equity also refers to the ability of all users, regardless of where they live in a community, to access open space. North Andover's open space resources are distributed throughout the town providing access with relative ease to all residents.

5.0 INVENTORY OF CONSERVATION AND RECREATION LAND

There is an abundance of undeveloped land in North Andover. This open land is an important part of the community character and may be one of the primary reasons why people choose to locate here and raise a family. The purpose of this inventory is to identify areas of conservation and recreation interest in the town to help evaluate current and future open space needs. Areas of interest include open spaces that are valued for recreation opportunities and for protection of natural resources, historic resources and scenic character.

This inventory looks at protected and unprotected open space. Protected open spaces are private or public parcels that are permanently committed to conservation or recreation purposes by legislation, deed restriction or easement. Unprotected open spaces are areas that are of conservation or recreation interest to the town, but are not permanently protected as open space. Partially protected open spaces are areas that have a partial or temporary restriction on development, such as Chapter 61 lands and some municipal lands such as parks or ball fields that could but are unlikely to be developed.

North Andover's natural resources and history have helped to create a distinctive landscape and a richness of culture that makes the town an attractive and interesting place to live and visit. Protection of these natural resources ensures a healthy environment that can provide safe drinking water, clean air, and outdoor recreation opportunities, and sustain healthy wildlife habitats and populations. Land use decisions that consider the community's natural constraints and opportunities will work to protect and preserve surface and groundwater resources, reduce air and noise pollution, limit erosion, moderate temperatures, and protect places of natural beauty and critical environmental concern.

Protecting Open Space

In many cases, open space protection can be a reactive measure, mobilizing community funding to preserve the "last wetland" or "last farm." This method can not only be costly, but can also result in disconnected fragments of conservation land. Establishing criteria to prioritize open space parcels for protection allows the town and regional conservation partners to be strategic about which lands to acquire. Such a strategy can focus on developing a network of large connected parcels of open space (green infrastructure) which have higher ecological value. Because natural systems do not necessarily adhere to political boundaries, natural resource protection is best achieved through regional collaboration. This approach emphasizes connections between natural habitat areas and corridors, and studying and collecting inventory information for unique sites of special importance such as vernal pools or endangered or rare habitats and species. This work will often reach beyond municipal limits.

The town has a number of strategies to employ to protect local open spaces and natural resources:

- ❖ acquisition by purchase, taking or donation;
- ❖ deed restrictions, such as conservation, historic preservation, watershed protection and agricultural preservation restrictions that are voluntary, yet binding legal agreements between a landowner and a municipality or qualified land trust or state conservation agency (DCR, DFG, DAR); and

- ❖ local and state regulations including but not limited to wetland bylaws, the Wetlands and Rivers Protection Acts, and Chapter 61 Classification and Taxation Laws related to forest, agricultural, open space and recreation lands.

A key to many of the strategies is to work with partner organizations with shared goals. Partnerships and collaborations may help the town react more quickly to protection opportunities, access technical assistance, and access additional funding.

5.1 PROTECTED OPEN SPACE

The main source for identifying protected open space land in North Andover is the Assessor's Database. In addition, previous maps were used as a cross-reference to generate the following information with assistance from the Assessor's Office, the Conservation Department and the Planning Department.

Public-Protected Open Space

Commonwealth of Massachusetts

North Andover has benefited from the efforts of public and private organizations to preserve open spaces. The Commonwealth of Massachusetts, through the Department of Conservation & Recreation (DCR) (formerly the Department of Environmental Management (DEM)) manages all state forests and parks. Portions of Harold Parker State Forest and Boxford State Forest are located in North Andover (Table 5.1.1). These parcels have been part of the state forest system for decades and include large tracts of forests, wetlands and water bodies. These forests contain some ecologically significant areas. Harold Parker State Forest is known to contain numerous vernal pools; a few are certified through the Division of Fisheries & Wildlife, while Boxford State Forest includes portions of a large Atlantic White Cedar Swamp.

The State of Massachusetts owns 2,596 acres of land within North Andover.

TABLE 5.1.1

Commonwealth of Massachusetts Open Spaces

Name	Acres
Abutting Cyr Recycling Center	120
Airport	37
Boxford State Forest	292
Harold Parker State Forest	1276
Cedar Swamp	180
Winter Street (State)	43
Other (unnamed)	648
Total	2596

Town of North Andover

The Town of North Andover owns open land with various levels of protection. Municipal lands are generally managed for conservation, recreation and watershed protection. For the purposes of this section, 'conservation' shall refer to land used for wildlife habitat, resource management activities such as forestry, and resource-based recreation such as hiking. On the following page Table 5.1.2 identifies town-owned open spaces that are managed by departments other than the Conservation Commission. These lands include lands protected by Chapter 97⁴ and lands that are not so protected. Conservation Commission lands are identified in Table 5.1.3.

⁴ Article 97 of the Articles of Amendment to the Massachusetts Constitution provides that “the people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment.” “Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote of each branch of the general court.” These public lands include both state-owned lands and municipal lands acquired for conservation or recreation purposes.

TABLE 5.1.2

Town-owned Open Space not managed by Conservation Commission

Name	Acres
American Legion Beach	1.71
Aplin Playground	1.96
B&M Railroad	39.67
Boxford Street	74.73
Bradstreet School	1.09
Bridle Path	3.51
Candlestick Road - Giallanella	2.02
Carl Thomas Park	4.77
Carter Field Road	12.02
Cricket Lane	9.61
Cyr's Recycling Center & Recreational Fields	88.3
Dale Street	1.24
Granville Lane	4.47
Great Pond Road	8.03
Greene Street	2.33
Grogan Field	4.01
Ingalls Street	4.62
James Swamp & Reynolds Playground	48.16
Jared III PRD	5.14
Johnny Cake Street	3.23
McEvoy Park	4.28
Olympic Lane	0.89
Osgood Hill	150.29
Patriots Memorial Park	2.69
Pine Ridge Road	1.65
Pleasant St -- Damn and Lakefront	3.04
Salem Forest V PRD	27.49
Settler's Ridge PRD	5.52
Seven Oaks -- Sugarcane Lane PRD	18.42
Town Common	8.61
Winter Street	2.09
Wintergreen Drive	3.32
Youth Center/Drummond Playground	6.64
Total	555.55

Schools

Name	Acres
Ann Sargent School	14.81
Atkinson School	0.1
Franklin School	9.5
High School	46.27
Kittredge School	6.03
Middle School	27.5
Thomson School	3.09
Total	107.21

Following are descriptions of some of the more active town-owned open spaces.

The *Cyr Recycling and Recreation Center* is located in the extreme southern end of town and has been used by the DPW as a storage and leaf composting facility. Two soccer fields and two baseball fields are located on this property. Portions of the Bay Circuit Trail traverse through this property, which connects the Boxford and Harold Parker State Forests in North Andover. The Bay Circuit is a greenbelt through 50 communities containing a series of trails, totaling approximately 200 miles, which runs from Ipswich to Duxbury.

James Swamp is 48 acres in size and has three soccer fields and a basketball court. This property also includes heavily wooded land that contains hiking trails (established 1998). The Reynolds Cider Mill and two outbuildings are also located on this parcel; these buildings were leased to an adjacent property owner prior to the donation of the land to the town in 1971.

Osgood Hill was purchased in October 1995 through a special Town Meeting. The citizens of North Andover purchased the land and the Stevens Mansion in 1994 for permanent preservation and the protection of the town’s water supply. The entire parcel is in the watershed of Lake Cochichewick, the town’s water supply. The Osgood Hill Property consists of 165 acres of land on which the 1886 home of Moses T. Stevens (1825 – 1907) still stands. The Stevens Estate Mansion and related buildings are operated by the Trustees of Osgood Hill for conferences, weddings and other special events. Articles 15 and 16 of the May 1997 Town Meeting authorized an annual Osgood Hill operating budget and established a seven- member governing board. Article 5 of the October 1994 special Town Meeting contains language that requires that disposition of land or buildings require approval by Town Meeting vote.

Patriots Memorial Park, or Memorial Park is located directly across from the Stevens Library. This park is dedicated to the men and women of North Andover who, during the two hundred and seventy-five years of existence, have provided the State or Nation patriotic service of either a civic or military nature. This property was a gift to the town from the Stevens family. Restoration, which followed the original Olmsted Park design, was begun in 1996 from donations received from many local sources.

The *Town Common* was created between 1880 and 1956 as various parcels were acquired and existing structures were removed. The site is a popular picnic spot and is the setting for various special events and recreational programs.

Most *school properties* offer recreational facilities: playgrounds, fields, courts and open space. See **Table 5.4.1** for a list of recreational facilities on school and other properties.

Table 5.1.3 on the following pages details the specific properties that are under the care and custody of the Conservation Commission. These lands are protected by Article 97 or deed restriction. Many of these parcels are also listed in tables 5.1.6 and 5.1.7.

TABLE 5.1.3

Town of North Andover Open Spaces Managed by the Conservation Commission

Name	Acres
Brookview Estates PRD	32.36
Carter Hill	30.22
Foster Farm & Bruin Hill	57.85
Foster Street	15.46
Foxwood PRD*	31.39
Gray Street	3.13
Half Mile Hill	19.45
Lost Pond PRD	7.17
Mazurenko Farm	104.7
North Andover Estates PRD	22.43
North Andover Heights PRD	9.82
Pinewood PRD	14.45
Rea Street- Rear	1.29
Rea's Pond Conservation Area	13
Riverview Street	1.05
Stevens Street	1.03
Town Farm/Forest	175.47
Windrush Farm	120.95
Total	661.22

* The Conservation Commission only manages the 2.5 acres, total acreage is 35.56 and remainder is owned by the state (see table 5.1.7).

The *Town Farm/Forest*, until 2010 was the largest parcel of municipal open space. The original 126 acres were purchased from Mr. Samuel Jenkins in 1856. The community's poor farm operated on this property for approximately 100 years. Pine plantations are also located on this property, which may have been the work of the Civilian Conservation Corps in the 1930s. Additional acquisitions were made as late as 1985 (Leland parcel). Although not purchased for watershed protection purposes, 120 acres of the Town Farm now serves this vital purpose. A management plan for Town Farm / Town Forest (prepared by Seekamp Environmental Consulting) was completed in 2000. The town constructed a baseball and soccer field in the late 1990s known as Gallagher Fields. Additionally, The North Andover Youth Services (NAYS) Ropes Course is also located within the Town Forest. The low and high challenge course is utilized by over 1,000

youths per year and is proven to be a real treasure. In 2012 a portion of the parcel on the north side of Dale Street was converted from passive recreation to active recreation and an additional soccer field was constructed.

The *Mazurenko Farm Conservation Area* was purchased from the Mazurenko Family in December 1988. This parcel was classified under Chapter 61A as agricultural farmland. When the landowner attempted to develop the parcel, the Town exercised its option to purchase with the assistance of a one million-dollar grant from the Commonwealth of Massachusetts. The Mazurenko farmhouse previously occupied the location of the existing parking lot until a fire destroyed it in 1986. The primary purpose of this acquisition was water supply protection, as the entire 104-acre site lies entirely within the Lake Cochichewick Watershed. The extreme stress to the water supply from development in the watershed was the driving force behind the land purchase. Other pertinent reasons for the acquisition included the preservation of agricultural lands and wetlands, wildlife habitat, and natural and recreational resources. The Mazurenko Farm Conservation Area is managed by the North Andover Conservation Commission under a comprehensive management plan, which was completed in March of 1991.

Rea's Pond is located off Great Pond Road / Route 133 and is adjacent to Mazurenko Farm. This was the first piece of conservation land purchased by the Town in 1975. The 15-acre site includes a pond that provides prime habitat and solitude for the great blue heron and is also a popular fishing spot.

Portions of the *Shawsheen River* floodplain have been taken in lieu of taxes and serve a valuable flood control function and protect important wildlife habitat. Additional donations of land have been received as part of a subdivision approval. A trail system has been created along the river.

The town also owns two small parcels along the Merrimack River. One acre on *Riverview St.* was the site of a proposed boat ramp. Plans for the construction of the boat ramp have now been put aside due to lack of public support. A public well is located on an eight-acre parcel next to the river but has never been used since the water would require treatment to be of potable quality. This well may be used in the future if needed.

Foster Farm (which includes Bruin Hill) was purchased in 1998 through an action of Town Meeting. The 92.72 acres of vacant farmland and woods was purchased from the estate of Earl L. Foster. This land acquisition was under the provisions of Chapter 61A. The property is comprised of three parcels designated as the following:

- ❖ Parcel A- under the control of the School Committee was set aside to be the site for a future elementary school.
- ❖ Parcel B & C are managed by the Conservation Commission for agricultural preservation and recreation.

For more history on Foster Farm and the Barker Farm reference *Founding Farms, Portraits of 5 Massachusetts Family Farms* by Stan Sherer and Michael E. C. Gery.

Half-Mile Hill and Summit are located off Osgood Street behind Edgewood Farm, between Osgood Hill and Weir Hill. Combined, the parcels consist of approximately 80 acres and include 880-feet of frontage along Lake Cochichewick. The acquisition of Half-Mile Hill was funded in 2002 with assistance from The Trust for Public Lands, a \$250,000 State Self-Help Open Space Grant, and Community Preservation Funds. In 2004, the town purchased the Half-Mile Hill Summit, and in 2006 purchased the adjoining Sunny Ridge property. Similar to the acquisition of Half-Mile Hill, The Trust

for Public Land and Community Preservation Funds assisted the town with this process. In 2012, the town expanded the site with the purchase of the Ousler parcel fronting on Osgood Street and completing the connection between Half Mile Hill and Osgood Hill. The Half Mile Hill parcels are retained for watershed, agricultural and conservation preservation, and for open space and trail connection. In addition to being under the care and custody of the Conservation Commission, The Trustees of Reservations and Essex County Greenbelt hold Conservation Restrictions on the Half-Mile Hill and Summit parcels to assure that the premises will be retained in perpetuity in its natural, scenic and open condition.

The 27-acre *Carter Hill* was purchased in 2001 with the assistance of The Trust for Public Lands and a \$250,000 State Self-Help (now LAND) Open Space Grant. Carter Hill is located off Bradford Street and is bounded by Barkers Farm, Mazurenko Farm Conservation Area, and PRDs Open Space associated with Hickory Hill and Settler's Ridge Subdivisions. The primary purpose for acquiring this land was to preserve one of the last undeveloped drumlin / farmland vistas in North Andover. Other reasons include watershed protection, proximity to other open space parcels for trail connection, unique aesthetics / historical value, and highly valued wetland /wildlife habitat.

The approximately 140 acre *Windrush Farm*, located off Lacy Street adjacent to Boxford State Forest was acquired with Community Preservation Funds and with assistance from the Trust for Public Lands and a State Self-Help (now LAND) Open Space grant in 2009. The property was formerly part of an active therapeutic equestrian center and working horse farm of the same name. The property is a mix of upland and wetland forested areas with an extensive trail network which is still utilized by the adjacent farm for therapeutic riding programs. The parcel is entirely within the Massachusetts Natural Heritage and Endangered Species Program's BioMap Core Habitat and Estimated and Priority Habitat for Rare Species. The North Andover Conservation Commission provides care and custody of the property and Essex County Greenbelt Association holds a Conservation Restriction.

Some Planned Residential Developments (PRD) such as Brookview Estates, Lost Pond Lane, North Andover Estates, North Andover Heights, Pinewood Subdivision, Foxwood Subdivision, and Duncan Drive all have open space that is managed and controlled by the Conservation Commission.

Public land that was acquired for conservation, recreation, agriculture or other specified public uses is considered a public resource under Article 97 of the State Constitution. Therefore, any change in land use proposed by a local government requires a 2/3 vote of both Town Meeting and the State legislature. This applies to all public land in Massachusetts, whether local or state government purchased it. This provision of state law does protect such public resources.

The issue of control / jurisdiction is not an academic one. With the real potential for conflicting public interests, the 1995 Open Space and Recreation Plan recommended that each parcel of town-owned land be placed under the management of a specific board or department. As of the 2014 rewrite of this plan, this has yet to be done for all parcels. As a general rule, a public board or commission with expertise relative to the resource should hold control. This could include the Conservation Commission, Recreation Council and possibly others. In this way, the public interests served by these lands will be managed most effectively.

The Town of North Andover owns a single cemetery of about an acre. The Old North Parish Burying Ground also known as the First Burying Ground, located on Academy Road was established around 1650 and closed to burials in 1815. The burial ground is owned by the Town of North Andover and is under the jurisdiction of the North Andover Historical Commission. It is on the National Historic Register as it is within the Old Center Historic District. Because of the historical significance of the site locally, the North Andover Historical Society and the North Andover Historical Commission often

give tours of the site to interested members of the public and conduct special programs there for North Andover school children.

Other cemeteries in North Andover are privately owned including the Second Burying Ground, established in 1817 and closed in 1950, and owned by the North Parish Church. This burial ground is also within the Old Center Historic District. Others include the Holy Sepulchre Cemetery, the largest in town, owned and maintained by St. Patrick Parish of Lawrence; and the Averill Family Cemetery with only a few stones and the Berry Farm Cemetery with 37 grave sites on a private site being developed for housing. Ridgewood Cemetery, a private non-profit cemetery established in 1850; is the only active cemetery in North Andover

Non-profit Organizations

Two private land trusts manage land in North Andover, The Trustees of Reservations and Essex County Greenbelt Association.

The Trustees of Reservations, the oldest land trust in the nation, manages four properties in North Andover (**Table 5.1.4**) totaling 590 acres. Weir Hill Reservation is located on the shore of Lake Cochichewick. It has approximately one mile of frontage on the lake and is the largest piece of protected open space in the town's public water supply watershed. Stevens-Coolidge Place is over 100 acres in size and includes a historic house/museum with five acres of formal landscape, 30 acres of hayfields and six acres of meadow. The property has considerable street frontage that adds to the rural character of the Old Center Historic District. Ward Reservation includes a variety of natural landscapes and includes Holt Hill, the highest point in Essex County, with fine views of the distant Boston skyline.

TABLE 5.1.4

Trustees of Reservations

Name	Acres
Stevens Coolidge Place	107.48
Stevens Lots - (Near Town Common)	31.95
Ward Reservation*	228.09
Weir's Hill	222.52
Total	590.04

* Ward Reservation is approximately 700 acres in size. The property is located within Andover and North Andover.

The *Essex County Greenbelt Association* is a private land trust that holds title to 382 acres of land in North Andover (Table 5.1.5) and controls conservation restrictions on several other parcels. ECGA properties include among others, the Farnsworth Reservation, which abuts the Town Farm and Smolak Farm, Potters Field on the shores of Lake Cochichewick, a number of parcels abutting the Boxford State Forest and a property off of Waverly.

TABLE 5.1.5

Essex County Greenbelt Association

Name	Acres
Bailey	18.5
Bruin Hill	62.33
Chaplin Nike Site	43.75
Christmas Tree Lot	9.1
Cudhea	12.44
Dolan Ox Pasture	16.54
Farnsworth Reservation	50
Fish Cedar Swamp	6
Forest Cedar Swamp	61.5
Purgatory Swamp	91
Wilmot Lot	11
Total	382.16

Private Protected and Partially Protected Open Space

Conservation Restrictions (CRs)

A Conservation Restriction provides an alternative to acquisition for resource protection. Under the provisions of M.G.L. Chapter 184, §31 –33, Conservation Restrictions (CRs) are intended to limit the use of land in order to protect specific conservation values including natural, scenic or open condition of the land through a legally binding agreement between a landowner (grantor) and a holder (grantee). The table below outlines the properties in North Andover that are currently protected by Conservation Restrictions. An additional restriction is being considered by the state: the Woodlea Subdivision.

Table 5.1.6

Conservation Restrictions

Name	Acres	Holder of CR
16 Berry St	27.01	ConCom
Boston Hill	33.27	ConCom
Carter Hill	30.22	ConCom
Great Pond Road	8.35	ConCom
Half Mile Hill Hay Field	33.68	TTOR
Half Mile Hill Summit	28.71	ECGA
Hickory Hill	54.12	ConCom
Osgood Hill/Edgewood Farm	82.31	TTOR
Ousler Property	13.54	ECGA
Potter Cr	14.21	ECGB
Rolling Ridge	36.87	NA
Stevens Estate	10.60	TTOR
Sunny Ridge	10.55	ECGA
Windrush Farm	143.14	ECGB
Total	526.58	

Agricultural Preservation Restriction (APR)

The Agricultural Preservation Restriction Program (APR) is a voluntary program that is intended to offer a non-development alternative to farmers and other owners of "prime" and "state important" agricultural land that are faced with a decision regarding future use and disposition of their farms. The program offers to pay farmers the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for a permanent deed restriction, which precludes any use of the property that will have a negative impact on its agricultural viability. By protecting farmland, the APR Program works to secure a continued high quality of life for Massachusetts's residents. Farmland not only contributes to the scenic beauty of the state, but has the potential to play a role in providing for clean air and water, wildlife habitat, and recreational opportunities. Only portions of Smolak Farms are filed under this program.

Planned Residential Developments

Planned Residential Developments (PRD's) are communities or clusters of homes developed under the town's Planned Residential Development Zoning to create a traditional New England Style landscape surrounded by usable open space. The number of homes allowed in a PRD subdivision is the same as allowed by a conventional subdivision on a given parcel of land. However, the lot sizing is smaller, allowing a reduction of the developed portion of the parcel. The undeveloped portion of the parcel is then reserved as open space. This space excludes parking areas, but includes required setbacks and walkways. The usable open space is required to be open and unobstructed to the sky; however trees, planting, arbors, flagpoles, sculptures, fountains, swimming pools, atriums, outdoor recreational facilities and similar objects are not considered obstructions. The developer owns PRD open space parcels until the street is accepted at Town Meeting. The ownership is then transferred to the Town, Homeowners Association, or Private Land Trust. Primary benefits of PRD's are:

- ❖ To promote the more efficient use of land in harmony with its natural features;
- ❖ To encourage the preservation of open space;
- ❖ To protect water bodies and supplies, wetlands, flood plains, hillsides, agricultural lands, wild life, and other natural resources;
- ❖ To permit greater flexibility and more attractive, efficient and economical design of residential developments.
- ❖ To facilitate economical and efficient provision of utilities;
- ❖ And to meet the town’s needs by promoting a diversity of housing types.

For *subdivision* PRDs the minimum usable open space requirements is 35% of the total parcel area; and no more than 25% of the total amount of required usable open space can be wetlands. *For site planned* PRDs the minimum usable open space requirements is 50% of the total parcel area; and no more than 25% of the total amount of required usable open space can be wetlands. For all PRDs the usable open space must be owned in common by and readily accessible to owners of all units in the PRD or owned by any of the following groups:

- ❖ A non-profit organization or trust whose members are all the owners and occupants of the units.
- ❖ Private organizations including, but not limited to, The Trustees of Reservations or Essex County Greenbelt Association, whose primary function is preservation of open space.
- ❖ The Town of North Andover.
- ❖ Any group as indicated by the Planning board, which exists or is created for the purpose of preserving open space for the owners of the units located in the PRD Project.

Furthermore, restrictions shall provide that the usable open space will be retained in perpetuity for one or more of the following uses: conservation, agriculture, or recreation (M.G.L. Chapter 184, Section 31). An example of this is Carter Fields, developed by Tom Zahoruiko. During the 2000 Town Meeting, Mr. Zahoruiko petitioned the General Court to change the boundary line between the Towns of Boxford and North Andover along Bradford Street. The boundary change allowed Mr. Zahoruiko to permit his 17-lot subdivision in North Andover and not Boxford. Regardless of what town the subdivision was constructed in, North Andover would ultimately experience the greatest development impacts. The entire development was proposed within the watershed district of Lake Cochichewick and the subdivision entrance was proposed off Bradford Street, North Andover. Additionally, sewer and water lines were readily available on Bradford Street, and the PRD provisions would require the developer to reserve a percentage of the parcel as open space. Boxford has neither of these items. The State Legislature subsequently approved the petition under Chapter 413 of Acts of 2002.

Forest View Estates Open Space is located within the Forest View Estates off Turnpike Street / Route 114. As part of the conditional approval by the Conservation Commission and the Planning Board, trails were constructed throughout the open space parcels and are a direct link to the Harold Parker trails.

Table 5.1.7 following lists the PRDs located within the Town of North Andover.

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

TABLE 5.1.7

North Andover Accepted PRD's

T.O. = Town Owned H.O. = Homeowners ECGA = Essex County Greenbelt Assoc.

Property	Location	Total Open Space Lots	Open Space Acres	Accepted Y/N	Owner of Record	Parcels
Brookview Estate	Brookview Drive	1	25.37	Y	TO-NACC Managed	105.A-0004-0000.0
Carter Field	Carter Field Road	3	13.7	Y	2 Open Space TO 1 Open Space (Village Green) owned by Carter Field LLC	062.0-0159-0000.0, 062.0-0140-0000.0, 062.0-0158-0000.0
Christmas Tree Estates	South Bradford Street	1	9.1	Y	s/b given to Greenbelt NACC but shows as owned by developer	104.C-0027-0000.0
Cobblestone Crossing	Cobblestone Circle	3	3.6	Y	Cobbleston Realty Trust/Walter J. Schuman	046.0-0102-0000.0, 046.0-0103-0000.0, 059.0-0090-0000.0,046.0-0043-0000.0, 059.0-0091-0000.0
Cobblestone Crossing II	Copley Circle	2	1.8	Y	Cobbleston Realty Trust/Walter J. Schuman	see above
Forest View Estates	Amberville Road, Garnet Circle, Anvil Drive, Palomino Drive	5	37.39	Y	Forestview Home Association	107.B-0172-0000.0, 107.B-0171-0000.0, 108.C-0140-0000.0, 108.C-0139-0000.0
Foxwood	Foxwood Drive, Weyland Circle	3	35.56	Y	Town of North Andover	065.0-0020-0000.0, 106.C-0007-0000.0,

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

Hickory Hill I & II	Hickory Hill Road	5	53.6	Y	George Barker, Jr	061.0-0077-0000.0, 061.0-0009-0000.0, 061.0-0087-0000.0, 061.0-0073-0000.0, 062.0-0011-0000.0
Jared III	Sunset Rock Road	1	5.2	N	Town of North Andover	106.A-0220-0000.0
Jared IV	Sherwood Drive	1	22.05	N	Timberland Builders, Inc	105.C-0077-0000.0
Lost Pond	Lost Pond Lane	3	17	Y	Town of North Andover CC	104.B-0015-0000.0, 104.B-0024-0000.0, 104.B-0023-0000.0
Molly Towne	Abbey Lane, Molly Towne Road	2	10.7	N	North Andover Realty Corp	065.0-0024-0000.0
North Andover Estates	Rosemont, Holly Ridge Road, Wild Rose Drive	4	22.04	Y	Town of North Andover	098.B-0065-0000.0, 098.B-0067-0000.0, 098.B-0001-0000.0, 098.B-0069-0000.0
North Andover Heights	Ridge Way, Skyview Terrace	1	10.83	Y	Town of North Andover	098.B-0006-0000.0
Peachtree Farm	Peachtree Lane, Lavender Circle	3	17.44	N	Peach Tree Farms Home Owners Trust	098.A-0142-0000.0
Phillips Common	Phillips Common	1	5.05	Y	Phillips Common Development C	058.0-0057-0000.0, 058.0-0058-0000.0
Pinewood	Huckleberry Lane	18	9.62	Y	Town of North Andover	065.0-0224-0000.0
Regency Place	Regency Place	3	16.4	N	North Andover Realty Corp	065.0-0008-0000.0
Salem Forest V	Sterling Lane	2	27.3	Y	Town of North Andover	106.C-0038-0000.0, 106.C-0127-0000.0

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

Settler's Ridge	Settlers Ridge Road	2	5.04	Y	Town of North Andover	061.0-0103-0000.0, 061.0-0115-0000.0
Seven Oaks	Sugarcane Lane (Extention)	1	18.6	Y	Town of North Andover	106.A-0260-0000.0
White Birch I	White Birch Lane	1	3.32	N	JDP Development Inc	034.0-0005-0000.0
White Birch II	Cherise Circle	1	4.02	N	White Birch II Homeowner's Trust	061.0-0102-0000.0
Woodland Estates	Colonial Avenue, Puritan Avenue, Oxbow Circle	4	22.7	N	AC Builders, Inc	107.B-0019-0000.0, 107.B-0124-0000.0, 107.B-0023-0000.0, 107.B-0150-0000.0
Woodlea Village	Woodlea Road	1	10.8	N	Woodlea Village Homeowner's Trust	098.D-0001-0000.0

Chapter 61, 61A, & 61B

Massachusetts General Laws, Chapter 61, 61A, and 61B have been designed to give a favorable tax rate to landowners who meet the minimum forestry, agricultural and horticultural, and open space and recreation requirements. These special tax provisions were implemented to encourage the long-term management of the Commonwealth's forest for wood production, more agricultural and horticultural uses, and the preservation of open land in its natural state or approved recreational uses. This program is intended to encourage landowners to continue to use and preserve their properties from development.

Chapter 61: The Forest Land Tax Law is a tax treatment given to a landowner who has a minimum of ten (10) contiguous acres of undeveloped forestland to be managed for wood production. Currently there are four (4) landowners that utilize Chapter 61-tax classification (Table 5.1.8).

Table 5.1.8

Chapter 61, Forestry

PROPERTY OWNER	ACRES
Gary & Karen Martin	25.85
George Barker	0.95
George & Barbara Adams	15.37
North Andover/Boxford Realty Trust	30.50
Total	72.67

Massachusetts General Laws, Chapter 61A: The Farm Land Tax Law encourages the conservation and preservation of the Commonwealth’s valuable farmland, and promotes active agricultural and horticultural land use. Similar to the above, this allows landowners that engage in agricultural or horticultural practices to pay lower property taxes encouraging the continued use of the property for farming and horticulture. A landowner must have a minimum of five (5) contiguous acres that is actively devoted to agricultural or horticultural purposes. There are thirteen (13) landowners that utilize Chapter 61A-tax classification, as (Table 5.1.9). Additionally, approximately 152.27 acres of the Smolak Farm are under an Agricultural Preservation Restriction (APR).

TABLE 5.1.9

Chapter 61A, Agricultural and Horticultural

PROPERTY	ACRES
Barker Farm	181.36
Briar Hill Farm	1.57
Currier	1.5
Farnum Farm	473
Foster/Lindauer	4.99
Foster/Manzi	22.14
Mary Hart	17.58
North Andover/Boxford Realty Trust	28.75
O'Mahony Family Farm	7.92
Rea Farm	9.16
Roche Farm	27.02
Sarah Leonard	1.25
Smoklak Farm	118.05
Steven Young	20.02
Windkist Farm	15.67
Total	929.98

Lastly, the Recreational Land Tax Law under Massachusetts General Laws Chapter 61B is designed to encourage the preservation of valuable open space and promote recreational land uses. This offers a significant local tax benefit to property owners willing to commit to preserving land in an undeveloped condition or for use of outdoors activities. Currently there are three (3) landowners that utilize the Chapter 61B-tax classification (Table 5.1.10).

TABLE 5.1.10

Chapter 61B, Open Space, Nature Areas, Recreation Areas

PROPERTY OWNER	ACRES
Bridges Lane - LFFH Realty Trust	16
Gray Street - Frank Rullo	8
North Andover Country Club	103.12
Total	127.13

If a landowner intends to sell property within the Chapter 61 program or convert it to a residential, commercial, or industrial use, the municipality has 120 days to exercise its first right of refusal option to meet the bona fide purchase and sales agreement or purchase the property at fair market value. Recently, the Town of North Andover exercised its right of refusal to purchase the 10.6-acre Cullen property at 605 Osgood Street, which was filed under Chapter 61 since the early 80's, and was harvested for its hardwood. This property was acquired with the assistance of the Community Preservation Act and the Trust for Public Land, and will link to the existing 420 acres of protected open space owned by the town and Trustees of Reservations.

Cemeteries

Cemetery sites can be partially or fully protected. While burial plots cannot be disturbed, land around the plots (the balance of the site) may change use, unless otherwise protected. There are five cemeteries in North Andover. The Old North Parish Burying Ground located on Academy Road was established around 1650 and is within the town's Old Center Historic District, a National Register District. The Burial Ground is owned by the Town of North Andover and is under the jurisdiction of the North Andover Historical Commission. Because of the historical significance of the site locally, the North Andover Historical Society and the North Andover Historical Commission often give tours of the site to interested members of the public and conduct special programs there for North Andover school children.

Other cemeteries in North Andover are privately owned including the Second Burying Ground, established in 1817, also within the Old Center Historic District, and owned by the North Parish Church. Ridgewood Cemetery on Salem Street, a private non-profit cemetery established in 1850, is one of two active cemeteries in town. The Holy Sepulchre Cemetery located on Waverly Road, is open for Catholic burials and is owned and maintained by St. Patrick Parish of Lawrence. The Averill Family Cemetery at less than a quarter acre in size and with a few headstones is located on private land. The privately owned Berry Farm Cemetery includes grave sites that are under consideration for inclusion on the National Historic Register. The Berry Farm Cemetery site is part of a 40B housing project, though the 37 grave sites will be permanently protected.

5.2 UNPROTECTED LAND OF CONSERVATION INTEREST

Many unprotected lands in North Andover are important contributors to the town's character and to the preservation of natural resources. The town will continue to look to acquire or otherwise protect open space parcels based on resource protections needs and opportunities for meeting recreational needs. The Open Space Advisory Committee's 1995 recommendations of appropriate

criteria, with some modifications, are still valid in 2014. It is recommended that the following criteria be used for evaluating land of conservation interest.

- ❖ Land adjacent to a Lake Cochichewick tributary.
- ❖ Land within the boundaries of the Lake Cochichewick Watershed District.
- ❖ Land abutting existing / protected open space.
- ❖ Farmlands
- ❖ Land with development risks (i.e. private ownership chapter 61, 61A, and 61B, or Agricultural Preservation (APR) status, town property)
- ❖ Unique aesthetics / historic value / community character.
- ❖ Feasibility of a trail network & adjacent network(s).
- ❖ Unique Wildlife-wetlands / river corridors / riparian habitat values as depicted on the North Andover BioMap and Living Waters Map produced by the Natural Heritage and Endangered Species Program (NHESP).

5.3 PUBLIC RECREATION AREAS

Parks and Playgrounds

North Andover has 17 public recreation facilities under ownership and management of different departments. This inventory includes a combination of ball fields, recreation areas and playgrounds. **Table 5.3.1** on the following page provides an overview of these facilities. Acres devoted to recreation are estimated.

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

Table 5.3.1

Town of North Andover Recreation Areas

Properties	Acres	Soccer /multi	Baseball	Softball	Football	Basketball	Skate-boarding	Playground	Tennis	Volleyball	Ropes Course	Track	Swimming
American Legion Beach	1.4	-	-	-	-	-	-	1	-	-	-	-	1
Aplin Playground	1.8	-	1	-	-	1	1	1	-	-	-	-	-
Atkinson / Mid Schools	38.3	5	1	-	1	2	-	1	-	-	-	1	-
Carl Thomas Playground	5.24	-	3	-	-	1	-	1	-	-	-	-	-
*Carter Farm Soccer Fields	5	3	-	-	-	-	-	-	-	-	-	-	-
Chadwick Fields	3	-	-	3	-	1	-	1	-	-	-	-	-
Cyr Rec. Center	88	2	2	-	-	-	-	-	-	-	-	-	-
Drummond Playground	5	-	1	1	-	1	-	1	-	-	-	-	-
*Foster Farm Soccer Fields	10	2	-	-	-	-	-	-	-	-	-	-	-
Franklin School	8.8	-	2	-	-	-	-	2	-	-	-	-	-
Gallagher Field	3	1	1	-	-	-	-	-	-	-	-	-	-
Grogan's Field	4.7	-	1	-	-	1	-	-	-	-	-	-	-
*J.N. Herman Youth Center	3	-	-	-	-	1	1	-	-	-	1	-	-
Kittredge School	6.5	-	-	1	-	1	-	1	-	-	-	-	-
*N.A. High School	44.5	2	1	1	1	1	-	-	6	1	-	1	-
N.A. Middle School	6	2	1	2	1	4	-	-	-	-	-	-	-
Reynolds Fields	6	3	-	-	-	1	-	1	-	-	-	-	-
Sargent Elem School	1	1	-	-	-	1	-	1	-	-	-	-	-
Thomson School	3	-	-	-	-	-	-	1	-	-	-	-	-
TOTAL	244.24	21	13	8	2	16	2	12	6	1	1	2	1

Hiking Trails

North Andover has many miles of scenic hiking trails located on numerous public and private properties. These trails are available year round for hiking, picnicking, nature walks, bird watching,

and in the winter, cross-country skiing and snowshoeing. A limited number of trails are also used for horses.

In the past, some trails on town-owned properties were developed and maintained by the North Andover Trails Committee (NATC). Since 2007, the town has been assisted in its trail development and maintenance efforts by the Friends of North Andover Trails (FONAT)⁵, a not-for-profit, community-based organization dedicated to preserving and supporting North Andover's public trail system. Working under a five-year agreement with NACC, FONAT members volunteer their time to:

- ❖ Maintain the town's many miles of trails by running monthly trail work days.
- ❖ Promote and raise awareness of North Andover's trails and protected open space via maps, trail guides and community event listings, as well as guided walks and participation in community events.
- ❖ Identify new trail opportunities and community projects.

In 2014, FONAT received a grant to design and install kiosk signage at ten sites. The kiosks identify the site, trails, and use guidelines and allow for posting of additional information as well. In 2015 FONAT published “A Guide To North Andover Trails”. The Guide is available for purchase through the FONAT website, the Conservation Department and at various locations throughout town.

Table 5.3.2 identifies public trail systems within the Town of North Andover. **Table 5.3.3** identifies the trail systems that are presently being developed. FONAT has developed trail maps for the most significant properties owned or protected by the town. These are included in the Appendix.

⁵ Friends of North Andover Trails operates under the umbrella of the North Andover Improvement Society, a 501(c)(3) organization founded in 1885 and devoted to preserving the natural beauties and history of North Andover.

TABLE 5.3.2

Developed Public Recreational Trails

PROPERTY	OWNERSHIP	NUMBER OF TRAILS
Bay Circuit Trail	Private, Town, and State Owned	1
Boxford State Forest	Department of Conservation & Recreation	10+
Boston Hill	Brightview North Andover	1
*Bruin Hill	North Andover	1
Carter Hill	North Andover	2
Farnsworth Reservation	Essex County Greenbelt Association	1
Foster Farm	North Andover	2
*Half Mile Hill & Summit	North Andover	2
Harold Parker	Department of Conservation & Recreation	10+
James Swamp	North Andover	4
Mazurenko Farm	North Andover	5
Molly Town	Department of Conservation & Recreation	1
Osgood Hill	North Andover	4
Rea's Pond	North Andover	2
Shawsheen River	North Andover	1
Town Farm	North Andover	1
Town Forest	North Andover	1
Ward Reservation	Trustees Of Reservations	5+
Weir Hill	Trustees of Reservations	8+
Windrush Farm	North Andover	4+ with other trails to be developed

* Trails to be developed

Key town-owned land parcels contributing to the trail network in North Andover include:

The 27-acre **Carter Hill Conservation Area**, off Bradford Street is highly valued for its watershed protection, proximity to other protected open space, agricultural preservations, spectacular views, historical significance, and significant wetland and wildlife habitat.

Mazurenko Farm Conservation Area and Rea's Pond immediately abut Carter Hill and are ideal for trail networking. The site's collection of woodlands, wetlands and farm fields includes a heron rookery and one of the last undeveloped drumlin vistas in town. A five mile trail system linking Rea's Pond, Mazurenko Farm and Carter Hill (totaling over 150 acres, including 2-acres of recreational use and wildlife viewing) was completed in 2008.

Half Mile Hill and Summit includes approximately 67 acres of prime watershed property, consisting of agricultural fields, upland forest and lakeshore frontage. The property is flanked by Osgood Hill and Weir Hill, and is North Andover’s largest contiguous open space corridor, creating a wildlife haven of unequalled quality. The wooded hillsides within the Osgood Hill and Sunnyridge parcels are the oldest, most mature forested areas in town, and the vista from Half Mile Hill Summit is nothing short of spectacular. The parcel contains a significant amount of shoreline protection along Lake Cochickewick, providing nearly all the necessary elements for upland habitat mammal species. The large open hay field on the hillside overlooking the lake is also a rich nesting habitat for small grassland birds throughout the year. There is a trail system that meanders through the Osgood Hill property and links to trails to and within Half Mile Hill and Summit and Weir Hill. The vista at the top of Half Mile Hill Summit provides a panoramic view of the glacial drumlins and a foreground of Lake Cochickewick.

Foster Farm consisting of about forty acres is primarily agricultural land along with Bruin Hill. Trails here follow an old lane through open fields to the wooded knoll that is Bruin Hill.

Town Farm/Forest is the town’s second largest open space parcel with over one hundred acres of forest, meadows and wetlands. The site is known for its easy walking trails that pass through quiet woodlands, vernal pools and a sedge meadow. It abuts Farnsworth Reservation just across South Bradford Street where another mile of rolling walking trails can be found.

Windrush Farm, the town’s largest open space with around 160 acres of upland and wetland forests has an expansive network of wide, welcoming trails used for walking and horseback riding.

TABLE 5.3.3

Planned and Potential Public Recreational Trails

PROPERTY	OWNERSHIP
Essex County Railroad	North Andover, National Grid and others
Foster Farm (Parcel C)	North Andover
Merrimack River Trail	North Andover
Molly Towne PRD / Harold Parker State Forest	Comm. of Mass
Stevens-Coolidge Place, Weir Hill	Trustees of Reservation
Windrush Farm	North Andover

The former North Andover Trails Committee recently undertook a long range trail planning effort with the goal of linking all North Andover neighborhoods, open spaces, neighborhood paths, and recreation areas via an extensive trails network. A crucial part of the resulting plan was the Essex Railroad Rail Trail or multi-use path as a primary link with a multitude of open spaces, neighborhoods, and recreation areas. Planning by the Trustees of Reservation identified the opportunity for a walking path (Nan’s Trail) to connect Stevens-Coolidge Place, the Town

Common, and Wier Hill. This trail was completed in 2015. The Merrimack River Trail, conceived as an idea in 1980s, when completed would run the length of the Merrimack River in Massachusetts from Tyngsborough at the New Hampshire border to Newbury at the ocean's edge.

Essex Railroad Rail Trail

The Essex Railroad was completed in 1848 connecting Salem, Peabody, Danvers, Middleton and North Andover. Sections of the seven-mile route through North Andover were abandoned between 1926 and 1981. Many parties, including the Town, various utilities, and private landowners currently own the former right of way. Hikers, equestrians and bicyclists currently use much of the route, while other sections are overgrown or have been privately developed. One section of the route is used by the Bay Circuit Trail. Plans for the proposed Essex Railroad Rail Trail involve development of the currently accessible sections and determining alternatives for those sections privately developed. The ultimate goal is to develop a paved path to allow for the most diverse use of the route. Efforts to establish the envisioned Rail Trail were coordinated through the Office of Community Development and Services, but met with early opposition from resident groups in the eastern portions of town. In May 2014, Town Meeting approved CPA funding for design and construction of a community path that follows the path of the former Essex Railroad linking the East Mill to the Weir Hill area and connecting both to the High School.

Stevens to Stevens Trail

This Trustees of Reservation project completes the development of a pedestrian path connecting The Stevens-Coolidge Place, the North Andover Old Town Common, and Weir Hill. The trail includes a bridge crossing over a small brook and interpretive signs at each site. The project received Town Meeting approval for CPA funding in May 2014 and was completed in 2015.

Merrimack River Trail

While there have not been any potential trails identified along the Merrimack River in North Andover, there may be sufficient land between the railroad and the river for a riverside trail at some point in the future. However, given the isolated nature of the location, it is likely that significant safety and access issues would need to be addressed. The Merrimack River Trail Reconnaissance Report⁶ recommends that if the Osgood Landing project proceeds, the town should consider creating a multi-use path along the railroad track to connect that neighborhood with the downtown. It also recommends further investigation of the delineation of an off-road trail between the railroad and the river.

An expansion of the existing trail system is under consideration for the remaining parcel in **Table 5.3.3**.

⁶ The Merrimack River Trail Reconnaissance Planning Report, Merrimack Valley Planning Commission and the Essex National Heritage Commission, 2011

5.4 PRIVATE RECREATION AREAS

North Andover has a number of private recreational facilities. These private facilities are listed in **Table 5.4.1**. With the exception of the North Andover Country Club, these are not included in the Open Space Inventory.

TABLE 5.4.1

Private Recreational Facilities
Brooks School
Merrimack College
North Andover Country Club
Andover/North Andover YMCA, Andover
Willows Racquet and Fitness Club

6.0 COMMUNITY GOALS

Since the 2000 Open Space and Recreation Plan, North Andover has experienced significant population growth, development of open space, and acquisition of open space by the town. Accordingly, this plan draws from the 2000 and 2006 Open Space & Recreation Plans and considers the recent growth related issues as well. The North Andover Master Plan Committee uncovered community opinions and attitudes in 2010. Subsequently, through the public process for updating the Plan, two additional public forums, an online survey and a series of interviews with stakeholders were conducted in 2013. Much of the community's opinion focuses on drinking water quality, preservation of community character, and the value of open space and its recreational uses.

6.1 DESCRIPTION OF PROCESS

North Andover's Department of Conservation and Department of Planning, with the assistance of Brown Walker Planners, gathered input for community goals in 2013 with a series of public forums, an online survey and stakeholder interviews.

The public forums were held on Wednesday, April 24, 2013 and July 10, 2013 in the 2nd floor meeting room in Town Hall.

Additionally, the town's planning consultant (Brown Walker Planners) conducted an online community survey that was open to the public from May 21 to June 21, 2013. The survey was advertised in the Eagle Tribune, the North Andover Citizen, on Cable Access television, was posted on the town website and circulated among various organizations and departments. Two hundred two (202) people participated in the survey. When compared to a similar survey conducted in 2010, there was a consistency in the concern for the preservation of resources and the provision of informal or passive recreation including hiking.

Finally, the Planning Department and Conservation Department identified a group of stakeholders to be interviewed by the consultant with respect to their own unique recreation and conservation needs. Stakeholders included members of town departments, schools, the Youth Center, the Fields Committee, FONAT, preservation organizations, the Merrimack Valley Planning Commission, recreation providers and others.

Summary of Public Forums

Following a brief presentation that outlined the planning process and provided context for the questions, forum participants were asked to describe assets and desired improvements with respect to areas used for Low-Impact Recreation or Conservation, Active Recreation, and Recreational Programs. The following text is the notes that resulted from the conversation and is not intended to be a comprehensive inventory of North Andover's Open Space and Recreational resources.

Parks and Natural Areas used for Low-Impact Recreation or Conservation

Low impact recreational activities are those typically unorganized and noncompetitive, including, but not limited to, trail walking, picnicking, bird watching, and bicycling. Forum participants identified the wealth of conservation areas (Harold Park State Forest, Weir Hill, Bruin Hill, etc.) as tremendous assets to the community. Other areas identified included the Town Common and the

Patriots Memorial. The contributions of the Friends of North Andover Trails (FONAT) were also recognized.

Needed improvements identified at the forums included:

- ❖ Need for more trail signage/awareness – It was noted that new trailhead kiosks and recent FONAT contributions are significant contributions.
- ❖ Trail bridges and crossings need to be upgraded.
- ❖ Safe routes to school – meaning safe walking and bicycling routes and facilities for students, parents, faculty and staff need to be considered. More information is available from the National Center for Safe Routes to School’s website (<http://www.saferoutesinfo.org>).
- ❖ Desire to implement Pedestrian/Bike Path as a link to the downtown area.

Parks and Recreation Areas used for Active Recreation

Active recreational activities include those requiring infrastructure or equipment and are often organized and competitive including, but not limited to, baseball, soccer, and football. Forum participants listed the many parks, playgrounds, and playing fields in North Andover. Also mentioned were mountain biking trails, tot-lots, the rope course and swimming areas. Participants also expressed gratitude for the work of the Fields Committee and other organizations for providing high-quality recreational experiences for the town’s youth.

With the high level of demand for recreation activities, participants noted the need to provide adequate supply of playing fields. The former Lucent property currently hosts 4 small tee-ball diamonds and 6 small soccer areas, but is under private ownership and is not currently protected. Should this property be developed, the town’s supply of playing fields would be constrained. Some felt that an alternative site should be identified in the future, unless the town or other entity is able to permanently protect this valuable space. Additionally, the middle school playing field was identified as an area in need of improvement. Its current arrangement is inefficient, resulting in an untapped opportunity to provide additional recreation space. A redesign of this area could potentially provide additional playing fields and a walking track. Lack of irrigation of this area was also noted as problematic, resulting in a “dust bowl” effect. Other areas identified as in need of improvement included dilapidated playground equipment, parking at playing fields and accessibility for those with mobility challenges.

Parks and Recreation Programs and Activities

Participants identified a wide range of programs and activities available in North Andover, from festivals and community events to passive and active recreation programs. Where participants saw the greatest need for improvement was in engaging community members in maintaining resources. While several groups provide excellent support in this area, greater participation from the community at large is needed for clean-up days, dog waste removal and trail maintenance. Accordingly, participants felt that awareness – of opportunities as well as policies – could foster volunteerism and responsible use of open space and recreation areas. Additionally, the creation of an off-leash dog park would provide a needed resource and was seen as a strategy to alleviate some of the dog-related problems in parks currently used for dog walking and play.

A full summary of the public forums can be found in the Appendix.

Summary of Online Community Surveys (2013 & 2010)

2013 Online Community Survey

Between May 21 and June 21, 2013, 202 people responded to North Andover’s Online Community Survey. The survey covered a range of recreation and conservation issues, including opinions on current level of services/opportunities as well as desires for the future. Among the respondents’ highest priorities for open space goals were: water resource protection, safe routes to schools, bicycling and pedestrian infrastructure, and limiting development in environmentally sensitive areas.

A majority of people were generally pleased with the town’s parks, playgrounds and fields as well as youth programs. Dissatisfaction was expressed with respect to bicycling infrastructure and opportunities for off-leash dog exercise.

With respect to future open space protection, respondents were asked to indicate their priorities for open space protection. In the table below, a rating average closest to one (1) indicates highest priority. The options are ranked in order of their priority rating average. While all options averaged above a “neutral” rating of three (3), the order of the table below indicates the order of priority for survey respondents. Protecting drinking water resources emerged as the top priority for open space protection, followed by passive recreation and agricultural preservation.

Answer Options	Rating Average
Areas that protect the town’s drinking water resources	1.40
Areas with potential for informal or passive recreation (walking/hiking/riding/skiing trails, etc)	1.84
Preserve farms and encourage agricultural activity	2.08
Important natural resources and wildlife habitat	2.12
Access to river/ponds/water	2.26
Areas that have potential to provide facilities for active recreation (sports fields, courts, etc.)	2.29
Historic sites	2.34
Land that abuts and/or connects existing open spaces	2.42
Unique scenic areas	2.51

The full summary of the 2013 Online Community Survey can be found in the Appendix.

2010 Online Community Survey

Over the course of four weeks, (January 18 – February 12) more than 200 residents answered the survey and most residents were consistent in their support for preserving the rural character of the town, preserving environmental, recreational and historic resources. Residents also overwhelmingly stated their support for additional funding for open space and natural resources protections. A summary is as follows:

- ❖ 84% regarded ‘preserving the rural character of the town’ as either important or very important.
- ❖ 87% also reported that the “protection of wetlands, rivers, ponds and other environmentally sensitive areas” is either important or very important.
- ❖ 85% of residents stated that “the preservation of open space (meadows, farmland, and forested areas)” is either important or very important.
- ❖ 73% believe that the “protection of historic buildings and places” is important or very important.
- ❖ At least 46% believe that the protection of the town’s surface drinking water supply, Lake Cochichewick is adequate.
- ❖ 64% or respondents believe that it is either important or very important to “purchase land to preserve open space”.
- ❖ 66% believe that the town should consider a bond fund for “the purchase/preservation of special places”. North Andover was one of the first towns to implement the CPA act in 2001 and has spent over several million dollars on the purchase of open space parcels over the last 9 years.

Residents were also given the opportunity to name those ‘Special places, scenic views, building or natural resources’ that are most important to them. Among the places most often mentioned were Weir Hill, Lake Cochichewick, Old Town Common, Half-Mile Hill and Steven’s Estate.

Residents were also asked to rank various natural resources in the town that are important for maintaining the town’s rural character. These resources were ranked as follows, from the most important to least important:

1. Recreational trails
2. Aquifer protection
3. Forestland
4. Open pastures and farmland
5. Natural woodland views
6. Wetland protection
7. Historic buildings
8. Spacing of land between homes
9. Stone walls

10. Farm houses

Summary of Stakeholder Interviews

The Planning and Conservation Departments provided the planning consultant with a list of stakeholders – people with in depth working knowledge of North Andover’s open spaces – to be interviewed for further insight.

Many of the challenges and strategies identified by stakeholders mirrored those of the public. Priority needs and challenges among stakeholders include:

- ❖ Watershed protection remains vitally important
- ❖ There are too few ADA accessible recreation options
- ❖ Middle school has potential for more capacity, poorly configured
- ❖ Need more public accessibility for public recreations
- ❖ Need safe walking and biking paths to schools
- ❖ HS football field and track are not conducive to public use because they are artificially surfaced,
- ❖ Soccer and baseball, specifically, need more field space
- ❖ Parking is a problem at most athletic fields
- ❖ Sharpener’s Pond needs maintenance to address drainage issues
- ❖ Future of the Lucent site (1600 Osgood) should be considered

Suggested strategies and solutions offered by stakeholders include:

- ❖ Increase participation and coordination of volunteer groups
- ❖ Address ADA accessibility and parking, including play equipment for children with mobility challenges.
- ❖ Expand community outreach to improve awareness of assets
- ❖ Initiate a warden program for each major open space parcel
- ❖ Organize a passive recreation committee among current volunteer groups
- ❖ Make facilities more user friendly, advertise
- ❖ Look for small scale resource opportunities for neighborhood level recreations on school properties
- ❖ Consider a future recreational facility on Dale Street
- ❖ McEvoy field needs major rehabilitation, (CPA funds requested and upgrades completed)
- ❖ Ensure that all PRD open spaces still owned by developers are transferred to town with appropriate restrictions

After interviewing the group of stakeholders, common themes and priorities emerged. They include:

- ❖ Assessment of open space parcels and prioritization of stewardship needs
- ❖ Establish a dialogue among interested citizens and town officials to coordinate resources & activities to support stewardship programs
- ❖ Running, walking and biking connectivity, including safe routes to schools
- ❖ Make information available on school properties for public use through website or otherwise
- ❖ Explore alternative site designs for the middle school field
- ❖ Bring recreation opportunities up to ADA standards

6.2 STATEMENT OF OPEN SPACE AND RECREATION GOALS

Interaction with the citizens of North Andover reinforces the historical perception that the town is fortunate to have a great diversity of natural, cultural and recreational resources. Protection of the Lake Cochichewick Watershed, the town's most highly valued natural resource remains critical. There is also a strong desire to prevent future development from damaging natural resources and detracting from the community's "rural, small town feel". Preservation of open space, pastoral landscapes, wetlands, forested uplands, enhance wildlife and river corridors, well managed passive recreation in the community naturally emerge as necessary actions to meet these goals.

Conservation of wetlands inside and outside the watershed is essential to preserving a high quality watershed for the drinking water supply at Lake Cochichewick. Additionally, preservation of diverse New England forest, open space and river corridors provide enhanced wildlife habitats to help maintain the effective wetlands needed for watershed protection. The town's rural character is also preserved, as these conservation measures often protect scenic landscapes, such as hilltops, fields and farmland. Protection of these diverse resources has advanced significantly with adoption of the Community Preservation Act in 2001, serving as the primary vehicle in accomplishing a multitude of open space and historic preservation goals. Further progress can only be accomplished through a multi-faceted approach including public awareness, education, planning, management and regulation in a proactive approach to engage the public more consistently and successfully.

North Andover is also a community with a high level of participation in recreational programs. Youth athletic programs and hiking are among the most important and popular local activities. Athletic needs must be met with proper maintenance of facilities, adequate playgrounds and field space. Recreational hiking activities can be enhanced with improved trail systems and linkages between open space parcels. Similarly, access to regional facilities such as the Merrimack River is also important to the community's overall recreational offerings. Furthermore, the community wishes to provide the necessary access and equipment to provide equal opportunities for those with mobility challenges.

7.0 NEEDS ASSESSMENT

This section reviews some important features of the previous sections to identify specific resource protection and community needs. Public input helped to identify community priorities.

7.1 SUMMARY OF RESOURCE PROTECTION NEEDS

Lake Cochichewick Watershed Protection

The protection of the primary public water supply source remains one of the primary goals of this community. Protecting the town's drinking water supply ranked as the highest priority by respondents to the online community survey. Since adoption of the Community Preservation Act in 2001, the town has acquired several important open space parcels within the watershed in pursuit of this goal. The town has also enacted legal protection measures and regulations designed to promote water protection. Areas of special importance include:

- ❖ Comprehensive review of any planned development of open space within the watershed to assess potential impacts to water resources. Town boards review and assessment of development and disturbance in and around tributaries feeding into Lake Cochichewick, including its buffer zones. Continued elimination of septic systems within the watershed district.
- ❖ An update of the Watershed bylaw to reflect consistency with the town's wetland regulations and with the state's stormwater regulations.

Acquisition of watershed parcels elevates the need for effective open space management practices and programs within the watershed. The town relies on volunteer efforts and community and regional support to supplement its own efforts to protect and manage town-owned properties. The town needs to continue to take advantage of state environmental programs along with local and regional programs and initiatives to help preserve Lake Cochichewick water quality.

North Andover also needs to maintain a special relationship with a small number of substantial landowners within the Lake Cochichewick Watershed to continue its opportunistic approach to meeting its watershed protection goals. Using its example of effective open space management practices, the town can be proactive with the owners of the North Andover Country Club, Brooks School, and the Rolling Ridge Conference Center. The town should continue its ongoing cooperative relationship with these key organizations and work together to maintain conditions for good water quality.

Additionally, the town needs to increase awareness of private citizens on the subject of water quality protection, especially the residents within the watershed. Use of lawn fertilizer and proper septic system maintenance are two important practices over which the individual homeowner has control and which have the potential to significantly impact water quality.

Finally, the use of Weir Hill by some dog-owners presents a potential threat to the community's water supply. Although it is a leash-free area, additional enforcement of the no swimming rule and waste removal policies is needed. If enforcement is not feasible the town should consider alternative locations for a leash-free area that would have less impact on resources.

Protection of Wildlife Habitat and Rural Character

Protection of the town's open space rural character has been a common theme in past citizen surveys as well as the most recent 2013 Online Community Survey. Many citizens wish to preserve the natural resources in town for high quality open spaces and recreation, as well as to preserve the suburban/rural character of North Andover. The town is interested in expanding protected open space parcels by acquiring or protecting abutting undeveloped lands. Along with effective management of currently protected open space, this expanding and linking of existing open space parcels creates valuable wildlife and river corridors. These corridors function to create enhanced ecosystems for vegetation and habitats for wildlife, are more effective buffer zones and produce higher quality wetlands.

Several key linkages have been identified to achieve the goal of enhanced open spaces and higher quality wetlands. These open space linkages are:

- ❖ Acquire and protect the natural areas within the Lake Cochichewick Watershed District.
- ❖ Protect the natural areas west of Foster Street, which links Foster Farm and Bruin Hill (93 acres) with the Farnsworth Reservation (50 acres) Town Farm and Town Forest (159 acres). Combined with approximately 50 acres of open space at Smolak Farm, this potential open space parcel could be larger than 400 acres. This linkage has the added feature of Mosquito Brook, thereby providing an enhanced habitat to a broad diversity of wildlife and vegetation.
- ❖ Protect the natural area along Boston Brook, which links the Harold Parker State Forest along Raleigh Tavern Lane (approximately 130 acres) and Campbell Road (approximately 90 acres). This potential 300-acre open space contains a substantial section of Boston Brook, which could also provide a high quality habitat to a broad diversity of life forms. The value of this potential open space is furthered by its adjacency to Farnum Farm, consisting of approximately 550 acres of working farmland. Although under no perpetual covenant, the addition of the Farnum Farm area creates a contiguous open space corridor well over 700 acres.
- ❖ Protecting areas listed as critical habitat areas, identified in the North Andover Bio Map 2 (Natural Heritage and Endangered Species Program) known as 'core habitats' for rare and endangered species for biodiversity conservation.

7.2 SUMMARY OF COMMUNITY'S NEEDS

North Andover is a residential community with many excellent recreational opportunities that recognizes that protection of its natural resources is essential to the community's long-term health and quality of life.

Table 7.2.1

Figure: Population Age Trends, 2000-2010

	2000	2010	Percent Change
Total population	27,202	28,352	4.1%
Under 5 years	1,915	1,655	-15.7%
5 to 9 years	2,042	2,196	7.0%
10 to 14 years	1,973	2,221	11.2%
15 to 19 years	2,063	2,323	11.2%
20 to 24 years	1,505	1,231	-22.3%
25 to 34 years	2,995	2,637	-13.6%
35 to 44 years	4,924	4,136	-19.1%
45 to 54 years	3,966	4,813	17.6%
55 to 59 years	1,300	1,795	27.6%
60 to 64 years	875	1,577	44.5%
65 to 74 years	1,552	1,738	10.7%
75 to 84 years	1,387	1,182	-17.3%
85 years and over	705	848	16.9%

Assessment of population trends in North Andover shows both an aging population overall and an increase in children between the ages of 5 to 19 years old. Over 37% of North Andover households include one or more children and children make up 26% of the total population. Comparatively 16% of the population is over the age of 62 and 25% of all households includes a senior over the age of 65. Residents between the ages of 25 and 54 account for nearly half (40.9%) of the population with the largest group within that set being those between 45 and 54. Those between the ages of 25 and 44 declined over the past decade. The fastest growing segment of the population is adults aged 55 to 64. One may speculate that during the 2000's, North Andover was a community of aging families without the introduction of many young families. Should this trend continue, the town might see turnover as empty nesters leave their larger homes and young families move in.

The make-up of households should also be considered when determining recreational needs of the community. Over a quarter (25.6%) of North Andover households have single occupants and 10% of households have a senior living alone. Recreational resources and programs should reflect the needs of the increasing population of children, seniors and those living alone and the large population of active adults.

Previous surveys indicate that the highest level of recreational involvement in North Andover is in the youth recreational sports programs, such as soccer, baseball, softball, football, and lacrosse. Members of the youth and recreational sports organizations have combined resources with the town to make great strides over the past several years in upgrading recreational facilities. Evidence of this is:

- ❖ Rehabilitated Cyr's Recreational soccer and baseball fields, off Sharpner's Pond Road.
- ❖ Restored Grogan's playground.
- ❖ Reconstructed McEvoy Field.
- ❖ Rehabilitated Drummond baseball field.
- ❖ Installed new playground at Aplin playground.
- ❖ Constructed two (2) new soccer fields at Foster Farm and one at Town Farm.
- ❖ A local developer constructed three (3) soccer fields for public use at Carter Fields Subdivision.
- ❖ Constructed a new Youth Center with a basketball court (indoor and outdoor), skate park, game room to name a few.
- ❖ Completed a new high school in 2005 with state of the art athletic fields (baseball, softball, lacrosse, football, field hockey, soccer) and a complete track and field area.

These upgraded facilities must continue to be maintained properly to retain their peak condition. To date, informal agreements between the Department of Public Works, and different recreational groups and volunteers have combined resources for adequate maintenance. These agreements and maintenance plans need to be formalized to insure that the upgraded facilities will retain their high quality. In a similar way, the town must continue to work with the recreational groups to promote further improvement of the recreational facilities. This includes school and neighborhood groups for the continued improvement and upgrading of playground facilities in North Andover.

The next level of recreational involvement documented is for adult recreation activities, such as jogging, biking, hiking and cross-country skiing. These forms of activities are traditionally supported by trail systems in town. The former North Andover Open Space Committee established natural hiking and biking trails in multiple locations. Although this constituted a good start, further work is needed to meet the hiking and similar needs of the citizens. The town would like to continue efforts to establish a North Andover multi-use path along the Essex Railroad right-of-way running the length of North Andover. This project could link existing trails, and significantly improve hiking, biking and rollerblading options. Another goal is to reestablish a walking trail along Cochichewick Brook, spanning the route of the historic textile industry between Mill Pond and the Downtown. This trail begins along Walker Road and proceeds along the brook, passing by several Mill Ponds and Mill Buildings and containing several cultural and historic vistas along the way. This project was approved for CPA funding by Town Meeting in May of 2014.

Along with establishing new trails and enhancing existing trails, FONAT and the Conservation Department are working to improve the publicity of recreational and conservation activities the town offers. The town also recognizes the importance of identifying special areas where evidence of a total ecosystem is thriving and present to further promote conservation awareness.

Informational kiosks have been installed at nine sites within the past few years, with one more scheduled for installation this year. In 2014, The Friends of North Andover Trails (FONAT) applied for a grant to design and install kiosk signage at the ten sites. The kiosk signs identify the site, trails, and use guidelines and allow for posting of additional information. Trailhead signs are still needed on many of established trails. FONAT has produced maps and a pamphlet showing the many trails, conservation lands and open spaces throughout town. This guide is available for purchase on the FONAT website, the Conservation Department and at other retail locations throughout town. Completed maps are included in the Appendix. Additionally, well-publicized conservation and cleanup activities can improve general awareness of the trail systems and provide education to the general public on allowed recreational uses and best conservation practices. FONAT is also hosting and promoting site walks and clean up days on a regular basis.

Statewide Comprehensive Outdoor Recreation Plan (SCORP)⁷

Findings of the Massachusetts Outdoors 2012 draft Statewide Comprehensive Outdoor Recreation Plan (SCORP) were in line with local findings and likewise local and state goals align. The SCORP planning process engaged stakeholders across the state to document available recreational resources, assess needs, and identify the gaps between the two. Input was gathered through public meetings, a web-based survey targeted to residents and recreation providers, another for public officials, and another for land trusts, a phone survey of a sampling of residents and a survey of middle and high school students.

Results of the public official survey concluded that the two most popular resources and activities:

- ❖ for families are playgrounds and water facilities
- ❖ for preschoolers are playgrounds and water facilities,
- ❖ for children are playgrounds and athletic fields,
- ❖ for adolescents are athletic fields and skate parks,
- ❖ for adults (by far) are hiking/walking trails, and
- ❖ for seniors are senior centers and hiking/walking trails.

These survey results indicated that trails are the type of facility that has increased the most in popularity over the past five years, as well as the activity that respondents believe will increase the most in popularity over the next five years.

Adolescents aged 13-18 were noted as the age group that has the least of their needs met and the type of facilities most lacking were teen centers and skateboard parks. Across the board, the facility that is most lacking at recreational sites is restrooms.

Results of the land trust survey which looked to verify what activities took place on these properties indicated that walking/jogging/hiking, along with dog walking and nature study are the top three activities that take place on land trust lands. Principal physical issues identified by lands trust include invasive species management, other vegetation control and parking, while social issues include illegal trail use, littering, dumping, and conflicts between different user types. Land trusts

⁷ State Comprehensive Outdoor Recreation Plan, 2012 Draft, Executive Office of Energy and Environmental Affairs

are looking to make their work relevant to a more diverse audience and to connect their holdings to schools and neighborhoods.

The phone survey asked 400 residents what types of activities they currently participate in. The results showed that eighty percent of respondents run, jog, or walk multiple times per week. The next highest rated activities included hiking, road biking, gardening and swimming. Youth rated team sports high as well.

The results from the public meetings indicated the need for more trails closer to where people live including town- or city-wide trail networks. Participants see trails and greenways as important for both people and wildlife. Water-based recreation and improved information sources including web sites, recreation based apps, and signage were also noted as in need of improvement.

In addition to recreation, the SCORP found that resource protection is a key objective of land protection; in particular water quality and wildlife protection.

The four goals of the 2012 Massachusetts SCORP are:

- ❖ Increase the availability of all types of trails for recreation.
- ❖ Increase the availability of water-based recreation.
- ❖ Invest in recreation and conservation areas that are close to home for short visits.
- ❖ Invest in racially, economically, and age diverse neighborhoods given their projected increase in participation in outdoor recreation.

7.3 MANAGEMENT NEEDS

Community Growth and Development

The community's growth must be controlled through diligent enforcement of the existing regulations and through the formulation of new regulations as needed. Survey respondents overwhelmingly favored a growth policy, which "regulated growth in existing developed areas". Other responses, and much experience, have shown that there is a general lack of understanding of the growth control process. Citizens should be better informed of the growth control process and its limitations. Each interaction between staff or board members (from the Community Development Division) and the public must be treated as an educational opportunity.

The process now in place to control the community's growth and protect natural resources must be constantly evaluated and improved. Efforts must be made to attract motivated residents to become engaged in the planning and decision-making processes and to provide them with the tools and training to perform this vital function. While boards and commissions operate under both Mass General Law and the Town Charter with a certain level of autonomy, they should keep in close contact with the appointing authority to work in harmony toward shared goals.

Town officials should work with other agencies and organizations, such as the Department of Conservation and Recreation, Department of Conservation Services, Department of Environmental Protection, Natural Heritage and Endangered Species Program, the Division of Fisheries and Wildlife (MassWildlife), The Trustees of Reservations, and the Essex County Greenbelt Association to protect natural resources and provide recreational opportunity for area residents.

Public Land Management

Town departments and committees responsible for the management of public lands recognize that existing and projected land management needs exceed the town's capacity to provide them. It is essential that the town develop a framework for involving a large constituent group in the care of its open space and recreational resources. The North Andover Stewardship Program (outlined in Section Five) offers an opportunity to increase management capacity. The goal of the program is to prepare comprehensive management plans for each individual open space parcel that is under the care and custody of the Conservation Commission. These plans will contain a sustainable regimen of site-specific maintenance and enhancement activities. The Program seeks to create a natural synergy between the residents of North Andover and the town's valued resources to generate active interests and volunteerism. Public interest is the key ingredient to drive maintenance efforts for open space efforts in exchange for increasing the enjoyment potential of North Andover's recreational resources.

8.0 GOALS AND RECOMMENDATIONS

The following goals and recommendations have come from staff, committee and community input throughout the Plan update process. The goals are intended to focus efforts in order to:

- ❖ Protect the town's natural resources and specifically protect the Lake Cochichewick Watershed District
- ❖ Preserve the rural, residential atmosphere of North Andover
- ❖ Expand opportunities for a diversity of recreational experience
- ❖ Improve safety and convenience for pedestrians and cyclists

The Plan's recommendations are categorized by the goals they are intended to address.

- ❖ Implementation Goals
- ❖ Environmental Goals
- ❖ Recreational Goals
- ❖ Historic and Cultural Goals
- ❖ Educational Goals

8.1 IMPLEMENTATION GOALS

- ❖ Implement and Update the Open Space and Recreation Plan
- ❖ The town must identify the appropriate framework to guide the implementation of this Plan's recommendations. Elements of the framework include a responsible party supported by implementation policies, and monitoring and reporting processes.

8.2 ENVIRONMENTAL GOALS

- ❖ Improve Water Resource Protection

The foremost concern of North Andover is protecting the town's water supply. The following strategies are offered for consideration. Approximately thirty percent (30%) of the land in the Lake Cochichewick Watershed is protected. This figure needs to be increased in order to protect the future of the water supply.

Steps to increase protection of watershed lands include:

- Work to identify appropriate stakeholders and work together to update the 1987 Lake Cochichewick Watershed Plan and continue updating on a regular basis.
- Share information about watershed protection goals with review and regulatory boards and departments.
- Update the Watershed Zoning to reflect recent changes in the town's wetlands bylaw and the state's stormwater management standards.

- Hold an annual meeting of all citizens interested in watershed and water resource issues at a site along the shores of Lake Cochichewick. This gathering will provide landowners and concerned citizens with an opportunity to share information and ideas about various resource protection issues and best management practices.
- Enhance signage and enforcement to raise awareness of the harmful effect pet waste has on the water supply at Weir Hill. Consider restrictions on unleashed pets in the watershed and maintain dog waste stations.
- Refine Board of Health regulations as needed to provide for effective oversight of septic system maintenance. All Board of Health regulations must be printed and made available to the public.
- Research new zoning bylaws and revisit successful techniques used in the past. For example:

Overlay Zoning: Overlay zoning is a regulatory tool that creates a special zoning district, placed over an existing base zone(s), which identifies special provisions in addition to those in the underlying base zone. Regulations or incentives are attached to the overlay district to protect a specific resource or guide development within a special area. The town currently utilizes the Watershed Protection District as an overlay. It may wish to consider others.

Planned Residential District: The Planned Residential District (PRD) bylaw should be reviewed and updated. Attempts should be made to better preserve open spaces during the development process.

Waivers to Subdivision rules and Regulations: Under Subdivision Rules and Regulations, roadway widths and related issues should be presented clearly and the basis for waivers to any section should be detailed.

❖ Improve Open Space Management

Protected land should be managed to maximize the value of these public resources. Management plans should be completed for each parcel of municipal conservation land. In addition to scheduled maintenance and improvements, the Plans should address access for persons with disabilities and potential partners and funding sources. An ongoing funding mechanism should be developed for the management of municipal conservation land. Funding for general maintenance typically comes from department budgets with grants used for planning, acquisition and capital improvements. Almost all the labor for conservation land management, such as site clean ups and trail improvement projects is provided by volunteers with equipment and supplies generally funded by department budgets. Additional funding is needed to adequately manage conservation lands. Funding can come from private sources such as corporate partners (good will and/or part of a firm's public service policy/commitment) or from payments into an open space

improvement fund from developers who impact environmental resources and cannot otherwise mitigate on site. This last strategy would need to be written into subdivision regulations.

The town should require that each property with a Conservation Restriction has a comprehensive Conservation Restriction Stewardship Plan. CR Stewardship Plans are the responsibility of the agency holding the CR which may or may not be the land owner. Organizations and agencies that hold CRs have assumed the responsibility of ensuring the conservation values of the property are protected and that the terms of the restrictions are enforced in perpetuity. The best way to do this is through a sound stewardship program which includes documentation of the conservation values and man-made features on the property that is being protected by the restriction, regular property monitoring, and development of a strong working relationship with owners of restricted properties. More information on the importance and the steps for creating CR Stewardship Plans can be found in the Massachusetts Conservation Restriction Stewardship Manual, Massachusetts Audubon Society, March 2006. Funding for plan development, site monitoring and enforcement are recognized as an on-going challenge.

❖ Expand Conservation Lands

Existing conservation land should be protected from encroachment and expanded whenever possible. The most successful ways to conserve natural resources are:

- Land acquisition by the town or a special interest conservation group;
- Conservation Restrictions,
- Agricultural Preservation Restrictions, and
- Chapter 61, 61A, and 61B.

While acquisition is more expensive initially, its benefits are much greater in the long term.

The town must continue to involve special interest groups and state agencies. These include the Department of Conservation and Recreation (DCR), who manages the state conservation lands, the Department of Environmental Protection, the Essex County Greenbelt Association, the MA Division of Fisheries and Wildlife, the Trustees of Reservations, the Massachusetts Audubon Society, and The Trust for Public Lands. All of these organizations protect resources through land acquisition or other methods. The technical assistance and financial resources they offer are critically important to the Town of North Andover. The town has benefited from many collaborations including protecting Windrush Farm and Rolling Ridge within the past five years. Two private parcels were referred to Division of Conservation Services (DCS) in the past five years as well.

The town must also look to sustain a strong partnership with the Community Preservation Committee with on-going communication throughout the year. North Andover was one of the first communities in the state to enact the Community Preservation Act (CPA) with the maximum funding level at 3%

property surcharge. State legislation provides communities with the option to create a local community preservation fund that is administered by an appointed Community Preservation Committee (CPC). The Act requires the CPC to create a Community Preservation Plan to guide funding decisions.

A minimum of 10% of the fund's revenues must support each of the following uses:

- Acquisition and preservation of open space;
- Creation and support of recreational activities;
- Acquisition and preservation of historic buildings and landscapes;
- Creation and support of affordable housing opportunities.

The remaining 70% can be allocated for any combination of these uses, in response to the most pressing needs of the community. If needed, up to 5% of the funds may be used for developing the Community Preservation Plan and a maximum of 10% (20% for communities where management needs exceed acquisition needs, as described in the Plan) may be used for management or restoration of open space, historic sites, or community housing.

Town departments should keep the CPC apprised of projects they are asked to fund, from idea inception to completion and beyond. The town must also do all it can to help leverage CPA funds to maximize their effectiveness.

The town's inventory of conservation and recreation lands can be expanded through PRD projects when a condition of the project is to grant the town ownership of or a protective covenant (such as a CR) on a portion of the project site. Many properties have been protected through this course of action (see Table 5.1.7), however a number of PRD projects have failed to complete the necessary tasks to transfer property or negotiated property rights. While the town holds performance bonds on these incomplete projects, the goal is to assure protection of the lands. The town should develop a process for identifying and pursuing completion of these projects to secure its rights to the lands.

The purpose of the Chapter 61 programs, as described in Chapter 61 Programs, Understanding the Massachusetts Ch. 61 Current Use Tax Programs, by the UMass Extension and DCR is to help keep land undeveloped; therefore, when a landowner chooses to convert enrolled land to another use, the municipality's first refusal option (sometimes referred to as the right of first refusal) is triggered. If any land under Ch. 61, 61A, or 61B is intended to be converted to a non-chapter use (either sold or retained in the same ownership) while enrolled or within one fiscal year of being removed from the program, then the municipality has the option to match a bona fide offer to purchase the property at the price contained in the offer. If the owner is not selling the property but is converting its use to a non-chapter use, the municipality has an option to purchase the property at full market value as determined by an independent appraiser.

The option must be exercised by the municipality within 120 days of (1) receiving a notice from the owner that complies with the law (in the case of a sale) or (2) the agreement of the consideration (the market value) in the case of a conversion by the owner. After exercising the first refusal option, the land must then be acquired by the municipality within 90 days, unless an extension is agreed upon by the landowner. The municipality may exercise its first refusal option to buy the land or it may transfer the first refusal option to an eligible conservation organization (e.g., state conservation agency, land trust) who then must also acquire the land within 90 days.

The Chapter 61 Program is a valuable tool that the town must continue to use for expanding conservation and recreation lands. The town should establish a set of clear policies & procedures for communicating annually with owners of Chapter lands and for responding to Chapter 61 notices.

❖ Protect and Enhance Habitats for Biodiversity

The town should further efforts to protect habitats for the diversity of plant and animal species and assure the protection of unique and irreplaceable ecosystems. The Natural Heritage Endangered Species Program (NHESP) identifies ‘Core Habitats’⁸ and ‘Critical Natural Landscapes’⁹ as part of its Bio Map 2 efforts for rare and endangered species and their habitats. The program’s findings (see appendix for 2012 BioMap 2 Report) should be considered by departments reviewing proposed developments in and near core habitat and contributing natural landscape areas.

There are a number of strategies for protecting and enhancing habitats for biodiversity. Habitats can be enhanced by linking smaller ‘islands’ of protected lands together through corridors. The corridors must be sensitive and practical to meet the needs of the species that will use them. Ideally, corridors should connect tracts of any size to defray the effects of fragmentation.

NHESP also puts out data identifying potential vernal pools. This information can be analyzed to assist with researching and certifying vernal pools. Identifying vernal pools in the future may be a task well suited for a volunteer group, under the guidance of the Conservation Commission.

⁸ Core Habitats as described by the NHESP are specific areas necessary to promote the long-term persistence of rare species, other Species of Conservation Concern, as well as a wide diversity of natural communities and intact ecosystems.

⁹ Critical Natural Landscapes as described by the NHESP are large natural Landscape Blocks that are minimally impacted by development. If protected, these areas will provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances.

Protection strategies also offer potential to increase with recreational opportunities. One such way is through vegetation management. Managing woodlands to allow or create diversity of tree age, species and vertical strata will improve habitat and likewise improve opportunities for bird and wildlife viewing. Likewise planting natural vegetation including fruit and grain bearing trees, shrubs and grasses, providing open and cascading water, and installing bird, bat, and wood duck boxes in appropriate places throughout town to attract and promote wildlife diversity.

8.3 RECREATIONAL GOALS

❖ Link Open Spaces and Trails

Linkages should be developed between protected open spaces and recreation areas.

- Perform trail linkage analysis between open space properties, isolated communities and any future PRD.
- Create trail connections
 - from the Foxwood Open Space parcel to Harold Parker State Forest
 - to Windrush Farms;
 - from the Shawsheen River Trail to Den Rock Park in Andover (Working with FONAT, Essex County Greenbelt and the Town of Andover)
- Acquire land contiguous to existing open space parcels, such as those mentioned in Section 7.1.
 - The natural areas west of Foster Street which links Foster Farm and Bruin Hill (93 acres) with the Farnsworth Reservation (50 acres) Town Farm and Town Forest (159 acres).
 - Protect the natural area along Boston Brook which links the Harold Parker State Forest along Raleigh Tavern Lane (approximately 130 acres) and Campbell Road (approximately 90 acres).
- ❖ Pursue major trail projects such as the Bay Circuit, Merrimack River Trail and the Shawsheen River Trail.
- ❖ Repair and/or install bridge crossings along trails where needed.
- ❖ Improve the Bicycle and Pedestrian Network
 - Develop a plan to provide safe walking and biking routes between neighborhoods and schools;
 - Continue development of the multi-use path along portions of the railroad and power-line right-of way;

- Work with the DPW to assess and develop bikeways along roadways when the roads are re-paved;
 - Work with DPW and the community to create a sidewalk plan, and implement improvements annually
 - Adopt a “Complete Streets Policy” to assure that pedestrian and bicycle needs are considered along with automobiles and transit needs;
 - Continue Safe Routes to School Program (<http://www.saferoutesinfo.org>).
- ❖ Provide Universal Access to Recreational Opportunities
- Increase opportunities for children with mobility challenges to participate in recreational activities;
 - Improve ADA access, including parking, to open space parcels and recreation areas.
- ❖ Maintain and Improve Existing Recreational Facilities and Programs
- The Department of Public Works and Youth and Recreational Services should continue to pursue the systematic repair of existing playgrounds and recreational facilities. In 2015 the town completed a Town-Wide Playground Assessment Report for addressing needed maintenance and improvements to North Andover’s deteriorating playgrounds. Subsequently, a Playground Master Plan was developed to prioritize the playgrounds to be addressed as well as potential funding sources for rehabilitation and maintenance. The town may also consider the establishment of a volunteer network anchored by local neighborhood groups to monitor existing facilities and make minor repairs. These groups could seek donations of funds and supplies. The success of the Drummond Playground Committee has shown that there is support for such efforts.
- The town should continue to promote recreational opportunities for all ages and interests.
- ❖ Create New Recreational Opportunities.
- Any new playgrounds or other facilities must provide some access for persons with disabilities. Sites that are accessible should be promoted to increase community awareness.
 - New biking / walking trails should be developed, perhaps utilizing existing/proposed roadways. These multi-purpose trails could be used to increase recreational opportunity, improve recreational mobility and link together open spaces and recreation areas.
 - Consider a planning effort to assess feasibility of Stevens Pond as a year round a recreational area.
 - DPW must be consulted to evaluate the safety of skating on the pond.
 - Youth and Recreational Services should continue its efforts to make the Stevens Pond swimming program self-sustaining.

- Publicizing sledding opportunities at Half Mile Hill and Carter Hill (close to Stevens Pond) to increase use.
- Investigate access to the Merrimack River via the Shawsheen River trail and the boat ramp to make the Merrimack River accessible;
- Work with Merrimack Valley Planning Commission to identify opportunities to provide linkages to trails in abutting communities;
- Raise awareness of Cochichewick Brook and the Shawsheen River through increased donation of land, development of trails, and cleanups of those areas in need;
- Perform capacity analysis of Atkinson Middle School fields with site design alternatives;
- Investigate possible protection or alternative site to fields at Lucent property (1600 Osgood) in the event that it is no longer available to the public;
- Determine an appropriate site for an off-leash dog park.
- Assess demand for and explore possible location for community gardens.

8.4 HISTORICAL AND CULTURAL GOALS

❖ Protect Scenic Landscapes and Farmland

A continued effort must be made to further protect and provide access to the town's scenic landscapes. Scenic hilltops protected today include Osgood Hill, Weir Hill, Town Farm Hill, Bruin Hill, Woodchuck Hill (portions), and Barker Hill (portions).

The inventory of "Land of Conservation Interest" identifies the primary land in need of conservation in this community. The protection of these lands, and those designated by the DEM Scenic Landscape Inventory, should be high priorities. For example:

- Efforts should be made to increase the amount of land in Chapter 61, 61A and 61B tax classifications. Begin by developing relationships with the landowners who have qualifying land.
- The community should make a concerted effort to pursue Agricultural Preservation Restrictions on important agricultural lands.
- Planned Residential Developments should be encouraged when development of scenic landscapes is proposed.
- Consider adopting a Scenic Road Bylaw

Scenic Road Bylaws are an effective method of maintaining the rural character of scenic roads. A Scenic Road designation would provide limited protection from actions resulting from the repair, maintenance, reconstruction or paving of the road that would involve the cutting of trees or the destruction of stonewalls within

the public right-of-way. On a scenic road, such actions that are usually proposed by the DPW, would be subject to a public hearing and Planning Board approval as well as Board of Selectmen approval before they could proceed. Only significant scenic roads should be designated.

❖ Preserve Historic Landscapes and Other Historic Resources

The town's rural character can be enhanced and protected for future generations by a comprehensive and proactive program of land protection through a variety of methods, including:

- Deed restrictions;
- Purchasing of development rights;
- Outright acquisition;
- Regulation of new development;
- Donations of land; and

Collaborations with local and regional partners will assure greater success.

8.5 EDUCATIONAL GOALS

❖ Support On-Going Education and Networking Opportunities for Staff, Boards, Committees, Commissions and Volunteers

Town staff, along with all board, commission and committee members must continue to educate themselves as to the issues and regulations they are charged with administering. Staff should receive on-going training, and board, commission and committee members should be encouraged to attend training/workshops and networking events. The town should continue hosting Citizen Planner Training Collaborative (CPTC) courses for staff, board, commission and committee members. During the interview and appointment process, applicants should develop goals and objectives with the input of the appointing authority and the board, commission or committee to which they are applying. The members should meet with their appointing authority on an annual basis to review the level of attainment of these goals and objectives.

More board and committee members should be involved in the implementation of permits beyond the review of proposed projects. This field experience is very important to improving the level of compliance with local permits. Each board and committee should develop a policy to attend other boards' and committees' meetings on a regular basis to improve understanding and increase opportunities for collaboration. The appointing authority should attend a sample of all board and committee meetings.

The town can support on-going training for volunteers by posting and announcing training opportunities and offering in-house training by staff, board or committee members. Recognizing educational attainments and proficiencies on a regular basis will reinforce the town's commitment to this goal.

❖ Facilitate Environmental Education Opportunities and Public Outreach

Interactive education lesson plans in North Andover schools about local environmental issues, such as watershed management, would help introduce the younger population to the town's natural resources and build understanding about their importance. Field trips with guided walks would offer hands-on environmental laboratories illustrating aspects of resource management, fisheries and wildlife, and conservation issues.

On-going efforts to promote recycling and composting will help connect residents understand how personal disposal choices affect our natural resources.

9.0 SEVEN YEAR ACTION PLAN

The matrix of recommended strategies and actions on the following pages outlines a work plan for the next seven years. The matrix is organized by goal and identifies objectives and strategies, responsible parties and partners, priority level and potential funding sources.

Highest priority actions are denoted by the letter A and should be undertaken as soon as is reasonably possible within the next two years. Moderate priority actions are denoted by the letter B and should be undertaken within three to five years or sooner if the opportunity arises. Lower priority projects are important, but less critical to complete or more unlikely to be accomplished in the short term.

The work plan should be updated annually to reflect actions completed, opportunities and challenges that arise, and changes in resource and community needs.

The work plan uses the following acronyms for departments or others responsible for implementing recommendations.

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

Department/Board/Commission/Committee		Acronym
Board of Selectmen		BOS
Community Development Office		CDO
Conservation Commission	CC	
Conservation Department	CD	
Planning Department	PD	
Building Department	BD	
Health Department	HD	
Zoning Board of Appeals	ZBA	
Department of Public Works		DPW
Town Operations	TO	
Water & Sewer Department	WSD	
Youth & Recreational Services	YRS	
Sustainability Committee	SC	
Community Preservation Committee		CPC
Planning Board		PB
Board of Health		BOH
School Department		SD
Historic Commission		HC
Commission on Disability Issues		CODI
Merrimack Valley Planning Commission		MVPC
Civic and Historic Organizations		CHO
North Andover Improvement Society	NAIS	
Old Center Historic District Commission	OCHDC	
Neighborhood Conservation District Commission	NCDC	
Resource Protection Organizations		RPO
Trustees of Reservations	TTOR	
Essex County Greenbelt Association	ECGA	
Other Private Land Trusts	PLT	
Lake Cochichewick Watershed Council	LCWC	
Merrimack Valley Bird Club	NVBC	
Mass Audubon	MA	
Recreation/Sports/Trail Organizations		RSTO
Friends of North Andover Trails	FONAT	
Eagle Scouts	ES	
North Andover Soccer Association	NASA	
North Andover Youth Lacrosse	NALAX	
North Andover Booster Club	NABC	
Bay Circuit Alliance	BCA	

9.1 POTENTIAL FUNDING/WORK SOURCES

Following is a list of potential sources for funding and/or work.

Source	Key	Description
Conservation Department Budget	Budget	Primarily staff time and budgeted purchases
Community Volunteers	Volunteer	Members of community organizations such as FONAT and other interested community members
Collaborations and Grants	Coll/Grant	Work with private non-profits, including land trusts to meet Open Space Goals and/or apply for grant funding where available
College Intern/Senior Volunteer	Intern	Senior volunteers working in the Town of North Andover's tax abatement program and college interns often hired to do projects within the Community Development/Conservation Department
Community Preservation Act Funds	CPA	Supports acquisition, creation and improvement of resources within the areas of open space, recreation, housing, and historic preservation. Funds must be used for properties purchased with CPA grants.
Agricultural Environmental Enhancement Program	AEEP	Supports agricultural operations that are looking to install conservation practices that prevent direct impacts on water quality, ensure efficient use of water, as well as address impacts on air quality. Farmers selected to participate in the program are reimbursed up to \$25,000 for the cost of materials and labor necessary for the installation of the approved practice.
Chapter 90 – Local Aid	C-90	Supplies funding for maintaining, repairing, improving and constructing town and county ways and bridges which qualify under the State Aid Highway Guidelines adopted by the Public Works Commission.
Conservation Partnership Program	CPP	The Conservation Partnership Grants provide funding to assist non-public, not-for-profit corporations in acquiring interests in lands suitable for conservation or recreation purposes
Drinking Water Supply Protection Grant Program	DWS	Provides funds to assist public water systems and municipal water departments in protecting and conserving the quality and quantity of public drinking water supply sources in the Commonwealth. It is a reimbursement program.
Environment Education Grant	EE	This grant program provides financial support for projects that design, demonstrate, and/or disseminate environmental education practices, methods, or techniques, and that will serve as models that can be replicated in various settings.

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

Forest Stewardship Planning Grant	FSPG	This program seeks to encourage landowners to practice long-term guardianship through the development of a management plan for their woodlands. The program is designed to improve wildlife habitat and forest aesthetics, to protect soil and water resources, and to increase the potential for high-quality wood products. Grants are awarded to landowners and municipalities for the preparation of 10-year Forest Stewardship management plans.
Local Acquisitions for Natural Diversity grants	LAND	Assists municipal conservation commissions in acquiring land for natural resource and passive outdoor recreation purposes. Lands acquired may include wildlife, habitat, trails, unique natural, historic or cultural resources, water resources, forest, and farm land. Compatible passive outdoor recreational uses such as hiking, fishing, hunting, cross-country skiing, bird observation and the like are encouraged. Access by the general public is required.
Landowner Incentive Program grants	LIP	Provides private landowners interested in developing and maintaining wildlife habitat on their property with financial and technical assistance. Administered by Department of Fisheries and Wildlife.
Landscape Partnership Program	LPP	Seeks to preserve large, unfragmented, high-value conservation landscapes including working forests and farms, expand state-municipal-private partnerships, increase leveraging of state dollars, enhance stewardship of conservation land, and provide public recreation opportunities. The program offers competitive grants to municipalities, non-profit organizations, and EEA agencies acting cooperatively to permanently protect a minimum of 500 acres of land.
Land and Water Conservation Fund	LWF	Provides up to 50% of the total project cost for the acquisition, development and renovation of park, recreation or conservation areas. DCS administers the state side Land & Water Conservation Fund program in Massachusetts. Access by the general public is required.
Massachusetts Environmental Trust General Grants	MET	Provides funding to support programs, research, and other activities that improve water quality or quantity, conserve aquatic habitat and species, reduce runoff pollution, mitigate the effects of climate change on water resources, promote human health as it relates to water resources, and/or other efforts consistent with the Trust's mission.
Massachusetts Preservation Projects Fund	MPPF	State-funded 50% reimbursable matching grant program to support the preservation of properties, landscapes, and sites (cultural resources) listed in the State Register of Historic Places. Applicants must be a municipality or nonprofit organization. Administered

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

					by Mass Historical Commission.
New England Environmental GROW Grants	Grass Roots – SEED and	NEGREF			Geared to groups launching new projects and or evolving the scale of an existing project. Grants are intended to support community groups who represent the most exciting energy in the environmental movement and are not being assisted by traditional funders.
Parkland Acquisitions and Renovations for Communities grants		PARC			A program to assist cities and towns in acquiring and developing land for park and outdoor recreation purposes. Administered by DCR.
Rivers and Harbors Grant Program		RH			A statewide program of matching grants from DCR's Office of Waterways to towns and municipalities for design and construction to address problems on coastal and inland waterways, lakes and great ponds.
Recreational Trails Grants		RTG			The Recreational Trails Program provides funding support for a variety of trail protection, construction and stewardship projects throughout Massachusetts. Administered by DCR.
Transportation Enhancement Program		TEP			Funds community-based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic, and environmental aspects of our transportation infrastructure. Projects can include creation of bicycle and pedestrian facilities, streetscape improvements, refurbishment of historic transportation facilities, and other investments that enhance communities, access, and the environment. MassDOT manages the TE program in Massachusetts through a partnership between the Office of Transportation Planning (OTP) and the Highway Division.
Urban and Community Challenge Grants	Forestry	UCF			DCR 50-50 matching grants offered to municipalities and non-profit groups for the purpose of building local capacity for excellent urban and community forestry at the local and regional level.
U.S. Small Grants Program		USSGP			A competitive, matching grants program that supports public-private partnerships carrying out projects that further the goals of the North American Wetlands Conservation Act (Act). These projects must involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats for the benefit of all wetlands-associated migratory birds.

9.2 IMPLEMENTATION GOALS

I-1: Implement and Update Open Space and Recreation Plan				
ID	Objective/Strategy	Responsible Parties	Priority	Potential Funding Source
I-1.1	<p>Identify the appropriate framework for overseeing implementation of Open Space and Recreation Plan recommendations.</p> <ul style="list-style-type: none"> ∞ Establish the Open Space and Recreation Plan as a working document for guiding actions and tracking progress. ∞ Meet at least quarterly to review status of recommendations, follow up with responsible parties as needed ∞ Provide an annual status report in annual Town Report. ∞ Undertake a bi-annual evaluation of land conservation and recreation goals and objectives and adjust as needed. ∞ Oversee comprehensive Open Space and Recreation Plan updates as needed. 	BOS, CD, RYS	A	

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

9.3 ENVIRONMENTAL GOALS

ID	Objective/Strategy	Responsible Parties	Priority	Potential Funding Source
E-1: Improve Water Resource Protection				
E-1.1	Regularly share information regarding watershed protection goals and initiatives with review and regulatory departments and boards including ZBA, HD, DPW, PB, and others to assure consistency in review and permitting.	CDO, DPW	A	
E-1.2	Complete review of Watershed Protection zoning started in 2013 and work to adopt suggested revisions.	PD, WSD	A	Budget
E-1.3	Continue to assess opportunities to raise awareness of the harmful effect pet activity has on the water supply at Weir Hill and abutting properties.	CD, DPW	A	Budget, Coll/Grant
a	∞ Consider restrictions on unleashed pets in the watershed.			
b	∞ Install more dog waste stations.			
c	∞ Identify additional or alternatives sites for off leash activity.			
E-1.4	Work with local and regional stakeholders to Update Watershed Plan every 10 years at a minimum.	CD, DPW	B	DWS, MET, Coll/Grant
E-15	Hold annual Watershed District meeting or workshop for citizens and stakeholders to share concerns and ideas.	DPW, RCO	B	Budget, Coll/Grant
E-2: Improve Open Space Management				
E-2.1	Identify and secure additional funding resources for the management/maintenance of NACC and RD parcels.	CD, RYS	A	
E-2.2	Create and/or update management plans for each significant NACC open space parcel.	CD, RPO	A	FSPG, LPP, UCF
E-2.3	Implement ADA improvements at NACC properties as outlined in ADA Self Assessment	CD, CODI	A	CPA

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

E-2.4	Secure professional assistance to produce a Conservation Restriction Stewardship Program (CRSP) for all properties for which the Town of North Andover holds a Conservation Restriction. CRSP to include: 1) baseline documentation of resource values being protected, 2) regular property monitoring, documentation, and action or enforcement if needed, 3) strong working relationship with owners of restricted properties Request CRSPs from other entities that hold CR's on town-owned properties.	CD	B	Budget, Intern
E-2.5	Work with community members to establish a volunteer network that will assist in the stewardship of major NACC parcels.	CD, RPO, CHO, RSTO	C	Budget, NEGREF
a	∞ Identify work suitable for completion by volunteers and match volunteers to tasks			
b	∞ Provide training, materials and oversight for volunteers			
c	∞ Recognize volunteers with annual event			
E-3: Expand Conservation Lands				
E-3.1	Keep an up-to-date inventory and map of key unprotected parcels, including Chapter 61 parcels, and develop a plan for protection for each.	CD, CPC, RPO	A	Budget
E-3.2	Establish a set of clear policies & procedures for communicating annually with owners of Chapter lands and for responding to Chapter 61 notices.	CD, CPC, RPO	A	
E-3.3	Review and revise Planned Residential Development Bylaw to include contiguous and Percent upland requirements	PD	A	
E-3.4	Work with, preservation organizations, regional and state agencies and other special interest groups to acquire and protect more open space. ∞ Coordinate with partner organizations to hold annual meetings to share inventory and status of acquisition and protection efforts, identify opportunities for new collaborations, and discuss potential strategies.	CD, RPO	B	CPA, CPP, DWS, LAND, LPP, LWF
E-3.5	Obtain funding for open space acquisition through various financing tools (CPA, Impact Fees, Bond General Obligations, Mitigation, Collaborations with RPO).	CD, CPC	B	
E-3.6	Engage community in conservation efforts to encourage collaboration and fundraising.	CD, RPO, FONAT	B	
a	∞ Communicate opportunities regularly through quarterly newsletters and town web site			

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

b	∞ Host and coordinate with others to support events to spotlight various needs (e.g. bird-watching in grassland habitats, swamp or wetland walks with soil scientists, botanists, or biologists.			
E-3.7	Continue to lease agricultural fields on open space parcels to local farmers.	CD	C	
E-4: Protect and Enhance Habitats for Biodiversity				
E-4.1	Retain professional assistance to prepare comprehensive management plans for critical beaver sites.	CD, HD, DPW	A	DWS
E-4.2	Work with the Merrimack Valley Bird Club and MassAudubon to identify opportunities and implement strategies to manage lands to protect or improve grasslands and other habitats for birds.	CD, MVBC, RPO	B	CPA, CPP, LAND, LWF, Coll/Grant
E-4.3	Encourage homeowners to plant native trees, shrubs, grasses and flowers and that provide food and shelter for wildlife.	CD	B	LIP, NEGREF
a	∞ Host classes/workshops on plant selection, installation and care and the wildlife species the plants serve.			
b	∞ Use public properties as demonstration projects.			
c	∞ Work with local garden centers to stock and highlight plants.			
E-4.4	Create programs to increase awareness and appreciation of vernal pools.	CD, FONAT	C	
E-4.5	Create programs to increase awareness and appreciation of critical habitats for rare and endangered animal and plant species.	CD	C	
E-4.6	Install bird, bat and wood duck boxes in appropriate conservation areas.	CD, SD, RPO, ES	C	Coll/Grant, Volunteer
a	∞ Work with schools and local youth service organizations to evaluate sites, make, install, and monitor boxes			
b	∞ Host classes/workshops for land-owners			

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

9.4 RECREATIONAL GOALS

ID	Objective/Strategy	Responsible Parties	Priority	Potential Funding Source
R-1: Link Open Space Parcels and Trails				
R-1.1	Update MVPC open space map and create trail maps and guides via input from land use boards and departments, and other committees by identifying existing open space and trail network using GPS devices.	CD, FONAT	A	
R-1.2	Acquire land contiguous to existing open space parcels including:	CD, RPO	A	CPA, CPP, LAND, LWF, PARC
a	∞ The natural areas west of Foster Street which links Foster Farm and Bruin Hill with the Farnsworth Reservation, Town Farm and Town Forest.			
b	∞ Protect the natural area along Boston Brook which links to the Harold Parker State Forest along Raleigh Tavern Lane and Campbell Road.			
R-1.2	Work with communities such as Lawrence, Methuen and Andover to pursue major trail projects such as the Bay Circuit, Merrimack River and the Shawsheen River Trail.	CD, PD, MVPC, RSTO	A	RTG, TEP, Coll/Grant
R-1.3	Identify, prioritize and develop trail section linkages.	CD, PD	B	RTG, TEP, Coll/Grant
a	∞ Perform a trail linkage analysis to determine potential linking opportunities between open space properties, isolated communities and any future PRD.			
b	∞ Research all abandoned roads and paper streets for potential linkage with open space parcels and neighborhood paths.			
R-1.4	Repair and/or install bridge crossings along trails where needed.	CD, RSTO	B	RTG, TEP, Coll/Grant
R-2: Improve Bicycle and Pedestrian Network				
R-2.1	Develop a Pedestrian and Cycling Master Plan to provide safe walking and biking routes throughout town. Include an assessment of feasibility for pedestrian/bike path along portions of the railroad and power line right-of-way.	DPW, PD	A	Budget
R-2.2	Support BOS adoption of a Complete Streets Policy, Design Standards and Capital Improvement Program	PD, BOS, DPW	A	TEP, Ch 90
R-3 Provide Universal Access to Recreational Opportunities				
R-3.1	Increase opportunities for children with mobility challenges to participate in recreational activities.	YRS, CODI	A	CPA, PARC

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

R-3.2	Implement ADA improvements at recreation properties as outlined in ADA Self Assessment. Include installing handicap parking spot and signage at appropriate recreational properties	YRS, CD, CODI	A	CPA,PARC
R-4: Maintain and Improve Existing Recreational Facilities and Programs				
R-4.1	Implement the Playground Master Plan to guide general maintenance and the systematic repair and replacement of existing playgrounds and facilities.	YRS, DPW	A	Budget, Coll/Grant
R-4.2	Promote recreational opportunities in town newsletter, website and local media.	CD, YRS, RSTO	A	
R-4.3	Work with community members to establish a volunteer network that will assist in the stewardship of recreational facilities.	YRS	C	Volunteer, NEGREG
a	∞ Identify work suitable for completion by volunteers and match volunteers to tasks			
b	∞ Provide training, materials and oversight for volunteers			
c	∞ Recognize volunteers with annual event			
R-5: Create New Recreational Opportunities				
R-5.1	Perform capacity analysis of Atkinson Middle School fields with site design alternatives	YRS	A	Budget, CPA
R-5.2	Continue improving access to the Shawsheen River via the Shawsheen River Trail.	CD, FONAT, RPO	B	RTG
R-5.3	Raise awareness of Cochichewick Brook and the Shawsheen River. ∞ Seek to increase land donations for resource protection. ∞ Expand riverside trails. ∞ Host and support river and trail cleanups.	CD, PD, RPO, FONAT	B	RTG
R-5.4	Investigate potential to protect fields at Lucent property (1600 Osgood) in the event that it is no longer available to the public and/or identify possible alternative sites.	CDO, YRS	C	CPA
R-5.5	Identify and test potential sites for off-leash dog parks.	CD, DPW	C	
R-5.6	Explore additional locations for community gardens as need is expressed.	SC	C	CPA,

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

9.5 HISTORICAL AND CULTURAL GOALS

ID	Objective/Strategy	Responsible Parties	Priority	Potential Funding Sources
H-1: Protect Scenic Landscapes and Farmland				
H-1.1	Continue to encourage the use of Planned Residential Developments to reduce impact on scenic landscapes and farmland	PD	A	
H-1.2	Work to increase the amount of land in Chapter 61, 61A and 61B tax classifications <ul style="list-style-type: none"> ∞ Identify and monitor all potential Chapter 61 lands. ∞ Send information to landowners and if interest warrants, hold meetings with individuals and or groups to answer questions and provide more information, ∞ Provide information on town web page. 	CD, RPO	B	
H-1.3	The community should make a concerted effort to pursue Agricultural Preservation Restrictions on important landscapes. <ul style="list-style-type: none"> ∞ Identify lands of interest for APR, potential partners and funding sources Contact landowner, provide information and request consideration, and follow up ∞ Provide information on town web page 	CD, RPO	B	CPA, CPP, LAND, MPPF,
H-1.4	Adopt a Scenic Road Bylaw and designate scenic roads to help maintain rural character.	PD	B	
H-2: Preserve Historic Landscapes and Other Historic Resources				
H-2.1	Continue to preserve and enhance the Stevens Estate, including Osgood Hill and other town owned, properties.	CD, CPC, DPW	A	CPA, MPPF
H-2.3	Develop a program to research and enforce existing deed restrictions.	PD	C	
H-2.2	Investigate a process for purchasing property rights.	CDO	C	
H-2.3	Seek private donations of land for historic preservation.	CDO	C	

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 6

9.6 EDUCATIONAL GOALS

ID	Objective/Strategy	Responsible Parties	Priority	Potential Funding Sources
ED 1: Support On-Going Education and Networking Opportunities for Departments, Boards, Commissions, Committees and Volunteers				
ED-1.1	Encourage and support attendance at classes, workshops and conferences to ensure stakeholders keep abreast of current best for resource protection and land and facilities management	CD, RSTO	A	
a	∞ Offer municipal trainings through Citizen Planner Training Collaborative and other technical support and educational programs.			
b	∞ Maintain a list of educational and networking opportunities on the town's web site			
c	∞ Distribute and announce educational and networking opportunities to staff, board and committee members, and volunteers			
d	∞ Recognize attendance through various forms of outreach.			
ED-2: Facilitate Environmental Education Opportunities and Public Outreach				
ED-2.1	Continue to create interactive education lesson plans in the North Andover schools.	SD	A	EE
ED-2.2	Continue providing up-to-date information on the town's website regarding rules and regulations, plans and upcoming events.	CD	A	
ED-2.3	Continue to promote the compost program at Cyr Recycling Center for residents.	DPW	A	
ED-2.4	Explore the feasibility of developing a food waste composting program.	SC	B	
ED-2.5	Hold field trips and guided walking tours through open space areas.	RPO	B	
ED-2.6	Conduct special events at existing open space sites to increase awareness of the benefits of acquiring and maintaining open spaces.	CD	C	

10.0 PUBLIC COMMENTS

Review of the final draft of this Plan was solicited from town departments, boards and committees, the Merrimac Valley Planning Commission, and other stakeholders who assisting in the planning effort. A link to the Plan along with a request for final review was distributed directly to the following on July 24, 2014.

Glen Aspeslagh	Friends of North Andover Trails (FONAT)
Christine Berry	DCR
Stephen Foster	Facilities Director
Rick Gorman	Youth & Recreation Services
Jennifer Hughes	Conservation
Dave Johns	Fields Committee
Vanessa Johnson	Essex County Greenbelt Association
Stan Limpert	School Committee
Jim Lyons	Commission on Disability
Alan Macintosh	Merrimack Valley Planning Commission
Lora McSherry	Planning Board
Lou Napoli	Conservation Commission
Doug Saal	Conservation Commission
John Simons	Planning Board & CPC
Kathleen Szyska	Historical Commission
Judy Tymon	Planning
Brad Wakeman	Community Preservation Committee
Derek Wessel	Fields Committee
Tim Willett	DPW
Gene Willis	DPW

Comments received from reviewers resulted in edits to the Plan including clarifications of information and new or expanded strategies.

Letters of support from the following can be found in the Appendix:

- Planning Board
- Conservation Commission
- School Committee
- Essex County Greenbelt Association
- Friends of North Andover Trails
- Merrimack Valley Planning Commission

Substantial research to update assessor's data and the Open Space Inventory Map has resulted in a greater understanding and a full and accurate accounting of the Town's resources.

11.0 REFERENCES

Chapter 61 Program, Understanding the Massachusetts Ch.61 Current Use Tax Programs, UMass Extension, Department of Conservation and Recreation, www.masswoods.net/landowner-programs/chapter-61-current-use-tax-programs

Commonwealth of Massachusetts Department of Conservation and Recreation; www.mass.gov/eea/agencies/dcr/

Commonwealth of Massachusetts, Division of Employment Training; www.mass.gov/lwd/

Commonwealth of Massachusetts, Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program; www.mass.gov/eea/agencies/dfg/dfw/

Commonwealth of Massachusetts, Department of Environmental Protection; www.mass.gov/eea/agencies/massdep/

Commonwealth of Massachusetts, Department of Agricultural Resources; www.mass.gov/eea/agencies/agr/

Commonwealth of Massachusetts, The Open Space Planner's Workbook, Executive Office of Energy and Environmental Affairs, Division of Conservation Services, 2008; www.mass.gov/eea/doc

Commonwealth of Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP), Executive Office of Environmental Affairs, 2012 Draft; www.mass.gov/eea/docs/eea/dcs/fy13-gr/draft-scorp-2012.pdf

The Economic and Fiscal Contribution of Farm and Open Land in Dartmouth, Massachusetts, American Farmland Trust, 2009

Essex County Greenbelt Association; www.ecga.org/

Friends of North Andover Trails (FONAT), www.fonat.org/home

Massachusetts Tree Wardens' and Foresters' Association (MTWFA); www.masswardens.org

Merrimack River Trail, Reconnaissance Planning Report, Essex National Heritage Commission, Merrimack Valley Planning Commission, 2011; www.essexheritage.org/merrimackrivertrail

Merrimack Valley Bird Club; <https://sites.google.com/site/merrimackvalleybirdclub/home>

Merrimack Valley Planning Commission; www.mvpc.org/

North Andover Reconnaissance Report, Essex County Landscape Inventory, Massachusetts Department of Conservation and Recreation and Essex National Heritage Commission, 2005

North Andover 2010 Open Space and Recreation Plan Update

The Trustees of Reservations; www.thetrustees.org/

U.S. Census; www.census.gov/

APPENDICES

- A. ADA Access Self-Evaluation**
- B. Open Space Inventory**
- C. Maps**
- D. Soil Associations and Bedrock Geology**
- E. BioMap 2012**
- F. FONAT Trial Maps**
- G. Survey Summary**
- H. Letters of Support**

A. ADA Access Self-Evaluation

Appendix: ADA Access Self-Evaluation

Part 1 Administrative Requirements

1. Designation of ADA Coordinator

TOWN OF NORTH ANDOVER
OFFICE OF
TOWN MANAGER
120 MAIN STREET
NORTH ANDOVER, MASSACHUSETTS 01845

Mark H. Rees
Town Manager



Telephone (978) 688-9510
FAX (978) 688-9556

February 15, 2007

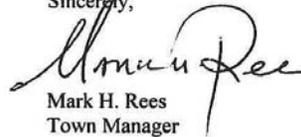
Gerald Brown, Inspector of Buildings
Division of Community Development
1600 Osgood Street
North Andover, MA 01845

Dear Jerry:

This is to confirm that the Board of Selectmen, at their meeting of November 7, 2005, appointed you to the position of Americans with Disabilities Act (ADA) Coordinator for the Town of North Andover.

On behalf of the Board of Selectmen and myself, I want to thank you for your continued service to the Town of North Andover.

Sincerely,


Mark H. Rees
Town Manager

/kar

cc: Curt Bellavance, Community Development Director

BOARD OF SELECTMEN

MINUTES

NOVEMBER 7, 2005

CALL TO ORDER: Rosemary Connelly Smedile called the meeting to order at 7:00 PM at Town Hall Meeting Room.

ATTENDANCE: The following were present: Rosemary Smedile, Chairman; James Xenakis; Donald B. Stewart; Mark J.T. Caggiano; Thomas Licciardello; Mark Rees, Town Manager; Ray Santilli, Assistant Town Manager.

EXECUTIVE SESSION:

James Xenakis made a MOTION, seconded by Mark Caggiano, to move into Executive Session to discuss Pending Litigation and Negotiations with Non-union employees. Vote approved 5-0.

The Board of Selectmen was individually polled and each voted to move into Executive Session. Donald Stewart yes; James Xenakis yes; Mark Caggiano yes; Thomas Licciardello, yes, and Rosemary Smedile yes. Vote approved 5-0.

APPROVAL OF MINUTES:

James Xenakis made a MOTION, seconded by Donald Stewart, to approve the minutes of October 18, 2005, Executive Session as written and Open Session as written. Vote approved 5-0.

COMMUNICATIONS, ANNOUNCEMENTS, AND PUBLIC COMMENT:

The Board recognized Ellen Wood, a resident of North Andover, with a Special Citation congratulating her on celebrating her 100th Birthday on November 19, 2005.

The Board recognized Thomas J. Casale for his 32 years of dedicated service to the Town as a Firefighter and Lieutenant for the North Andover Fire Department.

New Business Recognition

The Board presented a Certificate of Appreciation to B-Sporty of 585 Chickering Road for opening a new business in town.

Appointments

James Xenakis made a MOTION, seconded by Mark Caggiano, to approve the appointment of Eugene G. Ruane as Municipal Hearing Officer pursuant to MGL, Chapter 148A. Vote approved 5-0.

James Xenakis made a MOTION, seconded by Donald Stewart, to approve the appointments of Barbara Hedstrom, Wendy Wadsworth and Paul Gregoire to the Poet Laureate Selection Committee. Vote approved 5-0.

James Xenakis made a MOTION, seconded by Mark Caggiano, to approve the appointment of Gerald Brown, Inspector of Buildings to the position of Americans with Disabilities Act (ADA) coordinator. Vote approved 5-0.

Special recognition to the Town Manager, Mark Rees for having completed running in the New York city Marathon 26.2 miles.

Acceptance of Donations

Donald Stewart made a MOTION, seconded by Mark Caggiano, to accept the donation in the amount of \$300.00 from Edmand and Nancy Leland to the Fire Department towards fire prevention programs. Vote approved 5-0.

CONSENT ITEMS:

Donald Stewart made a MOTION, seconded by Mark Caggiano, to approve the request from the North Andover Festival Committee and Police Association to hold the Annual Christmas Holiday Parade on Saturday, November 26, 2005 from 1:00 – 3:00 PM. Vote approved 5-0.

2. Town of North Andover ADA Employment Policy and Grievance Procedure

Policy. Such reviews shall be made at such intervals as the Town Manager or his/her designee deems necessary.

II. GENERAL EMPLOYMENT PROVISIONS

A. Employment-at-Will

Employment with the Town is voluntarily entered into, and the employee is free to resign at will at any time, with or without reason. Similarly, the Town may terminate its employment relationship with any employee at-will at any time, with or without notice or reason, provided there is no violation of applicable federal or state law.

B. Equal Employment Opportunity

In order to provide equal employment and advancement opportunities to all individuals, employment decisions are based on merit, qualifications, and abilities. The Town does not discriminate in employment opportunities or practices on the basis of race, color, religious creed, gender, national origin, ancestry, sexual orientation, pregnancy, veteran's status, military service, age, marital status, genetic information, disability or on any other basis protected by federal, state, or local law or ordinance. This policy governs all aspects of employment, including selection, job assignment, compensation, advancement, workforce reduction or transfer, leaves of absence, discipline, termination, and access to benefits and training.

Town management will make reasonable accommodations for qualified disabled individuals with known disabilities, unless doing so would result in an undue hardship.

Any employees with questions or concerns about any type of discrimination in the workplace are encouraged to bring these issues to the attention of the Town Manager or the Human Resources Director. Employees can raise concerns and make reports without fear of reprisal or retaliation of any kind. Anyone found to be engaging in any type of unlawful discrimination or retaliation will be subject to disciplinary action, up to and including termination of employment.

C. Disability Accommodation

The Town is committed to complying fully with Massachusetts and federal law concerning disabled persons and ensuring equal opportunity in employment for qualified disabled persons. All employment practices and activities are conducted on a non-discriminatory basis. Hiring procedures have been reviewed and provide persons with disabilities meaningful employment opportunities. Pre-employment inquiries are made only regarding an applicant's ability to perform the duties of the position.

Reasonable accommodation is available to all disabled employees who are otherwise qualified, where their disability affects the performance of job functions, except when providing such accommodation imposes an undue hardship on the business operations of the Town. All employment decisions are based on the merits of the situation. If an individual needs an

accommodation, it is his or her responsibility to advise the Town Manager or the Human Resources Director. The Town may ask for suggestions in defining what special accommodations are needed, and employees must cooperate fully and engage in an interactive process to best identify a reasonable accommodation.

Employees are required to cooperate fully with the Town in the procurement of medical records so that the Town can fully comply with the provisions of the Americans with Disabilities Act (ADA). Employees are required to supply any and all records the Town lawfully requests, and execute any medical authorizations or release forms provided by the Town or a medical care provider, consistent with the law.

Qualified individuals with disabilities are entitled to equal pay and other forms of compensation as well as equal treatment in job assignments, classifications, organizational structures, position descriptions, lines of progression, and seniority lists. Leave of all types will be available to all employees without regard to their status as disabled.

This policy is neither exhaustive nor exclusive. The Town is committed to taking all other actions necessary to ensure equal employment opportunity for persons with disabilities in accordance with any applicable laws.

D. Business Ethics and Conduct

The successful operation of Town business and the reputation of the Town are built upon the principles of fair dealing and ethical conduct among employees. Our reputation for integrity and excellence requires careful observance of the spirit and letter of all applicable laws and regulations, as well as a scrupulous regard for the highest standards of conduct and personal integrity.

Our continued success in serving the Town and its citizens is dependent upon our maintaining the trust of our citizens, vendors and service providers, and we are dedicated to preserving that trust. Employees owe a duty to the Town to act in a way that will merit continued trust and confidence. The Town regards ethical conduct with those organizations providing goods and services to the Town, and those organizations to which we provide goods and services, as paramount to the establishment of an effective working relationship.

The Town will comply with all applicable laws and regulations and expects its officials and employees to conduct business in accordance with the letter, spirit, and intent of all relevant laws and to refrain from any illegal, dishonest, or unethical conduct. The integrity of all employees is an indispensable source of goodwill and must remain unquestioned.

E. Conflicts of Interest

Issues related to conflicts of interest are addressed in statements by the State Ethics Commission and M.G.L. c268A.

Specifically, employees must avoid conflicts of interest between their obligation to the

7. Town of North Andover

ADA Policies, Procedures, and Practices

THE TOWN OF NORTH ANDOVER ADA GRIEVANCE PROCEDURE:

This Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act (ADA). It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in employment practices and policies or the provision of services, activities, programs, or benefits by THE TOWN.

The complaint should be in writing and contain information about the alleged discrimination such as name, address, phone number of complainant and location, date, and description of the problem. Alternative means of filing complaints, such as personal interviews or a tape recording of the complaint, will be made available for persons with disabilities upon request.

The complaint should be submitted by the aggrieved and/or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to:

Gerald Brown, ADA Coordinator
The Town of North Andover
1600 Osgood St.
North Andover, MA 01845
TEL: (978) 688-9545
FAX: (978) 688-9542
bgrown@townofnorthandover.com
www.townofnorthandover.com

Within 15 calendar days after receipt of the complaint, the ADA Coordinator will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the ADA Coordinator, will respond in writing, and, when appropriate, in a format accessible to the complainant, such as large print, Braille, or audiotape. The response will explain the position of Town of North Andover-The Town and offer options for substantive resolution of the complaint.

If the response by the ADA Coordinator, does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision of the ADA Coordinator within 15 calendar days after receipt of the response to the Town Manager or his or her designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting the Town Manager or his or her designee will respond in writing, and, where

appropriate, in a format accessible to the complainant, with a final resolution of the complaint.

All written complaints received by the ADA Coordinator, appeals to the Town Manager or his/her designee, and responses from the ADA Coordinator and Town Manager or his/her designee will be kept by Town of North Andover for at least four years.

AMERICANS WITH DISABILITIES ACT (ADA)
Employment
Reasonable Accommodation Policy

It is the policy of The Town that no other qualified individual with a disability shall, solely by reason of his/her disability, be excluded from employment by The Town. Employment review and hiring will be based on the employee/prospective employee's ability to perform what The Town determines to be the essential functions of a job. Further, it is the policy of The Town that reasonable accommodations will be made for an otherwise qualified applicant or employee with a disability, unless the The Town can demonstrate that the accommodation imposes an undue financial or administrative hardship on the operation of its programs.

Notice of the availability of reasonable accommodations for job applicants will be included in postings and advertisements and will be made available upon request to applicants with disabilities during the pre-employment process if necessary to provide equal opportunity to secure employment at The Town.

All prospective employees will be informed at the initial interview that The Town does not discriminate on the basis of disability and that requests for reasonable accommodations needed for the performance of essential job functions or for the enjoyment of other benefits of employment should be made by the prospective employees following receipt of a conditional offer of employment, preferably at the post employment offer meeting.

People with disabilities employed by The Town may request reasonable accommodations from their immediate supervisor or from the ADA coordinator. Requests for reasonable accommodations should be made verbally and/or in writing describing the nature and purpose of the requested accommodation.

Assistance will be made available upon request to any individual who needs assistance in identifying or documenting the reasonable accommodation needed. The effectiveness of the accommodation and need for modifications or additional accommodations will be assessed during the first month of use of the accommodation.

Current employees seeking reasonable accommodations should make requests to their immediate supervisor who will inform the ADA coordinator. Requests for accommodations can be made at any time when they become necessary to the performance of essential job functions or the enjoyment of benefits of employment.

**Employment
Reasonable Accommodation Policy
Page #2**

A decision regarding the requested accommodation will be made within ten business days of the submission of the request and any supporting documentation required by the Town. If the RA cannot be provided within ten business days of the request, the supervisor will issue a memo to the employee or applicant explaining why. If a substitute RA is being offered to the employee, this will also be explained verbally and in writing.

These policies will be modified when necessary by the ADA Coordinator. The final decision concerning any requested accommodation that may represent an undue financial or administrative hardship will be made by the Town Manager. Applicants or employees have the right to appeal the denial of any accommodation request using the ADA Grievance Procedure. In the case of a denial based on undue hardship by the Town Manager, the employee or applicant may appeal in writing to the President of the North Andover Board of Selectmen.

It is the policy of The Town that staff training and development activities provided by Town personnel and volunteers include information about rights and obligations under Title I of the ADA. Our staff training and orientation manual includes a full explanation of our ADA policies, procedures, and practices regarding employment.

AMERICANS WITH DISABILITIES ACT (ADA)

B. EMPLOYMENT TRAINING ASSURANCE

All materials include information on reasonable accommodations, grievance procedures, essential v. nonessential job functions, permissible and impermissible inquiries. Training will be conducted annually, and all new staff are trained, as per our staff orientation procedures, on all of the above requirements. The ADA Coordinator is the employee responsible for seeing that this is done.

Details of disability are kept separate from other employment information. Employees right to confidentiality (whenever confidential information regarding disability, etc. is divulged) will be assured.

AMERICANS WITH DISABILITIES ACT (ADA)
III - NON-DISCRIMINATORY OPERATIONS
A. Equal Opportunity policy

The Town does not discriminate in employment practices against qualified job applicants or employees on the basis of disability in the areas of: hiring; promotion; demotion; transfer; recruitment; job advertisements; termination; post job offer; and training, etc. No qualified individual with a disability shall, solely by reason of his/her disability, be excluded from the participation in; be denied the benefits of; or otherwise be subjected to discrimination under any of our programs, services, and activities.

In addition, The Town shall:

- provide a program of information and awareness training about persons with disabilities to all supervisors and interviewers;
- review all job descriptions to ensure that they do not tend to screen out qualified individuals;
- eliminate unnecessary, non job-related mental and/or physical requirements for entry into each job;
- in the area of promotion, when a vacancy occurs, institute an internal search to determine if there is a qualified employee with a disability who could be promoted;
- provide alternate methods of informing employees with disabilities of relevant information (such as informing blind individuals of announcements posted on bulletin boards).
- review employee performance appraisals to ensure that no discriminatory patterns or practices exist or are developed affecting employees with disabilities or applicants; and provide reasonable accommodation in all areas of accessibility.

As stated earlier, it is the policy of The Town to ensure that persons with disabilities are provided maximum opportunity to participate in and benefit from programs, services, and activities.

AMERICANS WITH DISABILITIES ACT (ADA)
III - NON-DISCRIMINATORY OPERATIONS
A. Equal Opportunity policy
Page 2

Moreover, it is our goal that such participation be in the same manner as those of non-disabled persons and in fully integrated settings.

It is understood that the obligation to comply with this policy is not obviated or alleviated by any state or local law or other requirement that, based on disability, imposes inconsistent or contradictory prohibition. Any prohibitions or limits upon the eligibility of qualified individuals with disabilities to receive services or practice any occupation or profession are not allowed under this policy.

B. Employment Policies and Procedures

The Town will make reasonable modifications to our policies, practices, and procedures in order to accommodate persons with disabilities whenever an otherwise qualified person with a disability requests such modifications, unless the agency can demonstrate that such modification would impose an undue burden or fundamentally alter the nature of our program or the services that we offer.

We are committed to making reasonable modifications when they are needed to afford persons with disabilities access to services and programs. The final decision concerning whether a request for an modification is reasonable (or is a fundamental alteration of the program) is made by the Town Manager in discussion with the ADA Coordinator, and, if appealed, Town Selectmen. Aggrieved employees or applicants have the right to appeal as per our grievance procedure.

Persons requesting a particular modification may be asked to furnish documentation to support the need for the modification.

Aggrieved individuals have the right to appeal as per our written appeals process. This policy will be modified when necessary to make our program accessible to people with disabilities.

C. Eligibility Requirements Assurance

Any prohibitions or limits on the eligibility of qualified individuals with disabilities to receive services or practice any occupation are not allowed under this policy. Eligibility requirements for our program are reviewed on a regular basis, and it has been determined they do not screen out or tend to screen out people with disabilities.

All safety requirements are similarly reviewed and it has been determined that there are no discriminatory requirements. The determination of the existence of a direct threat must be based on objective factual evidence and not stereotypes or misconceptions about a person's disability. If any new criteria are developed, their impact on persons with disabilities will be reviewed by the Town Manager, ADA Coordinator, and all staff will be informed on any changes in eligibility requirements that may arise.

D. Assurance Regarding Surcharges

It is the policy of The Town that surcharges are never charged to staff/participants (nor any other interested person) for reasonable accommodations under any circumstances. Such accommodations include, but are not limited to: American Sign Language (ASL) interpreters, Computer Aided Real-time Translation (CART), architectural accessibility, computer accessibility hardware or software, Braille material, or any other costs related to the participation of a person with a disability.

E. Integrated Services

It is our policy of that all of our services, programs, and activities are provided in the most integrated setting possible. People with disabilities are never required to participate in separate programs. Services will not be provided to any person with a disability in a manner or at a location different from that available to other. In all cases, the person with a disability (family members and other representatives only when appropriate) will be fully involved in the consideration and decisions.

F. Significant Assistance

It is the policy of The Town that programs to whom we provide significant support (or contract with) may not discriminate against people with disabilities. All contracts and program sites are regularly assessed to ensure non-discrimination against people with disabilities. The Town will not contract with any entity that discriminates.

G. Accessible Transportation

It is the policy of The Town that all transportation services provided are accessible to everyone regardless of their disability. In addition, any vehicles acquired for public non employee-only use, will be equipped with a wheelchair lift, tie downs, etc. all future van purchases will also be accessible. Our alternate transportation providers are: Atlantic Ambulance Service, tel: (718) 592-5400, and Chair To There, tel: (978) 777-7615; Handi-Call (781) 586-9780; American Medical Response (781) 592-8080.

H. Community Referral

Whenever The Town participates in other programs and services as a condition of participation (e.g. Commonhealth, Employee Assistance Programs-EAP, other counseling agencies, MRC, fuel assistance, DSS. etc.) or makes reference to other programs, it is our policy that such programs and services must be accessible. We have information regarding which of the programs (to which it may refer people) are accessible, and which are not. Please note that there is at least one accessible provider in each of the categories of services in which we make referrals.

I. Training Assurance Policy Regarding Non-discriminatory Operations

It is the policy of The Town that staff training and other staff development activities provided by agency personnel and volunteers include information about ADA requirements. Our programs operate in such a manner that does not discriminate against people with disabilities. As stated in our staff training and orientation manual, such training includes a full explanation of our ADA policies, procedures, and practices. Training is done on a regular basis, and The ADA Coordinator has the overall responsibility for ensuring that all staff are trained, including new employees.

IV. Effective Communication

A. Effective Communication Policy

It is the policy of The Town, Inc that auxiliary aids and services will be provided when necessary to ensure effective communication with persons whose disabilities effect communication. Persons with communication barriers will be given the opportunity to request the aid or service that they prefer and the requested aid or service will be given primary consideration by The Town unless doing so would impose an undue burden or a fully effective alternative is available.

It is the policy of The Town that all documents and publications are available, to anyone who requests them, in accessible formats. These include large print, audiotape, Braille, and computer disc.

The procedure for anyone who requests accessible formats (or any type of effective communication) is:

1. To specify his/her accessible format either in person, over the phone, or in writing to the ADA Coordinator at least 30 days in advance of the event.
2. Within four (5) business days of the request, The Town will provide the format to the requester at no charge.

The Town Manager is the staff person who makes undue burden determinations as per our procedures. When we decide what type of aid or service to provide, primary consideration is given to the type of aid or service preferred by the person with a disability.

B. TTY Assurance

The Town has a TTY at our offices, and plans to acquire more. The Town is a leader, and a role model to other organizations on providing effective communications, as well as all other areas of ADA compliance. Our TTY number will be listed consistently on all our communications where The Town's phone

number is given. TTY training will be provided for all employees with updates on an annual basis.

C. Alternative Format policy and Procedures

Alternative formats are made available to persons with disabilities who need them in alternate formats. Procedures have been established for the provision of alternative formats include large print, audiotape, Braille, and computer diskettes.

1. The procedure for requesting alternative formats is:
The person making the request should identify the materials desired and specify his/her preferred alternate format to the ADA coordinator either in person, by phone, or in writing at least 30 days in advance of the event or activity for which the material is needed.
2. The materials will be provided in the requested format at no charge. (Every attempt will be made to meet request made less than 30 days before an event or activity.)
3. If, after primary consideration has been given to the preferred format, the request cannot be met, an alternative effective format will be made available. If a request cannot be met the person making the request will be informed as soon as possible but at least 5 days in advance of the event or activity.

We use: Mass Association for the Blind Braille Program and Recording Studio, 200 Ivy Street, Brookline, MA. 02446, tel: 1 (800) 852-3029, mablind.org, or MSMT, The Braille Center, 651 Yolanda Avenue, Santa Rosa, California 95404, tel: (707) 579-1115, Fax: (707) 579-1246; Carolyn Colclough for Braille Transcription services.

The Town Manager is the staff person who makes undue burden determinations as per our procedures. When we decide what type of aid or service to provide, primary consideration is given to the type of aid or service preferred by the person with a disability.

D. Interpreter Services Policy

It is the policy of The Town that sign language interpreters, will be provided upon request to any person needing interpreter services in order to participate in any meeting, program, or activity of the agency. Requests should be made 30 days in advance of the scheduled event or meeting. (Every reasonable effort will be made to meet requests made with less than 30 days). Requests should be made either in person, over the phone, or in writing to the ADA coordinator, or Program Director.

Within twenty four (24) hours of the receipt, the ADA Coordinator or other responsible employee will contact the Massachusetts Commission for the Deaf and Hard of Hearing, (telephone # 617-695-7500) to schedule the interpreter service. In addition the MCDHH the International Institute of Greater Lawrence, Inc which maintains a list of names and phone numbers to at least three (3) qualified freelance language interpreters working in Greater Lawrence. Our Administrative Assistant coordinates requests for interpreters.

If an interpreter service cannot be obtained, the ADA Coordinator or other member of the staff will offer the option of an alternative effective form of communication or the opportunity to postpone the meeting until such a time as an interpreter can be scheduled.

It is the agency's policy to ensure funds are available for interpreting services by including a line item for interpreter services in each operating budget. The Town Manager is the staff person who makes undue burden determinations as per our procedures.

E. Assistive Listening Device Assurances

It is the policy of The Town that assistive listening devices will be provided will be provided upon request to persons needing such device to participate in programs, services and activities of the agency.

The procedure for requesting an assistive listening device is:

1. To specify his/her device or service either in person, over the phone, or in writing to The Town ADA Coordinator, Chief, Department Director, or Manager.
2. If the device or service is to be used for a The Town (or other interagency) meeting, the requester will make the request at least 7 days prior to the scheduled event or activity. (Every reasonable effort will be made to meet requests made with less than 7 days notice.)
3. If adequate notice is given, and the Town Department, the Manager will offer the requester the option to postpone the meeting until such can be obtained.

The Town has an fm loop system. The Town will use Computer Assisted Real Time Reporter (CART), when requested by our staff, citizens, and participants for public meetings and events. MCDHH's statewide interpreter referral service is an additional resource for acquiring Interpreters as well as CART.

Adcare, Inc. (tel 508-752-7313, Jim Gorske; 5 Northampton Street Worcester, MA 01605, Fax 752-8111, is a resource for The Town. When we decide what type of aid or service to provide, primary consideration is given to the type of aid or service preferred by the person with a disability.

F. – G. TV Captioning and Video Assurance

It is the policy of The Town that audio-visual presentations (provided for the public by the library or any other The Town department) will be accessible to all individuals with disabilities.

Whenever we provide TV programs, attempts are made to use captioned videos, whenever available. Captioned videos are used when necessary to ensure effective communication.

The procedure for any participant who requests a close caption device or descriptive reading service is:

1. To specify his/her need either in person, by telephone, or in writing to the ADA Coordinator or other Department Director or the Program Manager at least four (5) days before the film will be presented.
2. Within four (5) business days, we will provide the close caption video and device, or descriptive reading service during the presentation at no cost to the participant. Staff is trained on a regular basis by our Deaf/Hard of Hearing IL Services (DHILS) staff on the use of interpreters, decoders, CART, and other effective communications.

H. Effective Communication Training Assurance

Training on all aspects of effective communication is conducted at least annually, and all new staff is trained, as per our staff orientation procedures, on all of the above requirements. All staff is familiar with, and has a copy of our entire ADA Policies, Procedures, and Practices.

Attachment A: Vendor Product Literature

Where to Purchase Equipment

Preface

It is our goal to present information in this document that will be helpful to persons who are looking for information on assistive technology. While it is impossible for us in a document such as this to keep abreast of the very latest "breaking news" in terms of technological advancements, we will make every effort to keep our information as current as possible. If you cannot find what you are looking for, or if you do not know what you are looking for after reading this page, please contact us. The staff of the Communication Access, Training and Technology Services at MCDHH is knowledgeable about all current technology used by Deaf, hard of hearing and late - deafened individuals and may be able to answer specific questions or direct you to the appropriate source for vendor-specific information.

There are many ways to classify communication aids and technology. To better enable our readers to find the appropriate source for their specific need, we have separated resources into several different categories. Some vendors/resources may appear in more than one category, so if you are looking for a specific vendor please look at the entire page before contacting us if you cannot find them.

Resources, Manufacturers and Vendors : *If your listing is incorrect or you wish to be added/deleted from this page, please send us an e-mail with the relevant information.*

Overview

Alerting/Signaling/Paging Devices

This category covers a broad range of products that alert Deaf, hard of hearing or late deafened individuals to sounds in their environment, such as doorbells, telephones, alarm clocks, kitchen timers, smoke detectors, a barking dog or a crying baby. The devices may use visual, amplified audible or tactile (vibrating) alerts or a combination of all three to alert the user to any of these sounds. Some devices are suitable for installation in multi-unit dwellings and will generally require the assistance of a qualified electrician - or the building's maintenance personnel where applicable - to install, while others are wireless and can be set up by most anyone without specific technical knowledge simply by plugging them in.

It is important to realize that there is no real one-size-fits-all solution. Different systems have different idiosyncrasies, and preferences vary from individual to individual. It is important that the system you select match your lifestyle. For example, if you live in your own home, love gardening and work in your backyard

frequently, a system that features a tactile pager is a must. If, on the other hand, you live in an apartment building or are quite sedentary and frequently wear nothing but a bathrobe or a housecoat when you are at home, a tactile pager system may not make sense because it typically requires wearing it on a belt so it is close enough to your body for you to actually feel the alert. Carrying it in your pocket may render it relatively useless, in which case a visual alerting system is to be preferred.

Make sure that you are easily able to differentiate between the different triggers or alerts, since a system that is not clear to you will soon have you frustrated and ignoring it. Likewise, if you are considering a wireless system, you may want to be sure that it is user-adjustable so you can change the transmitting and receiving frequencies if there should be an excessive amount of interference with the factory settings given the very large number of consumer wireless devices in use today. If you live in an area with frequent power outages, you may also want to consider a system that offers at least some degree of battery back-up capability for tactile alerting. There is no system currently on the market that will activate a strobe or flash a light without electricity.

If you have any kind of seizure disorder, we very strongly recommend you do not purchase any system featuring strobe lights as the only alerting option, as these are known to trigger seizures in affected individuals.

Assistive Listening Devices and -Systems (ALD and ALS)

ALD are generally used by individuals in smaller settings, while ALS are often encountered in large conference, meeting and entertainment venues and are capable of greater range and of supporting multiple receivers. Both are primarily used by hard of hearing individuals who have usable residual hearing and who can benefit from amplification. ALDs have been very much overlooked as an excellent alternative - or addition to - hearing aids in situations that will render the most sophisticated hearing aid by itself virtually useless. Background noise, coupled with poor room acoustics and distance from the sound source, can make it impossible for a person to clearly receive the intended "signal" (the sound source a person wants to hear) because of interference from the "noise" (the sounds a person does NOT want to hear but which intrude on what they DO want to hear). An ALD can avoid this conundrum by picking up the desired sound at the source and transmitting it directly to the listener's ear (or hearing aid) by a variety of transmission standards. Please see our [Assistive Listening Devices](#) page for more information.

Please note that quite a few hearing aid manufacturers have incorporated FM systems into their hearing aids by adding a modular "boot", a very small receiver that generally attaches to the hearing aid's direct audio input socket. If you have a late model hearing aid, and are considering purchasing an ALD(S), you might want to inquire about the availability of such an add-on option to your hearing aid.

Telecommunications

There are various types of equipment that are designed to allow the Deaf, hard of hearing or late deafened user to effectively access the telephone system. Amplifiers help to boost the volume of either incoming or outgoing calls. TDD's are designed to facilitate nonverbal conversations on the telephone by allowing users to type messages back and forth. Please see our [Using A TTY](#) page. Wireless telecommunications allow users to stay in touch via sophisticated alphanumeric devices that can send and receive wireless text messages, as well as featuring direct communication with TDD's and other, more advanced, options.

Visual Communications: Interpreting, Communication Access Real-time Translation (CART), Speech Recognition, Notetaking, Closed Captioning, Captioned Movies, Text Displays

Interpreting refers to the translation of spoken English into American Sign Language (ASL) and vice versa, preferably by a certified and screened American Sign Language Interpreter. In Massachusetts, MCDHH is the entity responsible for screening and certifying interpreters. Please see our [What Is An Interpreter](#) page for more information.

Communication Access Real-time Translation is a technology whereby a professional CART provider transcribes dialogue, as it is happening, using stenotype machines and specialized software. The resulting text can be viewed "live" on a notebook screen, be projected for multiple users to view on a large screen, or be inserted into a video feed for instant captioning. CART providers do, in fact, provide much of the captioning seen in movies and/or broadcast television.

Speech recognition is a process whereby a computer with specialized software "hears" spoken text and displays it in printed form for the person with hearing loss to read. While the technology is promising and has come very far, it is important to note that no program or software currently available approximates the speed and accuracy rate of a professional CART provider.

Note taking or C-Print is a form of non-verbatim "live" summation in which a specially trained individual with excellent typing ability attempts to summarize what is being said, usually by typing onto the keyboard of a laptop computer. This system does not provide verbatim output; however, it is being used where CART service is not available or where CART would be prohibitively expensive. It is worth noting that opinions diverge greatly as to the viability of this service. Few if any end-users would prefer Note taking or C-Print over CART given the choice, while educational institutions and others who are unable to find sufficient CART providers and/or claim to be unable to afford to provide them are the main proponents of this service.

Captions display spoken dialogue as printed words on the bottom of the television screen of a captioned TV program or a video. There are three forms of captioning: open, closed and real-time. *Open* captions can be viewed on all television sets; even those that do not have closed caption decoder circuitry. *Closed* captioning is present in almost all current televisions, since the

Americans with Disabilities Act mandated that all television sets sold in the U.S. after 1993, with screens 13 inches or larger, include a built-in decoder chip. This applies only to television sets with tuners, not to computer monitors or specialized display devices such as stadium view screens. For those devices, there are a number of manufacturers still making closed caption decoders, devices, which decode the captioned signal before it is sent to the screen for display.

Text Displays are special displays that show text output.

Disclaimer Notice:

Listing in this document does not constitute or imply endorsement by the Commission of any particular product, manufacturer, vendor or resource. We very strongly encourage interested parties to try equipment hands-on before ordering it to minimize the possibility of dissatisfaction.

Assistive Technology: Research & Demonstration Resources:

Among these resources are those within Massachusetts with a demonstration center and/or retail showroom. This is where you can actually try out equipment and obtain advice from people who can suggest to you what type of equipment would best address your needs. Since vendor information may change, please call ahead if you are planning a visit to any of these centers to ensure someone will be there to meet you.

**Massachusetts Commission
for the Deaf and Hard of
Hearing**

*Communication, Training, and
Technology Services*

Jonathan O'Dell, Director
150 Mt Vernon Street
Suite 550

Boston, MA 02125-3115

617-740-1600 Voice

800-882-1155 Voice

617-740-1700 TTY

800-530-7570 TTY

Fax: 617-740 -1699

MCDHH.Office@state.ma.us

Internet:www.state.ma.us/mcdhh

Technical Assistance, Training,
Information, Resource

Development and Referral

Contact: Carole Rossick or

Jonathan O'Dell

**New England ADA &
Accessible IT Center**

c/o Adaptive Environments, Inc.
374 Congress St., Suite 301

Boston, MA 02210-1807

617-695-1225 Voice/TTY

800-949-4232 Voice/TTY

adaptive@adaptenv.org

Internet:www.adaptenv.org

Technical, building and universal
design requirements under the
Americans with Disabilities Act

**Boston Guild for the Hard of
Hearing**

1505 Commonwealth Avenue
4th floor

Brighton, MA 02135-3605

888 GO GUILD Voice/TTY

bostonguild@hotmail.com

Internet: www.bostonguild.org

Audiological Services,

Speechreading Classes, Retail

Showroom

**Clarke School for the Deaf /
Center for Oral Education
*Center for Audiological Services***

Holly Altman, CCC-A, Director

Hartling

Communications, Inc.

85 Wilmington Road,
Suite 16

Burlington, MA 01803-
1499

781-272-7634 Voice

781-270-6710 TTY

800-475-3183 Voice

800-672-9455

Fax: 781-229-9161

hartcom@ultranet.com

Internet:

www.hartling.com

Assistive Technology

Showroom,ALDS,

ADSS,

Telecommunications

**Massachusetts
Assistive Technology
Partnership (MATP)**

1295 Boylston St., Suite
310

Boston, MA 02215-
3407

617-355-7820 Voice

617-355-7301 TTY

617-355-6345 Fax

matp@matp.org

Internet:www.matp.org

Information, Referral,
Technical Assistance,
and Policy Consultation
to improve access to
assistive technology

**Massachusetts State
Association of the
Deaf (MSAD)**

220 Main Street

Malden, MA 02148-
6905

781-388-9115 TTY

781-388-9114 Voice

781-388-9015 Fax

MSADeaf@aol.com

Internet:www.MSAD.org

Retail Showroom

Massachusetts State

**Northeast Technical
Assistance Center at**

Northern Essex
Community College

100 Elliott Way

Haverhill, MA 01830-2311

978-556-3341 TTY/Voice

978-556-3104 Fax

NETAC@necc.mass.edu

Internet:www.pepnet.org

Assistance to Deaf and
hard of hearing
postsecondary students

**Rehabilitation
Engineering Research
Center (RERC) on
Hearing Enhancement
*Division of Audiology and
Speech-Language
Pathology***

Gallaudet University

Kendall Green

800 Florida Avenue NE

Washington, DC 20002-
3600

Public Contact: Lois

O'Neill

Dissemination

Coordinator

718-350-3203 Voice/TTY

718-899-3433 Fax

info@hearingresearch.org

Internet:

www.hearingresearch.org

**Rehabilitation
Engineering Research
Center (RERC) on
Telecommunication
Access**

UW Madison

Trace Center, College of
Engineering

5901 Research Park

Boulevard

Suite 200

Madison, WI 53719-1252

Public Contact: Nancy

Gores

608-263-2309 Voice

ADSS: Alerting Devices and Signaling Systems, Manufacturers

Ameriphone

(see
*Telecommunications:
Manufacturers and
Vendors*)

Hearing Resources

4311 NE Tillamook
Street Portland OR
97213

800-531-2139 Voice/TTY

503-774-3668 Voice/TTY

Fax: 503-774-7247

info@earlink.com

Internet:

www.earlink.com

Global Assistive Devices, Incorporated

4950 North Dixie

Highway

Suite 121

Fort Lauderdale, FL

33334-3947

888-778-4237 Voice

954-784-0035 Voice

Fax: 954-784-0047

info@globalassistive.com

Internet:

www.globalassistive.com

NFSS Communications

1 Turnmore Court

Silver Spring, MD 20906-
2129

888-589-6670 Voice/TTY

Fax: 301-871-3731

info@nfss.com

Internet: www.nfss.com

Phone-TTY Incorporated

(see *Telecommunications:
Manufacturers and Vendors*
)

Silent Call

Communications Corporation

Post Office Box 868

Clarkston, MI 48347-0868

800-572-5227 Voice/TTY

248-673-0221 Voice/TTY

Fax: 248-673-5442

sales@silent-call.com

Internet: www.silent-call.com

Sonic Alert, Inc.

1050 East Maple Road

Troy, MI 48083-2813

248-577-5400 Voice/TTY

Fax: 248-577-5433

sonic-

info@sonicalert.com

Internet:

www.sonicalert.com

Ultratec, Inc.

(see

*Telecommunications:
Manufacturers and
Vendors*)

Walker Equipment Corporation

(see

*Telecommunications:
Manufacturers and
Vendors*)

* Also see Resources &
Catalog Vendors for
ADSS

ALDS: Assistive Listening Devices and Systems

American Loop Systems

29 Silver Hill Road, Suite 100

Milford, MA 01757-1311

Audio Induction Loop ALDS

Listen Technologies Corporation

8535 South 700 West, Suite A

Sandy, UT 84070-2515

800-330-0891 Voice

Williams Sound Corporatic

10399 West 70th Street

Eden Prairie, MN 55344-345

800-328-6190 Voice

952-943-2252 Voice

Audex/Audiometrics
710 Standard Street
Longview, TX 75604-5443
800-237-0716 Voice/TTY
800-283-3974 Fax
903-295-8244 Voice/TTY
903-295-0310 Fax
vbeatty@audex.com
internet: www.audex.com
Infrared, Counterloop and
Hardwired ALDS
Telecommunications

Audio Enhancement
12613 South Redwood Road
Riverton, UT 84065-5211
801-254-9263 Voice/TTY
801-254-3802 Fax
Internet:
www.audioenhancement.com
jeff@audioenhancement.com
FM ALDS

AVR Sonovation, Inc.
7636 Executive Drive
Eden Prairie, MN 55344-3677
800-462-8336 Voice
612-934-3111 Voice
612-934-3033 Fax
sonos@avrsono.com
Internet: www.avrsono.com
FM ALDS BTE-FM

Centrum Sound
572 La Conner Drive
Sunnyvale, CA 94087-5712
408-736-6500 Voice
408-736-6552 Fax
info@centrumsound.com
Internet: www.centrumsound.com
ALDS
TELECOMMUNICATIONS

Com-Tek
357 West 2700 South
Salt Lake Town. UT 84115-2904

801-233-8992 Voice
Fax: 801-233-8995
info@ListenTech.com
Internet: www.ListenTech.com

Oval Window Audio
33 Wildflower Court
Nederland, CO 80466-9638
303-447-3607 Voice/TTY/Fax
info@ovalwindowaudio.com
Internet:
www.ovalwindowaudio.com
Audio Induction Loop ALDS

Phonak Inc., USA
4520 Weaver Parkway
Warrenville, IL 60555-3927
630-821-5000 Voice
800-679-4871 Voice
Fax: 630-393-7400
info@phonak.com
Internet: www.phonak-us.com
BTE FM

Phonic Ear, Inc.
3880 Cypress Drive
Petaluma, CA 94954-7600
800-227-0735 Voice
800-227-0735 ext. 291 TTY
707-769-1110 Voice
Fax: 707-781-9415
Internet: www.phonicear.com
FM and Infrared ALDS
Sound Field Systems

Sennheiser Electronic Corporation
1 Enterprise Drive
Old Lyme, CT 06371-1568
860-434-9190 Voice
Fax: 860-434-1759
audiology@sennheiserusa.com
Internet:
www.sennheiserusa.com
Infrared ALDS

866-943-9675 TTY
Fax: 952-943-2174
info@williamssound.com
Internet: www.williamssound.com
FM, IR and Hardwired ALDS
Audible Telecommunication
Products

Rentals of FM Assistive Listening Systems for Accessible Events:

Hartling Communications,
85 Wilmington Road, Suite 1
Burlington, MA 01803-1499
781-272-7634 Voice
781-270-6710 TTY
800-475-3183 Voice
800-672-9455
Fax: 781-229-9161
hartcom@ultranet.com
Internet: www.hartling.com

MassAV
80 Cambridge Street
Burlington, MA 01803-4146
781-270-0027 Voice
Fax: 781-270-0037
info@massav.com
Internet: www.massav.com

Terry Hanley Audio System
John Doerschuk, G.M.
329 Elm Street
Cambridge, MA 02139-1496
617-661-1520 Voice
Fax: 617-661-3349
mail@terryhanleyaudio.com
Internet: www.terryhanleyaud.com

801-466-3463 Voice
801-484-6909 TTY
sales@comtek.com
Internet: www.comtek.com

Gentner Communications Corporation
1825 Research Way
Salt Lake Town, UT 84119-2302
800-945-7730 Voice
800-933-5107 Fax
801-975-7200 Voice
801-977-0087 Fax
sales1@gentner.com
Internet: www.gentner.com
FM ALDS

Telex Communications, Inc.
12000 Portland Avenue South
Burnsville, MN 55337-1522
Internet: www.Telex.com
Telex Personal FM ALD, BTE-FM, Soundfield Systems
Contact: Pam Johnson
pam.johnson@telex.com
800-828-6107 ext. 5546
866-292-7707 Fax
Telex Large Area FM ALS
Contact: Carla Engler
carla.engler@telex.com
800-392-3497
Fax: 800-323-0498

Telecommunications: Manufacturers and Vendors

Ameriphone, Inc.
12082 Western Ave.
Garden Grove, CA 92841-2913
800-772-2889 TTY
800-874-3005 Voice
Fax: 714-897-4703
customerservice@ameriphone.com
Internet: www.Ameriphone.com
Telecommunications, ADSS

Audex/Audiometrics
(see ALDS)

DiRAD Technologies, Inc.
14 Computer Drive East
Albany, NY 12205-1153
518-438-6000 Voice
518-459-6710 TTY
Fax: 518-458-2782
info@dirad.com
Internet: www.DiRad.com
TTY Automated Menu Software

Intelligent Products Company
1500 Worcester
Road # 322
Framingham, MA
01702-8998
508-879-5425 TTY
info@softtty.com
Internet:
www.softty.com
TTY Software for
Apple/MacIntosh

Microflip Inc.
11213 Petworth
Lane
Glenn Dale, MD
20769-2017
301-262-2607
Voice
301-262-6020
Voice/TTY

Phone-TTY, Inc.
1246 Route 46 West
Parsippany, NJ 07054-
2121
888-332-3889
Voice/TTY/VCO
973-299-6627 Voice
973-299-6626 TTY
973-299-7768 Fax
PhoneTTY@aol.com
Internet: www.phone-tty.com
TTY Software,
Telecommunications

Ultratec, Inc.
450 Science Drive
Madison, WI 53711-
1166
800-482-2424
Voice/TTY
608-238-5400
Voice/TTY

HATIS Corporation
1981 North Broadway, Suite 310
Walnut Creek, CA 94596-3841
925-256-7767 Voice
Fax: 925-274-0400
uhearne@hatis.com
Internet: www.hatis.com
Hearing Aid Telephone
Interconnect
Systems

301-262-4978 Fax
info@microflip.com
Internet:
www.microflip.com
TTY Software

608-238-3008 Fax
service@ultratec.com
Internet:
www.ultratec.com
Telecommunications -
Visual, ADSS

NXi
Communications, Inc.
4505 S. Wasatch Blvd.
Suite 120, Eagle Plaza Center
Salt Lake Town, UT 84124-4710
801-274-6001 Voice
801-274-6004 TTY
Fax: 801-274-6002
nxi@nextalk.com
Internet:
www.nxicom.com
TTY Software

Walker Equipment Corporation
4289 Bonny Oaks Dr.
Suite 106
Chattanooga, TN 37406-1600
800-HANDSET Voice
423-622-7793 Voice
Fax: 800-325-8871
Fax: 423-622-0414
product@mywalker.com
Internet:
www.mywalker.com
Telecommunications -
Audible, ADSS

Telecommunications: Wireless

Arch Wireless
1800 West Park Drive # 250
Westborough, MA 01581-3989
888-534-1397 Voice
508-870-6700 Voice
Fax: 508-836-3626
sales@arch.com
Internet: www.arch.com

Skytel
Communications, Inc.,
WorldCom
515 East Amite Street
Jackson, MS 39201-2907
800-552-6835 Voice
601-944-1300 Voice
Internet: www.skytel.com

Wynd Communications Corporation
75 Higuera Street # 240
San Luis Obispo, CA 93401-5425
800-549-9800 Voice
800-549-2800 TTY
Fax: 805-781-6001
sales@wynd.com
Internet: www.wynd.com
www.wyndtelledealers.com

Interpreting/CART

MCDHH Interpreter/CART Referral Service

(M-F 8:45 to 5:00)
617-740-1600 Voice
617-740-1700 TTY
Fax: 617-740-1880
For medical, mental health, or legal emergencies only:
800-249-9949 TTY/Voice

National Court Reporters Association

8224 Old Courthouse Road
Vienna, VA 22182-3808
800-272-6272 Voice
703-556-6272 Voice
703-556-6289 TTY
Fax: 703-556-6291
msic@ncrahq.org
Internet: www.ncraonline.org

Massachusetts Court Reporters Association

Robert Bramanti, President-Elect
19 Harrison Street
Framingham, MA 01702-2313
508-879-4891 Voice
Fax: 508-879-4888
mcra@resource-network.com

Court Reporting Information Technologies (CRIT)

NCRA- Approved Training Program
Springfield Technical Community College
Dr. Beverly McCarthy, CRI, CPE
One Armory Square
Springfield, MA 01101-9000
413-755-4099 Voice
Fax: 413-731-8428
BmcCarthy@STCC.Mass.edu
Internet: www.stcc.mass.edu

Registry of Interpreters for the Deaf (RID)

333 Commerce Street
Alexandria, VA 22314-2801
703-838-0030 Voice

1450, Inc.

iCommunicator
7108 Fairway Drive, Suite 101
Palm Beach Gardens, FL 33418
Voice: 888-933-0001
FAX: 561-630-0375
icomm@1450.com
Internet:
www.mycommunicator.com

Notetaking

Northeast Technical Assistance Center (NETAC)

52 Lomb Memorial Drive
Rochester, NY 14623-5604
716-475-6433 Voice/TTY
Fax: 716-475-7660
netac@rit.edu
Internet: www.netac.rit.edu

Captioning

The Caption Center at WGBH

125 Western Avenue
Allston, MA 02134-1098
617-300-3600 Voice/TTY
Fax: 617-300-1020
access@wgbh.org
Internet: www.WGBH.org

Captioneering

704 South Victory Boulevard,
Suite 204
Burbank, CA 91502-2471
888-418-4782 Voice
818-558-3361 Voice
Fax: 818-558-3368
Internet:
www.captioneering.com

CaptionMax

401 Fifth Avenue, Fifth floor
New York, NY 10016-3317
212-686-3644 Voice
Fax: 212-686-3229

RapidText

1801 Dove Street,
Suite 101
Newport Beach, CA 92660-2403
949-399-9200
Voice
info@rapidtext.com
Internet:
www.rapidtext.com

ViTAC

101 Hillpointe Drive
Canonsburg, PA 15317-9503
724-514-4000
Voice
800-278-4822
Voice
724-514-4100 TTY
Fax : 724-514-4111
info@vitac.com
Internet:
www.vitac.com

Captioned Movies

Captioned Media Program

1447 East Main Street
Spartanburg, SC 29307-2240
800-237-6213
Voice
800-237-6819 TTY
Fax: 800-538-5636
info.cfv.org
Internet:
www.cfv.org

Movie Theater Rear Window Captioning

National Center for Accessible Media
WGBH Educational Foundation
Motion Picture Access Project

Selected Catalog Vendors

The following vendors represent only a small sample of the total number of vendors in this field. The Commission cannot and does not endorse individual vendors, and listing in this section does not constitute endorsement any more than omission of listing constitutes lack of endorsement. If your company listing is missing, needs to be updated or you wish it to be removed, please send the relevant information to the [MCDHH Webmaster](#).

ADCO Hearing Products, Inc.
5661 South Curtice Street
Littleton, CO 80120-1107
800-726-0851 Voice/TTY
303-794-3928 Voice/TTY
Fax: 303-794-3704
sales@adcohearing.com
Internet: www.ADCOhearing.com

General Technologies
7417 Winding Way
Fair Oaks, CA 95628
800-328-6684 Voice/TTY
916-962-9225 Voice/TTY
Fax: 916-962-9823
devices4less@netscape.net
Internet: www.devices4less.com

HARC Mercantile, Ltd.
1111 West Centre Avenue
Portage, MI 49024 or
P.O. Box 3055
Kalamazoo, MI 49003-3055
800-445-9968 Voice/TTY
800-413-5245 TTY
800-413-5248 Fax
home@hacofamerica.com
Internet: www.harcmercantile.com

Harris Communications
15155 Technology Drive
Eden Prairie, MN 55344-2277
800-825-6758 Voice
800-825-9187 TTY
612-906-1180 Voice
612-906-1099 Fax
mail@harriscomm.com
Internet: www.harriscomm.com

Hartling Communications, Inc.
85 Wilmington Road, Suite 16
Burlington, MA 01803-1499
781-272-7634 Voice
781-270-6710 TTY
800-475-3183 Voice
800-672-9455
Fax: 781-229-9161
hartcom@ultranet.com
Internet: www.hartling.com

Hearing Resources

HEAR-MORE
42 Executive Boulevard
Farmingdale, NY 11735-4710
800-881-4327 Voice
800-281-3555 TTY
Fax: 631-752-0689
sales@hearmore.com
Internet: www.hearmore.com

HiTec Group International, Inc.
8160 South Madison Street
Burr Ridge, IL 60527-5854
800-288-8303 Voice/TTY
800-536-8890 TTY
630-654-9200 Voice/TTY
Fax: 630-654-9219
info@hitec.com
Internet: www.hitec.com

LS&S Group, Inc.
Post Office Box 673
Northbrook, IL 60065-0673
800-317-8533 TTY
800-468-4789 Voice
847-498-1482 Fax
jdean@LSSonline.net
Internet: www.LSSonline.net

Potomac Technology, Inc.
One Church Street, Suite 101
Rockville, MD 20850-4194
800-433-2838 Voice/TTY
301-762-4005 Voice
301-762-0851 TTY
301-762-1892 Fax
info@potomactech.com
Internet: www.potomactech.com

SoundBytes
P.O. Box 287175
New York, NY 10028-0020
800-667-1777 Voice/TTY
212-371-7318 Fax
info@soundbytes.com
Internet: www.soundbytes.com

Weitbrecht Communications, Inc.
2716 Ocean Park Blvd.
Suite 1007
Santa Monica, CA 90405-5235
800-232-9130 V/TTY

Addendum

**Americans With Disabilities Act (ADA) Non-Discrimination on the Basis of Disability
Policies and Procedures**

How to obtain : Alternate formats, assistive listening devices, and other reasonable accommodations.

Alternate Formats
Braille and Transcription service providers

1.) MSMT, The Braille Center
11 West Bareham Avenue
Santa Rosa, California 95407
tel (707) 579-1115
fax (707) 579-1246

2.) Massachusetts Association For The Blind
Braille Department
200 Ivy Street
Brookline, Mass. 02146
tel (800) 682-9200

3.) Ferguson Industries
call Phil Oliver
tel (800) 392-6450
For Audiotape Transcription:

4.) Lowell Association For The Blind
174 Central Street
Lowell, Mass. 01852
tel (508) 454-5704

5.) Massachusetts Association For The Blind
Recording Department*
200 Ivy Street
Brookline, Mass. 02146
tel (800) 682-9200

*ask about tone indexing for large documents, which is recommended).

**For large print : Use your xerox, copy machine, your computer, etc. 14 point print or
better is large print.**

For computer disc format : Provide the requester with a disc which contains your text. AscII, or other formats are generic for blind computer users.

Assistive Listening Devices
(Includes audio loop systems, hearing aids, etc.).

American Loop Systems
43 Davis Road, Suite 11
Belmont, Mass. 02178
(617) 776-5667
(800) 955-7204

Audiological Engineering Company
35 Medford Street
Somerville, Mass. 02143
(617) 623-5562

Potomac Technology, Inc.
One Church Street, Suite 101
Rockville, MD 20850-4194
800-433-2838 Voice/TTY
301-762-4005 Voice
301-762-0851 TTY
301-762-1892 Fax
info@potomactech.com
Internet: www.potomactech.com

Interchurch Audio Resources
11 Lynch Street
Melrose, Mass. 02176
(617) 665-1442

National Catalog House For The Deaf
4248 North Kilpatrick Avenue
Chicago, Illinois 60641
(312) 736-6250
(312) 736-5243(TTY)
(312) 286-7820(fax)
(Also sells- close-caption devices, volume control telephones, flashing smoke detectors, fire alarms, flashing doorbells, VCR decoders, hearing aids, etc.)

AA&T Burlington
Burlington Mall
Middlesex Turnpike
Burlington, Massachusetts 01803
(617) 273-5744 v/tty

To Purchase TTY machines :

AA&T Special Needs Store
North Shore Shopping Center
North Shore Mall
Routes 128 and 114
(508)532-3444

Allied Telecommunications
60 Oxford Road
Newton Center, Mass. 02159
(617) 969-3550

Hartling Communications
7 Sunset Drive
Burlington, Mass.
(617) 272-7634

Richard Doody
Metro Communications
80 Lynn Street
Everett, Mass. 02149
(617) 387-9212 (sales and service)

National Catalog House For The Deaf
4248 North Kilpatrick Avenue
Chicago, Illinois 60641
(312) 736-6250
(312) 736-5243(TTY)

(312) 286-7820(fax)

To obtain descriptive video service (DVS) for video presentations, contact Brian Langlois at the Northeast Independent Living Program (508) 687-4288, or WGBH TV in Allston, (617) 492-2777.

**To request a sign language interpreter, call the Massachusetts Commission For The Deaf and Hard of Hearing (MCDHH), Statewide interpreter referral service at (617) 727-5106, 1(800) 882-1155, their address is:
MCDHH,
600 Washington Street,
Suite 600
Boston, Mass 02111**

3. Public Notification

The following public notice is posted prominently at public sites and on program brochures and manuals.

AMERICANS WITH DISABILITIES ACT

PUBLIC NOTICE

The Town of North Andover does not discriminate on the basis of disability. Citizens, program applicants, participants, members of the general public, employees, job applicants, and others are entitled access to all Town programs, activities, and services without regard to disability.

Copies of this notice are available, upon request, in accessible formats (large print, audiotape, Braille, computer disc, etc.) Our grievance procedure, self-evaluation, as well as ADA policies, practices, and procedures, are readily available, upon request. This notice is posted prominently at all our sites, and on all program brochures and manuals.

The Town has designated the following person to coordinate its efforts to comply with the ADA. Inquiries, requests, and complaints should be directed to:

Gerald Brown, ADA Coordinator
The Town of North Andover
1600 Osgood St.
North Andover, MA 01845
TEL: (978) 688-9545
FAX: (978) 688-9542
gbrown@townofnorthandover.com

(Please post prominently at all public facilities).

4. Participation of Individuals/Organizations Representing Disabled Community

A consultant team member met with the Disability Commission at a regularly scheduled meeting on May 16, 2013. The Commission reviewed the draft Inventory and its recommendations for improving accessibility. Primary concerns for the Commission were lack of ADA compliant parking at most sites and the lack of accessible features at playgrounds.

Notes from the May 16 meeting follow:

- Accessible parking means not only signed spaces, but accessible ground conditions as well. For example, where ADA spaces currently exist the ground cover at some locations is not paved, creating an accessibility challenge.
- While the Commission is grateful for having an ADA accessible play structure for children, there is a need for more, and at more locations.
- An often-overlooked accessibility issue involves the visually impaired. Font size and type should be a consideration in the development of recreation materials, such as flyers, brochures or trail maps. Reading the ADA self-assessment document itself proved difficult for some Commission members. The Commission recommended using serif-fonts at 14pt or 16pt in size when feasible.

Members of the Commission along with the ADA Coordinator were asked to review the draft Plan and in particular the completed ADA self assessment in July 2014. Comments are shown in Section 10: Public Comments and were addressed in the final draft Plan.

Part II Program Accessibility

The following is an inventory of facilities under the jurisdiction of the North Andover Conservation Commission and the North Andover Recreation Department. Proposed corrective measures were discussed and approved by the Disabilities Commission.

REYNOLDS FIELD	
LOCATION	Rea Street and Johnson Street
ACREAGE	6 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Soccer, Basketball, Playground, Summer Programs
SITE AMENITIES	Soccer Fields, Basketball Court, 1 Picnic Table, 3 Benches, Playground Equipment
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking within the gravel parking lot on Rea Street	Designate handicapped parking spaces with appropriate signage.
No handicapped parking along Johnson Street	Designate handicapped parking spaces with appropriate signage.
Limited seating at soccer fields	Install more benches for sufficient seating arrangements and greater accessibility .

CARL THOMAS PLAYGROUND	
LOCATION	Dana Street and Marblehead Street
ACREAGE	5.24 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Baseball, Basketball, Playground
SITE AMENITIES	Baseball fields, Basketball court, Playground Equipment, Concession stand, 2 Picnic Tables, 2 Sets of Bleachers
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Off street parking with no handicapped parking	Designate handicapped parking spaces with appropriate signage along Dana Street and Marblehead Street.
Access throughout playground and fields are limited	Construct accessible paths that links the playground area to the baseball fields.
Playground Equipment	Equipment is outdated and needs to be upgraded to meet ADA standards.

McEVOY FIELD	
LOCATION	Chadwick Street and Sutton Street
ACREAGE	3 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Baseball, Basketball, Soccer, Playground
SITE AMENITIES	Baseball fields, Basketball court, Soccer fields, Playground Equipment
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Off street parking with 1 handicapped parking space	Handicapped parking with appropriate signage has been provided in the newly constructed parking lot.

SHARPNER'S POND RECREATIONAL AREA	
LOCATION	Sharpner's Pond Road
ACREAGE	88 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Baseball, Soccer, Lacrosse
SITE AMENITIES	Baseball fields, Soccer fields, 2 Benches, 2 Bleachers
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces in gravel parking lot	Designate handicapped parking spaces with appropriate signage.

APLIN PLAYGROUNDS	
LOCATION	Clarendon Street
ACREAGE	1.8 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Baseball, Basketball, Skateboarding, Playground
SITE AMENITIES	Baseball fields, Skateboarding area, Playground Equipment
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Off street parking with no handicapped parking spaces	Designate handicapped parking spaces with appropriate signage off Clarendon Street.

DRUMMOND FIELD AND PLAYGROUND	
LOCATION	Johnson Street and Milk Street
ACREAGE	5 acres
OWNER / MANAGER	Recreation Department and North Andover Youth Services
ACTIVITIES	Baseball, Softball, Basketball, Skateboarding, Playground
SITE AMENITIES	Baseball fields, Basketball court, Playground equipment, Skate Park, Summer programs
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces along Milk Street	Designate handicapped parking spaces with appropriate signage.

FOSTER FARM SOCCER FIELDS	
LOCATION	Foster Farm- off Boxford Street
ACREAGE	10 acres
OWNER / MANAGER	Department of Public Works
ACTIVITIES	Soccer
SITE AMENITIES	Soccer fields, 8 Benches
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces in gravel parking lot	Designate handicapped parking spaces with appropriate signage.

GROGAN'S FIELD	
LOCATION	Baldwin Street and Gilbert Street
ACREAGE	4.7 acres
OWNER / MANAGER	Recreation Department / Department of Public Works
ACTIVITIES	Baseball, Basketball, Playground
SITE AMENITIES	Baseball fields, Basketball court, Playground Equipment, Concession stand
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces	Designate handicapped parking spaces with appropriate signage.
No drinking fountain	Add drinking fountain to meet ADA standards for accessibility.

GALLAGHER FIELD	
LOCATION	Dale Street
ACREAGE	3 acres
OWNER / MANAGER	Recreation Department
ACTIVITIES	Baseball, Soccer, Lacrosse
SITE AMENITIES	Baseball fields, Soccer field
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces	Designate handicapped parking spaces with appropriate signage.
Access to field is limited by lack of accessible pathways	Improve access to the fields with gravel or paved pathway / ramps.
No drinking fountain	Install drinking fountain to meet ADA standards for accessibility.

STEVENS POND BEACH AREA	
LOCATION	Stevens Street
ACREAGE	3 acres
OWNER / MANAGER	Recreation Department
ACTIVITIES	Swimming, Summer Programs
SITE AMENITIES	Beach, Life guards, Concession stand, Bathrooms / changing area, Swing Set, Paved parking lot
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
3 handicapped parking spaces in parking lot	3 handicapped parking spaces with appropriate signage and access to the beach and bathroom facilities.
New Bath House built in 2008 is ADA compliant and fully accessible	New building was built in 2008 and is ADA accessible, including ADA compliant bathroom facilities. This project was funded through the North Andover Community Preservation Committee.
Old swing set	Install new swing set / playground equipment meeting ADA standards.

TOWN FARM AND TOWN FOREST	
LOCATION	Dale Street, South Bradford Street, Carriage Chase Road
ACREAGE	159 acres
OWNER / MANAGER	Conservation Commission / North Andover Youth Service
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Hunting (limited), Rope Course, Biking
SITE AMENITIES	Trails, Grassed parking lot, High and low ropes course
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
New parking lot has a dedicated handicapped parking spot	Handicapped parking spot with appropriate signage has been provided in the new parking lot.
Trail routes not accessible	Maintain trails and install ramps / bridges where needed.

OSGOOD HILL	
LOCATION	Osgood Street
ACREAGE	153 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Biking
SITE AMENITIES	Trails
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces	Designate handicapped parking spaces with appropriate signage.
Trail routes not accessible	Improve existing trail routes to include accessible paths and provide ramps.
Lack of signage	Install more trail signs.

HALF MILE HILL AND SUMMIT	
LOCATION	Off Osgood Street- through Edgewood Farms
ACREAGE	67 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Sledding, Horseback riding, Bird watching, Bike riding
SITE AMENITIES	Trails, Vista
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Extremely limited parking on dirt / gravel parking area	Create a parking area that fits up to eight vehicles into the landscape and designate handicapped parking spaces with appropriate signage.
No prominent trails	Construct trail system that links Half Mile Hill to Osgood Hill and to access Lake Cochichewick.
Lack of signage	Install signs in appropriate locations.

MAZURENKO FARM CONSERVATION AREA	
LOCATION	Bradford Street
ACREAGE	104.5 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Sledding, Bird watching
SITE AMENITIES	Trails, Bird boxes, Gravel parking lot
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces	Designate handicapped parking spaces with appropriate signage.
Trailhead from parking lot is not accessible	Develop / maintain accessible trails and install bridges to cross over stream.
Granite stairs at parking lot are not level	Granite stairs need to be extracted and reset for a proper fit.

REA'S POND CONSERVATION AREA	
LOCATION	Great Pond Road / Route 133
ACREAGE	15 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Bird watching, Fishing
SITE AMENITIES	Trails, Pond
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Off street parking with no handicapped parking	Designate handicapped parking spaces with appropriate signage.

CARTER HILL CONSERVATION AREA	
LOCATION	Bradford Street
ACREAGE	27 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Snow shoeing, XC skiing, Sledding, Bird watching
SITE AMENITIES	Trails, Vista
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
No handicapped parking spaces in gravel parking area	Designate handicapped parking spaces with appropriate signage.
No handicapped parking spaces along Marblehead Street	Designate handicapped parking spaces with appropriate signage
Access throughout playground and fields are limited	Construct accessible paths that link the playground area to the baseball fields.
Playground Equipment	Equipment is outdated and needs to be upgraded to meet ADA standards.

FOSTER FARM & BRUIN HILL	
LOCATION	Foster Street
ACREAGE	66 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Snow shoeing, XC skiing, Bird watching
SITE AMENITIES	Trails, Vista
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Off street parking is extremely limited	Designate parking area with a handicapped parking space.
No prominent trails	Construct trail network that links both properties.

Lack of signage	Install trail signs in appropriate locations.
JAMES SWAMP RECREATION AREA	
LOCATION	Johnson Street at Reynolds Field
ACREAGE	47 acres
OWNER / MANAGER	Conservation Commission
ACTIVITIES	Walking, Hiking, Trail running, Biking, Snow Shoeing
SITE AMENITIES	Trails
ADA ACCESSIBILITY REPORT	
ACCESSIBILITY	PROPOSED CORRECTIVE MEASURES
Trailhead	Trailhead is hidden by trees and needs to be maintained. Signage needs to be located in a more prominent location.
Trail routes not completely accessible	Improve existing trails to improve accessibility.

Part III Employment Practices

The following letter from the North Andover, Director of Human Resources attests that the Town of North Andover's employment practices are in compliance with the Americans with Disabilities Act.

North Andover's Employment Policies can be found in Part I, 2. along with the town's Grievance Procedure.

TOWN OF NORTH ANDOVER
OFFICE OF
Human Resources
120 MAIN STREET
NORTH ANDOVER, MASSACHUSETTS 01845

Cathy Darby
Human Resources Director

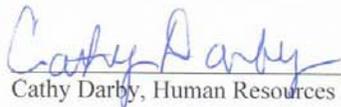
Email: cdarby@townofnorthandover.com

Telephone (978) 688-9526
Fax (978) 688-9556



June 18, 2014

I attest to the fact that the Town of North Andover's employment practices are in compliance with the Americans with Disabilities Act.


Cathy Darby, Human Resources Director

B. Open Space Inventory

APPENDIX
Town-Owned Land

Name / Location	Parcel ID	Owner / Manager	Current Use	Protection Type	Recreation Potential	Condition	Public Grant Used	Size (Acres)	Zoning
American Legion Beach	037.C-0004	TOWN OF NORTH ANDOVER/Rec Dept	Playground & Swimming		Yes	Good		1.71	R3
Ann Sargent School	038.0-0255	TOWN OF NORTH ANDOVER						9.85	
Ann Sargent School	038.0-0256	TOWN OF NORTH ANDOVER						4.96	
Aplin Playground	069.0-0009	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Basketball, Skateboarding and a Playground		Yes	Good		0.33	R4
Aplin Playground	069.0-0014	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Basketball, Skateboarding and a Playground		Yes	Good		0.32	R4
Aplin Playground	069.0-0017	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Basketball, Skateboarding and a Playground		Yes	Good		0.33	R4
Aplin Playground	069.0-0018	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Basketball, Skateboarding and a Playground		Yes	Good		0.73	R4
Aplin Playground	069.0-0020	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Basketball, Skateboarding and a Playground		Yes	Good		0.25	R4
Atkinson School	045.B-0003	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, football, Basketball and a Playground		Yes	Good		0.10	R4
B&M Railroad	075.0-0002	TOWN OF NORTH ANDOVER			Yes	Good		24.76	
B&M Railroad	077.0-0009	TOWN OF NORTH ANDOVER			Yes	Good		10.92	
B&M Railroad	077.0-0010	TOWN OF NORTH ANDOVER			Yes	Good		2.19	
B&M Railroad	106.C-0025	TOWN OF NORTH ANDOVER			Yes	Good		1.8	
Boxford Street	105.C-0021	TOWN OF NORTH ANDOVER			Yes	Excellent		70.13	
Boxford Street	105.C-0028	TOWN OF NORTH ANDOVER		Deed	Yes	Excellent		4.6	R1
Bradstreet School	029.0-0023	TOWN OF NORTH ANDOVER			Yes	Good		1.09	
Bridle Path	064.0-0073	TOWN OF NORTH ANDOVER			Yes	Good		3.01	
Bridle Path	104.C-0078	TOWN OF NORTH ANDOVER			Yes	Good		0.50	
Brookview Estates PRD	105.A-0004	TOWN OF NORTH ANDOVER	Footpath	Article 97	Yes	Good		32.36	R1
Candlestick Road - Giallanella	106.A-0092	TOWN OF NORTH ANDOVER						0.94	
Candlestick Road - Giallanella	106.A-0115	TOWN OF NORTH ANDOVER						1.08	
Carl Thomas Park	006.0-0009	TOWN OF NORTH ANDOVER	Baseball, Basketball and a Playground		Yes	Good		1.9	R4
Carl Thomas Park	010.0-0034	TOWN OF NORTH ANDOVER	Baseball, Basketball and a Playground		Yes	Good		1.26	R4
Carl Thomas Park	010.0-0060	TOWN OF NORTH ANDOVER	Baseball, Basketball and a Playground		Yes	Good		1.61	R4
Carter Field Road PRD	062.0-0140	TOWN OF NORTH ANDOVER/Rec Dept	Hiking/Soccer	Deed	Yes	Good		8.19	R1/Watershed
Carter Field Road PRD	062.0-0159	TOWN OF NORTH ANDOVER/Rec Dept	Hiking/Soccer	Deed	Yes	Good		3.83	R1/Watershed
Carter Hill	062.0-0005	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	30.22	R1
Cricket Lane	038.0-0046	TOWN OF NORTH ANDOVER						9.61	
Cyr's Recycling Center & Recreational Fields	108.A-0004	TOWN OF NORTH ANDOVER	Soccer, Baseball, Hiking Trails	Deed	Yes	Good	Gift	2.34	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.A-0005	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	18.29	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.A-0010	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	7.68	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.A-0011	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	15.27	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.A-0012	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	5.47	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.C-0010	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	22.4	I3 & R2

APPENDIX
Town-Owned Land

Name / Location	Parcel ID	Owner / Manager	Current Use	Protection Type	Recreation Potential	Condition	Public Grant Used	Size (Acres)	Zoning
Cyr's Recycling Center & Recreational Fields	108.C-0011	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	10.22	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.C-0012	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	3.51	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.C-0023	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	0.72	I3 & R2
Cyr's Recycling Center & Recreational Fields	108.C-0062	TOWN OF NORTH ANDOVER		Deed	Yes	Good	Gift	2.4	I3 & R2
Dale Street	037.B-0065	TOWN OF NORTH ANDOVER						1.24	
Foster Farm & Bruin Hill	104.B-0037	TOWN OF NORTH ANDOVER/CC			Yes	Excellent		18.1	R1
Foster Farm & Bruin Hill	104.B-0038	TOWN OF NORTH ANDOVER/Rec Dept	Soccer		Yes	Excellent		0.65	R1
Foster Farm & Bruin Hill	104.B-0042	TOWN OF NORTH ANDOVER/CC			Yes	Excellent		1.68	R1
Foster Farm & Bruin Hill	104.D-0043	TOWN OF NORTH ANDOVER/CC			Yes	Excellent		37.42	R1
Foster Street	104.B-0173	TOWN OF NORTH ANDOVER/CC			Yes	Excellent		15.46	R1
Foxwood PRD	065.0-0020	TOWN OF NORTH ANDOVER/CC	Passive Rec	Deed	Yes	Good		2.64	R2
Foxwood PRD	065.0-0039	TOWN OF NORTH ANDOVER/CC	Passive Rec	Deed	Yes	Good		28.75	R2
Franklin School	047.0-0134	TOWN OF NORTH ANDOVER/School Dept	Baseball and a Playground		Yes	Good		9.5	
Granville Lane	106.A-0157	TOWN OF NORTH ANDOVER						4.47	
Gray Street (ConCom)	107.D-0032	TOWN OF ANDOVER/CC				Good		3.13	
Great Pond Road	035.0-0021	TOWN OF NORTH ANDOVER	Fishing, Water Access	CR	Yes	Good		1.08	R1 & Watershed
Great Pond Road	035.0-0022	TOWN OF NORTH ANDOVER	Fishing, Water Access	CR	Yes	Good		1.36	R1 & Watershed
Great Pond Road	035.0-0044	TOWN OF NORTH ANDOVER	Fishing, Water Access	CR	Yes	Good		1.24	R2
Great Pond Road	035.0-0109	TOWN OF NORTH ANDOVER	Fishing, Water Access	CR	Yes	Good		0.11	
Great Pond Road	037.A-0055	TOWN OF NORTH ANDOVER/DPW	Fishing, Water Access	CR	Yes	Good		4.24	R1 & Watershed
Greene Street	026.0-0002	TOWN OF NORTH ANDOVER	Baseball and Basketball		Yes	Good		2.33	R1
Grogan Field	013.0-0033	TOWN OF NORTH ANDOVER/Rec Dept	Active Recreation		Yes	Good		4.01	
Half Mile Hill	035.0-0024	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	11.26	R2
Half Mile Hill	035.0-0025	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	2.74	R2
Half Mile Hill	035.0-0033	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	2.59	R2
Half Mile Hill	036.0-0021	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	2.5	R2
High School	083.0-0006	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		0.32	R2
High School	084.0-0029	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		3.89	R2
High School	092.0-0002	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		0.40	R2
High School	092.0-0003	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		10.76	R2
High School	094.0-0003	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		18.08	R2
High School	094.0-0004	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		3.07	R2
High School	094.0-0005	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		2.62	R2

APPENDIX
Town-Owned Land

Name / Location	Parcel ID	Owner / Manager	Current Use	Protection Type	Recreation Potential	Condition	Public Grant Used	Size (Acres)	Zoning
High School	100.0-0005	TOWN OF NORTH ANDOVER/School Dept	Soccer, Baseball, Softball, Football, Basketball, Tennis, Volleyball and Track		Yes	Good		7.13	R2
Ingalls Street	106.B-0020	TOWN OF NORTH ANDOVER	Passive Rec		Yes	Good	Unknown	4.62	R1
James Swamp & Reynolds Playground	038.0-0098	TOWN OF NORTH ANDOVER/CC	Soccer, Basketball and a Playground		Yes	Excellent		48.16	R2
Jared III PRD	106.A-0220	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		5.14	R1
Jared IV PRD	105.C-0077	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		23.9	R1
Jerad IV PRD	105.C-0057	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		47.93	R1
Johnny Cake Street	107.A-0227	TOWN OF NORTH ANDOVER						3.23	R1
Kittredge School	058.B-0001	TOWN OF NORTH ANDOVER/School Dept	Softball, Basketball and a Playground		Yes	Good		6.03	R0
Lost Pond PRD	104.B-0015	TOWN OF NORTH ANDOVER	Passive Rec	AR & Unknown	Yes	Good		7	R1
Lost Pond PRD	104.B-0024	TOWN OF NORTH ANDOVER	Passive Rec	AR & Unknown	Yes	Good		0.17	R1
Mazurenko Farm	062.0-0008	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent	State Self Help OS	104.7	R0
McEvoy Park	074.0-0043	TOWN OF NORTH ANDOVER	Softball, Basketball and a Playground		Yes	Good		0.6	R0
McEvoy Park	080.0-0034	TOWN OF NORTH ANDOVER	Soccer, Softball and a Playground		Yes	Excellent	CPA	4.22	R0
Middle School	044.0-0042	TOWN OF NORTH ANDOVER			Yes	Good		0.09	R0
Middle School	057.0-0013	TOWN OF NORTH ANDOVER			Yes	Good		0.41	R0
Middle School	057.0-0017	TOWN OF NORTH ANDOVER			Yes	Good		0.41	R0
Middle School	057.0-0022	TOWN OF NORTH ANDOVER			Yes	Good		26.59	R0
North Andover Estates PRD	098.B-0001	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		4.95	R0
North Andover Estates PRD	098.B-0065	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		9.06	R0
North Andover Estates PRD	098.B-0067	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		0.33	R0
North Andover Estates PRD	098.B-0069	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		8.09	R0
North Andover Heights PRD	098.B-0006	TOWN OF NORTH ANDOVER	None	Deed	Yes	Good		9.82	R0
Olympic Lane	106.B-0145	TOWN OF NORTH ANDOVER						0.89	R1
Osgood Hill	035.0-0023	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent		150.29	R0
Ousler Property	036.0-0025	TOWN OF NORTH ANDOVER		CR	Yes	Good	CPA	2	R0
Ousler Property	036.0-0026	TOWN OF NORTH ANDOVER		CR	Yes	Good	CPA	11.54	R0
Parson Barnard House	058.0-0005	NORTH ANDOVER HISTORICAL SO						6	
Patriots Memorial Park	043.0-0008	TOWN OF NORTH ANDOVER	Passive Recreation	Deed	Yes	Excellent	Gift	2.69	R0
Pine Ridge Road	065.0-0131	TOWN OF NORTH ANDOVER						1.65	R0
Pinewood PRD	065.0-0224	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		14.45	R0
Pleasant St -- Damn and Lakefront	037.C-0002	TOWN OF NORTH ANDOVER						0.71	R0
Pleasant St -- Damn and Lakefront	037.C-0050	TOWN OF NORTH ANDOVER						2.33	R0
Rea Street- Rear	038.0-0324	TOWN OF NORTH ANDOVER			Yes	Good		1.29	R0
Rea's Pond Conservation Area	062.0-0022	TOWN OF NORTH ANDOVER/CC			Yes	Good		13	R0
Riverview Street	072.0-0005	TOWN OF NORTH ANDOVER	Passive Recreation		Yes	Good		1.05	R0
Salem Forest IV PRD	106.C-0038	TOWN OF NORTH ANDOVER		Deed		Good		23.8	R1
Salem Forest IV PRD	106.C-0127	TOWN OF NORTH ANDOVER		Deed		Good		0.45	R1

APPENDIX
Town-Owned Land

Name / Location	Parcel ID	Owner / Manager	Current Use	Protection Type	Recreation Potential	Condition	Public Grant Used	Size (Acres)	Zoning
Salem Forest IV PRD	106.C-0128	TOWN OF NORTH ANDOVER		Deed		Good		3.24	R1
Settler's Ridge PRD	061.0-0103	TOWN OF NORTH ANDOVER	Passive Rec	Deed	Yes	Good		5	R0
Settler's Ridge PRD	061.0-0115	TOWN OF NORTH ANDOVER	Passive Rec	Deed	Yes	Good	Gift	0.52	R0
Seven Oaks -- Sugarcane Lane PRD	106.A-0260	TOWN OF NORTH ANDOVER/CC	None	Deed	Yes	Good		18.42	R1
Stevens Street	096.0-0005	TOWN OF NORTH ANDOVER/CC			Yes	Good		1.03	R0
Sunnyridge	035.0-0110	TOWN OF NORTH ANDOVER		CR				10.55	R0
Thomson School	015.0-0049	TOWN OF NORTH ANDOVER	Playground		Yes	Good		3.09	R0
Town Common	059.0-0019	TOWN OF NORTH ANDOVER	Picknicking and Various Sports	Deed	Yes	Excellent	Gift	8.61	R0
Town Farm/Forest	064.0-0009	TOWN OF NORTH ANDOVER	Trails		Yes	Good		38.79	R0
Town Farm/Forest	064.0-0018	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent		15.01	R0
Town Farm/Forest	064.0-0020	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent		85.48	R0
Town Farm/Forest	064.0-0064	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent		21.22	R0
Town Farm/Forest - Con Com	037.B-0002	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent		11.88	R0
Town Farm/Forest - Con Com	104.D-0013	TOWN OF NORTH ANDOVER/CC	Trails		Yes	Excellent		3.09	R1
Windrush Farm	105.A-0009	TOWN OF NORTH ANDOVER/CC	Trails	CR	Yes	Excellent	State Self Help OS	11.55	R1
Winter Street	104.B-0083	TOWN OF NORTH ANDOVER			Yes	Good		1.11	R1
Winter Street	104.B-0116	TOWN OF NORTH ANDOVER			Yes	Good		0.98	R1
Winter Street	104.B-0117	TOWN OF NORTH ANDOVER			Yes	Good		1.07	R1
Wintergreen Drive	104.B-0205	TOWN OF NORTH ANDOVER				Excellent	Gift	3.32	R1
Youth Center/Drummond Playground	065.0-0132	TOWN OF NORTH ANDOVER						1.09	R0
Youth Center/Drummond Playground	096.0-0029	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Softball, Basketball and a Playground		Yes	Good		0.50	R0
Youth Center/Drummond Playground	096.0-0030	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Softball, Basketball and a Playground		Yes	Good		0.71	R0
Youth Center/Drummond Playground	096.0-0032	TOWN OF NORTH ANDOVER/Rec Dept	Baseball, Softball, Basketball and a Playground		Yes	Good		4.34	R0
	012.0-0006	TOWN OF NORTH ANDOVER						0.07	R0
	012.0-0007	TOWN OF NORTH ANDOVER						0.06	R0
	024.0-0034	TOWN OF NORTH ANDOVER						2.17	R0
	029.0-0034	TOWN OF NORTH ANDOVER						1	R0
	029.0-0035	TOWN OF NORTH ANDOVER						0.28	R0
	035.0-0028	TOWN OF NORTH ANDOVER						0.15	R0
	035.0-0034	TOWN OF NORTH ANDOVER		CR				12.12	R0
	036.0-0001	TOWN OF NORTH ANDOVER		CR				33.68	R0
	037.C-0009	TOWN OF NORTH ANDOVER						1.07	R0
	040.0-0014	TOWN OF NORTH ANDOVER						0.33	R0
	043.0-0007	TOWN OF NORTH ANDOVER						0.92	R0
	044.0-0029	TOWN OF NORTH ANDOVER						0.09	R0
	044.0-0030	TOWN OF NORTH ANDOVER						0.55	R0
	047.0-0049	TOWN OF NORTH ANDOVER						0.47	R0
	057.0-0026	TOWN OF NORTH ANDOVER						0.62	R0
	057.0-0034	TOWN OF NORTH ANDOVER						0.67	R0
	058.0-0019	TOWN OF NORTH ANDOVER						1.1	R0

APPENDIX
Town-Owned Land

Name / Location	Parcel ID	Owner / Manager	Current Use	Protection Type	Recreation Potential	Condition	Public Grant Used	Size (Acres)	Zoning
	058.0-0060	NORTH ANDOVER HISTORICAL SO						0.89	
	058.A-0001	TOWN OF NORTH ANDOVER						0.64	R0
	058.A-0002	TOWN OF NORTH ANDOVER						0.60	R0
	058.A-0005	TOWN OF NORTH ANDOVER						0.55	R0
	058.A-0006	TOWN OF NORTH ANDOVER						0.84	R0
	058.A-0007	TOWN OF NORTH ANDOVER						0.78	R0
	058.A-0008	TOWN OF NORTH ANDOVER						0.92	R0
	058.A-0009	TOWN OF NORTH ANDOVER						0.52	R0
	058.A-0010	TOWN OF NORTH ANDOVER						0.22	R0
	058.A-0011	TOWN OF NORTH ANDOVER						0.20	R0
	058.A-0012	TOWN OF NORTH ANDOVER						0.29	R0
	058.A-0013	TOWN OF NORTH ANDOVER						0.69	R0
	058.A-0014	TOWN OF NORTH ANDOVER						1.06	R0
	058.B-0037	TOWN OF NORTH ANDOVER						1.53	R0
	059.0-0047	TOWN OF NORTH ANDOVER						0.08	R0
	061.0-0020	TOWN OF NORTH ANDOVER						0.72	R0
	065.0-0176	TOWN OF NORTH ANDOVER						1.42	R0
	069.0-0021	TOWN OF NORTH ANDOVER						0.11	R0
	078.0-0003	TOWN OF NORTH ANDOVER						2.39	R0
	081.0-0003	TOWN OF NORTH ANDOVER						0.16	R0
	094.0-0002	TOWN OF NORTH ANDOVER						3.36	R0
	096.0-0011	TOWN OF NORTH ANDOVER						0.54	R0
	096.0-0027	TOWN OF NORTH ANDOVER						0.16	R0
	097.0-0011	TOWN OF NORTH ANDOVER						2.05	R0
	097.0-0012	TOWN OF NORTH ANDOVER						1.73	R0
	104.B-0023	TOWN OF NORTH ANDOVER/CC			Yes	Good		1.4	R1
	104.D-0038	TOWN OF NORTH ANDOVER						27.62	R1
	104.D-0097	TOWN OF NORTH ANDOVER						0.9	R1
	105.A-0010	TOWN OF NORTH ANDOVER		CR				55.4	R1
	105.A-0012	TOWN OF NORTH ANDOVER		CR				3.61	R1
	105.A-0014	TOWN OF NORTH ANDOVER		CR				45.73	R1
	105.A-0016	TOWN OF NORTH ANDOVER		CR				4.66	R1
	105.C-0081	TOWN OF NORTH ANDOVER						63.57	R1
	106.A-0211	TOWN OF NORTH ANDOVER						0.83	R1
	106.A-0212	TOWN OF NORTH ANDOVER						1.03	R1
	106.B-0198	TOWN OF NORTH ANDOVER						0.93	R1
	107.A-0070	TOWN OF NORTH ANDOVER						0.91	R1
	107.A-0201	TOWN OF NORTH ANDOVER						1.72	R1
	107.D-0096	TOWN OF NORTH ANDOVER						1.02	R1
	108.A-0028	TOWN OF NORTH ANDOVER						0.21	R1
	109.0-0004	TOWN OF NORTH ANDOVER						0.95	R1
	109.0-0028	TOWN OF NORTH ANDOVER						0.82	R1
							Total	1,606.94	

APPENDIX
Non-Profit Land

Owner / Manager	Name / Location	Parcel ID	Protection Type	Size (Acres)	Zoning
Essex County Green Belt	Ayers Cedar Swamp	AyersCedarSwamp-01		Unavailable	tA
Essex County Green Belt	Bailey	026.0-0021		10.88	T0
Essex County Green Belt	Bruin Hill	104.B-0044		14.96	T1
Essex County Green Belt	Bruin Hill	104.C-0030		69.59	T1
Essex County Green Belt	Chaplin Nike	ChaplinNike-01		Unavailable	tC
Essex County Green Belt	Cudhea	090.B-0029		16.67	T0
Essex County Green Belt	Dolan Parcel	090.B-0012		15.15	T0
Essex County Green Belt	ECGA	104.C-0027		9.47	T1
Essex County Green Belt	Farnsworth Res	104.D-0010		17.75	T1
Essex County Green Belt	Farnsworth Res	104.D-0012		69.52	T1
Essex County Green Belt	Fish Cedar Swamp	FishCedarSwamp-01		Unavailable	tF
Essex County Green Belt	Forest Cedar Swamp	105.A-0008		6.75	T1
Essex County Green Belt	Foster Cedar Swamp	FosterCedar-01		Unavailable	tF
Essex County Green Belt	Porter Peabody	PorterPeabody-01	CR	Unavailable	tP
Essex County Green Belt	Price	Price-01		Unavailable	tP
Essex County Green Belt	Price	Price-02		Unavailable	tP
Essex County Green Belt	Purgatory Swamp	104.C-0029		24.35	T1
Essex County Green Belt	Rebecca Woodlot	RebeccaWoodlot-01		Unavailable	tR
Essex County Green Belt	Wilmot Lot	WilmotLot-01		Unavailable	TW
Essex County Green Belt		104.D-0155		2.52	T1
MASSACHUSETTS LAND		107.D-0017		4.01	T1
MASSACHUSETTS LAND		107.D-0018		2.48	T1
MASSACHUSETTS LAND		107.D-0019		1.23	T1
MASSACHUSETTS LAND CONSERVAT		107.D-0011		22.11	T1
TRUSTEES OF NORTH ANDOVER		096.0-0040		1.73	FO
TRUSTEES OF RESERVATIONS	Stevens	096.0-0002	CR	10.6	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	023.0-0002		36.18	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0007		0.32	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0008		4.12	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0017		2.31	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0019		8.84	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0020		2.78	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0021		2.28	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0032		8.57	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0033		5.75	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0034		1.43	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	046.0-0044		0.12	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0011		1.18	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0012		0.36	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0013		0.66	FO
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0014		1.14	FO

APPENDIX
Non-Profit Land

Owner / Manager	Name / Location	Parcel ID	Protection Type	Size (Acres)	Zoning
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0017		16.74	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0026		2.36	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0030		0.21	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0033		3.92	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0034		2.27	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0035		3.8	F0
TRUSTEES OF RESERVATIONS	Stevens Coolidge Place	059.0-0099		2.14	F0
TRUSTEES OF RESERVATIONS	Stevens Lots - (Near Town Common)	095.0-0002		9.91	F0
TRUSTEES OF RESERVATIONS	Stevens Lots - (Near Town Common)	096.0-0037		0.93	F0
TRUSTEES OF RESERVATIONS	Stevens Lots - (Near Town Common)	096.0-0073		10.51	F0
TRUSTEES OF RESERVATIONS	Ward Reservation	025.0-0003		1.32	F0
TRUSTEES OF RESERVATIONS	Ward Reservation	025.0-0052		9.94	F0
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0013		18.17	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0015		16.34	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0031		4.16	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0033		10.57	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0034		5.46	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0035		16.9	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0037		3.3	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0038		3.24	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0039		4.08	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.C-0040		1.82	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0016		3.03	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0020		1.28	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0037		34.29	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0038		13.34	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0039		21.45	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0040		53.96	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0041		3.19	F1
TRUSTEES OF RESERVATIONS	Ward Reservation	107.D-0043		2.25	F1
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0007		25.42	F0
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0008		151.44	F0
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0009		25.35	F0
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0010		5.95	F0
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0011		0.99	F0
TRUSTEES OF RESERVATIONS	Weir Hill	036.0-0015		13.37	F0
TRUSTEES OF RESERVATIONS		059.0-0003		2.34	F0
		107.C-0032		77.46	
			Total (approx.)	959.015	

APPENDIX
State-Owned Properties

Name / Location	Parcel ID	Size (Acres)
Abutting Cyr Recycling Center	090.B-0004	2.55
Abutting Cyr Recycling Center	108.A-0003	91.02
Abutting Cyr Recycling Center	108.C-0045	26.19
Airport	034.0-0018	9.73
Airport	034.0-0021	14.49
Airport	034.0-0022	13.02
Boxford State Forest	090.B-0011	289.52
Boxford State Forest	105.D-0179	3.01
Cedar Swamp	105.D-0001	180.46
Harold Parker State Forest	106.B-0024	22.52
Harold Parker State Forest	106.B-0214	18.74
Harold Parker State Forest	106.B-0215	11.9
Harold Parker State Forest	106.B-0216	16
Harold Parker State Forest	106.B-0217	16.74
Harold Parker State Forest	106.C-0003	14.19
Harold Parker State Forest	106.C-0004	3.41
Harold Parker State Forest	106.C-0005	1.04
Harold Parker State Forest	106.C-0007	34.24
Harold Parker State Forest	106.C-0008	11.83
Harold Parker State Forest	106.C-0009	13.33
Harold Parker State Forest	106.C-0011	25.38
Harold Parker State Forest	106.C-0012	14.09
Harold Parker State Forest	106.C-0013	4.76
Harold Parker State Forest	106.C-0014	2.69
Harold Parker State Forest	106.C-0015	5.81
Harold Parker State Forest	106.C-0016	15.01
Harold Parker State Forest	106.C-0017	12.98
Harold Parker State Forest	106.C-0030	10.57
Harold Parker State Forest	106.C-0032	13.85
Harold Parker State Forest	106.C-0043	76.1
Harold Parker State Forest	106.C-0049	0.45
Harold Parker State Forest	106.D-0002	8.14
Harold Parker State Forest	106.D-0003	5.76
Harold Parker State Forest	106.D-0004	12.57

APPENDIX
State-Owned Properties

Name / Location	Parcel ID	Size (Acres)
Harold Parker State Forest	106.D-0005	11.05
Harold Parker State Forest	106.D-0006	5.11
Harold Parker State Forest	106.D-0007	7.7
Harold Parker State Forest	106.D-0009	8.45
Harold Parker State Forest	106.D-0010	32.53
Harold Parker State Forest	106.D-0013	31.36
Harold Parker State Forest	106.D-0014	12
Harold Parker State Forest	106.D-0015	9.74
Harold Parker State Forest	106.D-0016	11.58
Harold Parker State Forest	106.D-0018	4.07
Harold Parker State Forest	106.D-0019	2.18
Harold Parker State Forest	106.D-0021	4.88
Harold Parker State Forest	106.D-0029	6.1
Harold Parker State Forest	107.B-0024	42.77
Harold Parker State Forest	107.B-0025	12.06
Harold Parker State Forest	107.B-0026	20.61
Harold Parker State Forest	108.C-0040	27.81
Harold Parker State Forest	108.C-0041	271.47
Harold Parker State Forest	108.C-0042	24.95
Harold Parker State Forest	108.C-0043	29
Harold Parker State Forest	109.0-0027	1.66
Harold Parker State Forest	109.0-0033	326.98
I-495	003.0-0014	2.15
Porter Peabody	105.A-0015	17.66
Winter Street (State)	104.A-0021	36.1
Winter Street (State)	104.A-0022	3.35
Winter Street (State)	104.A-0023	1.35
Winter Street (State)	104.A-0024	2.45
	108.C-0044	236.76
	108.C-0046	15.03
	109.0-0001	375.35
	Total	2596.34

APPENDIX
Private Land

Name / Location	Parcel ID	Owner / Manager	Protection Type	Size (Acres)	Zoning
16 Berry St	106.D-0033	IORE, FRANK G JR, ET AL, TR	CR	27.01	N1
235, 243 & 245 Great Pond Road	037.C-0053	FOSTER, MICHAEL J & EDEE E FOSTER	CR	2.18	C0
235, 243 & 245 Great Pond Road	037.C-0054	BOYKO, STEPHEN & JUDITH	CR	2.5	P0
235, 243 & 245 Great Pond Road	037.C-0055	SAIMOTO, HIROSHI & IKUKO SAIMOTO	CR	2.35	IO
316 Great Pond Road	037.A-0053	KARRAS, BILL	CR	1.32	L0
Adams	104.B-0139	ADAMS, GEORGE BLAKE	Ch61B	10.99	R1
Adams	104.B-0140	ADAMS, GEORGE BLAKE	Ch61B	1.06	R1
Adams	104.B-0141	ADAMS, GEORGE BLAKE	Ch61B	1.03	R1
Barker Farm	034.0-0010	RED BARN TRUST	Ch61A	40.94	R0
Barker Farm	034.0-0012	BARKER, ELIZABETH, BARKER, K	Ch61A	16.87	IO
Barker Farm	061.0-0005	BARKER THREE TRUST	Ch61A	46.51	E0
Barker Farm	061.0-0006	RED BARN TRUST	Ch61A	10.61	R0
Barker Farm	061.0-0010		Ch61A	2.93	
Barker Farm	061.0-0078	BARKER, GEORGE R, JR	Ch61A	2.66	00
Barker Farm	061.0-0079	BARKER, GEORGE R, JR	Ch61A	2.03	00
Barker Farm	061.0-0080	BARKER, GEORGE R, JR	Ch61A	2.55	00
Barker Farm	061.0-0081	BARKER, GEORGE R, JR	Ch61A	2.1	00
Barker Farm	061.0-0082	BARKER, GEORGE R, JR	Ch61A	1.97	00
Barker Farm	061.0-0088	BARKER, ELIZABETH	Ch61A	1.59	IO
Barker Farm	062.0-0160	BARKER, GEORGE R, JR		3.34	00
Boston Hill	107.A-0284	BRIGHTVIEW NORTH ANDOVER, LLC	CR	33.27	1
Briar Hill Farm	104.D-0041	BRIAR HILL FARM TRUST	Ch61A	1.65	1
Bridges Lane	104.D-0123	LFFH REALTY TRUST	Ch61B	15.54	Y1
Carter Field PRD	062.0-0158	CARTER FIELD LLC		1	L0
Cobblestone Crossing PRD	046.0-0043	Cobbleston Realty Trust/Walter J. Schuman		0.43	0
Cobblestone Crossing PRD	046.0-0102	Cobbleston Realty Trust/Walter J. Schuman		1.36	0
Cobblestone Crossing PRD	046.0-0103	Cobbleston Realty Trust/Walter J. Schuman		0.55	0
Cobblestone Crossing PRD	059.0-0090	Cobbleston Realty Trust/Walter J. Schuman		0.9	0
Cobblestone Crossing PRD	059.0-0091	Cobbleston Realty Trust/Walter J. Schuman		0.32	0
Currier	104.A-0007	CURRIER REALTY TRUST	Ch61A	2.18	A1
Farnum Farm	106.C-0026	FARNUM, BENJAMIN G	Ch61A	2.1	N1
Farnum Farm	106.C-0027	FARNUM, BENJAMIN G	Ch61A	4.37	N1
Farnum Farm	106.C-0034	FARNUM, BENJAMIN G	Ch61A	4.47	N1
Farnum Farm	106.C-0035	FARNUM, BENJAMIN G	Ch61A	2.46	N1
Farnum Farm	106.C-0041	FARNUM, BENJAMIN G	Ch61A	12.66	N1
Farnum Farm	106.C-0042	FARNUM, BENJAMIN A	Ch61A	7.32	N1
Farnum Farm	106.C-0045	FARNUM, BENJAMIN A	Ch61A	7.31	N1
Farnum Farm	106.C-0046	BGF TRUST	Ch61A	5.65	
Farnum Farm	106.C-0047	BGF TRUST	Ch61A	19.17	

APPENDIX
Private Land

Name / Location	Parcel ID	Owner / Manager	Protection Type	Size (Acres)	Zoning
Farnum Farm	106.D-0011	FARNUM, BENJAMIN A	Ch61A	13.15	N1
Farnum Farm	106.D-0012	FARNUM, JOHN C	Ch61A	3.78	H1
Farnum Farm	106.D-0020	FARNUM, BENJAMIN A	Ch61A	7.45	N1
Farnum Farm	106.D-0027	BGF TRUST	Ch61A	12.05	
Farnum Farm	106.D-0028	BGF TRUST	Ch61A	23.12	
Farnum Farm	106.D-0030	BGF TRUST	Ch61A	29.83	
Farnum Farm	106.D-0031	BGF TRUST	Ch61A	1.68	
Farnum Farm	106.D-0036	FARNUM, JOHN C	Ch61A	20.01	H1
Farnum Farm	107.A-0012	BGF TRUST	Ch61A	16.48	
Farnum Farm	107.A-0014	BGF TRUST	Ch61A	3.42	
Farnum Farm	107.A-0015	FARNUM, BENJAMIN A	Ch61A	2.69	N1
Farnum Farm	107.A-0016	FARNUM, BENJAMIN A	Ch61A	6.28	N1
Farnum Farm	107.A-0031	BGF TRUST	Ch61A	8.23	
Farnum Farm	107.A-0040	FARNUM, JOHN C ESTATE	Ch61A	9.76	H1
Farnum Farm	107.A-0041	BSF NOMINEE TRUST	Ch61A	7.9	E1
Farnum Farm	107.A-0042	FARNUM, JOHN C ESTATE	Ch61A	2.16	H1
Farnum Farm	107.A-0246	FARNUM, JOHN C ESTATE	Ch61A	2.04	H1
Farnum Farm	107.A-0247	FARNUM, JOHN C ESTATE	Ch61A	1.89	H1
Farnum Farm	107.A-0248	FARNUM, JOHN C ESTATE	Ch61A	1.87	H1
Farnum Farm	107.A-0249	FARNUM, JOHN C ESTATE	Ch61A	1.66	H1
Farnum Farm	107.A-0250	FARNUM, JOHN C ESTATE	Ch61A	2	H1
Farnum Farm	107.A-0251	FARNUM, JOHN C ESTATE	Ch61A	2.03	H1
Farnum Farm	107.A-0252	FARNUM, JOHN C ESTATE	Ch61A	0.54	H1
Farnum Farm	107.A-0253	FARNUM, JOHN C ESTATE	Ch61A	0.55	H1
Farnum Farm	107.A-0254	FARNUM, JOHN C ESTATE	Ch61A	0.54	H1
Farnum Farm	107.A-0255	FARNUM, JOHN C ESTATE	Ch61A	0.65	H1
Farnum Farm	107.A-0256	FARNUM, JOHN C ESTATE	Ch61A	1.18	H1
Farnum Farm	107.A-0259	FARNUM, JOHN C ESTATE	Ch61A	1.71	H1
Farnum Farm	107.A-0260	FARNUM, JOHN C ESTATE	Ch61A	1	H1
Farnum Farm	107.A-0261	FARNUM, JOHN C ESTATE	Ch61A	0.59	H1
Farnum Farm	107.A-0262	FARNUM, JOHN C ESTATE	Ch61A	0.55	H1
Farnum Farm	107.A-0263	FARNUM, JOHN C ESTATE	Ch61A	0.64	H1
Farnum Farm	107.A-0264	FARNUM, JOHN C ESTATE	Ch61A	0.79	H1
Farnum Farm	107.A-0265	FARNUM, JOHN C ESTATE	Ch61A	0.51	H1
Farnum Farm	107.A-0266	FARNUM, JOHN C ESTATE	Ch61A	0.57	H1
Farnum Farm	107.A-0267	FARNUM, JOHN C ESTATE	Ch61A	0.52	H1
Farnum Farm	107.A-0268	FARNUM, JOHN C ESTATE	Ch61A	0.58	H1
Farnum Farm	107.A-0269	FARNUM, JOHN C ESTATE	Ch61A	0.55	H1
Farnum Farm	107.A-0270	FARNUM, JOHN C ESTATE	Ch61A	0.62	H1

APPENDIX
Private Land

Name / Location	Parcel ID	Owner / Manager	Protection Type	Size (Acres)	Zoning
Farnum Farm	107.A-0271	FARNUM, JOHN C ESTATE	Ch61A	0.78	H1
Farnum Farm	107.A-0272	FARNUM, JOHN C ESTATE	Ch61A	1.21	H1
Farnum Farm	107.A-0273	FARNUM, JOHN C ESTATE	Ch61A	1.67	H1
Farnum Farm	107.A-0274	FARNUM, JOHN C ESTATE	Ch61A	1.64	H1
Farnum Farm	107.A-0275	FARNUM, JOHN C ESTATE	Ch61A	0.68	H1
Farnum Farm	107.A-0276	FARNUM, JOHN C ESTATE	Ch61A	0.57	H1
Farnum Farm	107.B-0001	FARNUM, BENJAMIN G	Ch61A	45.92	N1
Farnum Farm	107.B-0002	BGF TRUST	Ch61A	4.4	
Farnum Farm	107.B-0003	BGF TRUST	Ch61A	1.91	
Farnum Farm	107.B-0004	BGF TRUST	Ch61A	11.94	
Farnum Farm	107.B-0006	FARNUM, JOHN C ESTATE	Ch61A	3.31	H1
Farnum Farm	107.B-0013	FARNUM, JOHN C ESTATE	Ch61A	3.04	H1
Farnum Farm	107.B-0014	FARNUM, JOHN C ESTATE	Ch61A	3.69	H1
Farnum Farm	107.B-0074	FARNUM, JOHN C ESTATE	Ch61A	14.4	H1
Farnum Farm	107.B-0089	FARNUM, JOHN C ESTATE	Ch61A	3.19	H1
Farnum Farm	107.B-0090	FARNUM, JOHN C ESTATE	Ch61A	3.37	H1
Farnum Farm	107.B-0091	FARNUM, JOHN C ESTATE	Ch61A	3.14	H1
Farnum Farm	107.B-0092	FARNUM, JOHN C ESTATE	Ch61A	3	H1
Farnum Farm	107.B-0093	FARNUM, JOHN C ESTATE	Ch61A	3.42	H1
Farnum Farm	107.B-0094	FARNUM, JOHN C ESTATE	Ch61A	2.91	H1
Farnum Farm	107.B-0095	FARNUM, JOHN C ESTATE	Ch61A	2.99	H1
Farnum Farm	107.B-0096	FARNUM, JOHN C ESTATE	Ch61A	5.82	H1
Farnum Farm	107.C-0068	FARNUM, JOHN C	Ch61A	5.79	H1
Forest View Estates PRD	107.B-0171	FOREST VIEW HOMEOWNERS ASS		25.36	W1
Forest View Estates PRD	107.B-0172	FOREST VIEW HOMEOWNERS ASS		1.04	W1
Forest View Estates PRD	108.C-0140	FOREST VIEW HOMEOWNERS ASS		8.41	W1
Forest View Estates PRD	108.C-0141	FOREST VIEW HOMEOWNERS ASS		0.23	W1
Foster/Lindauer	104.D-0023	FOSTER STREET REALTY TRUST	Ch61A	0.83	E1
Foster/Lindauer	104.D-0025	LINDAUER, KENNETH E	Ch61A	2.56	K1
Foster/Lindauer	104.D-0039	M & M REALTY TRUST	Ch61A	0.71	T1
Foster/Lindauer	104.D-0040	M & M REALTY TRUST	Ch61A	0.10	T1
Foster/Lindauer	104.D-0144	FOSTER STREET REALTY TRUST	Ch61A	0.9	E1
Foster/Manzi	104.D-0014	MANZI, ALBERT P, JR	Ch61A	12.12	E1
Foster/Manzi	104.D-0047	PACIFIC REALTY TRUST	Ch61A	17.09	A1
Gray Street	107.B-0078	RULLO, FRANK J	Ch61B	2.9	N1
Gray Street	107.D-0050	RULLO, FRANK J	Ch61B	4.89	N1
Hickory Hill	061.0-0009	BARKER, GEORGE R, JR	Ch61A,CR	35.48	O0
Hickory Hill	061.0-0073	BARKER, GEORGE R, JR	Ch61A,CR	5.39	O0
Hickory Hill	061.0-0077	BARKER, GEORGE R, JR	Ch61A,CR	2.61	O0

APPENDIX
Private Land

Name / Location	Parcel ID	Owner / Manager	Protection Type	Size (Acres)	Zoning
Hickory Hill	062.0-0011	BARKER, GEORGE R, JR	Ch61A,CR	10.64	00
Hickory Hill	062.0-0011	BARKER, GEORGE R, JR	Ch61A	10.64	00
Hickory Hill I & II	061.0-0087	BARKER, GEORGE R, JR	Ch61B	0.77	00
Martin	090.C-0021	MARTIN, KAREN A TRUSTEE	Ch61B	12.9	R0
Martin	090.C-0022	MARTIN, GARY D. TRUSTEE	Ch61B	13.98	R0
Mary Hart	037.C-0017	HART, MARY S	Ch61A	4.17	0
Mary Hart	037.D-0001	HART, MARY S	Ch61A	12.65	0
Mary Hart	037.D-0051	HART, JAMES	Ch61A	1.39	S0
Molly Towne PRD	065.0-0024	North Andover Realty Corp		10.71	v0
North Andover Boxford Realty Trust	104.A-0035	NORTH ANDOVER BOXFORD REA	Ch61B	28.84	V1
North Andover Country Club	037.C-0014	EHRIG, ELKE L.	Ch61B	15.6	E0
North Andover Country Club	063.0-0012	NORTH ANDOVER COUNTRY CLU	Ch61B	17.84	V0
North Andover Country Club	064.0-0006	NORTH ANDOVER COUNTRY CLU	Ch61B	72.3	V0
North Andover Country Club	064.0-0007	NORTH ANDOVER COUNTRY CLU	Ch61B	1.77	V0
North Andover/Boxford Realty Trust	104.A-0010	NORTH ANDOVER BOXFORD REA	Ch61A	4.93	V1
North Andover/Boxford Realty Trust	104.A-0011	NORTH ANDOVER BOXFORD REA	Ch61A	2.07	V1
North Andover/Boxford Realty Trust	104.A-0028	NORTH ANDOVER BOXFORD REA	Ch61A	0.59	V1
North Andover/Boxford Realty Trust	104.A-0034	NORTH ANDOVER BOXFORD REA	Ch61A	1.54	V1
North Andover/Boxford Realty Trust	104.A-0037	NORTH ANDOVER BOXFORD REA	Ch61A	18.63	V1
O'Mahony Family Farm	105.D-0168	THE O'MAHONY FAMILY FARM, L	Ch61A	2.86	N1
O'Mahony Family Farm	105.D-0169	THE O'MAHONY FAMILY FARM, L	Ch61A	2.02	N1
O'Mahony Family Farm	105.D-0170	THE O'MAHONY FAMILY FARM, L	Ch61A	2.99	N1
Osgood Hill/Edgewood Farm	036.0-0003	EDGEWOOD RETIREMENT COMM	CR	82.31	E0
Peachtree Farm PRD	098.A-0142	Peach Tree Farms Home Owners Trust		18.93	0
Pheasant Brook	106.B-0229	OCEAN VIEW REALTY TRUST		1.22	1
Phillips Common PRD	058.0-0057	PHILLIPS COMMON DEVELOPMENT Corp, CR held by the North Ando*		3.45	00
Phillips Common PRD	058.0-0058	Phillips Common Development C		1.65	o0
Potter Cr	064.0-0022	NIEBURGER, EDWARD CHARLES	CR	6.28	0
Potter Cr	064.0-0137	SAXE, WALTER B	CR	7.93	E0
Rea Farm	098.B-0098	REA, KENNETH W	Ch61A	6.7	T0
Rea Farm	098.B-0099	REA, KENNETH W	Ch61A	2.46	T0
Regency Place PRD	065.0-0313	North Andover Realty Corp		16.73	v0
Roche Farm	022.0-0013	ROCHE TRUST, JAMES T	Ch61A	2.46	T0
Roche Farm	022.0-0014	ROCHE TRUST, JAMES T	Ch61A	22.37	T0
Roche Farm	022.0-0044	ROCHE TRUST, JAMES T	Ch61A	0.85	T0
Rolling Ridge	063.0-0011	SOUTHERN NEW ENGLAND CONFERE	CR	36.87	E0
Rolling Ridge	063.0-0011	SOUTHERN NEW ENGLAND CONFERE		0	E0
Sarah Leohnard	104.A-0008	THE SARAH LEONHARD IRREVOC	Ch61A	1.01	L1
Smolak Farm	104.C-0014	SMOLAK, MARTIN	Ch61A	18.01	R1

APPENDIX
Private Land

Name / Location	Parcel ID	Owner / Manager	Protection Type	Size (Acres)	Zoning
Smolak Farm	104.C-0015	SMOLAK, MARTIN	Ch61A	10.56	R1
Smolak Farm	104.C-0016	SMOLAK JR, H MICHAEL	Ch61A	13.92	1
Smolak Farm	104.C-0024	SMOLAK MARTIN	Ch61A	24.35	T1
Smolak Farm	104.C-0025	SMOLAK, MARTIN	Ch61A	28.76	R1
Smolak Farm	104.C-0026	SMOLAK, MARTIN	Ch61A	3.05	R1
Smolak Farm	104.C-0031	SMOLAK, MARTIN	Ch61A	10.36	R1
Smolak Farm	104.C-0047	SMOLAK, MARTIN	Ch61A	2.33	R1
Smolak Farm	104.C-0048	SMOLAK, MARTIN	Ch61A	9.79	R1
Smolak Farm	104.C-0115	SMOLAK, MARTIN TRUST	Ch61A	1.32	R1
Smolak Farm	104.C-0146	SMOLAK, MARTIN TRUST	Ch61A	1.16	R1
Steven Young	104.D-0015	YOUNG, STEVEN B	Ch61A	4.82	V1
Steven Young	104.D-0024	YOUNG, STEVEN B	Ch61A	3.21	V1
Steven Young	104.D-0026	YOUNG, STEVEN B	Ch61A	10.61	V1
Sutton Hill Rd	097.0-0094	OSGOOD, RUTH M		1.15	T0
White Birch I PRD	034.0-0005	JDP Development Inc		2.58	p0
White Birch II PRD	061.0-0102	White Birch II Homeowner's Trust		3.33	h0
Windkist Farm	109.0-0034	LAMBERT, PATRICIA A	Ch61A	11.08	A1
Windkist Farm	109.0-0069	LAMBERT, PATRICIA TR	Ch61A	5.23	A1
Windrush Farm	105.A-0034	WINDRUSH FARM THERPEUTIC EQU		3.24	A1
Windrush Farm	105.A-0035	WINDRUSH FARM THERPEUTIC EQU	CR	18.99	A1
Windrush Farm	Windrush-01	WINDRUSH FARM THERPEUTIC EQU	CR	3.2	AW
Windrush Farm	Windrush-01	WINDRUSH FARM THERPEUTIC EQU		2.94	AW
Woodland Estates PRD	107.B-0019	AC Builders, Inc		0.14	s1
Woodland Estates PRD	107.B-0023	AC Builders, Inc		16.67	s1
Woodland Estates PRD	107.B-0124	AC Builders, Inc		0.97	s1
Woodland Estates PRD	107.B-0150	AC Builders, Inc		4.28	s1
Woodlea Village PRD	098.D-0001	Woodlea Village Homeowner's Trust		11.13	l0
	037.A-0054		CR	0	
	037.D-0018	RIDGEWOOD CEMETERY ASSOCIA		32.05	C0
	037.D-0024	RIDGEWOOD CEMETERY ASSOCIA		13.91	C0
	037.D-0027	RIDGEWOOD CEMETERY ASSOCIA		1.83	C0
	064.0-0019	BUBAR, MICHAEL W		0.39	H0
	096.0-0028	COCHICKEWICK LODGE		0.22	C0
	107.B-0173	FOREST VIEW HOMEOWNERS ASS		0.21	W1
	108.C-0139	FOREST VIEW HOMEOWNERS ASS		2.96	W1
			Total	1,486.06	

APPENDIX
Lands with Conservation Restrictions

Parcel ID	Name / Location	Owner / Manager	Size (Acres)
061.0-0077	Hickory Hill	BARKER, GEORGE R, JR	2.61
061.0-0073	Hickory Hill	BARKER, GEORGE R, JR	5.39
062.0-0011	Hickory Hill	BARKER, GEORGE R, JR	10.64
061.0-0009	Hickory Hill	BARKER, GEORGE R, JR	35.48
037.C-0054	235, 243 & 245 Great Pond Road	BOYKO, STEPHEN & JUDITH	2.50
107.A-0284	Boston Hill	BRIGHTVIEW NORTH ANDOVER, LLC	33.27
036.0-0003	Osgood Hill/Edgewood Farm	EDGEWOOD RETIREMENT COMM	82.31
PorterPeabody-01	Porter Peabody	Essex County Green Belt	Unknown
106.D-0033	16 Berry St	FIORE, FRANK G JR, ET AL, TR	27.01
037.C-0053	235, 243 & 245 Great Pond Road	FOSTER, MICHAEL J & EDEE E FOSTER	2.18
037.A-0053	316 Great Pond Road	KARRAS, BILL	1.32
064.0-0022	Potter Cr	NIEBURGER, EDWARD CHARLES	6.28
037.C-0055	235, 243 & 245 Great Pond Road	SAIMOTO, HIROSHI & IKUKO SAIMOTO	2.35
064.0-0137	Potter Cr	SAXE, WALTER B	7.93
063.0-0011	Rolling Ridge	SOUTHERN NEW ENGLAND CONFERE	36.87
036.0-0025	Ousler Property	TOWN OF NORTH ANDOVER	2.00
035.0-0033	Half Mile Hill	TOWN OF NORTH ANDOVER	2.59
035.0-0025	Half Mile Hill	TOWN OF NORTH ANDOVER	2.74
105.A-0012		TOWN OF NORTH ANDOVER	3.61
105.A-0016		TOWN OF NORTH ANDOVER	4.66
035.0-0110	Sunnyridge	TOWN OF NORTH ANDOVER	10.55
035.0-0024	Half Mile Hill	TOWN OF NORTH ANDOVER	11.26
036.0-0026	Ousler Property	TOWN OF NORTH ANDOVER	11.54
105.A-0009	Windrush Farm	TOWN OF NORTH ANDOVER	11.55
035.0-0034		TOWN OF NORTH ANDOVER	12.12
062.0-0005	Carter Hill	TOWN OF NORTH ANDOVER	30.22
036.0-0001		TOWN OF NORTH ANDOVER	33.68
105.A-0014		TOWN OF NORTH ANDOVER	45.73
105.A-0010		TOWN OF NORTH ANDOVER	55.40
096.0-0002	Stevens	TRUSTEES OF RESERVATIONS	10.60
Windrush-01	Windrush Farm	WINDRUSH FARM THERPEUTIC EQU	3.20
105.A-0035	Windrush Farm	WINDRUSH FARM THERPEUTIC EQU	18.99
037.A-0054			Unknown
		Total (approximate)	526.58

C. Maps

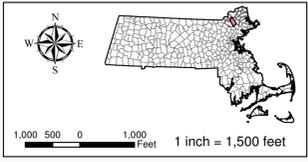
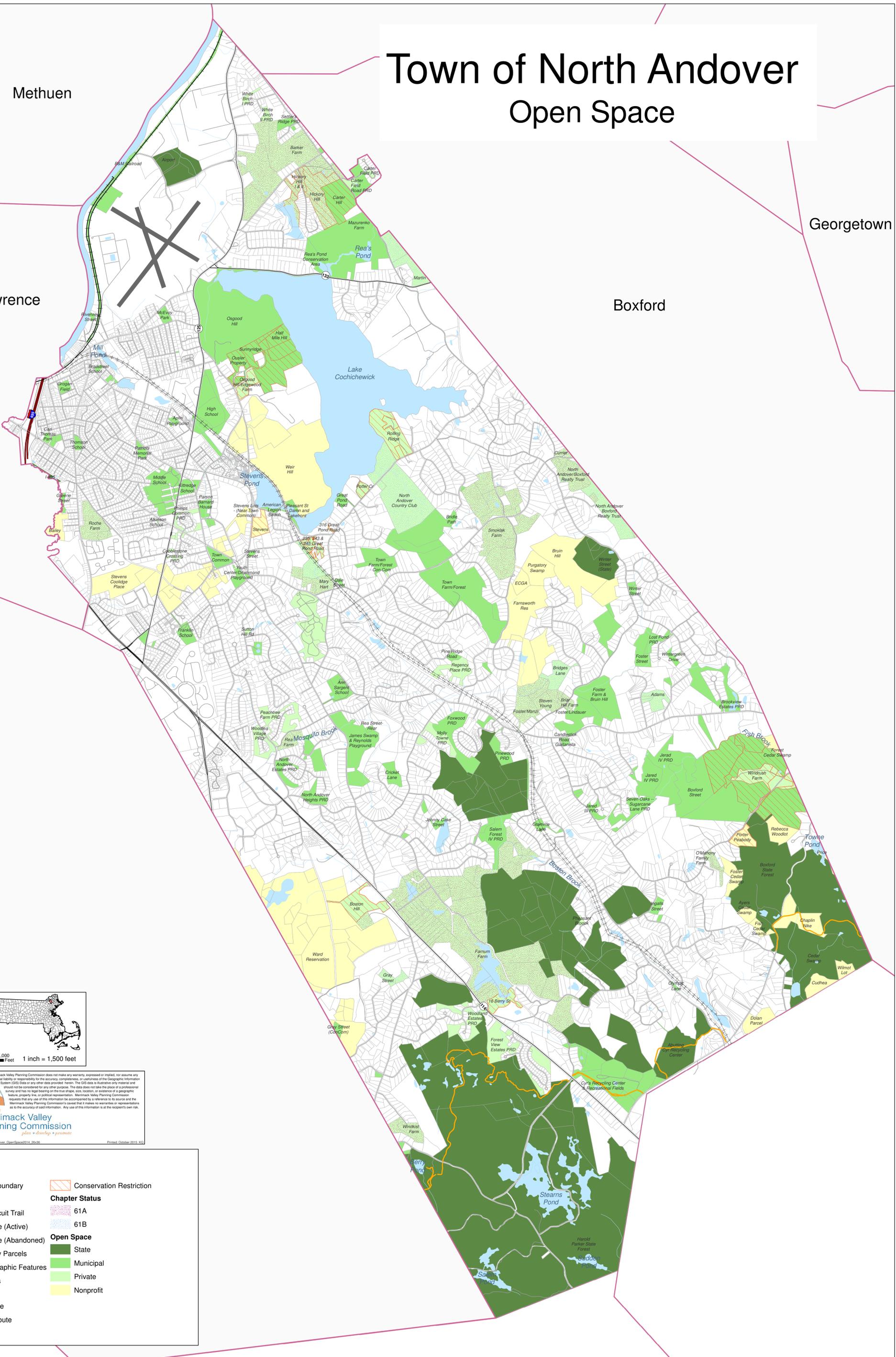
Town of North Andover Open Space

Methuen

Georgetown

Lawrence

Boxford



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Legend	
Town Boundary	Conservation Restriction
Airport	Chapter Status
Bay Circuit Trail	61A
Rail Line (Active)	61B
Rail Line (Abandoned)	Open Space
Property Parcels	State
Hydrographic Features	Municipal
Streams	Private
Roads	Nonprofit
Interstate	
State Route	
Local	

Haverhill

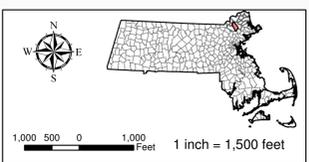
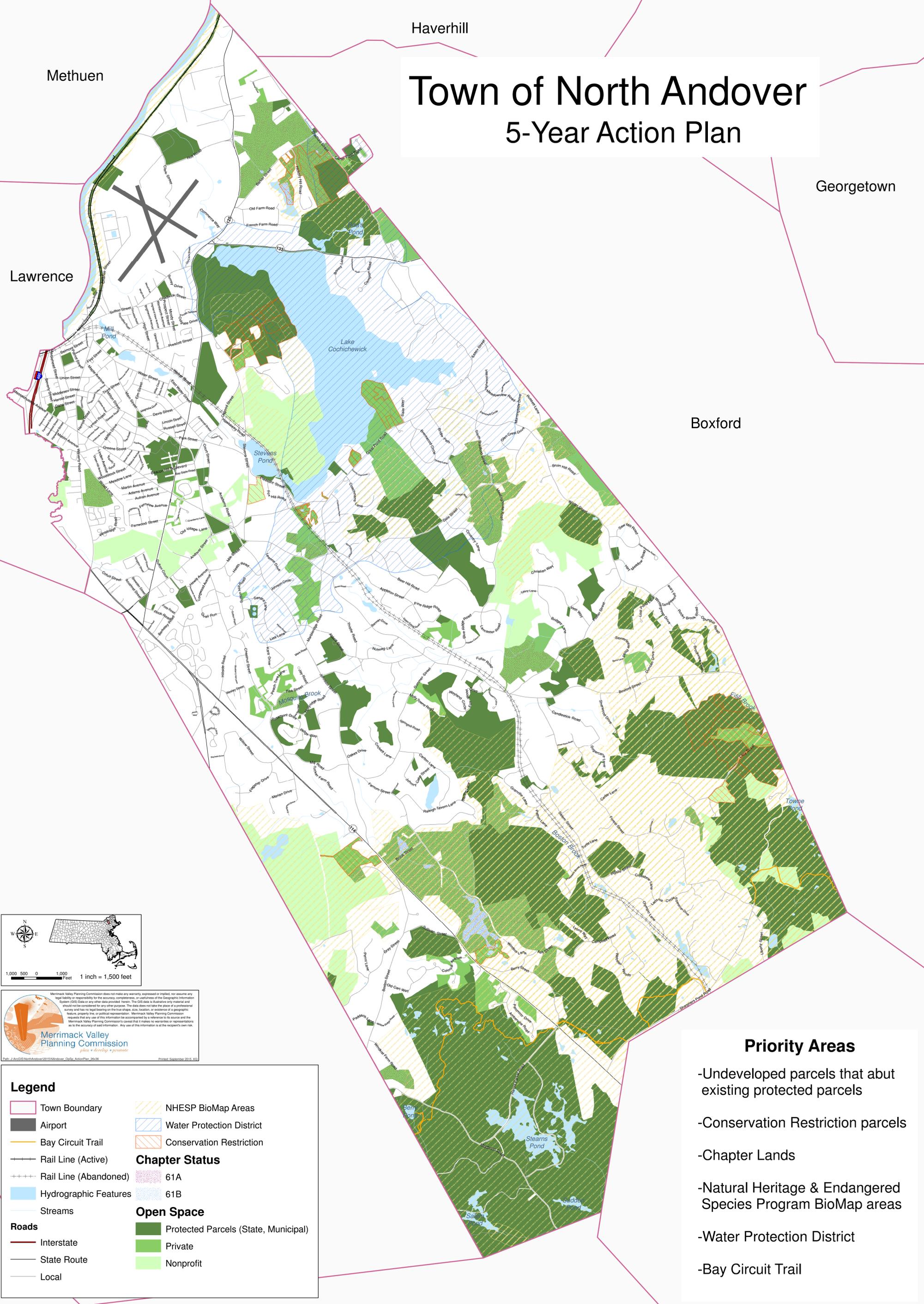
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Town of North Andover 5-Year Action Plan

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Legend

Town Boundary	NHESP BioMap Areas
Airport	Water Protection District
Bay Circuit Trail	Conservation Restriction
Rail Line (Active)	Chapter Status
Rail Line (Abandoned)	61A
Hydrographic Features	61B
Streams	Open Space
Roads	Protected Parcels (State, Municipal)
Interstate	Private
State Route	Nonprofit
Local	

- Priority Areas**
- Undeveloped parcels that abut existing protected parcels
 - Conservation Restriction parcels
 - Chapter Lands
 - Natural Heritage & Endangered Species Program BioMap areas
 - Water Protection District
 - Bay Circuit Trail

Town of North Andover

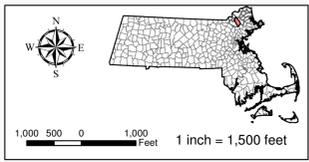
Estimated Habitat for Endangered Species Map

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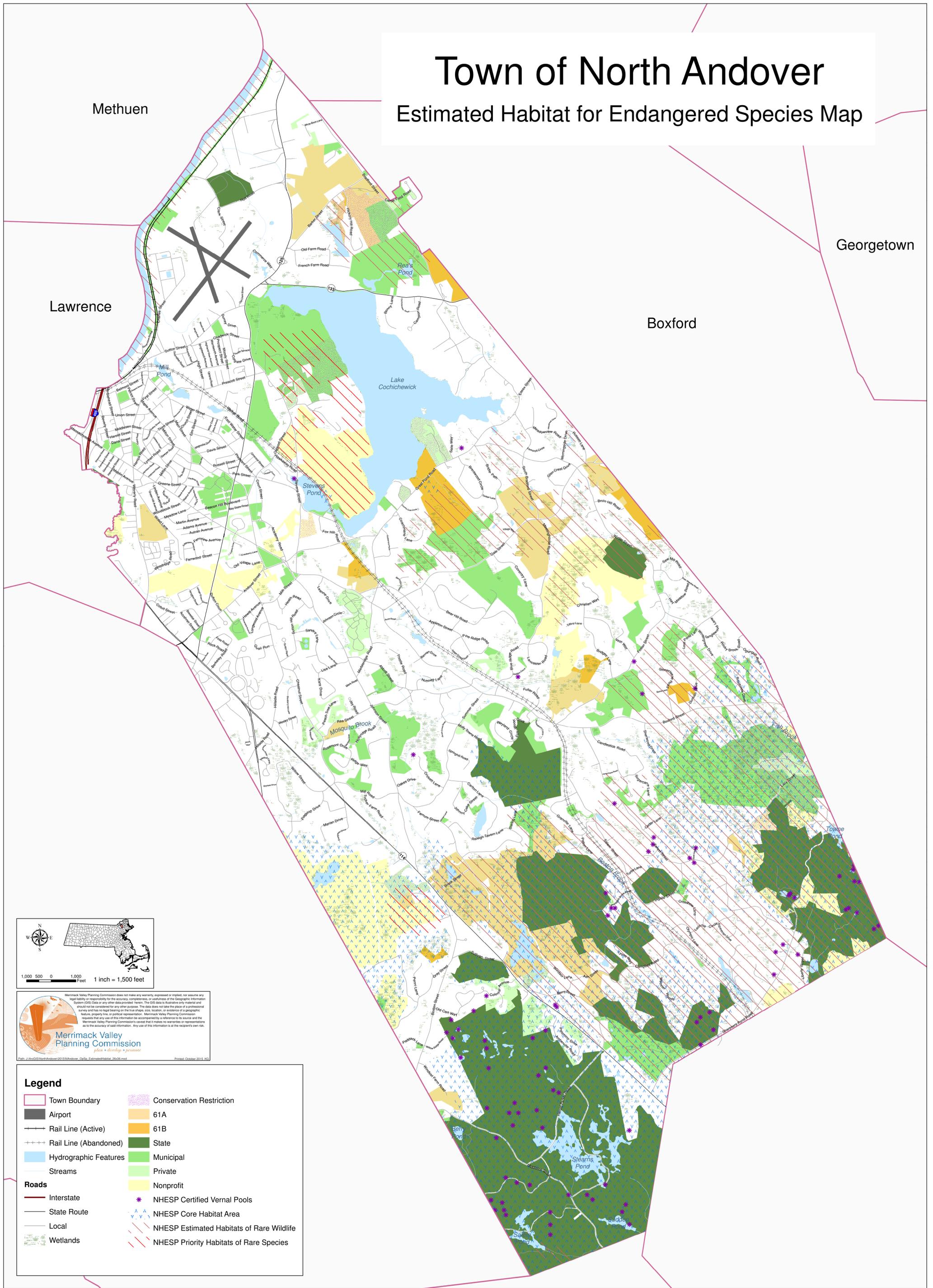


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 Project: October 2015

Legend	
	Town Boundary
	Airport
	Rail Line (Active)
	Rail Line (Abandoned)
	Hydrographic Features
	Streams
	Wetlands
	Conservation Restriction
	61A
	61B
	State
	Municipal
	Private
	Nonprofit
	NHESP Certified Vernal Pools
	NHESP Core Habitat Area
	NHESP Estimated Habitats of Rare Wildlife
	NHESP Priority Habitats of Rare Species



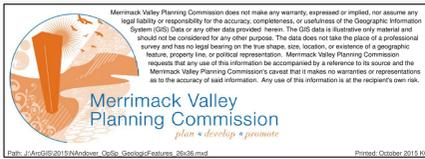
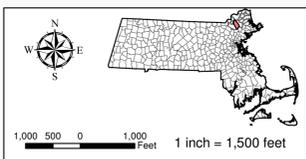
Town of North Andover Soils and Geologic Features

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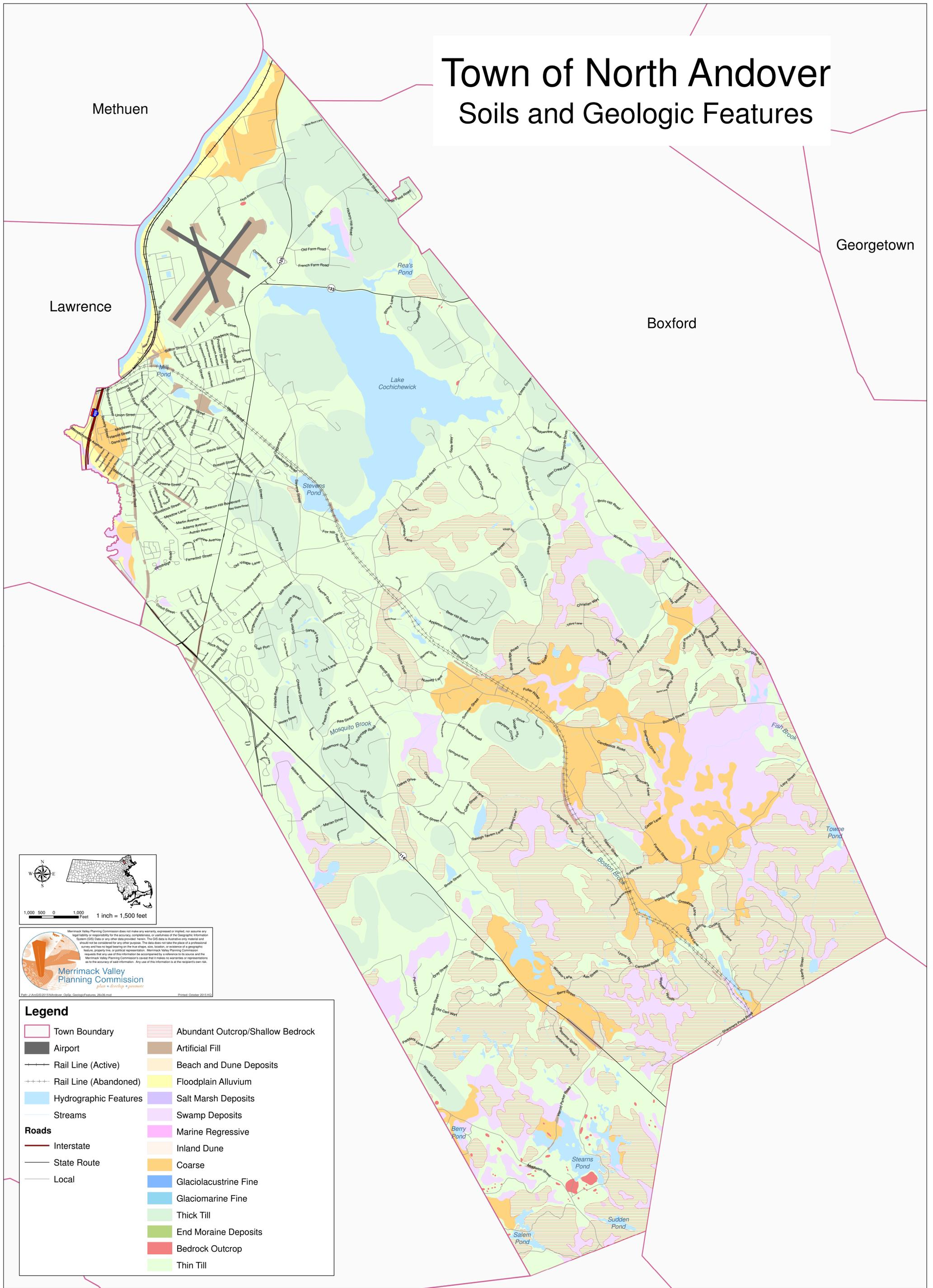
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Legend	
	Town Boundary
	Airport
	Rail Line (Active)
	Rail Line (Abandoned)
	Hydrographic Features
	Streams
Roads	
	Interstate
	State Route
	Local
	Abundant Outcrop/Shallow Bedrock
	Artificial Fill
	Beach and Dune Deposits
	Floodplain Alluvium
	Salt Marsh Deposits
	Swamp Deposits
	Marine Regressive
	Inland Dune
	Coarse
	Glaciolacustrine Fine
	Glaciomarine Fine
	Thick Till
	End Moraine Deposits
	Bedrock Outcrop
	Thin Till



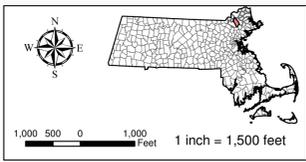
Town of North Andover Land Use

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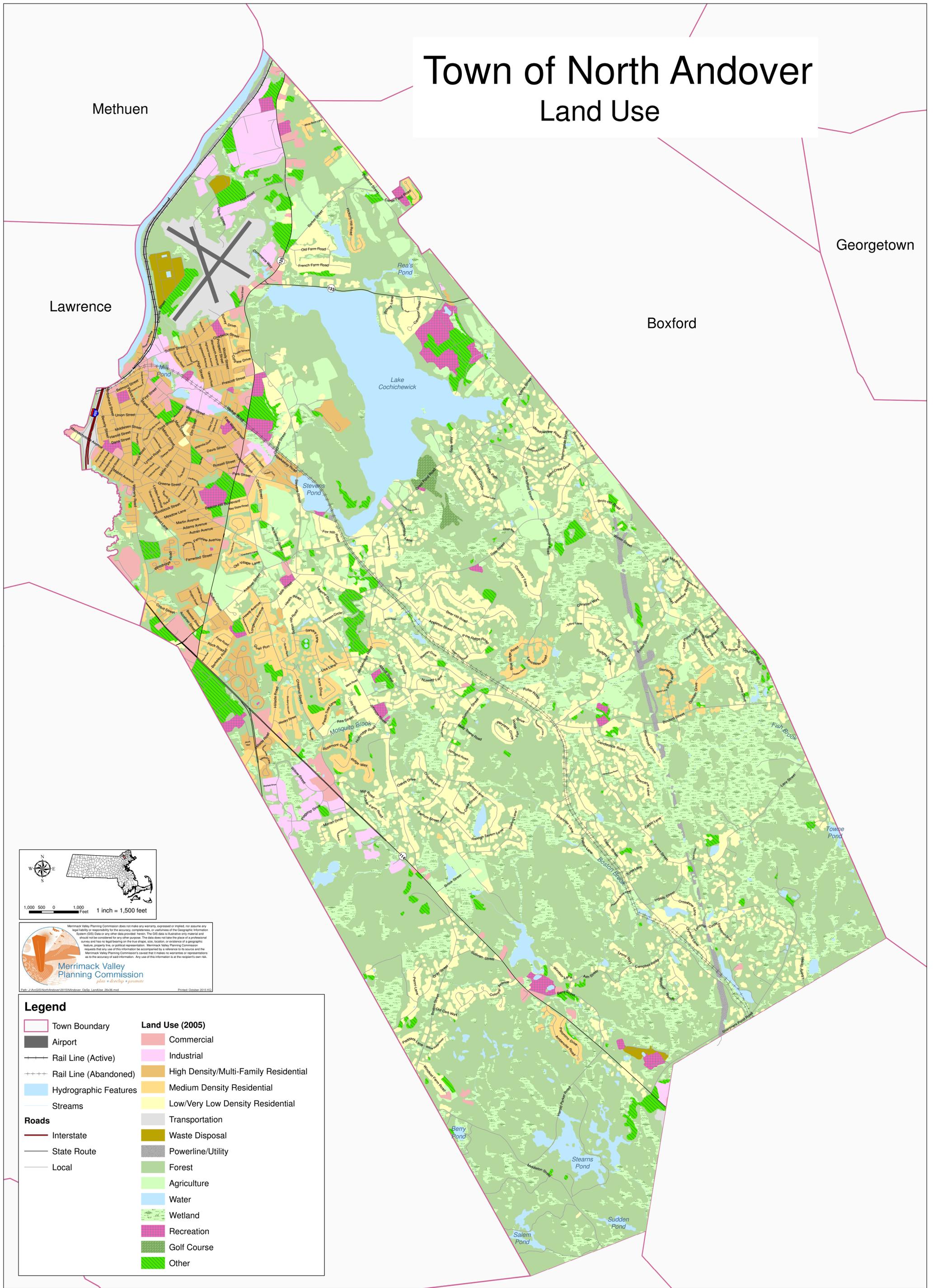


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Legend	
	Town Boundary
	Airport
	Rail Line (Active)
	Rail Line (Abandoned)
	Hydrographic Features
	Streams
Roads	
	Interstate
	State Route
	Local
Land Use (2005)	
	Commercial
	Industrial
	High Density/Multi-Family Residential
	Medium Density Residential
	Low/Very Low Density Residential
	Transportation
	Waste Disposal
	Powerline/Utility
	Forest
	Agriculture
	Water
	Wetland
	Recreation
	Golf Course
	Other



Haverhill

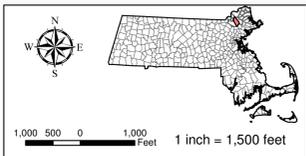
Town of North Andover Population Characteristics

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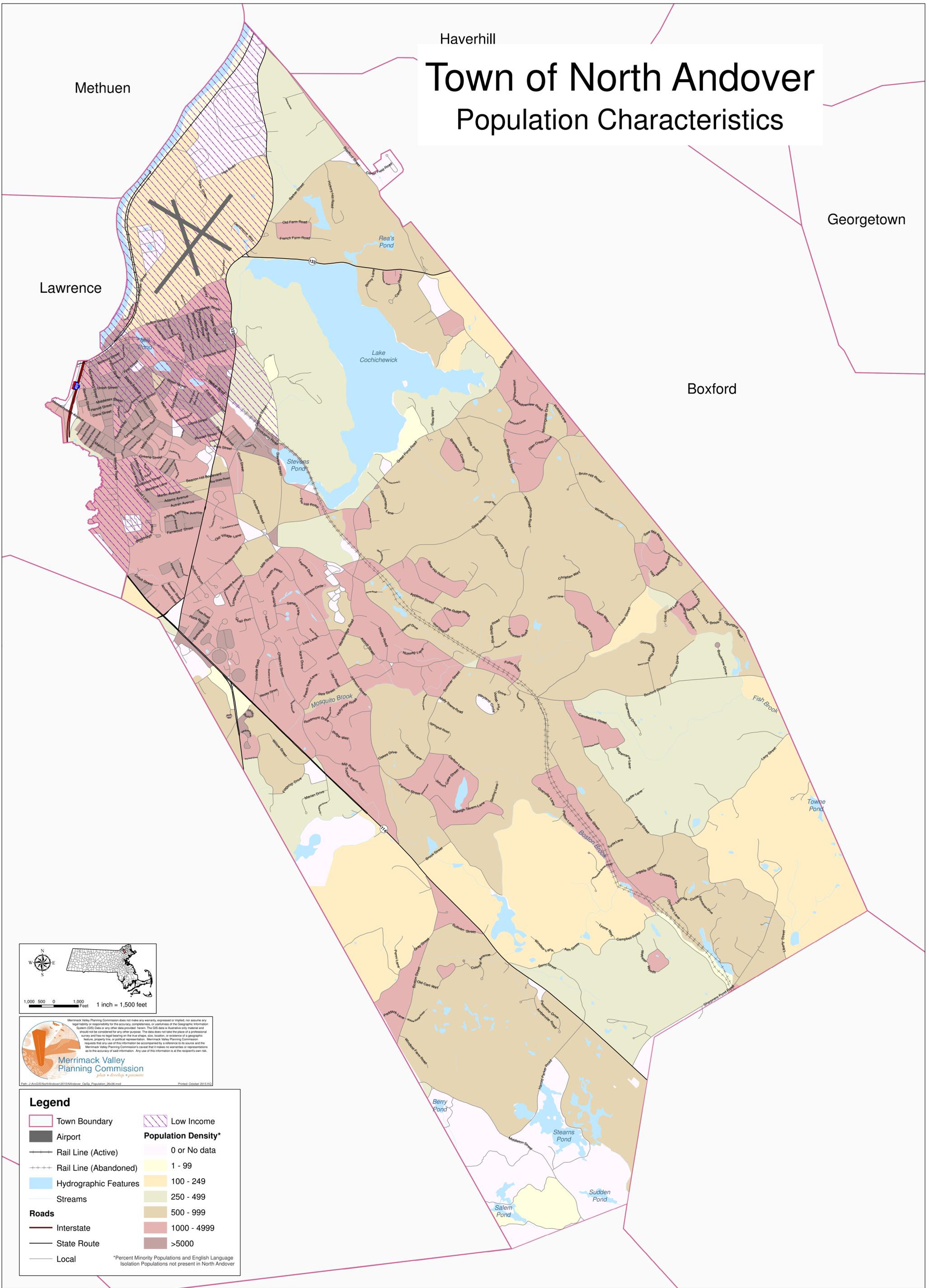
Boxford



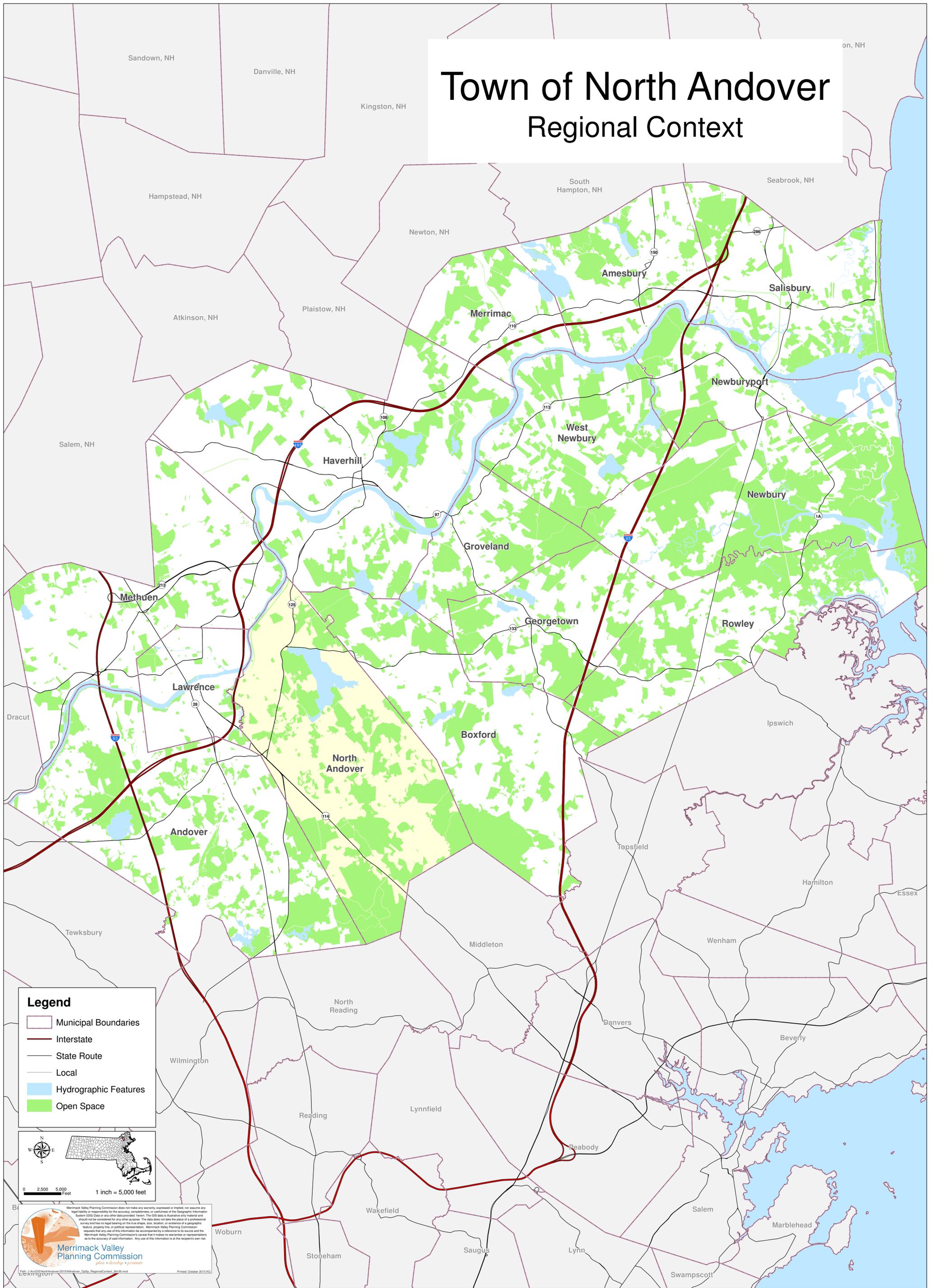
Legend

Town Boundary	Low Income
Airport	Population Density*
Rail Line (Active)	0 or No data
Rail Line (Abandoned)	1 - 99
Hydrographic Features	100 - 249
Streams	250 - 499
Roads	500 - 999
Interstate	1000 - 4999
State Route	>5000
Local	

*Percent Minority Populations and English Language Isolation Populations not present in North Andover



Town of North Andover Regional Context



Legend

- Municipal Boundaries
- Interstate
- State Route
- Local
- Hydrographic Features
- Open Space

0 2,500 5,000 Feet
1 inch = 5,000 feet

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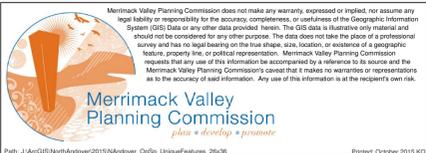
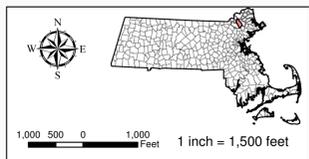
Town of North Andover Unique Features

Methuen

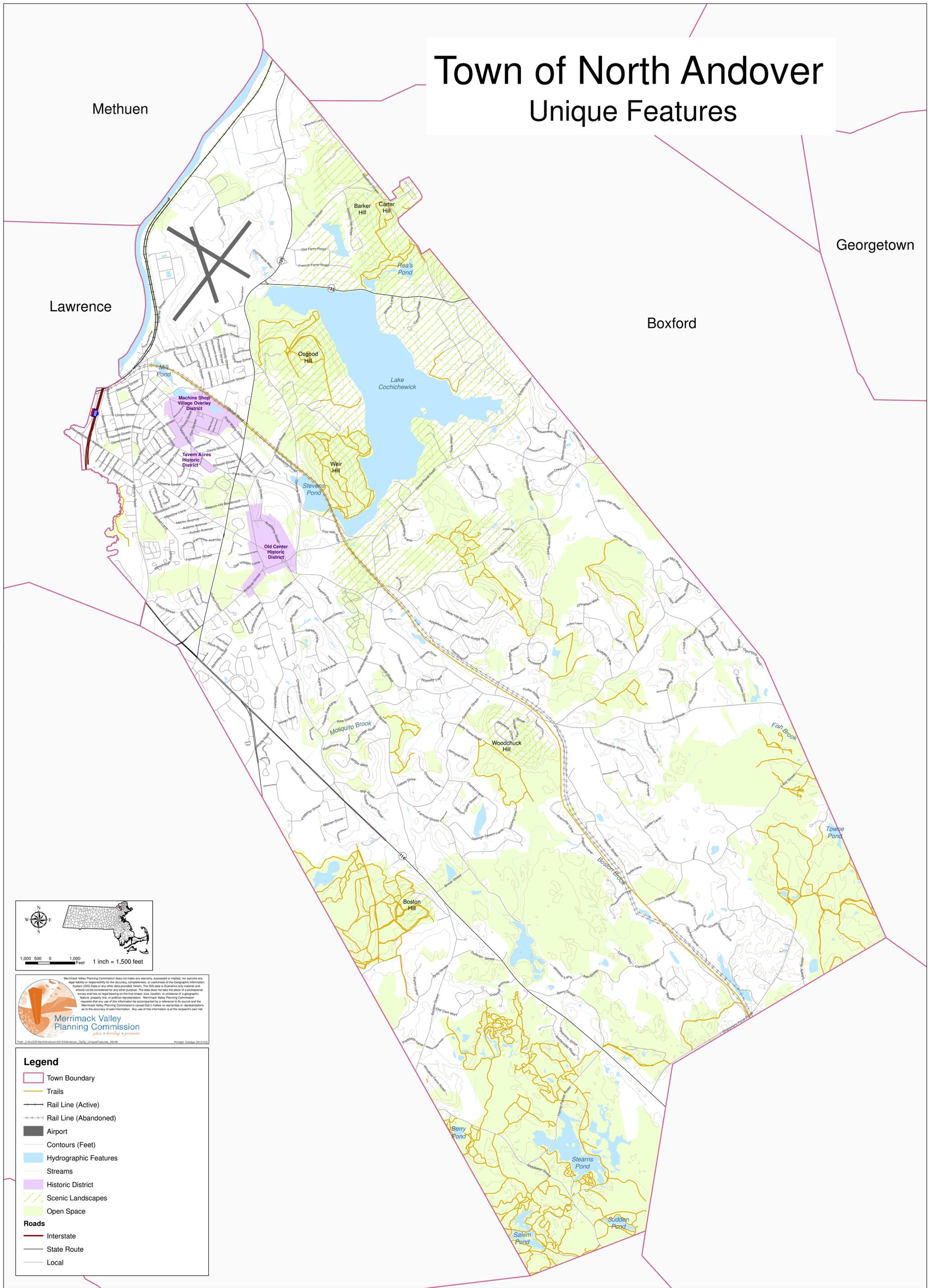
Georgetown

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Boxford



Legend	
	Town Boundary
	Trails
	Rail Line (Active)
	Rail Line (Abandoned)
	Airport
	Contours (Feet)
	Hydrographic Features
	Streams
	Historic District
	Scenic Landscapes
	Open Space
Roads	
	Interstate
	State Route
	Local



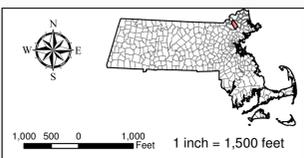
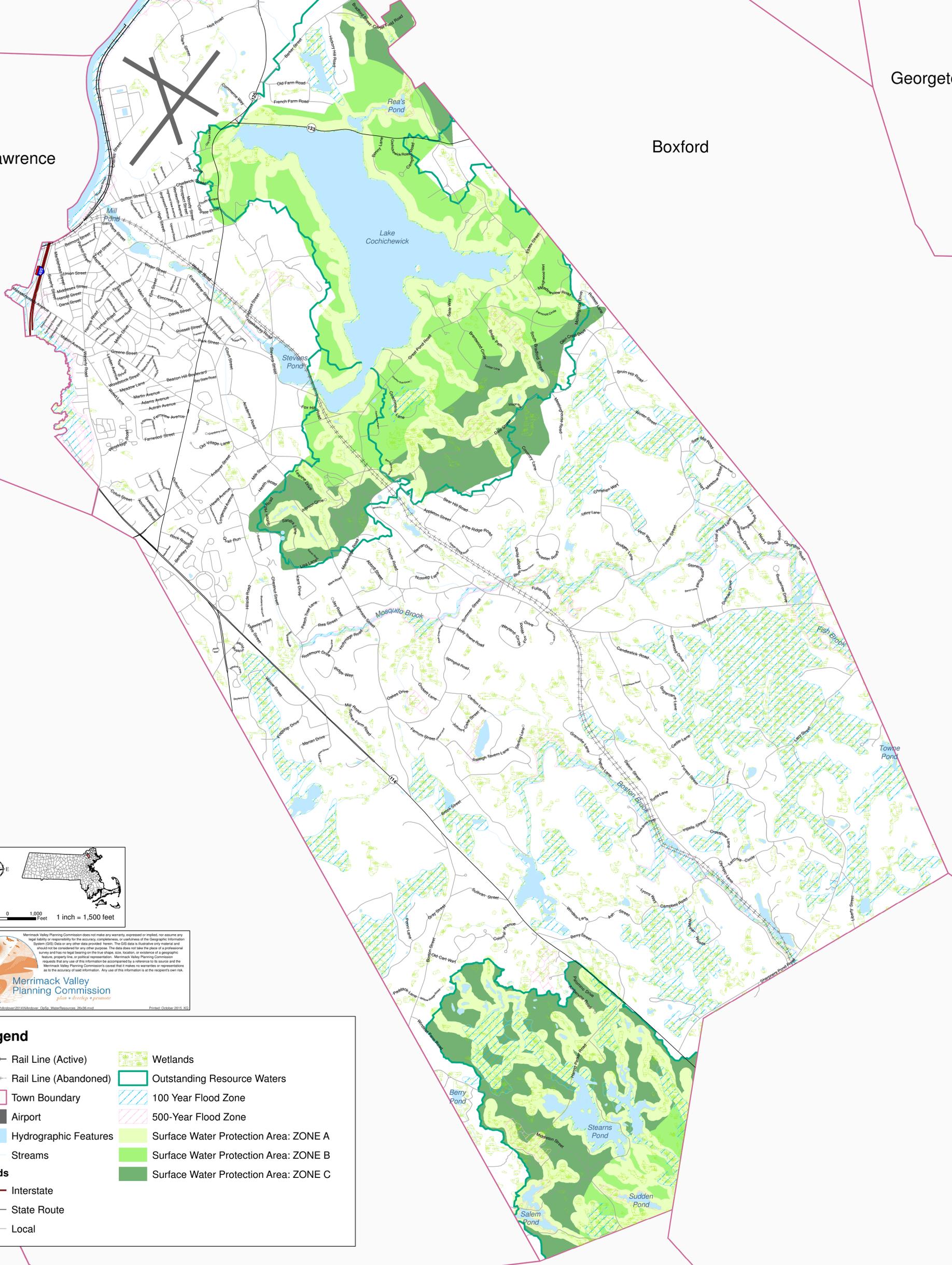
Town of North Andover Water Resources

Methuen

Georgetown

Boxford

Lawrence



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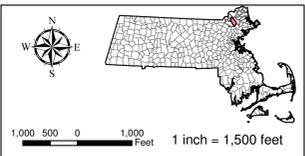
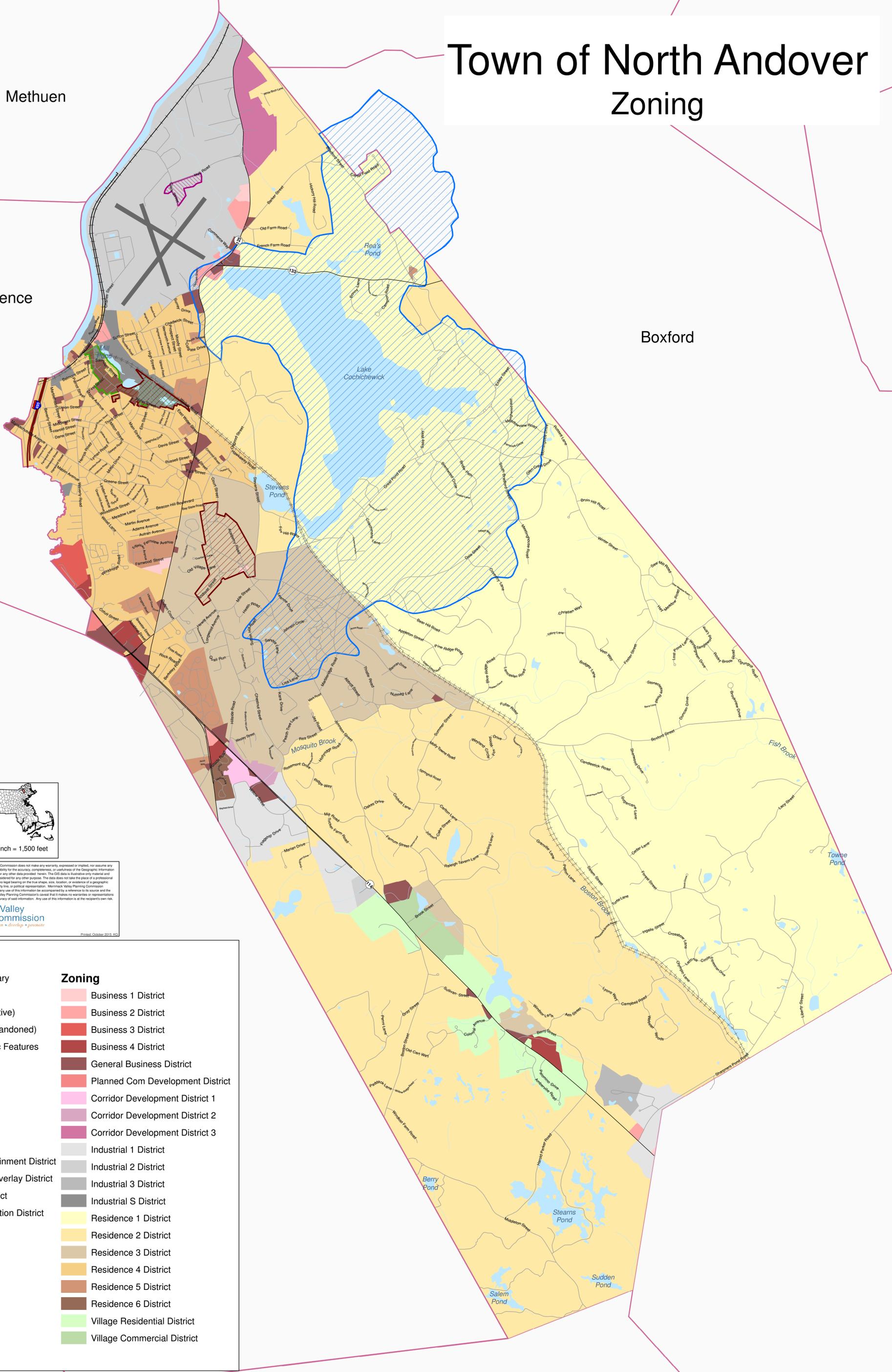
Legend	
—+—+— Rail Line (Active)	Wetlands
++++ Rail Line (Abandoned)	Outstanding Resource Waters
— Town Boundary	100 Year Flood Zone
— Airport	500-Year Flood Zone
— Hydrographic Features	Surface Water Protection Area: ZONE A
— Streams	Surface Water Protection Area: ZONE B
Roads	Surface Water Protection Area: ZONE C
— Interstate	
— State Route	
— Local	

Town of North Andover Zoning

Methuen

Lawrence

Boxford



Merrimack Valley Planning Commission does not make any warranty, expressed or implied, nor assume any legal liability or responsibility for the accuracy, completeness, or usefulness of the Geographic Information System (GIS) Data or any other data provided herein. The GIS data is illustrative only material and should not be considered for any other purpose. The data does not take the place of a professional survey and has no legal bearing on the true shape, size, location, or existence of a geographic feature, property line, or political representation. Merrimack Valley Planning Commission requires that any use of this information be accompanied by a reference to its source and the Merrimack Valley Planning Commission's caveat that it makes no warranties or representations as to the accuracy of said information. Any use of this information is at the recipient's own risk.

Merrimack Valley Planning Commission
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Legend

- | | |
|------------------------------|----------------------------------|
| Town Boundary | Zoning |
| Airport | Business 1 District |
| Rail Line (Active) | Business 2 District |
| Rail Line (Abandoned) | Business 3 District |
| Hydrographic Features | Business 4 District |
| Streams | General Business District |
| Roads | Planned Com Development District |
| Interstate | Corridor Development District 1 |
| State Route | Corridor Development District 2 |
| Local | Corridor Development District 3 |
| Zoning Overlay | Industrial 1 District |
| Adult Entertainment District | Industrial 2 District |
| Downtown Overlay District | Industrial 3 District |
| Historic District | Industrial S District |
| Water Protection District | Residence 1 District |
| | Residence 2 District |
| | Residence 3 District |
| | Residence 4 District |
| | Residence 5 District |
| | Residence 6 District |
| | Village Residential District |
| | Village Commercial District |

D. Soil Associations and Bedrock Geology

APPENDIX D

SOIL ASSOCIATIONS

(U.S. Soil Conservation Service, 1981 and Jacobs, Mark, 1993)

Paxton-Woodbridge-Montauk Association:

Soils of this association are found on hills and sloping uplands. Well-drained paxton and montauk soils are on the sides of drumlins. Moderately well drained woodbridge soils are on hilltops, concave toe slopes, and gently sloping areas. Such areas can be found from the Merrimack River to the highlands along Lake Cochichewick and the watershed divide between the Ipswich and Shawsheen Rivers. These soils are suitable for some agricultural and residential uses, with some limitations such as restrictive hardpans that promote perched water tables and hillside seeps.

Canton-Charlton-Sutton Association:

Further south and west, the well-drained Canton and Charlton soils are on the tops and sides of low hills. Moderately well drained sutton soils are found on the toe slopes of hills and in slight depressions. These soils are suitable for agricultural use and residential development except for slopes and the presence of stones in the canton and charlton soils, the seasonal high water table of the sutton soils, and some poorly drained wetland soils.

Charlton-Rock Outcrop-Medisaprists:

In the extreme southern portion of North Andover, this association can be found in areas of low, irregular hills, ridges, and plains as well as bedrock outcrops and depressions of very poorly drained organic soils. Well-drained, loamy charlton soils are found on the tops and sides of low hills and ridges. Many areas have stones on the surface and rock outcrops are also present. Medisaprists are organic soils associated with wetlands, which have a very high water table and are found between the hills and ridges. The charlton soils are suitable for residential development but stones and rock outcrops do present limitations.

Hinkley-Windsor-Merrimac:

Many of the soils in this association are excessively drained. Such soils are found on plains, stream terraces and kames generally at lower elevations. Such areas are found along the Shawsheen and Merrimack rivers as well as along Mosquito Brook. These areas are generally suited for farming and residential development. Some poorly and very poorly drained soils are also found in this association.

BEDROCK GEOLOGY

Merrimack Belt:

The Berwick Formation (Sb) is generally considered to be Silurian in age. This formation consists primarily of thin to thick beds of metamorphosed calcareous sandstone and siltstone. Some layers contain quartz, biotite and actinolite while others contain diopside, hornblende, and plagioclase. The Eliot Formation (Se) is also considered to be Silurian in age, but is older than the Berwick Formation. The Eliot Formation consists of thinly bedded slate and phyllite, commonly dolomitic, and metasiltstone. (Robinson and Goldsmith, 1991)

Nashoba Zone

The Sharpners Pond Diorite (Ssqd) consists of non-foliated, medium-grained equigranular biotitehornblende tonalite and diorite. It intrudes the Nashoba Formation (OZn) and the older gneissic phase of the Andover Granite. The Andover Granite (SOagr) is a foliated, medium to coarse-grained gneissic granite that intrudes the Nashoba Formation (Wones and Goldsmith, 1991).

T O W N O F N O R T H A N D O V E R
O P E N S P A C E A N D R E C R E A T I O N P L A N 2 0 1 5

The Nashoba Formation (OZn) consists of interlayered schist and gneiss with minor amounts of quartzite and marble. Amphibolite is abundant in the Boxford Member (OZnb) of this formation. The Fish Brook Gneiss (OZf) is a fine to medium-grained foliated gneiss containing biotite, quartz and plagioclase and is intruded by the Andover Granite (Goldsmith, 1991a). The Fish Brook Gneiss is probably the oldest rock type found in Town (Zen et al, 1983).

E. BioMap 2012

Appendix: BioMap2, 2012



BioMap2

CONSERVING THE BIODIVERSITY OF
MASSACHUSETTS IN A CHANGING WORLD

North Andover

Produced in 2012

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

This information is intended for conservation planning, and is not intended for use in state regulations.



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

**The Nature
Conservancy** 
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Table of Contents

Introduction

What is *BioMap2* – Purpose and applications

One plan, two components

Understanding Core Habitat and its components

Understanding Critical Natural Landscape and its components

Understanding Core Habitat and Critical Natural Landscape Summaries

Sources of Additional Information

North Andover Overview

Core Habitat and Critical Natural Landscape Summaries

Elements of *BioMap2* Cores

Core Habitat Summaries

Elements of *BioMap2* Critical Natural Landscapes

Critical Natural Landscape Summaries





Introduction

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

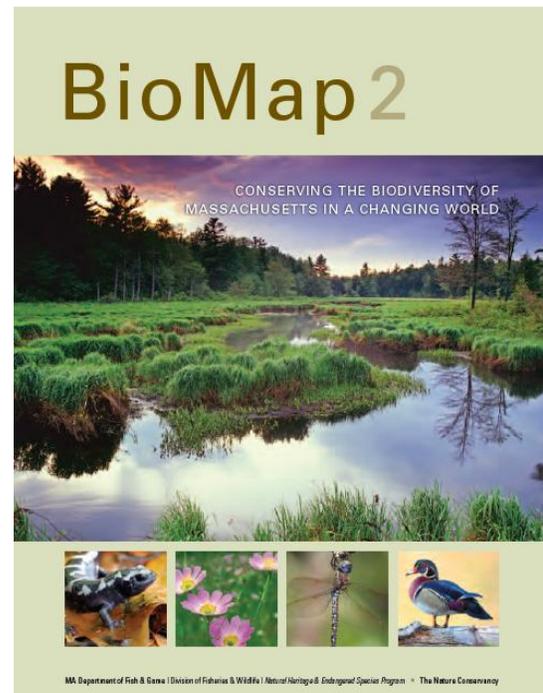
BioMap2 combines NHESP's 30 years of rigorously documented rare species and natural community data with spatial data identifying wildlife species and habitats that were the focus of the Division of Fisheries and Wildlife's 2005 State Wildlife Action Plan (SWAP). *BioMap2* also integrates The Nature Conservancy's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

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

What Does Status Mean?

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

- Endangered species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.



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

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

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





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

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

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

***BioMap2*: One Plan, Two Components**

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

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

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

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

Components of Core Habitat

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

Rare Species

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





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

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

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

Other Species of Conservation Concern

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

Priority Natural Communities

Natural communities are assemblages of plant and animal species that share a common environment and occur together repeatedly on the landscape. *BioMap2* gives conservation

priority to natural communities with limited distribution and to the best examples of more common types.

Vernal Pools

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

Forest Cores

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

Wetland Cores

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

Aquatic Cores

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





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

Components of Critical Natural Landscape

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

Landscape Blocks

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

Upland Buffers of Wetland and Aquatic Cores

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

Upland Habitat to Support Coastal Adaptation

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

The conservation areas identified by *BioMap2* are based on breadth and depth of data, scientific expertise, and understanding of Massachusetts' biodiversity. The numerous sources of information and analyses used to

Legal Protection of Biodiversity

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

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

create Core Habitat and Critical Natural Landscape are complementary, and outline a comprehensive conservation vision for Massachusetts, from rare species to intact landscapes. In total, these robust analyses define a suite of priority lands and waters that, if permanently protected, will support Massachusetts' natural systems for generations to come.





Understanding Core Habitat Summaries

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

Additional Information

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

Contact the Natural Heritage & Endangered Species Program

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

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



**Natural Heritage
& Endangered
Species Program**

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phone: 508-389-6360 fax: 508-389-7890

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



Town Overview

North Andover lies within the Southern New England Coastal Plains and Hills Ecoregion, an area comprised of plains with a few low hills. Forests are mainly central hardwoods with some transition hardwoods and some elm-ash-red maple and red and white pine. Many major rivers drain this area.



North Andover at a Glance

- Total Area: 17,738 acres (27.7 square miles)
- Human Population in 2010: 28,352
- Open space protected in perpetuity: 5,361 acres, or 30.2% percent of total area*
- BioMap2 Core Habitat: 6,525 acres
- BioMap2 Core Habitat Protected: 2,946 acres or 45.2%
- BioMap2 Critical Natural Landscape: 2,918 acres
- BioMap2 Critical Natural Landscape Protected: 1,923 acres or 65.9%.

BioMap2 Components

Core Habitat

- 1 Forest Core
- 16 Wetland Cores
- 3 Aquatic Cores
- 8 Vernal Pool Cores
- 6 Species of Conservation Concern Cores**
 - 1 bird, 3 reptiles, 2 amphibians, 5 insects, 1 plant

Critical Natural Landscape

- 2 Landscape Blocks
- 9 Wetland Core Buffers
- 3 Aquatic Core Buffers

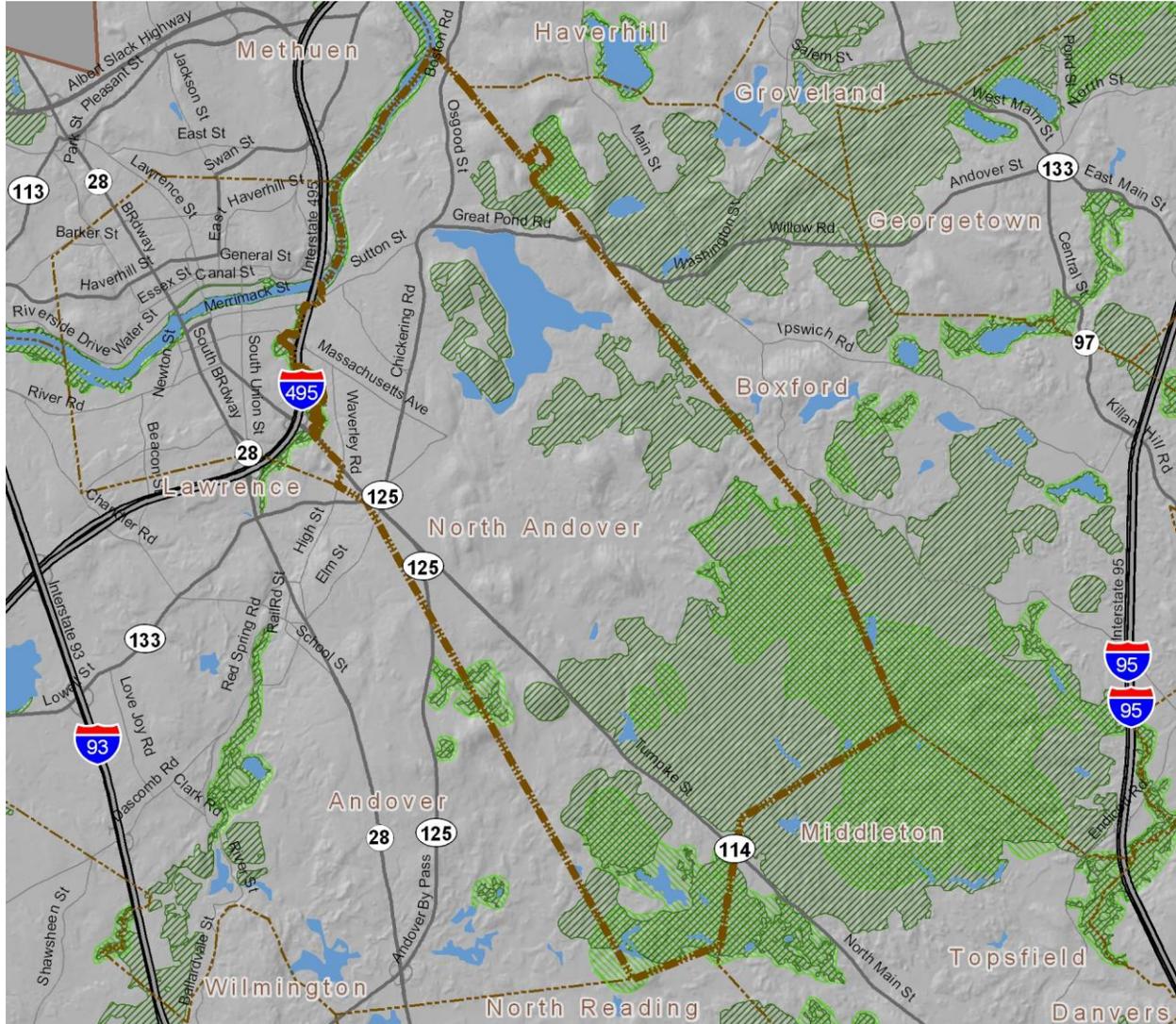
* Calculated using MassGIS data layer "Protected and Recreational Open Space—March, 2012".

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





BioMap2 Core Habitat and Critical Natural Landscape in North Andover



-  BioMap2 Core Habitat
-  BioMap2 Critical Natural Landscape

1 Mile




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**Species of Conservation Concern, Priority and Exemplary Natural Communities,
and Other Elements of Biodiversity in North Andover**

Insects

Moths

[Sandplain Euchlaena](#), (*Euchlaena madusaria*), SC

Butterflies

[Frosted Elfin](#), (*Callophrys irus*), SC

Dragonflies

[Arrow Clubtail](#), (*Stylurus spiniceps*), Non-listed SWAP species

[Cobra Clubtail](#), (*Gomphus vastus*), SC

[Umbur Shadowdragon](#), (*Neurocordulia obsoleta*), SC

Amphibians

[Four-toed Salamander](#), (*Hemidactylium scutatum*), Non-listed SWAP

[Blue-spotted Salamander](#), (*Ambystoma laterale*), SC

Reptiles

Eastern Ribbon Snake, (*Thamnophis sauritus*), Non-listed SWAP

Smooth Green Snake, (*Opheodrys vernalis*), Non-listed SWAP

[Blanding's Turtle](#), (*Emydoidea blandingii*), T

Birds

[Bald Eagle](#), (*Haliaeetus leucocephalus*), T

Plants

[Purple Needlegrass](#), (*Aristida purpurascens*), T

Other BioMap2 Components

[Forest Core](#)

[Aquatic Core](#)

[Wetland Core](#)

[Vernal Pool Core](#)

[Landscape Block](#)

[Aquatic Core Buffer](#)

[Wetland Core Buffer](#)

E = Endangered

T = Threatened

SC = Special Concern

S1 = Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.

S2 = Imperiled communities, typically 6-20 sites or few remaining acres in the state.

S3 = Vulnerable communities, typically have 21-100 sites or limited acreage across the state.





Elements of BioMap2 Cores

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

Core 2551

- Wetland Core
- Vernal Pool Core

Core 2623

- Wetland Core
- Vernal Pool Core

Core 2699

- Species of Conservation Concern
 - Frosted Elfin *Callophrys irus* SC

Core 2701

- Wetland Core

Core 2716

- Wetland Core

Core 2835

- Forest Core
- Aquatic Core
- Wetland Core
- Vernal Pool Core
- Priority & Exemplary Natural Communities
 - Oak - Hickory Forest
 - Small-river Floodplain Forest S2
- Species of Conservation Concern
 - Blue-spotted Salamander *Ambystoma laterale* SC
 - Four-toed Salamander *Hemidactylium scutatum* Non-listed SWAP
 - Blanding's Turtle *Emydoidea blandingii* T
 - Eastern Ribbon Snake *Thamnophis sauritus* Non-listed SWAP
 - Bridle Shiner *Notropis bifrenatus* SC

Core 2874

- Species of Conservation Concern
 - Blanding's Turtle *Emydoidea blandingii* T
 - Smooth Green Snake *Opheodrys vernalis* Non-listed SWAP

Core 2881

- Aquatic Core



**Core 2906**

Species of Conservation Concern

Purple Needlegrass	<i>Aristida purpurascens</i>	T
Sandplain Euchlaena	<i>Euchlaena madusaria</i>	SC
Frosted Elfin	<i>Callophrys irus</i>	SC

Core 2996

Forest Core

Aquatic Core

Wetland Core

Vernal Pool Core

Species of Conservation Concern

Long's Bulrush	<i>Scirpus longii</i>	T
New England Bluet	<i>Enallagma laterale</i>	Non-listed SWAP
Blue-spotted Salamander	<i>Ambystoma laterale</i>	SC
Four-toed Salamander	<i>Hemidactylium scutatum</i>	Non-listed SWAP
Blanding's Turtle	<i>Emydoidea blandingii</i>	T
Northern Black Racer	<i>Coluber constrictor</i>	Non-listed SWAP
Bridle Shiner	<i>Notropis bifrenatus</i>	SC
American Bittern	<i>Botaurus lentiginosus</i>	E
Least Bittern	<i>Ixobrychus exilis</i>	E
Sora	<i>Porzana carolina</i>	Non-listed SWAP

Core 3018A

Aquatic Core

Wetland Core

Priority & Exemplary Natural Communities

Estuarine intertidal: freshwater tidal marsh	S1
Estuarine intertidal: salt marsh	S3
Small-river floodplain forest	S2

Species of Conservation Concern

American Waterwort	<i>Elatine americana</i>	E
Eaton's Beggar-ticks	<i>Bidens eatonii</i>	E
Engelmann's Umbrella-sedge	<i>Cyperus engelmannii</i>	T
Estuary Arrowhead	<i>Sagittaria montevidensis ssp. spongiosa</i>	E
Parker's Pipewort	<i>Eriocaulon parkeri</i>	E
Seabeach Dock	<i>Rumex pallidus</i>	T
Vasey's Pondweed	<i>Potamogeton vaseyi</i>	E
New England Siltsnail	<i>Floridobia winkleyi</i>	SC
Arrow Clubtail	<i>Stylurus spiniceps</i>	Non-listed SWAP
Cobra Clubtail	<i>Gomphus vastus</i>	SC
Coppery Emerald	<i>Somatochlora georgiana</i>	E
Riverine Clubtail	<i>Stylurus amnicola</i>	E
Umber Shadowdragon	<i>Neurocordulia obsoleta</i>	SC

**Natural Heritage
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Species Program****Massachusetts Division of Fisheries and Wildlife**

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BioMap2

Conserving the Biodiversity of Massachusetts in a Changing World

Atlantic Sturgeon
Shortnose Sturgeon
Bald Eagle

Acipenser oxyrinchus
Acipenser brevirostrum
Haliaeetus leucocephalus

E
E
T



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Core Habitat Summaries

Core 2551

A 955-acre Core Habitat featuring Wetland Core and Vernal Pool Core.

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

The 227-acre Wetland Core is among the largest 20% of Wetland Cores statewide and in this ecoregion.

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

Core 2623

A 481-acre Core Habitat featuring Wetland Core and Vernal Pool Core.

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

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

Core 2699

An 83-acre Core Habitat featuring a Species of Conservation Concern.

The Frosted Elfin is a small lycaenid butterfly, inhabiting xeric and open, disturbance-dependent habitats on sandy (occasionally rocky) soil, including grassy openings in pitch pine/scrub oak barrens and similar anthropogenic habitats such as powerline cuts, railways, old sand/gravel pits, and airports.

Core 2701

A 41-acre Core Habitat featuring Wetland Core.

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





Core 2716

A 17-acre Core Habitat featuring Wetland Core.

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

Core 2835

A 10,544-acre Core Habitat featuring Forest Core, Wetland Core, Aquatic Core, Vernal Pool Core, Priority Natural Communities, and Species of Conservation Concern.

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

This 2,352-acre Forest Core is the third largest in the ecoregion and provides important and relatively large forest interior habitat in highly developed eastern Massachusetts.

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

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

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

Oak-Hickory Forests are dominated by a variety of oak species, with hickories present in lower densities. They generally occupy upper slopes or ridgetops. A subcanopy commonly present includes hop hornbeam, flowering dogwood, and shadbush. This example of Oak-Hickory Forest is a relatively large patch of second growth forest, in good condition, which together with adjoining wetlands provides a significant diversity of habitat types across a good-sized roadless area.

Small-River Floodplain Forests are silver maple/green ash forests occurring on alluvial soils of small rivers and streams. They occur on small tributaries of the Connecticut and Nashua Rivers and along some small rivers of eastern Massachusetts. This moderate-sized example of Small-River Floodplain Forest is in good condition except for the presence of exotic invasive species. It would be a good site for a restoration/invasive eradication project.

Adult and juvenile Blue-spotted Salamanders inhabit upland forests during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, whereupon they disperse into upland forest.





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 Massachusetts 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.

Blanding's Turtle is a medium sized turtle. It inhabits a mix of seasonal pools, marshes, shrub swamps, forest, and open uplands. After overwintering in the deep muds of wetlands, Blanding's Turtles move overland to vernal pools and shrub swamps to feed and mate. Loss of only a few adults annually can cause populations to decline as they do not reproduce until late in life (14-20 yrs), and have low replacement rates due to low nest and juvenile survivorship. Roads are the primary cause of adult mortality.

Eastern Ribbon Snakes are a medium-sized, very thin snake ranging from 7 to 34 inches long at maturity. They are active during the day and live in wetlands and edges of open water being comfortable in water and on land, eating amphibians, insects, and occasional fish. This species hibernates in ant mounds, rodent burrows, crayfish burrows, and bank burrows.

Bridle Shiners are small (<5 cm) minnows that are found in clear water in slack areas of streams and rivers and are also found in lakes and ponds.

Core 2874

A 768-acre Core Habitat featuring Species of Conservation Concern.

Blanding's Turtle is a medium sized turtle. It inhabits a mix of seasonal pools, marshes, shrub swamps, forest, and open uplands. After overwintering in the deep muds of wetlands, Blanding's Turtles move overland to vernal pools and shrub swamps to feed and mate. Loss of only a few adults annually can cause populations to decline as they do not reproduce until late in life (14-20 yrs), and have low replacement rates due to low nest and juvenile survivorship. Roads are the primary cause of adult mortality.

A small to medium-sized snake, adult Smooth Green Snakes are 14-20 inches long with a uniform light green back and yellow to white venter. The Smooth Green Snake is found in moist open or lightly forested habitat where grasses and shrubs are abundant (edges of marshes, wet meadows, fields, and forest edges or open forests, grasslands, blueberry barrens, pine barrens) and prefers to forage on the ground with activity in the daytime. Smooth Green Snake overwinter in rodent burrows, ant mounds and rock crevices, either singly or communally.

Core 2881

A 131-acre Core Habitat featuring Aquatic Core.

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





Core 2906

A 359-acre Core Habitat featuring Species of Conservation Concern.

Purple Needlegrass is a densely tufted perennial belonging to a distinctive genus of mostly drought-adapted grasses which are easily recognized by their long-awned "bottlebrush" flower spikes. This species prefers frequent disturbance and is not tolerant of shade or competition from encroaching woody plants.

Sandplain Euchlaena moths inhabit heathlands and other disturbance-dependent habitats. The primary larval host plants are heaths such as lowbush blueberry (*Vaccinium* spp.).

The Frosted Elfin is a small lycaenid butterfly, inhabiting xeric and open, disturbance-dependent habitats on sandy (occasionally rocky) soil, including grassy openings in pitch pine/scrub oak barrens and similar anthropogenic habitats such as powerline cuts, railways, old sand/gravel pits, and airports.

Core 2996

An 8,784-acre Core Habitat featuring Forest Core, Wetland Core, Aquatic Core, Vernal Pool Core, and Species of Conservation Concern.

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

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

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

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

Long's Bulrush is a globally rare, robust sedge of open peaty wetlands. In Massachusetts, Long's Bulrush is known to occur in acidic fen and wet meadow communities associated with rivers.

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

Adult and juvenile Blue-spotted Salamanders inhabit upland forests during most of the year, where they reside in small-mammal burrows and other subsurface retreats. Adults migrate during late winter or early spring to breed in vernal pools and fish-free areas of swamps, marshes, or similar wetlands. Larvae metamorphose in late summer or early fall, whereupon they disperse into upland forest.





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 Massachusetts 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.

Blanding's Turtle is a medium sized turtle. It inhabits a mix of seasonal pools, marshes, shrub swamps, forest, and open uplands. After overwintering in the deep muds of wetlands, Blanding's Turtles move overland to vernal pools and shrub swamps to feed and mate. Loss of only a few adults annually can cause populations to decline as they do not reproduce until late in life (14-20 yrs), and have low replacement rates due to low nest and juvenile survivorship. Roads are the primary cause of adult mortality.

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

Bridle Shiners are small (<5 cm) minnows that are found in clear water in slack areas of streams and rivers and are also found in lakes and ponds.

American Bitterns are heron-like birds that nest primarily in large cattail, tussock or shrub marshes and are very sensitive to disturbance.

Least Bitterns are heron-like birds that typically nest in cattail marshes interspersed with open water and are very sensitive to disturbance.

Soras are secretive marshbirds that typically nest in dense cattail marshes with interspersed open water.

Core 3018A

A 6,298-acre section of a larger 35,194-acre Core Habitat featuring Wetland Core, Aquatic Core, Priority Natural Communities, and Species of Conservation Concern.

The mainstem of the Merrimack River, as it winds its way from the New Hampshire border in Tyngsborough to the tidal waters of its mouth, supports 19 rare and uncommon species. Bald Eagles have recently returned to nest along the river, while the federally Endangered Atlantic and Shortnose Sturgeons cruise the river's waters in small numbers. In West Newbury, a Freshwater Tidal Marsh - a very uncommon type of natural community - hosts six Endangered and Threatened plants, including the globally rare Eaton's Beggar-ticks and Parker's Pipewort.

The Freshwater Tidal Marsh community occurs along coastal rivers, upstream of brackish tidal marsh. Here the marshes are flooded by tidal action twice a day, but with fresh water. These structurally diverse marshes are globally rare. This example of Freshwater Tidal Marsh is relatively large and in good condition. It is the largest community of this type north of Boston.

The Salt Marsh community type is a graminoid-dominated, tidally flooded coastal community with several vegetative zones. Salt Marshes form in areas subject to oceanic tides, but sheltered from wave





energy. At over 16,000 acres this example of Salt Marsh is the largest in New England. It is generally in good condition and largely under conservation ownership.

Small-River Floodplain Forests are silver maple/green ash forests occurring on alluvial soils of small rivers and streams. They occur on small tributaries of the Connecticut and Nashua Rivers and along some small rivers of eastern Massachusetts. This example of Small-River Floodplain Forest, though quite small, is an unusual variant of the community dominated by Green Ash. It is in relatively good condition and is well buffered by the surrounding landscape.

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

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





Elements of BioMap2 Critical Natural Landscapes

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

CNL 1229

Landscape Block
Wetland Core Buffer

CNL 1248

Wetland Core Buffer

CNL 1251

Wetland Core Buffer

CNL 1252

Wetland Core Buffer

CNL 1280

Aquatic Core Buffer
Landscape Block
Wetland Core Buffer

CNL 1301

Aquatic Core Buffer

CNL 1323

Wetland Core Buffer

CNL 1362

Aquatic Core Buffer
Coastal Adaptation Area
Landscape Block
Tern Foraging Area





Critical Natural Landscape Summaries

CNL 1229

A 1,605-acre Critical Natural Landscape featuring Wetland Core Buffer and Landscape Block.

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

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

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

CNL 1248

A 65-acre Critical Natural Landscape featuring Wetland Core Buffer.

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

CNL 1251

A 60-acre Critical Natural Landscape featuring Wetland Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river, by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each





wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

CNL 1252

A 226-acre Critical Natural Landscape featuring Wetland Core Buffer.

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

CNL 1280

A 5,042-acre Critical Natural Landscape featuring Aquatic Core Buffer, Wetland Core Buffer and Landscape Block.

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

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CNL 1301

A 188-acre Critical Natural Landscape featuring Aquatic Core Buffer.

A variety of analyses were used to identify protective upland buffers around wetlands and rivers. One, the variable width buffers methodology, included the most intact areas around each wetland and river,





by extending deeper into surrounding unfragmented habitats than into developed areas adjacent to each wetland. Other upland buffers were identified through the rare species habitat analysis. In this way, the conservation of wetland buffers will support the habitats and functionality of each wetland, and also include adjacent uplands that are important for many species that move between habitat types.

CNL 1323

A 172-acre Critical Natural Landscape featuring Wetland Core Buffer.

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

CNL 1362

A 50,627-acre Critical Natural Landscape featuring Aquatic Core Buffer, Landscape Block, Coastal Adaptation Area, and Tern Foraging Area.

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

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

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

This 8,989-acre Landscape Block is the fourth largest of 62 Blocks in the ecoregion. Unlike Landscape Blocks in much of the state that are dominated by upland forests, this coastal Landscape Block is dominated by unique and important salt marsh, barrier beach, and estuary habitats.





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

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



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Natural Heritage & Endangered Species Fund

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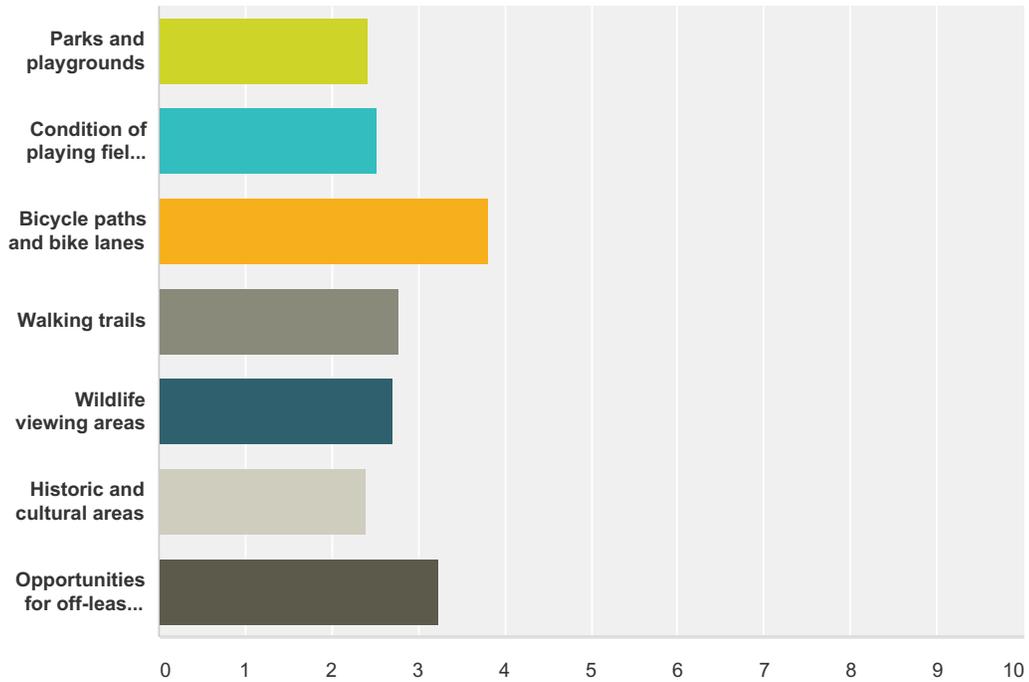
F. FONAT Trial Maps

G. Survey Summary

Appendix: Community Survey Results

Q1 Please indicate how well North Andover recreation areas and open spaces meet your expectations in the following areas. (1 = very well, 5 = does not meet expectations)

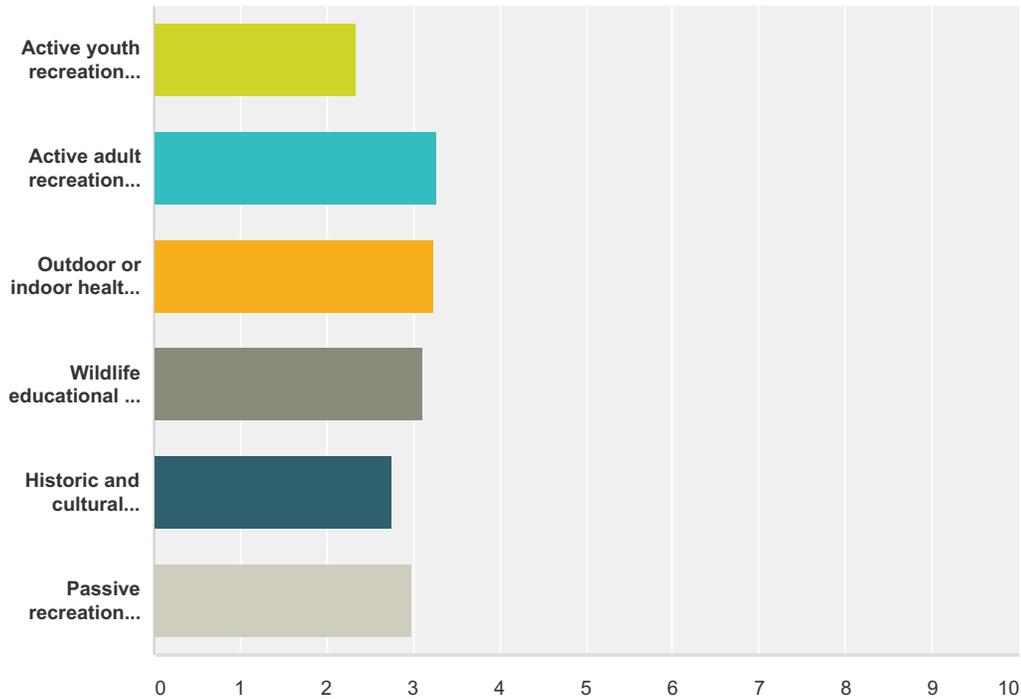
Answered: 208 Skipped: 0



	1 (very well)	2	3 (neutral)	4	5 (does not meet expectations)	Total	Weighted Average
Parks and playgrounds	20.77% 43	39.13% 81	21.26% 44	13.53% 28	5.31% 11	207	2.43
Condition of playing fields and courts	14.71% 30	36.27% 74	33.33% 68	12.25% 25	3.43% 7	204	2.53
Bicycle paths and bike lanes	1.96% 4	11.27% 23	27.45% 56	20.10% 41	39.22% 80	204	3.83
Walking trails	15.76% 32	29.56% 60	24.63% 50	21.18% 43	8.87% 18	203	2.78
Wildlife viewing areas	14.22% 29	25.98% 53	41.18% 84	12.25% 25	6.37% 13	204	2.71
Historic and cultural areas	17.24% 35	37.93% 77	33.50% 68	9.36% 19	1.97% 4	203	2.41
Opportunities for off-leash dog exercise	9.64% 19	13.20% 26	42.64% 84	12.69% 25	21.83% 43	197	3.24

Q2 Please indicate how well North Andover recreation and open space programs meet your expectations in the following areas. (1 = very well, 5 = does not meet expectations)

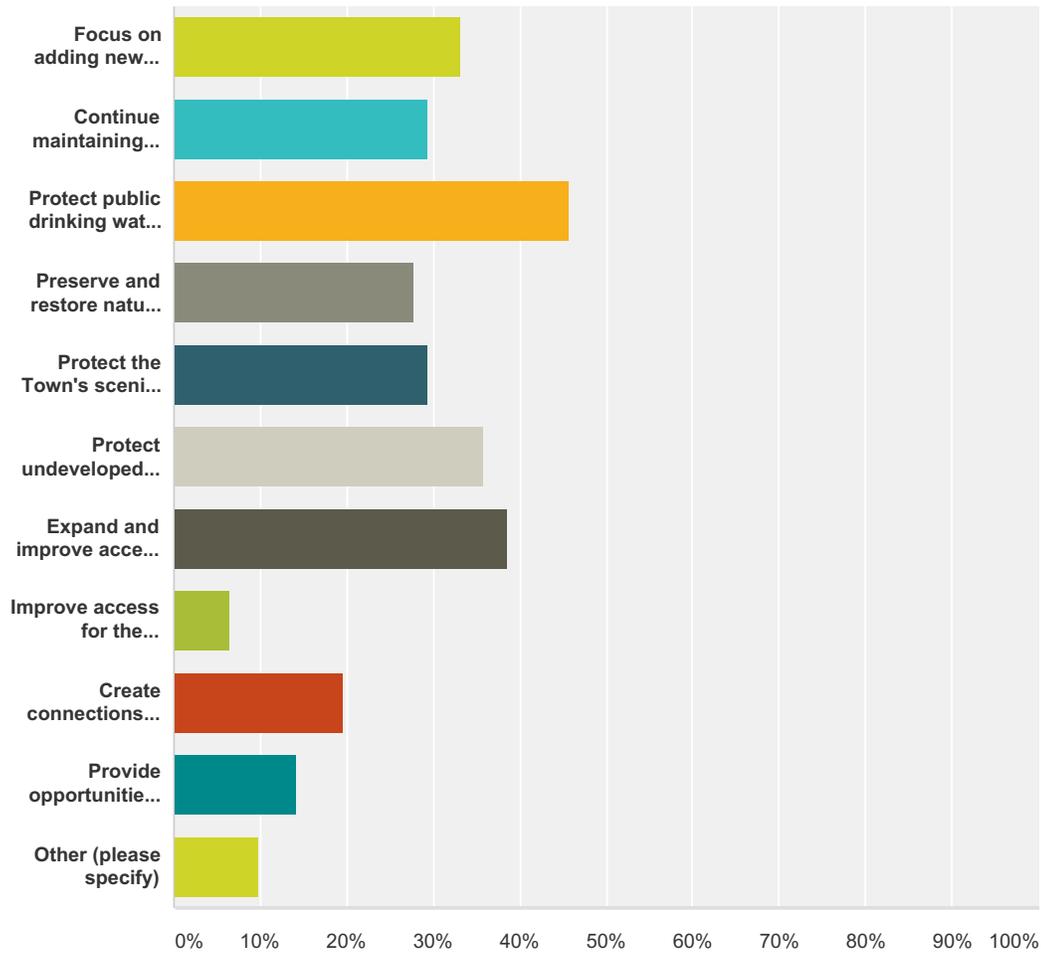
Answered: 207 Skipped: 1



	1 (very well)	2	3 (neutral)	4	5 (does not meet expectations)	Total	Weighted Average
Active youth recreation programs and facilities, including play structures and court-based and field sports	25.85% 53	38.05% 78	16.59% 34	16.59% 34	2.93% 6	205	2.33
Active adult recreation programs and facilities	3.98% 8	17.91% 36	39.30% 79	23.38% 47	15.42% 31	201	3.28
Outdoor or indoor health and exercise programs	5.94% 12	14.85% 30	42.57% 86	22.77% 46	13.86% 28	202	3.24
Wildlife educational and appreciation opportunities	5.94% 12	15.84% 32	46.04% 93	24.75% 50	7.43% 15	202	3.12
Historic and cultural educational and appreciation opportunities	10.84% 22	24.63% 50	45.32% 92	17.24% 35	1.97% 4	203	2.75
Passive recreation programs	7.58% 15	17.17% 34	50.00% 99	19.19% 38	6.06% 12	198	2.99

Q3 What do you think are the most important goals related to the Town's open space and recreation spaces? Please pick up to 3 goals from the following list that you think should be highest priority for the next 5 to 10 years.

Answered: 184 Skipped: 24



Answer Choices	Responses
Focus on adding new recreational opportunities or programs (see Question 4).	33.15% 61
Continue maintaining high quality recreational programs and services.	29.35% 54
Protect public drinking water supplies.	45.65% 84
Preserve and restore natural resources.	27.72% 51
Protect the Town's scenic areas.	29.35% 54
Protect undeveloped areas.	35.87% 66

Expand and improve access to public open space and recreation areas.	38.59%	71
Improve access for the disabled to recreation facilities and programs.	6.52%	12
Create connections between existing public open space areas.	19.57%	36
Provide opportunities for residents to interact with / observe nature on a regular basis.	14.13%	26
Other (please specify)	9.78%	18
Total Respondents: 184		

#	Other (please specify)	Date
1	Bike paths and sidewalks added on more roads.	6/18/2013 10:37 PM
2	More safe places for kids afterschool	6/16/2013 8:19 PM
3	Off leash inclosed dog park.	6/11/2013 10:16 AM
4	bike paths/side walks need to be addressed.	6/10/2013 5:34 PM
5	"reinvent-renovate playground facilities-Drummond, add challenge course to Youth center & utilize facility during day as adult gym, hold classes (not senior focuse)	6/10/2013 10:10 AM
6	add dirt bike tracks for recreational use	6/10/2013 7:25 AM
7	Sidewalks in Downtown area	6/7/2013 8:09 AM
8	cross walks by quick pic pleasant st	6/5/2013 9:50 AM
9	Bike/walk routes developed	6/4/2013 8:05 AM
10	dog park areas	6/2/2013 1:58 PM
11	Develop accessibility to river: walking/jogging/biking paths at riverside. We have a beautiful river and NO access for enjoyment of it.	5/31/2013 10:33 AM
12	Create new bike lanes and trails.	5/31/2013 6:19 AM
13	Create/fix sidewalks and biking paths for those without cars	5/29/2013 7:15 PM
14	Sidewalks, bike and walking paths - especially connecting to other communities.	5/29/2013 10:10 AM
15	Bike lanes and sidewalks for safety please!! We need a sidewalk on Chadwick street where there is a park!	5/29/2013 8:50 AM
16	Playground for younger children	5/29/2013 6:28 AM
17	We really need more bike trails. This links with your idea of creating connections between public open spaces.	5/28/2013 8:48 PM
18	Communicate to the citizens via maps, pamphlets, signage etc. where the open space and recreational areas are located	5/22/2013 9:38 AM

Q4 If you answered "Focus on adding new recreational opportunities or programs" above, what opportunities or programs would you like to see in North Andover?

Answered: 57 Skipped: 151

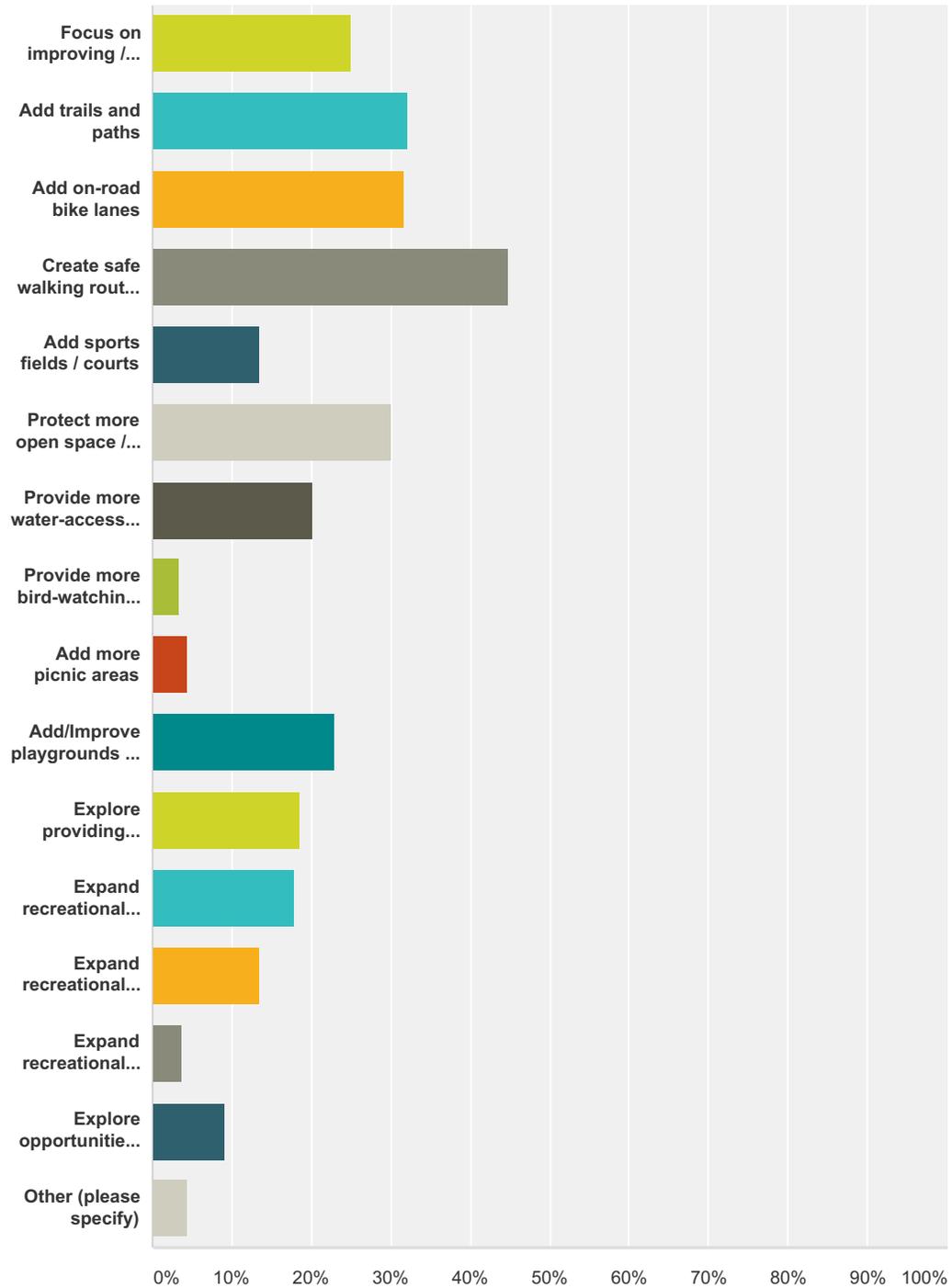
#	Responses	Date
1	Better playgrounds and a splash park	6/23/2013 11:52 PM
2	Adding biking paths around town so everyone can safely ride their bikes.	6/23/2013 7:15 PM
3	I would like to see North Andover model their program after the Andover DCS program. Many opportunities/classes are afforded to Andover Residents. I would like to see the same programs available here in North Andover.	6/22/2013 9:38 PM
4	I would like to see the old town square reconstructed to be able to flood areas for iceskating rinks in the winter and add more free out activities that are not structured.	6/21/2013 8:10 AM
5	Bike Path	6/18/2013 5:56 PM
6	Add more turf sports fields	6/16/2013 8:19 PM
7	Create an outdoor swimming pool facility for the town.	6/16/2013 10:39 AM
8	Improved fields (turf), biking and running paths for everyone.	6/14/2013 12:05 PM
9	More free events on the common and in other areas (not carnival ones where vendors are expensive) to get the community together...	6/14/2013 11:12 AM
10	I would like to see bleachers at all of the fields that the girls play softball at. Not just at the fields where the boys play baseball. Thank you.	6/13/2013 8:32 PM
11	Town pool. Winter outdoor ice skating.	6/12/2013 6:35 PM
12	n/a	6/12/2013 8:58 AM
13	North Andover NEEDS a dog park where dogs can roam off leash in a safe, fenced in area. The closest dog park to our area is in LOWELL, and I am not going to Lowell to let my dog off leash! Most people end up bringing their dogs to Weir Hill, which, though a great resource, often interrupts other hikers, joggers, etc because the dogs chase strangers, but some dogs (like mine) have a high prey drive and cannot be allowed off leash if the area isn't fenced because it simply isn't safe for her (or the small woodland creatures she likes to chase). A dog park would remedy these issues.	6/11/2013 9:12 PM
14	I would love to see some place to ice skate outside in winter (rink in old town center for example). Some towns flood their green area for free outdoor skating - why not do that in our old town center. Boat/canoe/kayak rental and/or lessons/tours on the lake (Conchichewick) or other (Steven's pond?). Would also like to see some play structure in old town center. (and need to clean up/improve the playspace right near 495 on Mass Ave - it is horrible.) Would love to see some paved bike paths for kids (I am aware of many unpaved, but my small kids cannot really ride on those). Would love to see some Tennis Courts like the big outdoor tennis complex area in Andover.	6/11/2013 8:23 PM
15	Add a couple public basketball courts. Add weekend-only pass to Steven's Pond and ensure its cleaner (or move public swim area to another location). Add playground at McEvoy Park. Add water access areas for fishing and canoes/kayaks.	6/11/2013 12:13 PM
16	A dog park	6/11/2013 10:16 AM

17	Off leash fenced in dog park. Willing to bet there are more people in town with dogs and no kids using parks than there are families with kids the age of using parks (late elementary and middle school). Yet the focus seems to be to spend money on making more fields and parks for these families, while us with older kids who don't use those facilities have no place to take our dogs off leash. The town seems to be very anti-dog with the "absolutely no dogs" signs all around. Yet the tax base of dog owners in town I am sure it quite high. Other towns have or are building dog parks as destinations to draw people into town. We go to Derry and Portsmouth and other towns, because they have great dog parks. You can find a playing field in almost every corner of the town, and I can't drive 5 minutes without passing at least 2. There seems to be plenty of money for those, but the town can't build one good off leash dog park. That seems a shame. I think you will see the same citizen uproar with this soon as you did with chickens.	6/11/2013 8:21 AM
18	bike paths/side walks need to be addressed.	6/10/2013 5:34 PM
19	more programs for "tweens", non-sports programs and adult sports leagues.	6/10/2013 3:39 PM
20	The library district is highly populated with young children, yet there are no public playgrounds within walking distance. A small playground could be added to Memorial Park without detracting from the beauty and meaning of the park. Also, a dog park would be a welcome addition somewhere in the town.	6/6/2013 10:52 AM
21	Improved infrastructure for cycling	6/5/2013 12:32 PM
22	parks at high school	6/5/2013 9:50 AM
23	More adult exercise cl	6/4/2013 6:58 PM
24	Dog park.	6/4/2013 10:33 AM
25	More safe paths cleat marked levels of difficulty	6/4/2013 8:05 AM
26	A bike path (rail to trail) would be wonderful, similar to what they have done in Amesbury and Newburyport	6/4/2013 8:01 AM
27	Continue to maintain and expand the town's recreation space (ball/ soccer fields).	6/4/2013 7:34 AM
28	Offerings for younger children as well as adults for indoor and outdoor opportunities throughout the year.	6/3/2013 1:12 PM
29	More bike paths and walking paths. And more restrictions on dog and dog owners.	6/3/2013 9:17 AM
30	more family activities and adult continuing education courses like cooking, hobbies etc	6/2/2013 2:35 PM
31	Adult volleyball league at the high school for ladies.	5/31/2013 6:19 AM
32	I would like to see the elementary school's playgrounds be kept up to code and equipped with up-to date playing structures children can use on a daily basis.	5/30/2013 7:19 PM
33	Wish we could have programs and opportunities like Andover!	5/30/2013 5:11 PM
34	I would love to see a recreation complex much like the Ipswich River Park in North Reading. The town youth programs could be host to many tournaments if we had the facilities. These tournaments bring much needed business to local businesses. The large geographical dispersion makes hosting sports tournaments very challenging as some fields are 20+ minute drive from other fields.	5/30/2013 11:51 AM
35	Skating rink. Better use of youth center. Ropes course up and running again. More program for mentally and physically challenged adults and children, bike paths. More playgrounds,	5/29/2013 9:08 PM
36	It would be nice to have more bike paths, similar to rail trails that are safe for families and children of any age. I am not sure if we have any adult rec programs?? If we do, I am not sure they are well advertised. I know that the Youth Center is a treasure and we love Stevens Pond. I hope the pond will be open all year with the preventative measures put in place. I think we have a lot of great spaces in North Andover, but making sure they stay clean and maintained and advertising them well is important.	5/29/2013 4:19 PM
37	more passive recreation, ie: yoga, tai chi. More activities for children who are not sports oriented, this town is overloaded with sports for kids. How about some drama? music? art?	5/29/2013 11:07 AM
38	Take a look at Andover's superb rec program that all of us in NA use bc ours is terrible!!	5/29/2013 9:39 AM
39	bike lane and trails and judging by the questions it seems there are programs I don't know about so maybe more promotion of existing things	5/29/2013 9:28 AM
40	Adult programs such as summer tennis leagues. Also improved adult education/special interest programs like photography, arts etc.	5/29/2013 8:42 AM

41	N/A	5/29/2013 8:35 AM
42	walking/biking trails	5/29/2013 8:17 AM
43	Bike paths	5/29/2013 8:07 AM
44	More programs for kids in the preschool age group	5/29/2013 6:28 AM
45	It would be nice to have a sports complex area, similar to North Reading, not just at the high school. This could have several fields, a track, picnic benches, play ground etc.	5/29/2013 6:07 AM
46	Love to see a bike path that we do NOT have to drive to. Possibly could start near downtown, might increase foot traffic to our local business?	5/28/2013 7:20 PM
47	I would suggest to do something similar to Andover recreational programs and website. Andover recreational programs include much more opportunities for children and adults as compared to North Andover. The website will make a big difference. Do more community events like camping out on the pond, bird watching, etc.	5/28/2013 10:09 AM
48	more programs for kids, esp. in summer months, including full day programs	5/28/2013 10:05 AM
49	Develop new and expand existing playground structures, particularly the space on Chadwick st. There is currently one slide a few swings.	5/28/2013 10:04 AM
50	An off-leash, enclosed dog park would be wonderful for socializing and exercising North Andover's large dog population.	5/28/2013 10:02 AM
51	Biking, hiking paths, public tennis courts, kayaking, fishing	5/26/2013 9:29 PM
52	NA needs improvements to the playgrounds at Reynolds and Drummond. Much of Drummond needs replacement or at minimal updating to prevent splinters. Additionally, Drummond needs swings for older children. Reynolds, while newer, is fairly dangerous. The slides are shallow and steep and the mulch quickly wears away allowing the cement footings at the base of the slides to be exposed. Also, the divets under the swings become very deep. NA could also use a playground specific to younger children and tennis courts for community play. Finally, the playgrounds at some of our schools are in desperate need of replacement/updating.	5/25/2013 6:50 PM
53	A variety of adult ed classes. Pentucket has a great list of offerings. Add more adult activities at the youth center before 2:00	5/24/2013 8:17 PM
54	More active physical programs for middle schoolers.	5/22/2013 2:22 PM
55	I would like to see the sports field be upgraded. North Andovers fields are well below other town facilities. They need to be upgraded!	5/21/2013 11:05 PM
56	Bike path	5/21/2013 9:25 PM
57	Would LOVE to see some areas near the river opened up and beautified for walking, biking, and FITNESS TRAIL!! We have a beautiful river that the town doesn't take advantage of.	5/21/2013 3:31 PM

Q5 What do you think are the most important projects or facility improvements for open space and recreation areas over the next 5 to 10 years? Please pick up to 3 from the following list that you think should be highest priority. As you answer these questions, please keep in mind that while grants, donations, user fees, and partnerships can offset costs, it is likely additional Town funds would be required.

Answered: 183 Skipped: 25



Answer Choices	Responses
Focus on improving / maintaining existing recreational areas and facilities	25.14% 46
Add trails and paths	32.24% 59
Add on-road bike lanes	31.69% 58
Create safe walking routes to schools, including sidewalks.	44.81% 82
Add sports fields / courts	13.66% 25

Protect more open space / conservation land	30.05%	55
Provide more water-access points for canoes/kayaks	20.22%	37
Provide more bird-watching and wildlife-viewing areas	3.28%	6
Add more picnic areas	4.37%	8
Add/Improve playgrounds or play structures	22.95%	42
Explore providing designated location for dogs off-leash	18.58%	34
Expand recreational programs for adults	18.03%	33
Expand recreational programs for youth	13.66%	25
Expand recreational programs for seniors (65+)	3.83%	7
Explore opportunities for adding community gardens	9.29%	17
Other (please specify)	4.37%	8
Total Respondents: 183		

#	Other (please specify)	Date
1	Splash park	6/23/2013 11:52 PM
2	No more elderly housing developments.	6/12/2013 8:58 AM
3	Sidewalks on Mass ave need major improvement and cross walks added. Add Tennis Courts and Outdoor ice rink in winter in old town center	6/11/2013 8:23 PM
4	Add parking and access at Windrush Farm & 623 Osgood St properties	5/30/2013 11:29 AM
5	All should be improved	5/29/2013 9:08 PM
6	less sports more 'passive' recreation (see #4)	5/29/2013 11:07 AM
7	Add off road bike paths throughout town so that children can get around safely while avoiding traffic.	5/29/2013 11:05 AM
8	Let's put all of our time, money and energy on improving what we have	5/22/2013 9:38 AM

Q6 Is there facility in a nearby community that you frequent that you'd like to have in North Andover? Please explain.

Answered: 67 Skipped: 141

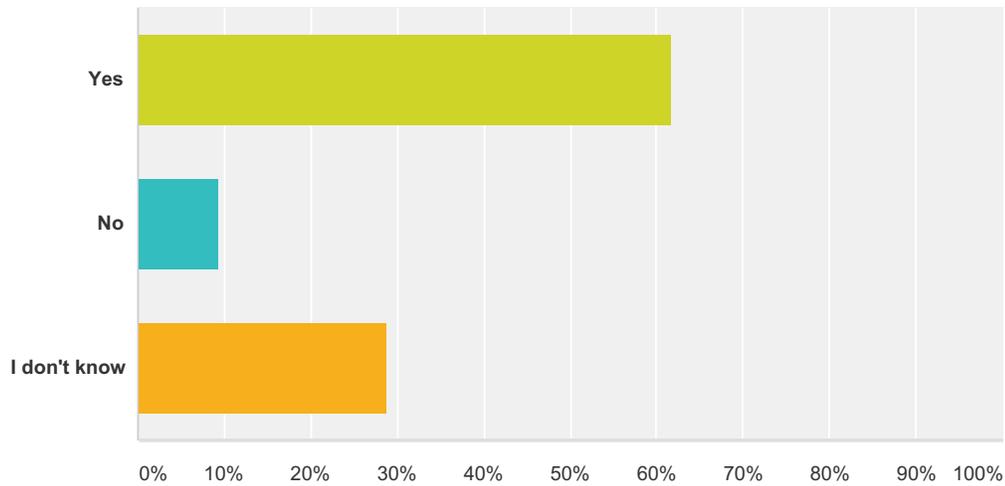
#	Responses	Date
1	We usually go to Middleton to ride our bike in a safe bike path in that town.	6/23/2013 7:15 PM
2	Andover DCS. Tennis lessons and the Drop-In playground are among the most popular in my family, though they offer such great opportunities we could mirror here in North Andover.	6/22/2013 9:38 PM
3	Many communities have more access for bikers on roads like Summer Street. Also, there are open parks for dogs which require no leashes.	6/18/2013 10:37 PM
4	Bike paths in other towns	6/18/2013 5:56 PM
5	A community pool for adults and kids and a wading pool for toddlers with restrooms and changing facilities would be a nice.	6/18/2013 12:58 PM
6	Bike path, amesbury, chelsford, winchester...	6/18/2013 7:14 AM
7	I really enjoy when I visit a town with a large town common with a gazebo i.e. Andover, Winchester, Wilmington, most NH towns. It provides a lovely architectural element to the open space as well as a location for community events such as the summer concerts.	6/17/2013 3:42 PM
8	Nashua River Rail Trail	6/16/2013 10:39 AM
9	Ipswich river park in North Reading	6/14/2013 11:09 AM
10	No	6/13/2013 8:32 PM
11	Swimming pool	6/12/2013 6:35 PM
12	No	6/12/2013 8:58 AM
13	Recreation park in Andover; ice skating on the mall in Newburyport.	6/11/2013 8:23 PM
14	We recently moved to town and my husband would have loved to join a softball league	6/11/2013 12:18 PM
15	Ipswich Park in North Reading is great - and has fees for large group use which would help with funding.	6/11/2013 12:13 PM
16	The Derry Dog park. It's the closest off-leash place for dogs! And it's 35minutes away!! I go there, buy coffee in town and often fill up on gas on the way home. In cooler weather, I often have lunch too!	6/11/2013 10:16 AM
17	Dog Park. And I would like this to be more than "Explore providing designated location"... which is even worded so much different than "Add sports fields / courts". I mean really? The wording shows just how uncommitted the town is to providing this service.	6/11/2013 8:21 AM
18	Endicott Park in Danvers. We like the combination of huge play structure & "farm experience" for kids, the combination of open fields & woods, & the ability to rent sections for family/group outings.	6/10/2013 9:47 AM
19	rock climbing	6/10/2013 7:25 AM
20	An animal shelter would really benefit the community.	6/8/2013 1:49 AM
21	kayaking/canoing at the Harold Parker with access in Andover	6/5/2013 9:10 AM
22	Spray park Swimming Pool	6/4/2013 6:58 PM
23	We drive to Salem MA to use their dog park.	6/4/2013 10:33 AM
24	Avis trails	6/4/2013 8:05 AM

25	A bike path (rail to trail)/walking trail would be wonderful, we often use the ones in Amesbury and Newburyport. They are perfect for people of all ages and many different rec uses. One would be particularly nice in NA because most of the streets lack sidewalks and it can be quite dangerous biking on them, especially with kids. A path that was on the old trail that goes thru Weir Hill/Stevens Pond area would be perfect for it. Also, the playgrounds could use a little help - places like Drummond are great, but all they need is to add some mulch and fix broken equipment. That is a much better (and cheaper!) option than adding new playgrounds.	6/4/2013 8:01 AM
26	Indoor private soccer field house.	6/4/2013 7:34 AM
27	North Readings Ipswich River Park with bike/walking paths, picnic areas, playgrounds etc.	6/3/2013 6:37 PM
28	Outdoor or indoor sports for adults. Perhaps regular pickup games available on existing fields/courts organized by the town or a schedule of available fields/courts for permit and/or free play.	6/3/2013 1:12 PM
29	The Wyndham bike trail and the one in Groton, too.	6/3/2013 9:17 AM
30	the adult learning classes that Andover provides	6/2/2013 2:35 PM
31	we lived in oregon and miss having a park with a paved bike trail- mostly to be used for families/kids; playgrounds suitable for toddlers and growing children with adult recreational amenities as well.	6/2/2013 5:57 AM
32	Public landing of some form on the Merrimack River, I'm fully aware of the depth of the water and speed of the current through the north andover section of river. I'm a kayaker/canoelist and 'sneaking' to the river at the back of Nancy Chipendale's Dance studio Paddling upstream from the park in lawrence is okay but it's nice to paddle to haverhill on occasion. I don't expect this to be a high demand item, a couple parking spots (not paved) and approved public access to the river bank would be sufficient.	5/31/2013 10:04 PM
33	Paved bike/walking path, for example a rail trail.	5/30/2013 10:59 PM
34	Windham NH rail trail	5/30/2013 8:41 PM
35	Indoor rock climbing center Sprinkler park	5/30/2013 8:31 PM
36	Love the Ipswich River park in North Reading	5/30/2013 5:11 PM
37	Ipswich River Park in North Reading is a great mix-use facility - fields, rinks, playgrounds, track, dog walk. I would LOVE to see something similar in North Andover.	5/30/2013 11:51 AM
38	Tire swing on Ipswich River in Topsfield	5/30/2013 11:29 AM
39	The town of North Reading has a great picnic/playground/open space area that I'd love to see us have. With plenty of parking.	5/29/2013 9:58 PM
40	Outdoor ice hockey,, walking trails. Outdoor hockey rink	5/29/2013 9:08 PM
41	Ipswich River Park in North Reading	5/29/2013 8:31 PM
42	I visit POMPS pond in Andover more than Stevens pond in NA because I find the facilities much nicer and more organized. The fact that they have a snack bar is a big draw, as well as the play area being closer to the water area. An eating area (breakfast/lunch/ or dinner) close to the water in North Andover would be ideal.	5/29/2013 7:15 PM
43	We love rail trails and spray parks as our children are still young. Plymouth has a nice public spray park at a playground (Nelson Park). We have been to rail trails in Amesbury and Lexington.	5/29/2013 4:19 PM
44	Andover's Children and Adult Recreational programs. See #4	5/29/2013 11:07 AM
45	We would like to see a compinatin path and boardwalk around the lake...using existing open space and adding sidewalks on roadways to create a continuous loop.	5/29/2013 10:10 AM
46	Ipswich River Park in North Reading. Walking/bike path, great playground, snack shack... awesome!	5/29/2013 10:07 AM
47	bike trails as in Lexington MA	5/29/2013 9:58 AM
48	Ipswich River Park in North Reading is an amazing facility with something for everyone. The huge track can be used by walkers, joggers and bikes. Inside the track is a play structure and open fields. There are also tennis courts etc.	5/29/2013 9:41 AM
49	Andover Rec	5/29/2013 9:39 AM
50	Rail trails for biking, walking, jogging. Not only does it provide recreation and exercise opportunities, but users also spend money at local businesses.	5/29/2013 9:31 AM

51	there was a park in Reading (or N Reading?) that had everything skate park, playgrounds for different ages and more, we haven't been back but it was great, a community pool maybe indoor outdoor would be nice. I grew up with a MDC pool and it was great and free. The Y is expensive	5/29/2013 9:28 AM
52	Ipswich River Park in North Reading has alot in one location.....outdoor volleyball, playground, boat launch, trails, picnic tables, soccer fields, etc.	5/29/2013 8:50 AM
53	N/A	5/29/2013 8:35 AM
54	Would like to have more walking/bike paths in town like those in towns closer to Boston	5/29/2013 7:47 AM
55	Griffin Park in Windham. It has something for everyone!!	5/29/2013 6:28 AM
56	North Reading has a great play/sports complex with a track around a large open space for sports, picnic tables, a covered area, play ground, etc.	5/29/2013 6:07 AM
57	Ipswich River Park is nicely laid out with sports fields, bathrooms, trails, evening shows etc. Would love to see common area improved to have bathrooms, sports fields, walking path. Also, could you add playground to park across from library... it would be nice to be within walking distance to shops in town and to library.	5/28/2013 10:34 PM
58	bike path in Peabody	5/28/2013 2:35 PM
59	bike lanes (there are bike lanes in Andover) recreation park (there are tennis courts in recreation park in Andover) area for kids birthday party (like in Reading near the lake, etc.)	5/28/2013 10:09 AM
60	Can't frequent it because it's restricted to Andover residents, but the Poms Pond summer program for youth is a fantastic opportunity.	5/28/2013 10:05 AM
61	The Groveland dog park and Boy Scout Park in Boxford (great structures for imaginative play).	5/28/2013 10:02 AM
62	Kayaking / Canoeing	5/26/2013 9:29 PM
63	a movie theater	5/25/2013 7:22 PM
64	The sports complex in Windham, NH is very nice and provides a variety of opportunities for a variety of ages and interests. If new playground equipment is added, please consider structures that allow for easy visibility - solid wood walls and thick planks make it hard to watch children It is too bad there is no playground in downtown NA - it would be nice to have a reason to bring families into the downtown. Finally, thank you for the opportunity to complete this survey.	5/25/2013 6:50 PM
65	A rail trail along the old railroad bed from down town North Andover all the way out to the Middleton line would be great. Many towns have rail trails, including several on Cape Cod.	5/25/2013 9:22 AM
66	Rail trail/ Bike trails	5/22/2013 9:02 AM
67	Concord Bike Path	5/21/2013 3:31 PM

Q7 Is North Andover doing a good job of protecting our town's natural resources? If no, please explain below.

Answered: 160 Skipped: 48



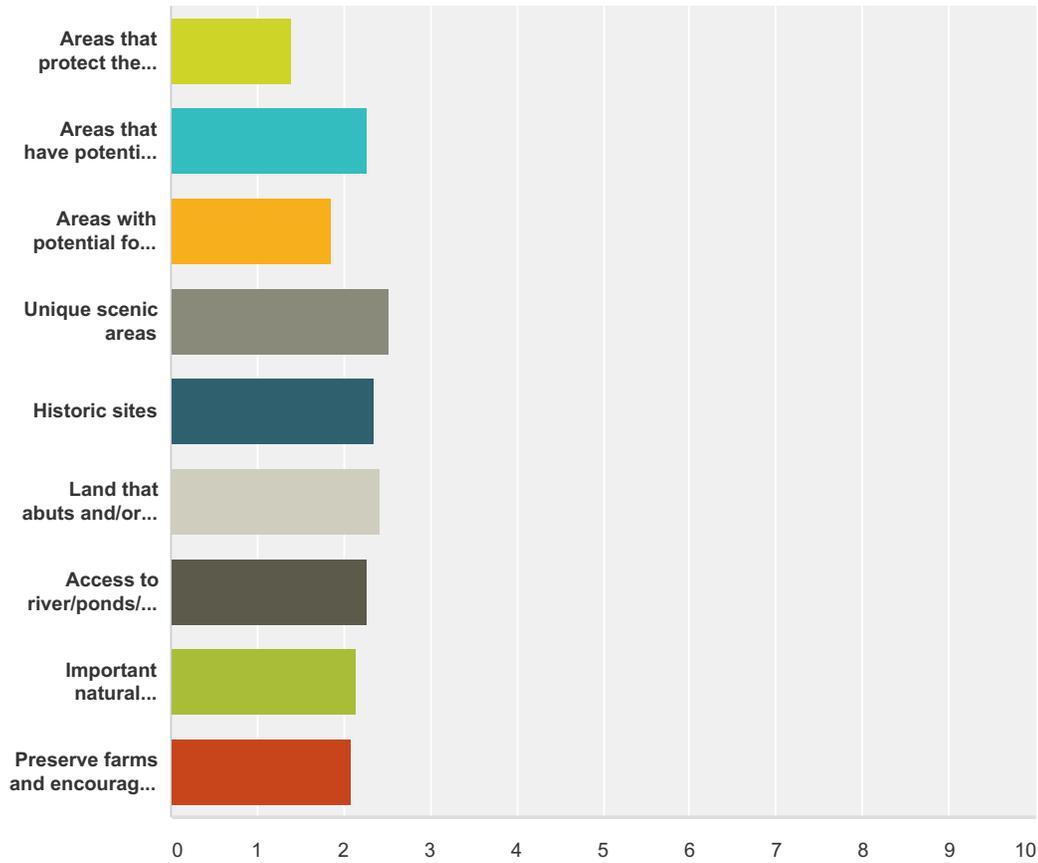
Answer Choices	Responses
Yes	61.88% 99
No	9.38% 15
I don't know	28.75% 46
Total	160

#	If no, please explain	Date
1	Conservation Department is pathetic. They play tit for tat and likes to screw residents out of paying hundreds of dollars for revised plot plans and public notices.	6/18/2013 1:02 PM
2	Too many elderly housing developments & condos. We have enough!	6/12/2013 9:01 AM
3	How is previously unbuildable land suddenly accessible to developers, erosion and flooding effects all of our town. STOP THE NONSENSE!	6/10/2013 10:16 AM
4	We have just moved into the area last July so it is difficult to answer the question.	6/7/2013 10:31 PM
5	Failure to preserve Water clarity at Lake Cochichewick.	6/7/2013 2:53 PM
6	Removed a lot of tree branches and trees.	6/5/2013 10:19 AM
7	We see people letting their dogs swim (and defecate) in and around the lake at Weir Hill all the time.	6/3/2013 9:20 AM
8	Weir hill is trashed by dog walkers not picking up their dog's poop	6/2/2013 4:01 PM
9	Town is doing a poor job in preserving open spaces.	6/1/2013 8:49 AM
10	This town seems to be allowing development of open space/woods at a fast pace. I love this community b/c of it's suburban/rural- mix feel. It's not dense but seems to be heading in that direction. The development is typically residential which puts a burden on the school system.	5/31/2013 10:33 AM
11	The town has been fairly aggressive in maintaining open space and protecting wildlife areas. North Andover is home to many wild animals. These animals continue to grow and prosper in the areas that are protected.	5/30/2013 11:53 AM

12	Maintenance of existing properties is poor; weeds at Carter Hill grow to 4 feet without cutting	5/30/2013 11:33 AM
13	Too many new houses being built.	5/29/2013 11:09 AM
14	I feel one of the assets of this town is its natural beauty and resources, its open spaces, and I see too much development occurring that is taking that away. I don't feel the town is being a good steward of its natural resources and preserving it.	5/29/2013 9:49 AM
15	I live in a condo and the recycling is minimal and I pushed for years to get it. San Fran, Ca has mandatory curbside that includes compost pickup	5/29/2013 9:33 AM
16	Weir hill is used as an off leash dog park, dogs are constantly swimming in our drinking water!	5/29/2013 6:30 AM
17	I'm seeing a lot of development, especially near 114. Would love to see the town buy it up as open space.	5/28/2013 8:50 PM
18	not sure	5/28/2013 2:35 PM
19	Tremendous amount of development occurring in areas with sensitive natural resources - prime farmland, wildlife habitat, scenic areas.	5/22/2013 9:24 AM

Q8 Please indicate your priorities for open space protection (either through acquisition or other means). Rank the following 1 (highest priority) to 5 (lowest priority).

Answered: 176 Skipped: 32



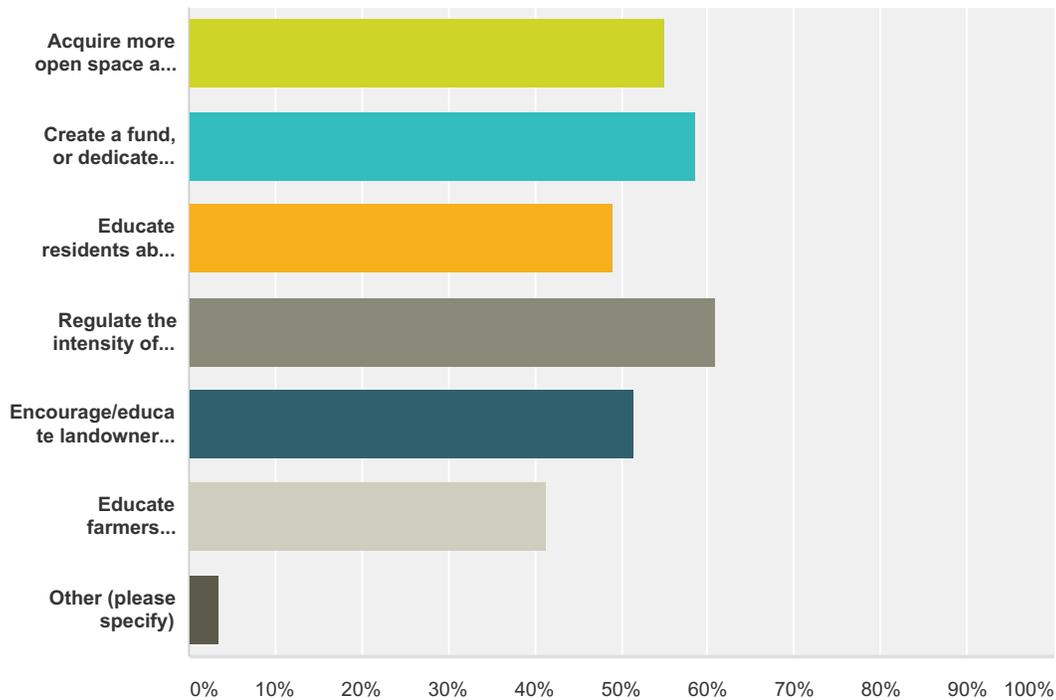
	1 (high priority)	2	3	4	5 (low/no priority)	Total	Weighted Average
Areas that protect the town's drinking water resources	73.71% 129	17.14% 30	6.86% 12	0.00% 0	2.29% 4	175	1.40
Areas that have potential to provide facilities for active recreation (sports fields, courts, etc.)	28.82% 49	34.71% 59	21.76% 37	8.82% 15	5.88% 10	170	2.28
Areas with potential for informal or passive recreation (walking/hiking/riding/skiing trails, etc.)	40.00% 68	41.18% 70	14.71% 25	2.35% 4	1.76% 3	170	1.85
Unique scenic areas	21.08% 35	30.72% 51	31.33% 52	9.04% 15	7.83% 13	166	2.52
Historic sites	22.70% 37	38.04% 62	25.15% 41	9.82% 16	4.29% 7	163	2.35
Land that abuts and/or connects existing open spaces	24.24% 40	28.48% 47	30.91% 51	12.73% 21	3.64% 6	165	2.43
Access to river/ponds/water	25.00% 42	39.88% 67	23.81% 40	5.95% 10	5.36% 9	168	2.27

Important natural resources and wildlife habitat	32.54% 55	35.50% 60	21.89% 37	5.92% 10	4.14% 7	169	2.14
Preserve farms and encourage agricultural activity	39.88% 65	31.90% 52	14.11% 23	7.98% 13	6.13% 10	163	2.09

#	Other (please specify)	Date
1	I'd readily approve ANY space for a dog park!	6/11/2013 10:19 AM
2	Maintain existing land purchases	5/30/2013 11:33 AM
3	Greater connected paths and sidewalks	5/29/2013 10:12 AM
4	While I am for the informal opportunities, if we do acquire more possibly only for new types of opportunities? We have plenty of walking paths.	5/25/2013 6:55 PM

Q9 What Town actions do you favor to preserve open spaces? (please check all that you support)

Answered: 169 Skipped: 39



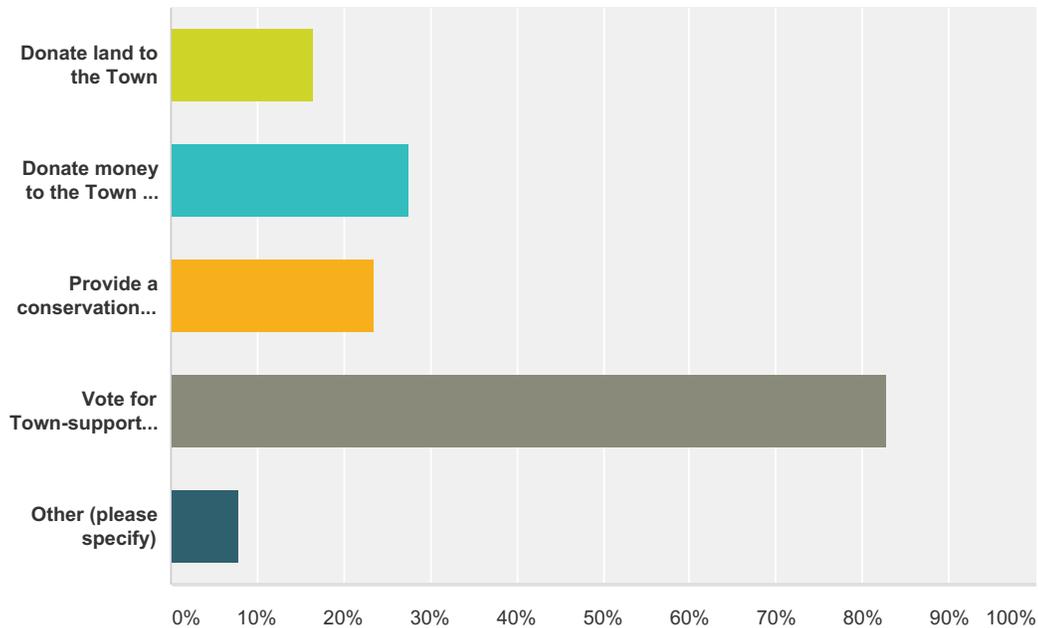
Answer Choices	Responses
Acquire more open space and conservation areas	55.03% 93
Create a fund, or dedicate more Town funds to maintain current recreation and preservation areas	58.58% 99
Educate residents about land conservation issues	49.11% 83
Regulate the intensity of development in natural habitats and environmentally sensitive areas	60.95% 103
Encourage/educate landowners on the tax benefits of Chapter 61 to keep lands as agriculture, recreation or forest.	51.48% 87
Educate farmers regarding the benefit of Agricultural Preservation Restrictions to ensure permanent agricultural use.	41.42% 70
Other (please specify)	3.55% 6
Total Respondents: 169	

#	Other (please specify)	Date
1	don't have an opinion	6/11/2013 8:26 PM
2	A dog park.	6/11/2013 10:19 AM
3	strong leadership to prevent misuse of land NOT permit just for funds	6/10/2013 10:16 AM
4	Stop adding retail to town and additional housing developments the town is getting too built up	6/10/2013 7:10 AM
5	.	5/29/2013 4:26 PM

6	Educating residents, landowners and farmers is a "passive" action and will certainly help but is limited.	5/29/2013 9:46 AM
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Q10 To preserve open space, which strategies would you personally consider? (Please check all that you would consider.)

Answered: 152 Skipped: 56



Answer Choices	Responses
Donate land to the Town	16.45% 25
Donate money to the Town to acquire open space or recreation land	27.63% 42
Provide a conservation restriction on your land to the Town, the State, or a non-profit organization	23.68% 36
Vote for Town-supported land acquisition	82.89% 126
Other (please specify)	7.89% 12
Total Respondents: 152	

#	Other (please specify)	Date
1	to be considered ater seeing proposal and land that would be acquired	6/11/2013 8:26 PM
2	maybe vote for acquisition; depends on specific situation	6/4/2013 11:38 AM
3	Help with education	6/3/2013 9:20 AM
4	print trails guide so open space can be appreciated by populace	6/1/2013 1:09 PM
5	Focus on quality maintenance / use of existing lands	5/30/2013 11:33 AM
6	I support keeping CPA funds at current levels and vote in favor of using that money for many projects both having to do with open space and historic preservation at Town Meeting	5/29/2013 4:26 PM
7	Working with local groups that already have strategies for protecting open space like the Trustees of Reservations and Essex County Greenbelt. Also town should create a non-profit group that has the purpose of acquiring open space using all the above listed strategies.	5/29/2013 9:49 AM

8	push for more volunteer cleanup other 1x a year	5/29/2013 9:33 AM
9	Volunteer to advocate for -- or do work on -- town support land acquisition	5/28/2013 2:02 PM
10	use the current space	5/28/2013 10:11 AM
11	I would consider donating to updating/adding playgrounds.	5/25/2013 6:55 PM
12	Increase CPA contribution from residents or have an Open Space Bond to leverage acquisition costs.	5/22/2013 9:24 AM

Q11 What other opinions or ideas would you like to share?

Answered: 37 Skipped: 171

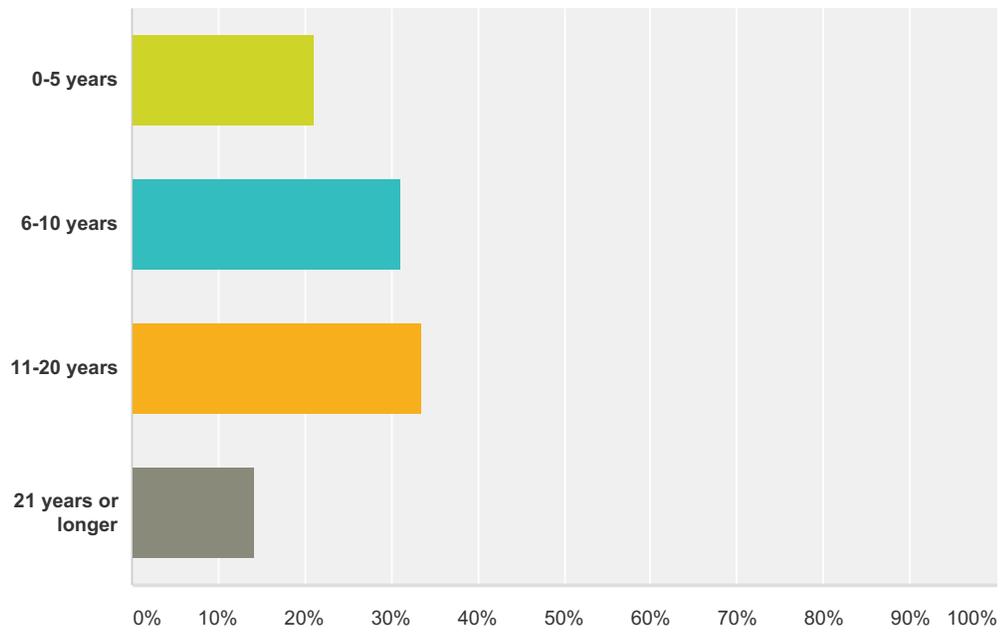
#	Responses	Date
1	The side walks along mass ave are not great for walking to school. Many tree roots have made the sidewalks uneven and not safe.	6/23/2013 11:54 PM
2	I really think the town could use sidewalks for easy access to the open areas and recreational places.	6/18/2013 10:41 PM
3	Pay attention to the kids. The kids are our future. Make the best resources available to them!	6/18/2013 1:04 PM
4	I would love to see more programs like Andover DCS offers. I would love to see more outdoor winter sports programs.	6/11/2013 8:26 PM
5	I would like the town to change the ratio of the new/future housing areas to have more single-family housing areas and less multi-family and apartment/condo facilities and limit the new housing areas overall so that we maintain our population and not grow too quickly. It would be great to have focused clean-up of the existing areas which are in need of attention. Continue to 'refresh' downtown - it's looking much better, but can continue to improve (fix-up the Bradstreet School building for something positive).	6/11/2013 12:23 PM
6	North Andover really needs a dog park. We are a town with a lot of dogs and few places to excersize them safely.	6/11/2013 10:21 AM
7	Please, consider building and maintaining (not just allocating land) for an off-leash dog park. Those of use with older kids pay taxes and support this town. We don't have kids in the school system, and we would like some services that are applicable to us as well. A dog park would not be that expensive, less expensive than a playground.	6/11/2013 8:26 AM
8	North Andover has lots of fantastic recreational programs for children, which is great. However, it is difficult for kids to get where they need to go because I have a concern about the lack of safe walking paths, around schools, recreational areas, and around town in general. The town owns quite a bit of land, not sure how it is all being used. I am not a huge supporter of having the town acquire yet more land for "conservation" purposes. It would be nice to consider those people who live in NA but don't have children in the school system. There are more dogs than children in town, and it would be nice to have an off leash park so they can also recreate, using land the town already owns and providing small services to keep it going. Stevens Pond is a great resource, but not sure that most residents take advantage of all it has to offer. Perhaps better accessibility - parking, etc - would help with that.	6/11/2013 8:20 AM
9	We are very lucky to have two very capable land trusts nearby: Essex County Greenbelt & the Trustees of Reservations. We would strongly encourage that the town engage either or both of them (we prefer Greenbelt because of their smaller & more intimate nature) to help create the open space plan instead of creating it in a vacuum.	6/10/2013 9:51 AM
10	This town needs more town activities such as plays, events, festivals, etc. These things would benefit everyone and create more opportunities to come together as a community.	6/8/2013 1:52 AM
11	There seems to be a concerted effort to make certain playgrounds into dedicated single use ball fields. Case in point is Chadwick Street Playground (McEvoy). For decades it has be used as a multi-use field used by people of different ages and for various purposes. This appears to be changing and possibly co-opted by a narrow use group without neighborhood input to convert it into a dedicated ball field in the majority of its space (ref. Huntress Sports proposal of Renovation of McEvoy Field). Narrow-focused agenda-driven changes to this playground are not in the best interests of ALL neighborhood children and adults.	6/7/2013 3:08 PM
12	newm side walks, better bball courts, no hoops that have duoble rims.	6/5/2013 9:53 AM
13	I'm all for supporting the local farmers and planting organic fruits and vegetables and selling them to the locals.	6/5/2013 8:09 AM
14	Walkways, sidewalks are inaccessible in North Andover for both able and disabled persons. Needs to be a large focus	6/4/2013 7:02 PM

15	The town woods near South Bradford St. (which connect to Dale near the soccer fields) have a lot of unused opportunities (particularly the stretch on the other side of S. Bradford that doesn't connect to Dale, part of the greenway). Most residents don't even know about those trails, and the ropes course looks really great but I have never seen anyone using it. It would be nice to improve those areas, and perhaps fund the improvements by using the ropes course for youth groups, schools, and camps in the area. The course could be a great addition to the town summer youth programs too!	6/4/2013 8:08 AM
16	I think NA has a lot to offer over a broad spectrum of areas.	6/3/2013 12:58 PM
17	Provide a once-a-year or twice-a-year booklet (as an online pdf) to all residents, listing all activities and facilities in one place, such as sports registration, youth center, camps, hiking areas, swimming, community programs, festivals, etc.	6/2/2013 8:23 PM
18	Sidewalks! There are so many active people in this town. Would love to see sidewalks through neighborhoods to major gathering areas: downtown, the commons, farms (Smolak), Steven's Pond; trail entrances, etc.	6/2/2013 6:02 AM
19	Some from of rail trail would be fabulous. I do understand that the existing defunct rail line from the mills toward middleton has serious access issues - from the point of view of the ownership was released by the railway. Maybe it's possible to put a rail trail under the power lines. It's disappointing to see the lack of promotion of bicycle use in North Andover. Years ago I watched Rosemary Smedile shoot down a request for bicycle signage, not paths just signage - highly disappointing.	5/31/2013 10:10 PM
20	We have so many wonderful resources, it's important to continue to add playing fields for soccer/baseball/softball. Also, continue to improve and upgrade trails for walking/hiking.jogging.	5/31/2013 2:04 PM
21	More walking trails with signs dedicated to keeping dogs on leash. Too many peoplelet their dogs off leash in areas they should not, .	5/30/2013 8:44 PM
22	I very much enjoy living in North Andover. However, I am an "outcountry" resident and do not feel it is safe to allow my children to bike on Boxford or Salem Street. I would love some attention to those streets to make them more appropriate for bikers. A "Rail Trail" would be most welcome (how about using the utility path through the town to create a walking path?). And for those of us who enjoy Weir Hill, the dogs who are unleashed there are a problem. If there could be a 'dog park' for them to attend that would be great. I also LOVE Stevens Pond, thank you for that. :)	5/29/2013 10:03 PM
23	Thank you for asking our opinions. I think North Andover has a wealth of open spaces, Historic Sites and farms. I think we should focus on keeping those areas clean, well protected and advertising them well so that everyone know they exist. In terms of playgrounds, I think Drummond is an excellent playground, but will be in need of replacement in the near future given that is it wood and it is starting to become dangerous (splinters....). We have great hiking and access to water like boating, fishing, and swimming but again need to make sure these places are kept clean and protected. I would love to see some biking trails like rail trails that can make it easier maybe to get around parts of town so that we might use our car less.	5/29/2013 4:29 PM
24	Improve sidewalks and bike paths between all schools and all playing fields. Provide a more walkable/bikeable town. Create more opportunities for people to use the lake (fishing derbies, scenic walks/benches/paths/boardwalks. Have side walks down BOTH sides of Route 125 connecting to Haverhill and Andover the entire length.	5/29/2013 10:14 AM
25	Preserving open space is important for the character of the town and for future generations. It should be a priority over developer demands. Appreciate the opportunity to provide my opinion and feedback on this issue.	5/29/2013 10:01 AM
26	N/A	5/29/2013 8:36 AM
27	Sidewalks and/or bike lane from barker st to butcher boy plaza needed. Frequently used for walking and biking & unsafe. More canoe/kayak access to Lake and merrimack river. Support and partner with Merrimack river watershed council.	5/29/2013 7:33 AM
28	Like stated before a playground/sports area within walking distance of shops & eateries in town. Potentially, the park across from the library. A place for kids to hang out, for families with young children to gather, a nice walking path around would be nice. Or providing fields in the open spaces at the town common along with bathrooms something like Ipswich River park.	5/28/2013 10:37 PM
29	My sister lives in Bozemon, Montana. During our last visit, my kids (ages 5 and 8) were able to bike safely across town on interconnected paths between conservation land and between houses (houses that abutted in the back had a 20' wide path between them, town owned, for a bike path). I wanted to start this here and interviewed a few people in bozemon about how they did it so successfully. It's been several years but I still have some info and would love to talk with someone about it. lisa@lisarobertspr.com	5/28/2013 8:53 PM

30	Keep North Andover green, environmental, and connected to its agricultural roots. Please don't fall into the Middleton ("must-develop") trap!	5/28/2013 2:03 PM
31	In general, I think the Town of N.A. does a very good job of purchasing and protecting open space. And I think there is a good balance between passive and active recreational pursuits. However, I think access to Lake Cochichewick should be improved. We understand its importance as a water supply, but recreational use of such a resource is important as well. We also would like to see open areas closest to down town protected. The Kittredge Farm on Academy Road is one example. Could the Town negotiate with the current owners to purchase the development rights, as was done with the Smolak Farm?	5/25/2013 9:27 AM
32	I know its hard but enforcement of the clean up after your dog rule at weir hill. Too many violators dont even pretend to try or care. They also allow dogs to swim which may be illegal. Find a place where they can walk and swim that is not the drinking supply and then get tough on enforcing proper dog rules at weir hill. Ps great work to the comcom! We really appreciate you!!!	5/24/2013 7:01 AM
33	We are fortunate to have so much open space in North Andover. The Town should maintain focus on preserving and maintaining the Town's properties, and not let maintenance lapse in the pursuit of new open space.	5/22/2013 12:38 PM
34	It is embarrassing that most people in town do not know about all the public space we own, and if they know about it they do not know how to access it. It seems the town does a good job of preserving open space, but then they are happy to keep quiet about it. It is as if the goal was to buy/preserve and whether anyone gets to use it for recreational purposes is irrelevant.	5/22/2013 9:42 AM
35	Is there a bicycle advocacy committee? Connect Stevens Coolidge Place to the Stevens Estate. There are town lands/ trail easements/ TTOR land etc the entire route. TTOR has the plan. It just needs to get done.	5/22/2013 9:05 AM
36	Would like to see a dedicated athletic facility with multiple use fields. Our fields are spread out all over town and some of the field are in awful locations.	5/21/2013 11:10 PM
37	The park in Chadwick Street has already been approved for renovation I was told And the project has never been started. This is a neighborhood with many children that would love to take advantage of this park and the parents would benefit as well as they wouldn't have to bring them to parks further away because they are in better shape.	5/21/2013 9:09 AM

Q12 How long have you lived in your current home?

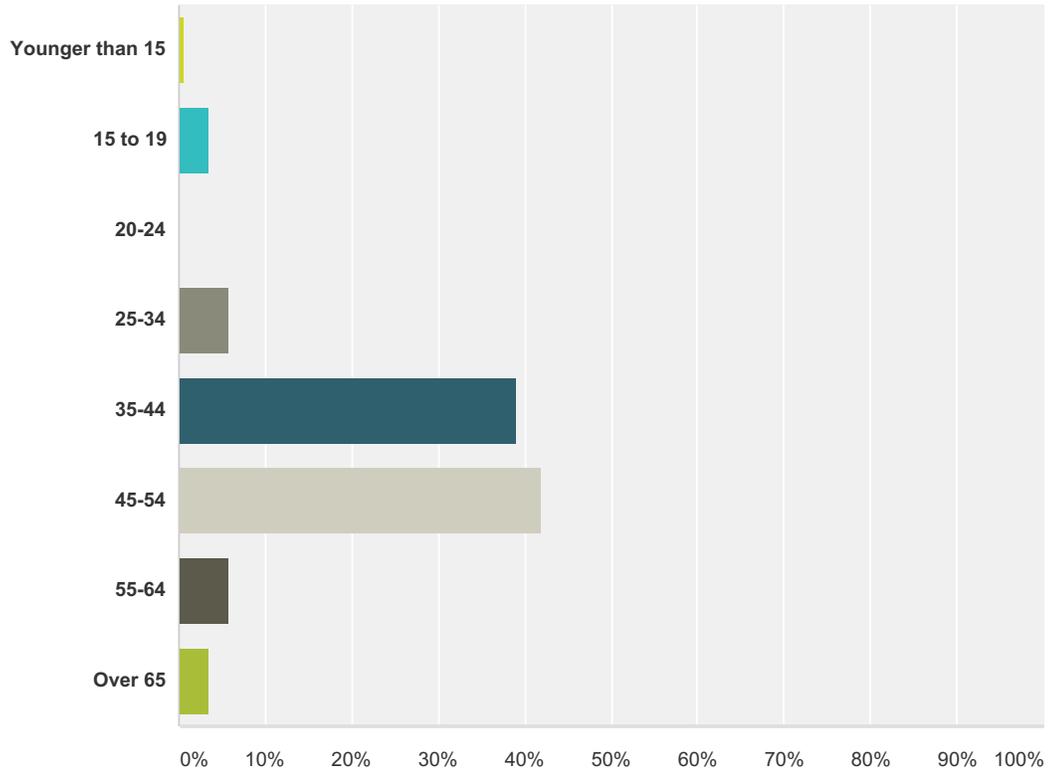
Answered: 170 Skipped: 38



Answer Choices	Responses	
0-5 years	21.18%	36
6-10 years	31.18%	53
11-20 years	33.53%	57
21 years or longer	14.12%	24
Total		170

Q13 How old are you?

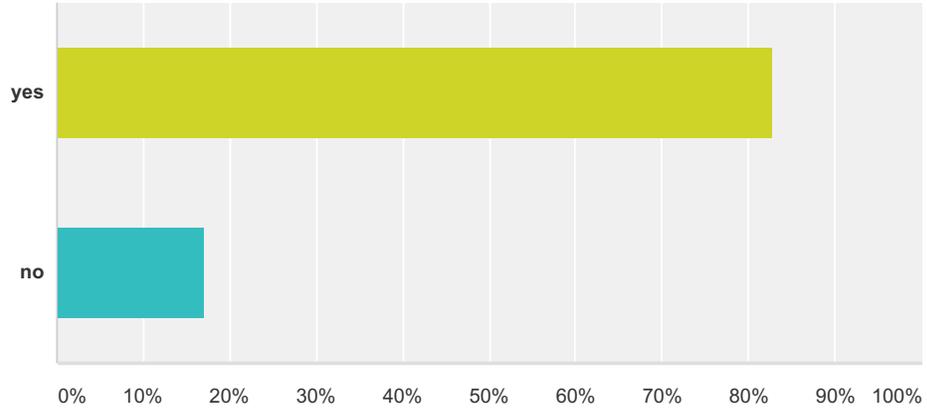
Answered: 174 Skipped: 34



Answer Choices	Responses
Younger than 15	0.57% 1
15 to 19	3.45% 6
20-24	0.00% 0
25-34	5.75% 10
35-44	39.08% 68
45-54	41.95% 73
55-64	5.75% 10
Over 65	3.45% 6
Total	174

Q14 Do you have people under the age of 18 living in your household? (If you are under 18, include yourself).

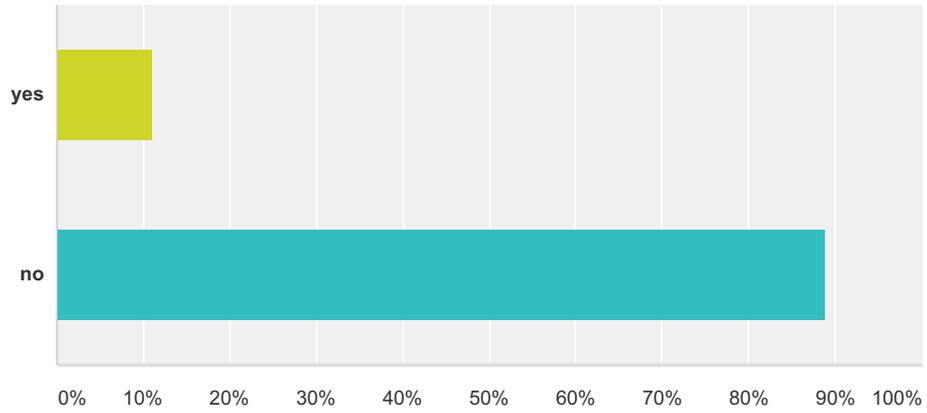
Answered: 170 Skipped: 38



Answer Choices	Responses	
yes	82.94%	141
no	17.06%	29
Total		170

Q15 Do you have seniors over the age of 65 living in your household? (If you are over 65, include yourself).

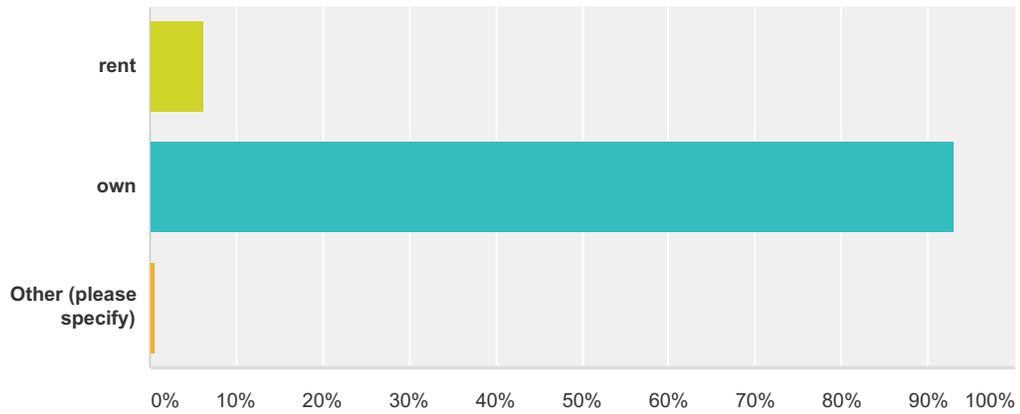
Answered: 173 Skipped: 35



Answer Choices	Responses	
yes	10.98%	19
no	89.02%	154
Total		173

Q16 Do you rent or own your home?

Answered: 174 Skipped: 34

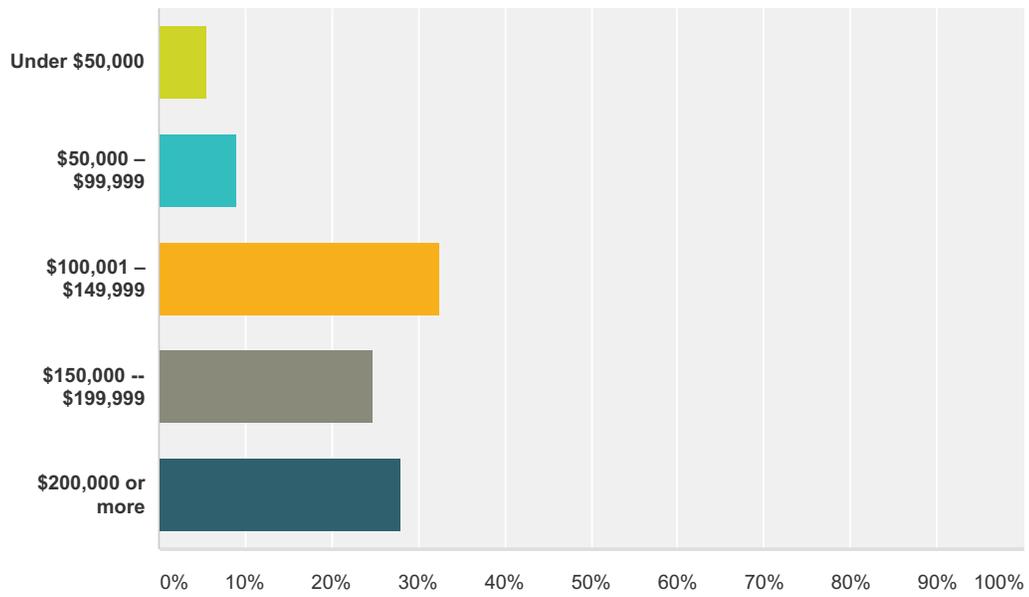


Answer Choices	Responses
rent	6.32% 11
own	93.10% 162
Other (please specify)	0.57% 1
Total	174

#	Other (please specify)	Date
1	own a 2 family; rent out other half.	5/30/2013 5:18 PM

Q17 What is your annual household income?

Answered: 157 Skipped: 51



Answer Choices	Responses
Under \$50,000	5.73% 9
\$50,000 - \$99,999	8.92% 14
\$100,001 - \$149,999	32.48% 51
\$150,000 - \$199,999	24.84% 39
\$200,000 or more	28.03% 44
Total	157

H. Letters of Support

Appendix: Letters of Support



August 19, 2014

RE: Open Space Plan

Jennifer Hughes, Conservation Administrator
Town of North Andover
1600 Osgood St., Suite 2035
North Andover, MA 01845

Dear Ms Hughes:

The North Andover Planning Board has reviewed, and wishes to express its enthusiastic support for the 2014 Open Space and Recreation Plan. At its August 19, 2014 meeting the Planning Board voted to support the Plan and endorse its recommendations.

The Planning Board would like to acknowledge the hard work of Town's Conservation Department and Planning Department and the engagement and input from residents, local boards and committees and Town departments in working together to update the town's Open Space and Recreation Plan. The collaboration of staff, volunteers, and residents has created a Plan that is relevant and timely.

Sincerely,

John Simons
Chairman, North Andover Planning Board



August 13, 2014

RE: Open Space Plan

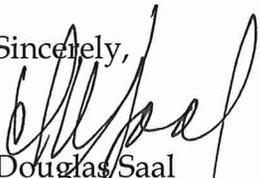
Jennifer Hughes, Conservation Administrator
Town of North Andover
1600 Osgood St., Suite 2035
North Andover, MA 01845

Dear Ms Hughes:

The North Andover Conservation Commission has reviewed, and wishes to express its enthusiastic support for the 2014 Open Space and Recreation Plan. At its August 13, 2014 meeting the Conservation Commission voted to support the Plan and endorse its recommendations.

The Conservation Commission would like to acknowledge the hard work of Town's Conservation Department and Planning Department and the engagement and input from residents, local boards and committees and Town departments in working together to update the town's Open Space and Recreation Plan. The collaboration of staff, volunteers, and residents has created a Plan that is relevant and timely.

The Conservation Commission is proud of the town's past accomplishments in acquiring and managing lands for the preservation of our natural resources and the provision and support of recreational opportunities. And we continue to be committed to furthering the towns open space and recreation goals by implementing the steps recommended in the 2014 Open Space and Recreation Plan.

Sincerely,

Douglas Saal

Vice-Chairman, North Andover Conservation Commission



Merrimack Valley
Planning Commission
*plan * develop * promote*

September 8th, 2014

Jennifer Hughes, Conservation Administrator
Town of North Andover
1600 Osgood St.
North Andover, MA 01845

Re: North Andover Open Space & Recreation Plan

Dear Ms. Hughes:

The Merrimack Valley Planning Commission has reviewed the most recent draft of the 2014 Open Space and Recreation Plan prepared for North Andover.

You and the Town are to be commended for the public process undertaken in the plan update which has included community visioning and reassessment of priorities for open space and natural resource protection as well as planning for recreation facilities. The plan provides a blueprint for decision-making that will aid in sustaining the quality of life in Town for all residents.

MVPC has been pleased to participate and assist in this effort. We are fully supportive of the plan implementation goals and strategies which are consistent with the Merrimack Valley Region Priority Growth Strategy.

We look forward to continued working with you and your colleagues in North Andover in the years ahead in acting on plan recommendations, particularly in the realm of improving regional trail connections and preserving regionally significant wildlife habitat corridors.

Thank you again for your work and please contact me at (978)374-0519 x16 if we at MVPC can be of any further assistance.

Sincerely,

Joseph M. Cosgrove
Environmental Program Manager



PO Box 212 • North Andover, MA 01845

✉ info@fonat.org 🌐 www.fonat.org 📞 978.561.9255

August 12, 2014

Jennifer Hughes, Conservation Administrator
Town of North Andover
1600 Osgood St.
North Andover, MA 01845

Dear Ms Hughes:

Members of the Friends of North Andover Trails, including myself, have reviewed the Open Space and Recreation Plan prepared by the Town's Conservation Department and Planning Department with the assistance of the consulting firm Brown Walker Planners. On behalf of organization, I wish to commend the town's boards, committees and citizens for the time and efforts involved in developing the Plan.

Friends of North Andover Trails supports the recommendations contained in the plan and is anxious to work with the Conservation Commission, Planning Department and others as appropriate to meet the Plan's stated goals and objectives.

Sincerely,

Glen Aspeslagh
President, Friends of North Andover Trails

August 15, 2014



Jennifer Hughes, Conservation Administrator
Town of North Andover
1600 Osgood St.
North Andover, MA 01845

Dear Ms. Hughes:

Essex County Greenbelt Association has reviewed the Open Space and Recreation Plan prepared by the Town's Conservation Department and Planning Department with the assistance of the consulting firm Brown Walker Planners. On behalf of Greenbelt, I wish to commend the town's boards, committees and citizens for the time and efforts involved in developing the Plan.

Greenbelt supports the recommendations contained in the plan and looks forward to working with the Conservation Commission, Planning Department and others as appropriate to meet the Plan's stated goals and objectives.

Sincerely,

A handwritten signature in blue ink that reads "Ed Becker". The signature is fluid and cursive.

Edward O. Becker
Executive Director

Conserving local farmland, wildlife habitat, and scenic landscapes since 1961.

