

2017 Bolton Open Space and Recreation Plan

Celebrating 50 Years of Conservation & Recreation Efforts in Bolton



TOWN OF BOLTON 2017
OPEN SPACE AND RECREATION PLAN

Submitted to the Executive Office of Environmental Affairs,
Division of Conservation Services

On behalf of the Town of Bolton by
The Bolton Open Space Sub-Committee

In association with:
The Board of Selectmen
Conservation Commission
Planning Board
Historical Commission
Parks and Recreation Commission
Town Clerk
Bolton Conservation Trust
Bolton Historical Society
Bolton Trails Committee
&
Bolton Community Members



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Maps Created by GIS professional Marissa Simpson for the Town of Bolton

Section 1 Summary

The Town of Bolton is a residential and agricultural community located upland on the historic east-west corridor of the Nashua River Valley. Bolton's geography greatly influenced the historical land use and development. The town's gently sloping hills were without major streams, creating a primarily agricultural community with a small industrial percentage. The power sources were minimal due to the town lacking major streams. Bolton was not deficient in other resources proven through the existence of rich forests and geological lime deposits. These resources combined to supplement the economy based in farming practices. The lime deposits also complement the farming practices through the use of lime kilns and limestone quarries to produce potash, lime and bricks.

The town was settled by Europeans in 1675. It consisted then of prosperous dispersed farms while the population slowly increased following King Philip's war. Agricultural uses grew to include orchards and dairy farming by the 19th century. Bolton is now primarily a residential suburb for surrounding industrial and commercial communities, an exurb for the greater I-495 corridor which still keeps much of this rural landscape intact.

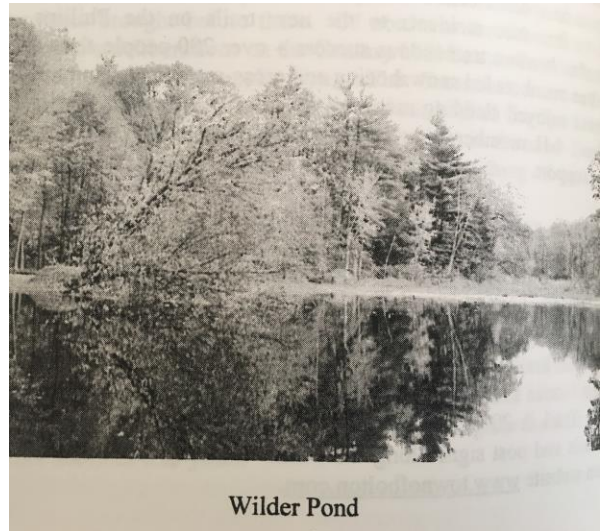
Bolton at present is a town filled with farms that are actively producing various products including fruits, vegetables, meats, and timber which support the local economy. These farms, open space, small flowing streams, orchards and overlooks are what attracts the visitors and residents to this small town. A town that primarily exists on well water drives the importance for open space and resource protection to ensure that the wells stay clean and active especially in conjunction with inevitable growth. Then the other factor of seemingly unpredictable seasonal precipitation. The town is mostly classified by its large parcels that exist to appropriately host a well for each home. The areas that have now been developed have common wells and still require a large parcel or conserved open space to ensure proper drainage. Bolton must continue to keep this large parceled landscape to carry on the historic and cultural characteristics of the town that prides itself on having well water. The characteristics that make Bolton unique would be put at risk if every parcel was increasingly smaller due to excessive cluster development.

The increasing desire to keep the community's characteristics drives the importance of maintaining the existing small town historic and cultural aspects. The open space that remains protected, as well as future land acquisition, maintains and enhances the town's quality of life and benefits the town's budget in the long run.

The landscapes, both developed and undeveloped, are engraved in the minds of its citizens. The assumption follows that there will always be these characteristics etched in the makeup of Bolton. Choices that are made in the upcoming years will be the determining factors of what our town will look like in the future. The town of Bolton as a whole has the ability to encourage the continual effort to keep Bolton's charm in mind with any potential future development. Also to create a sustainable community in an intelligent way through the introduction of renewable rather than 'build out'.

This plan identifies ways to address specific needs in Bolton. These include:

- Protection of Priority Lands
- Protection of Bolton’s Agricultural Base
- Continued Protection of Lands in Southeast Quadrant of Bolton
- Planning for the Protection of key “At Risk” parcels
- Enhancing all-persons accessibility at existing conservation and recreation areas
- Creation of additional walking and cycling opportunities
- Improved access to water-based recreation
- Continued support for active recreational facilities
- Education regarding community and fiscal importance of open space
- Expand land stewardship effects



The Open Space and Recreation Plan identifies needs, establishes goals and lists a 7-year plan to implement actions toward accomplishing these goals. These include the preservation and acquisition of specified parcels that will provide recreational opportunities for the town of Bolton. The town needs a well-organized, prioritized, frequently reviewed and updated plan that provides a path of land protection and maintenance efforts. The current plan is twelve years old, not including the 2010 extension of the Action Plan. These efforts encourage donation of land, conservation restrictions, purchase of key properties, increasing limited development practices, zoning incentives, and land protection that partners with private organizations to assist with acquiring funds. Today there is an ever increasing need for exercise and incentives to explore outdoors for positive health benefits. The town as a whole is working to guarantee the coordination of protecting open space and land-use in future decisions. The decisions involving infrastructure and capital facilities should support efforts to preserve important lands and the coordination of all departments for maximum effectiveness of open space preservation. The Open Space and Recreation Plan reaches through town borders to take note of potential future networks of open space land and collaboration efforts throughout surrounding towns further extending the community benefits to the region as a whole.

(Seals supplied by Town of Bolton Clerk. Narrative based on information provided by the Massachusetts Historical commission. Format assistance from the Town of Stow)

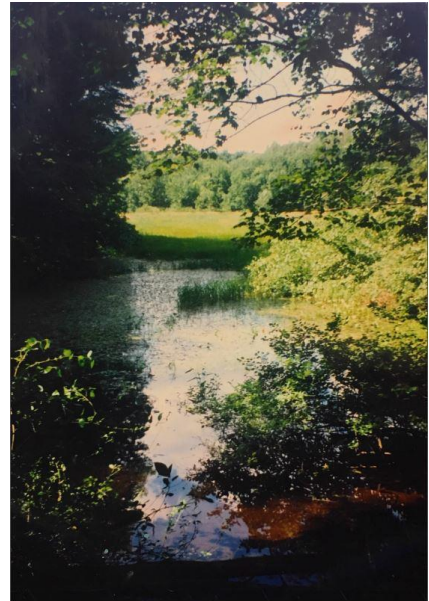
Section 2

Background and Introduction

Celebrating 50 Years of Open Space and Recreation in Bolton

On March 6th 1967, the first appointment of a Conservation Commission took place during the annual town meeting for the promotion and development protection of natural resources.

The first open space plan was created in 1988 and was the beginning of many future endeavors that would benefit the town as a whole. These endeavors included the formation of the Bolton Conservation Trust (celebrating 40 years) along with other local grass roots groups encouraging sustainable practices and local bylaws relevant to protecting the Town's resources. One bylaw the Wetland Bylaw adopted February 27th 2007, is continuously under review and most recently updated in 2013. There were other bylaws that have been adopted by Bolton's planning board which encourage open space alongside development. These undertakings were put into action and will be proven beneficial to the town as expressed in this document. This is the fourth complete Open Space and Recreation Plan developed by the Town of Bolton and marks the 50th anniversary of the community's efforts to plan for its open space and recreation needs.



2A. Statement of Purpose

The 2017 Open Space and Recreation Plan (OSRP) is an update to the 2005 version. The plan compiles and summarizes the progress Bolton has made in providing for its open space and recreation needs. The plan also sets forth goals accompanied by specific action items for the next seven years. The framework provided by the plan guides the day – to – day efforts by various town boards, commissions and committees involved in the protection of Bolton's open space lands and provision of outdoor recreational opportunities. The action items are intended to guide municipal partnership efforts with both state and federal agencies and non-profit organizations. This document is required by the State to be updated regularly to remain effective.

2B. Planning Process and Public Participation

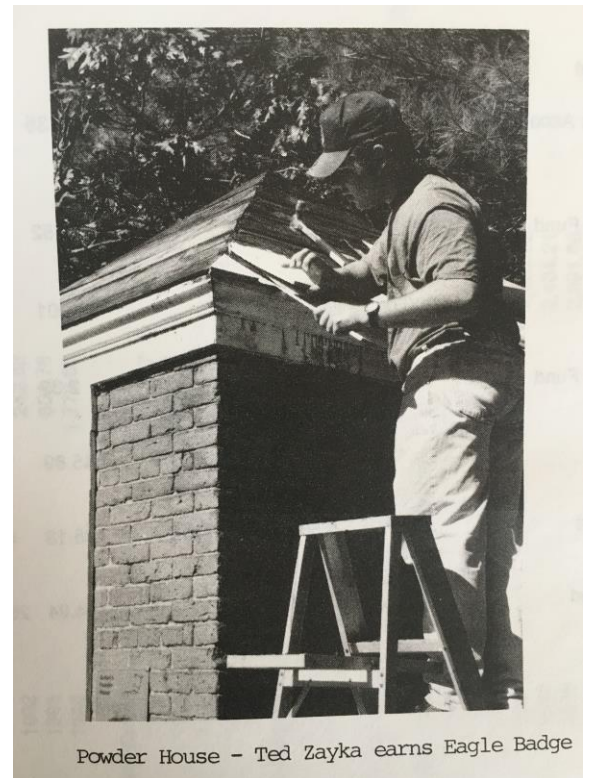
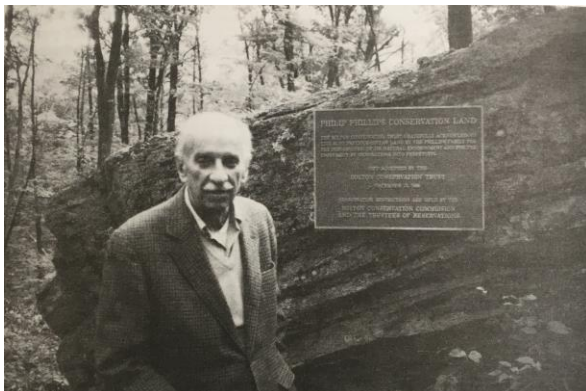
The Open Space and Recreation Plan sub-committee consisting of representatives from the Bolton Conservation Commission, Bolton Conservation Trust, Community members and Bolton Trails Committee, along with input from other departments and groups throughout Bolton. The informal subcommittee, whose sole mission was to update the 2005 plan, consisted of Rebecca Longvall (Bolton Conservation Agent), Liz Luc Clowes (Bolton Conservation Commission), Emily Winner (Community member), Betsy Taylor-Kennedy (Bolton Conservation Trust), Panny Gerken (Council on Aging & former Selectman), Ken Troup (former Selectman), Jeff

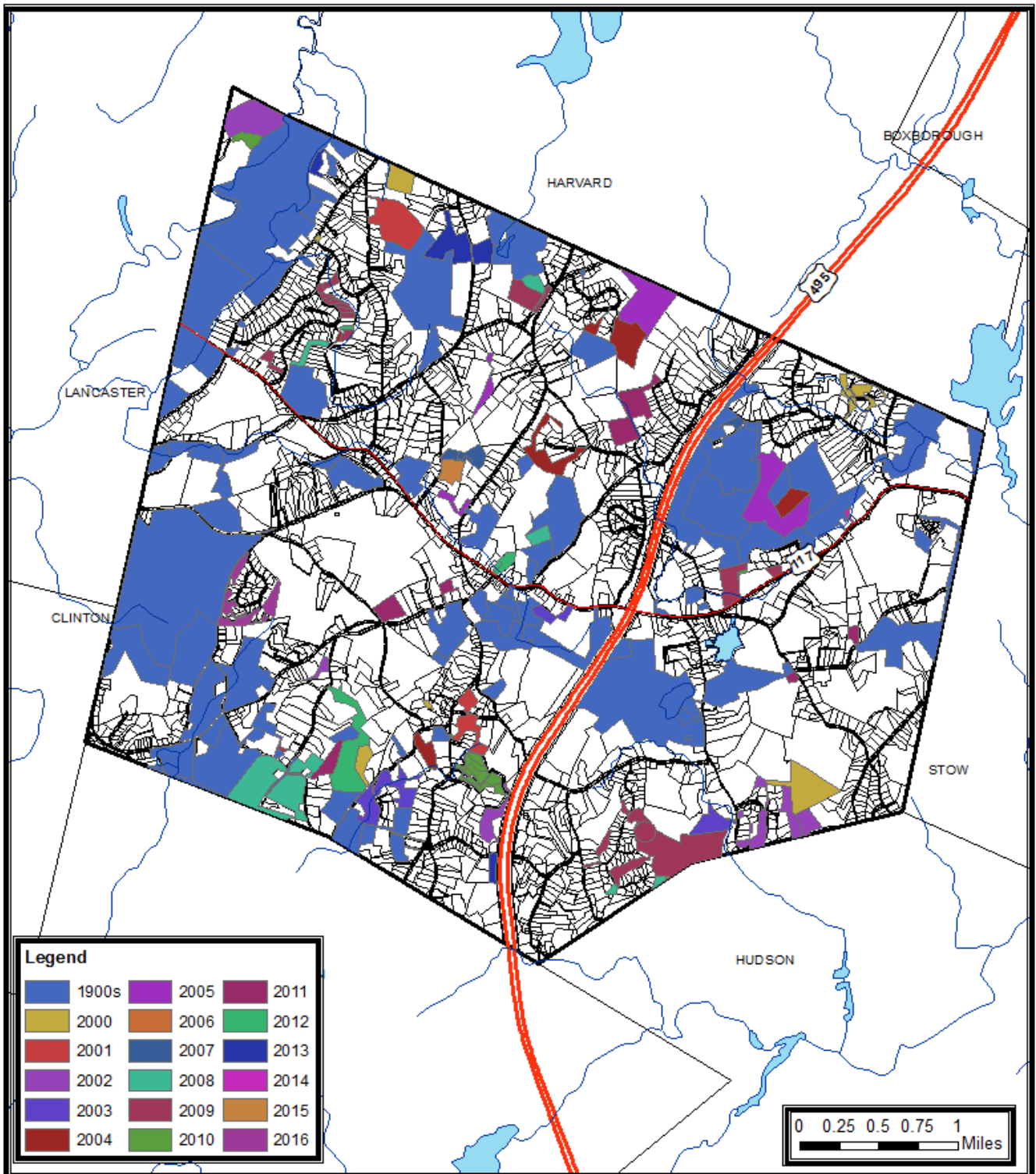
Larence (Volunteer Land Steward & Conservation Commission), Al Ferry (Bolton Conservation Trust), and Gary Perwak (IT Specialist).

The informal subcommittee met on a regular bi-weekly basis to plan out the survey then distribute tasks to complete the Open Space and Recreation Plan. The survey was distributed with the Census advertised on the town website, the town sign board at the center of town, and advertised in the newspaper. The OSRP information in draft form was shared as community members entered Town Meeting in May 2017. The public meetings following the town meeting were advertised on department agendas and also advertised in the newspaper.

The 2005 Open Space and Recreation Plan acted as the framework for the 2017 updates. The subcommittee reviewed the plan, acknowledging achievements that have been made in the past 12 years, established current needs and goals for the community and set a timeline for accomplishing the work ahead with efficiency. New data from various sources including updated MassGIS maps, Bolton Conservation Trust, Historical Commission and Bolton Conservation Commission archives were incorporated to create a more effective and complete plan.

Various departments and organizations that exist throughout Bolton have provided input, allowing a large range of concerns and priorities to be included in this plan. These include the organizations listed above but also Parks and Recreation Commission, Department of Public Works, Planning Board, Sudbury Valley Trustees, and state and federal agencies. These entities are working collectively to increase efforts to protect open land and ensure future decisions are made with the most accurate information.





Map created February 2017
by M. Simpson

Change in Open Space over Time Town of Bolton

1 in = 1 miles



Figure

1

Source: NLCD & Mass GIS

2C. Progress Made on 2005 Open Space and Recreation Plan

Before the Town can act upon the items presented in this open space update, residents must first reflect on the major accomplishments over the last 12 years. These accomplishments are expressed in Figure 1 as the *Change in Open Space Over time* acknowledging the acquired parcels as they relate to open space for Bolton. It is important to note that many people from all parts of Bolton's social fabric share credit for the successes listed below. The town owes a debt of gratitude to those community advocates. These conservation and recreation accomplishments include:

Agricultural Preservation Restriction (APR)

- After approval at the 2004 town meeting and town election, the APR for the protection of 181 acres of the Nicewicz and Schartner farms, two of Bolton's six largest working farms, was completed in March of 2006.

Wetlands Protection

- In 2005, passed a Wetlands Bylaw, to conserve and protect the wetlands, water resources and natural resource services. This intended to use the Home Rule authority, with additional standards and procedures stricter than those of the Wetlands Protection Act.

Conservation Zoning

- Increased area protected under Central Nashua River Area of Critical Environmental Concern (ACEC) by 70 acres with the Commonwealth's acquisition of Bolton land in the Pine Hill area, west of the Nashua River.
- The Farmland and Open Space Restricted Development (FOSPRD) Bylaw enabled the acquisition of 100 acres in the Century Mill development, 43.6 acres of the Houghton Farm development on Sugar Road, among others.

Core Area Land Protected

- The Skinner gift, two parcels totaling 21 acres, the larger property of which abuts the Rattlesnake/Lime Kiln area.

Conservation Restrictions (CR)

- 12-acre CR on the Freedom Farm property, Old Harvard Road held by the Conservation Commission and two CRs that total 7.75 acres, also at Freedom Farm. The land was granted to the Bolton Conservation Commission (BCC) and the CR is held by the Bolton Conservation Trust (BCT) (2012).
- 42 acre CR on the Hapgood/Schechter property forming the heart of the Gould/White area between West Berlin and Randall Roads held by the BCT (2005).
- 2.35 acre CR on the Ela/Caisse land held by BCT (2010).
- 38 acre CR on FOSPRD land at Houghton Farm subdivision. CR held by the BCT and land owned by Bolton Conservation Commission (2011).

Environmental Education

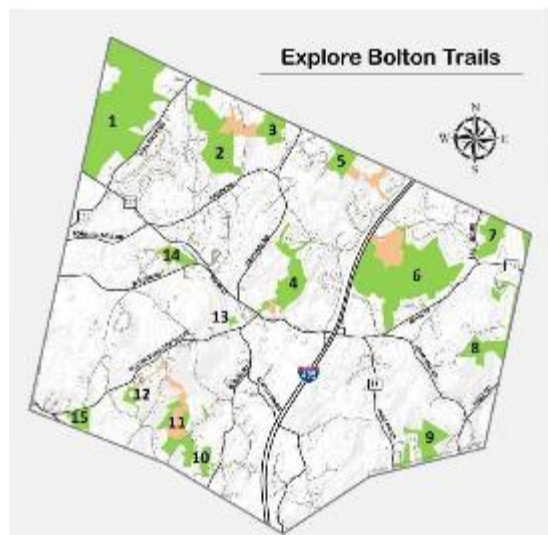
- Tom Denney Nature Camp, sponsored by the Bolton Conservation Trust, offers its

popular day-camp program at the Bowers Springs conservation area each summer. Now in its 41st year, campers entering grades 1-8 enjoy a variety of activities that help them develop an understanding and respect for nature. In 2010, Eco-Adventures was added to give middle school campers more challenging activities, including kayaking, rock climbing, camping, and team building exercises.

- Four Winds Nature Program, formerly the Environmental Learning for the Future (ELF) Program, is a nature-themed enrichment program taught by parent volunteers to grades K-5. Begun in 2006, this program, also sponsored by the Bolton Conservation Trust, features indoor and outdoor activities designed to encourage curiosity about science and to help students better understand and care for nature in their own neighborhood.

Other accomplishments toward the goals of open space, recreation and rural character

- Establishment of Agricultural Commission and Right-to-Farm bylaw (2007)
- Community Garden established near horse ring field (2009)
- The Bolton Trails Committee was re-established in 2014. This self-organized, volunteer team helps maintain the trail network in Bolton and assists the Conservation Commission and Bolton Conservation Trust in Land Stewardship for publicly owned land. Use of GPS, GIS and waypoint property specific information has led to the creation of all new trail guides with maps and “The Bolton Trails Guide” for 15 conservation areas designed and created by Jeff Larence. There are digital maps and GPS smartphone-ready KML files available online or via 3D barcode signage. Volunteers have installed new trail markers and signage, maintained and re-opened trails on easements, installed trail junction markers in Rattlesnake/Lime Kiln area to facilitate EMS training and rescue missions. Volunteers also work with Girl and Boy Scout troops on Silver Award and Eagle Scout projects along with regular organized trail maintenance events.
- Successful Solarize Mass program (2016) thanks to members of the community volunteer group Bolton Local
- Achieved state Green Community designation (2017) thanks to the volunteer community organization Bolton Local
- Appointment of Volunteer Land Steward (2017)
- Updated Conservation Trails Sign Manual (2017)
- Community Compact state program (2017)



2D. 2017 Open Space and Recreation Survey

The subcommittee for the Bolton Open Space and Recreation Plan compiled and distributed a survey, mailed with the census in January, specifically to receive community input from Bolton residents on topics relating to recreation and open space. The survey was open until the end of February and available both electronically and in paper format. The survey was announced through the Conservation Commission meetings, town Facebook page, town website and the Houghton Building sign in the center of town, as well as through email and other organizational groups.

A total of 291 responses were received.

The first question asked residents which type of land should be the focus when Bolton considers the acquisition of land for conservation. The top responses were as follows:

1. Has public access/trails (25.95%)
2. Provides wildlife habitat (20.79%)
3. Contains historical interest or rural character (17.7%)
4. Would protect aquifers for municipal or residential water supply (16.67%)
5. Augments existing core conservation area (15.46%)

The results from question one showed that there was a fairly close selection regarding the top four options. Land acquisition, however relative to road frontage was of little to no priority to the residents of Bolton.

The second question asked how well the residents feel the laws are administered in Bolton to protect groundwater, surface water, wildlife habitats and wetlands. The response indicated a high lack of knowledge by the public regarding the laws' administration in town.

The third and fourth questions inquired why farms are important to Bolton's residents and which farms are most frequently visited. The two most frequent activities and reasons cited for the importance of farms from the list provided were shopping at farm stands (47.29%) and pick your own food at farms (19.49%). The most visited farm was Bolton Orchards (28.86%) with Nashoba Valley Winery (23.94%) and Bolton Spring Farm (21.03%) second and third in visitation.

The fifth, sixth and seventh questions asked residents if protection of natural resources and wildlife habitats should be a priority, what type of management activities should be used to protect these resources and what actions residents would take to conserve more land. The response was for protection of resources to be a high priority. The lowest response was regarding restrictions of use. The highest second ranked activity encouraged the management of land for the creation of bird habitat and the mindfulness to schedule field mowing around their nesting season. The highest encouraged management activity was the removal and management of invasive and nuisance species.

The residents that responded acknowledged that they would be agreeable to supporting town meeting articles to purchase conservation land; also supporting a tax or donating money to purchase conservation land came in close second.

The eighth question asked if protection of open space for public use was a priority. There was again a resounding response relative to the open space access as a high priority.

The ninth question asked residents what type of recreational activities (passive and active) they would prefer in existing recreational space. The most popular response was the use of trails for various recreational activities, with water-based activities as the second most preferred.

There were a few additional questions asking residents what educational programs they would be interested in which their responses spread fairly equally across the board. The topics of gardening and landscaping, farm-to-table cooking, guided walks for adults to teach skills such as birding or tracking were all activities that were of interest. Another question asked if the residents agree with scientists who identify preservation of biodiversity as an importance to human well-being. Ninety percent of the residents who responded to the survey agreed that preservation of biodiversity is in fact important for human well-being and agreed that protecting wildlife is an advantageous approach to protecting biodiversity. Another question asked if residents had visited the Conservation Commission's page on the town's website had been visited to do various activities. Most responded that they used the webpage to obtain access to trail maps.

Three open-ended questions allowed residents to respond with more detail regarding properties in need of protection, areas of town lacking conservation land and 'other' which acted as a comment section. The residents seem to have concerns focused on allowed hunting areas.

The complete OSRP Survey and response can be found in Appendix A

2E. Public Review of Revised Plan

Bolton residents appreciate the rural and historical characteristics that come from the continued protection of open space while encouraging commercial development within current business zones to assist in the growing tax base. The goals of the 2017 OSRP, along with the Action plan assessed and created from the context of this document, will act as a springboard to accomplish various beneficial activities.

The Open Space and Recreation Plan's purpose is to update the inventory of social and natural information creating a baseline, then outline and prioritize open space and recreation needs. These actions outlined will result in the ability to encourage the residents of the town to plan for the future and preserve Bolton's exceptional characteristics through the early part of the 21st century. This plan recommends that the town focus its efforts towards the following, as these efforts will preserve the qualities that brand the town of Bolton: Encourage the Conservation Commission, Bolton Conservation Trust, Board of Selectmen, Master Planning Committee, and other town entities to work together to prioritize land acquisition, protection and maintenance strategies; support and preserve farms and scenic views; acquire and/or protect additional conservation land within specific core areas; look for ways to protect lands on and around

identified high-yield aquifers; protect future town needs; and identify and utilize financially creative means to accomplish the above. An emphasis on the protection of farm land using Conservation Restrictions (CR) and Agricultural Preservation Restrictions (APR) rather than the use of Chapter 61A would ensure permanent protection of key parcels. The protection of the Chapter 61A lands will continue to improve land management techniques and inventories of biodiversity, while continuing to provide access to active and passive recreational opportunities, safeguard the town's groundwater (which every resident depends on) support methods to increase town revenues and the commercial tax base.

At the May 1st 2017, Annual Town Meeting, the following definitions were offered to attendees with the goal of level-setting the audience:

What is “Open Space”

- Conservation, forested, recreation, and agricultural land
- Undeveloped land with particular conservation or recreation interest
- Land used for passive activities – walking, skiing, mountain biking, horseback riding, etc.
- Land used for active recreation – soccer, tennis, baseball, etc.

The Recreational and Open Land statute (M.G.L. Ch. 61B) defines open land as: “retained in substantially a natural, wild, or open condition, or in landscaped condition in such a manner as to allow to a significant extent the preservation of wildlife and natural resources.”

What is an Open Space Plan?

- Instrument to define and achieve community goals
- Impacts and belongs to everyone
- Focuses on natural resource base; forests, fields, agriculture, soil, water characteristics, scenic and recreational goals
- Assessment of past, present, and future use
- Intelligent, organized, and proactive approach to land acquisition, education, use, and managing development
- Offers alternatives (Does not always) mean costly acquisitions
- Vehicle to maintain what attracts residents to Bolton, while providing sense of control over development

Why does the OSRP need to be updated every 5-7 years?

- Recognize achievements and progress on prior Plan’s goals and objectives
- Re-evaluate and update Bolton’s goals, objectives, needs, growth and population
- Keep up with changing demographics and current land inventory
- Categorize key acquisitions and conservation restrictions
- Acknowledge open space lost since prior OSRP
- Remain eligible for state grants
- Planning process
- Achieve community consensus about what should be protected and how to do it

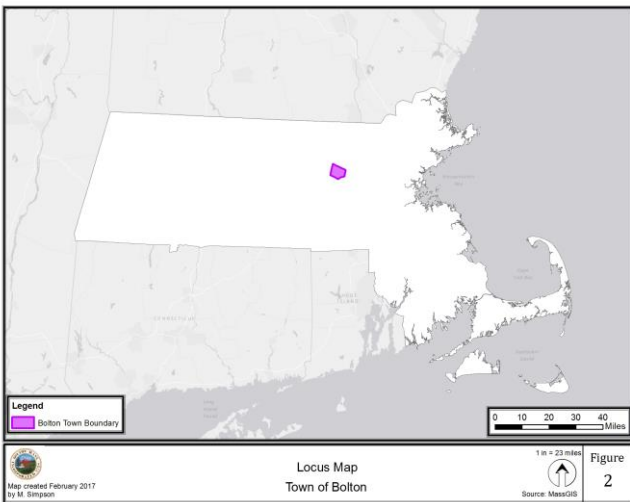
- Participate in an inclusive process that enriches Bolton
- Rewarding, leading to achievable, clearly visible results
- A source of civic pride



Section 3 COMMUNITY SETTING

3.A Regional Context

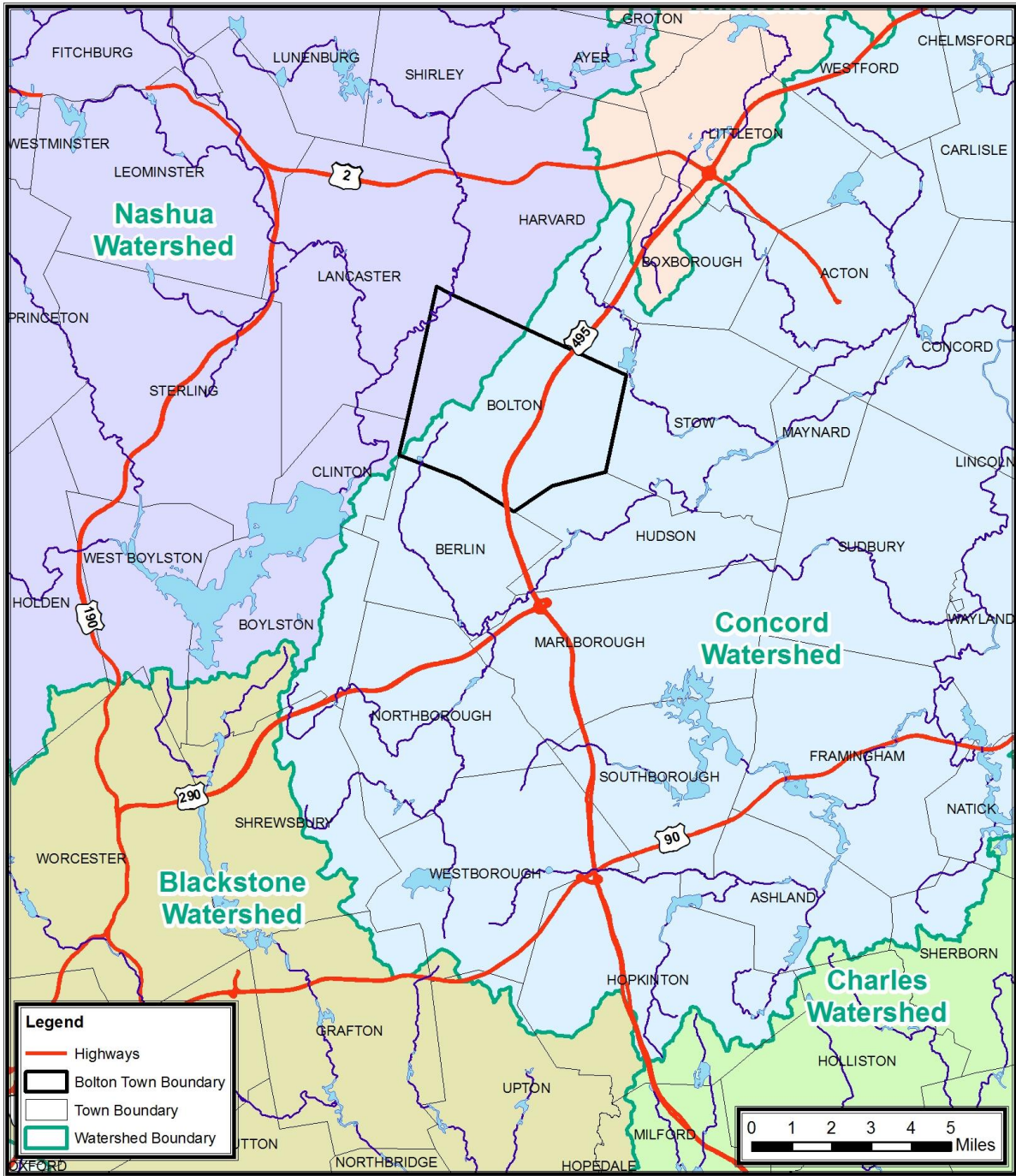
The Town of Bolton encompasses nearly 20 square miles and lies within the Worcester Plateau physiographic region of east-central Massachusetts (see Figure 2). The town is bordered to the west by the towns of Clinton and Lancaster; to the north by Harvard; to the east by Stow; and to the south by Hudson and Berlin. Interstate 495 is the major north-south route through Bolton; state numbered Route 117 is the predominant east-west artery.



Bolton is a member of the Minuteman Advisory Group on Interlocal Coordination (MAGIC), one of 8 sub-regions of the Metropolitan Area Planning Council (MAPC). MAGIC is a group of communities that meet regularly to discuss issues of common interest. The towns include: Acton, Bedford, Bolton, Boxborough, Carlisle, Concord, Hudson, Lexington, Lincoln, Littleton, Maynard, and Stow.

Bolton's landscape is punctuated by numerous rounded hills amidst a generally rolling countryside. The vast majority of the town falls between elevations of 300 and 500 feet (MSL). Several prominent hills (Vaughn Hills, Wattaquaddock Hill) exceed 600 feet and offer exceptional seasonal views and rugged terrain. These are unique features in the regional landscape as they represent the highest points between Boston and Mount Wachusett to the west. In fact, on clear days (and most nights), Boston can be seen to the east while Mount Wachusett is clearly visible to the west. The latter can be seen from Wilder Road or from Bolton Orchards. Only in the most northwest and northeast portions of Bolton, in the Nashua River valley and Great Brook valley, respectively, do elevations fall below 260 feet.

The Shrewsbury Ridge runs southwest to northeast and is formed by Wattaquaddock Hill and the unnamed hills between Powderhouse and the Vaughn Hills. This ridge comprises the boundary between the Nashua and SuAsCo Watersheds. Smaller sub-watersheds flow from Bolton to each of its neighboring towns. From a regional context, Bolton recognizes that because of its location at the top of the watershed, its activities have a direct impact on the neighboring towns downstream.




Regional Context & Watersheds
 Town of Bolton

Map created February 2017
 by M. Simpson

1 in = 3 miles

 Source: MassGIS

Figure 3

Historically, Bolton has been a prominent agricultural community in central Massachusetts. Early American commerce was dependent upon rivers for power and transportation resulting in rivers becoming the focal point for growth in inland communities. The town's only major river, the Nashua in the western part of town, is now part of the Bolton Flats Wildlife Management Area that includes land in Lancaster and Harvard. These lands, however, contain extremely fertile soils that gave rise to the development of the agricultural traditions that continue in Bolton up to the present day. Townspeople turned to the productive soils, uplands and occasionally wetlands to raise crops and graze livestock.

The northeastern corner of town contains Bolton's portion of the 560 acre Delaney Wildlife Management flood control area that includes Stow and Harvard. There are large apple orchards in the eastern portion, as well as a series of Town and Bolton Conservation Trust-owned open spaces that total more than 400 acres toward I-495. The southern portion of Bolton also contains large apple orchards and farm fields, as well as the recreational open space of The International's golf courses.

In 2017, there were 1123.23 acres in active farming within the Chapter 61A tax program, representing 29 parcels including 11 with single family homes. There were an additional 621.69 acres of recreation land under Chapter 61B tax program, representing 17 parcels, for a total of 1,744.92 acres in these two programs. In exchange for tax abatements, the landowners of these open spaces offer the town of Bolton a right of first refusal if they wish to sell the land. Fortunately, no large farm or recreation parcels have been sold from within the 61A and 61B programs in Bolton, but it is important to note that these farms and open spaces are indeed privately owned and therefore vulnerable to future development. At this time, there are four Bolton farms with Agricultural Preservation Restrictions.

Bolton has very few businesses and industries in town. By and large, Bolton is a bedroom community with its working population traveling to jobs as far as Boston, southern New Hampshire, Rhode Island, and the Connecticut valley. In fact, nearly half of Bolton's working population travels more than 30 minutes to work, and 99% travel individually by automobile.

With I-495 and the growth of the high-tech industry west of Boston, Bolton has become a unique rural alternative within commuting distance of high paying jobs. The challenge going forward will be to meet the recreational demands and quality of life expectations of an increasingly young, professional populace while retaining the natural amenities and unique environmental resources which make Bolton the special place it is.

3.B History of the Community

From its beginnings as part of the Nashaway Plantation and then the town of Lancaster, Bolton has been known for its natural features. For example, Whitney's History of Worcester County (1793) described Bolton as "good land, not level, nor yet has it any very high hills ... It is not very rocky, however there are stones sufficient to wall in all their farms. About half a mile from the center of town, to the west, begins the great hill known by the name of Wattaquaddock Hill, very high." The name Wattaquaddock is derived from an Indian word meaning "the place of many springs." A number of mills were constructed in the early days along some of the brooks formed

by these springs, and the ruins of many of these sites can be seen today.

Two town histories have been written by resident and town historian, the late Esther Kimmons Whitcomb, *The History of Bolton* (1938) and *About Bolton* (1988). These histories have brought together much information about the town from various sources and were published for the 200th and 250th anniversaries of the founding of the town, respectively.

Bolton has long been known for the minerals in the Rattlesnake Hill area. *The History of Bolton* (1938) says the area contains some 30 minerals. Lime and ochre are two examples of minerals taken from Rattlesnake Hill over the years. The remains of much of the mining activity can be seen near the Lime Kiln, and are protected from development by being a part of Rattlesnake Hill/Lime Kiln Conservation area.

There were important early roads that passed through Bolton, often on the sites of present day roads. One of these, the Bay Path (now Old Bay Road), passed over Wattaquadock Hill "from which the traveler had his first view across the wooded valley to the shapely dome of Wachusett in the west and northward to the sharp cone of Monadnock" (*History of Bolton*, 1938).

Although Route I-495 splits the town in two, the rest of the two lane state highways, inter-town roads, and backroads in Bolton have not been altered very much over time. Although physically similar to its earlier former configuration, Route 117 has seen tremendous growth in traffic volumes during the morning and evening rush hours. Yet Bolton remains a farming and residential community with a rural appearance that most Eastern Massachusetts towns have lost. *The History of Bolton* notes that in 1938:

The natural beauties of Bolton are frequently remarked on by visitors. Brooks, meadows, intervals, and forests are to be found here. The roads are lined with shade trees and many specimen trees of noble proportions grace fields and lawns.

The varying terrain invites all kinds of wildlife; birds in particular are abundant, some of rare species. Every kind of native wild flower adorns the woodlands and meadows.

The History of Bolton also described Bolton's "many large hills whose tops are plateau-like and whose slopes are expansive, the view being unsurpassed in the eastern part of the state. From these hills can be seen farms, orchards, streams, forests, valleys, and always in the background various mountain ranges."

The 1794 map of Bolton by surveyors Silas Holman and Nathan Longley shows the county roads, West Pond and Keyes (Little) Pond, Welsh (Welch) Pond, the Nashua and Still Rivers, two meeting houses, two saw mills, two grist mills, the Lime Kiln, a fulling mill and two "potashes". No residences or farms are shown.

Thirty-seven years later, the 1831 map by Silas Holman (Figure 3.7) shows substantial growth and industry. On this informative map Little Pond has become "South" Pond; woodlands, streams, "fresh meadows and intervals", and Hog Swamp are shown, as well as the major hills - "Wattaquadock", Long, "Vaughn's" and Rattlesnake. There are 51 miles of mostly unnamed roads, 188 dwelling houses, eight school houses, two meeting houses, three "burying yards or grounds", the Common, the Powder House, a "goose and fish pond" (the Wilder Pond), a "goose house", saw and grist mills, lime kiln, lime houses, two comb factories, a turning lathe, tan

house, poor house, hatter's shop, three stores, and one office.

Some of these features, between at least 165 and 200 years old, are now under protection or Town ownership: the Wilder Farm pond, Lime Kiln, burying grounds, the Powder House, Rattlesnake Hill, one of the Vaughn Hills, and parts of Welch and Little Ponds. Apart from the dwelling houses, there are visible remains of the sawmill and gristmill stonework on Great Road, the gristmill dam on Forbush Mill Road (also under town ownership), and the saw and gristmill dam and stonework on Century Mill Road.

One of Bolton's most distinguishing land use characteristics is its agricultural production, established a century ago and still viable in its local and regional distribution. The maps of 1857 and 1898 show additional topography and a growing number of residences and farms. The 1898 Map of Bolton, Mass. shows 18 farms, in addition to many smaller homesteads. Former Town Historian Dorothy Mayo, researching past land use in 1977, found that the 1898 Worcester County Atlas described many of these farms, 9 of which were over 100 acres. Most raised cattle and fruit, supplying dairy products, apples and peaches to neighboring towns and "the Boston market". Other important crops were hay, corn, and asparagus. Two of the farms boarded summer residents, who came to Bolton from city areas to enjoy the rural atmosphere and scenic vistas. In addition to the non-profit Bolton Historical Society (HS), Bolton has a very active and well-informed Historical Commission (HC), a government entity established in May 1992, and to which members are appointed by the Board of Selectmen. This local Commission acts as a 'watchdog' for the Massachusetts Historical Commission (MHC) pertaining to historical and archaeological elements in town.

In 1997, the *Bolton Center National Register Historic District* (NRHD) was approved by the Department of the Interior National Parks Service. The Town received a matching grant from MHC to help fund the creation of this first national historic district. Qualifying resources within this District are listed on the National Register of Historic Places. Also in 1997, the Historical Commission proposed, and the town accepted at Town Meeting, a Demolition Delay Bylaw. This bylaw requires the Building Inspector to forward demolition permit applications for buildings 75 years and older to the Historical Commission for review. The Historical Commission then makes a determination as to whether or not the building is 'historically significant'. If the building is so deemed a public hearing is held. If it is decided that the building should be 'preferably preserved' the demolition is postponed for up to six months. In that time, the Commission works with the owners, local, state, and federal resources to pursue alternatives to demolition. If no viable alternatives are found, demolition can proceed after the six month period has elapsed.

At a public forum in October 2002, the Historical Commission introduced the Archaeological Reconnaissance Survey of the prehistoric and historic sites in Bolton. This survey was the result of a grant awarded to the Town from MHC. The Historical Commission and other town boards use the survey to evaluate the potential risk to archaeological sites from building and development.

In November 2006, Bolton participated in the Massachusetts Heritage Landscape Inventory

Program co-sponsored by Freedom’s Way Heritage Association and the Massachusetts Department of Conservation and Recreation (DCR). The Bolton Reconnaissance Report publication was the result of this effort documenting a total of eighty-two heritage landscapes in Bolton of which seven were designated Priority Heritage Landscapes.

The Pan Burying Ground, east of Interstate 495, was placed on the National Register of Historic Places in 2007, prior to the installation of traffic control signals at ramps for I-495. Application to the Massachusetts Historical Commission in 2014 has determined that Bolton will have a second National Register Historic District east of Interstate 495 by 2018. Several times over the decades, the town considered but did not approve formation of a Local Historic District for the center of town, to be overseen by a Local Historic District Commission. Each time there were some property owners within the proposed district who were opposed to being included. It is notable, however, that most of the homes in the center of town were built in the 1800s and remain an important part of Bolton’s historical aesthetic.

3.C Population Characteristics

Bolton's population grew rapidly in the period between 1970 and 2000. The Great Recession of 2008 essentially stopped growth which is only just beginning to increase at a slow rate as housing development starts up again in 2016-17. A mid-2000s “build out” study for Bolton projected a population of over 7200 residents that would be supported by available, buildable land. More recent population studies by the MAPC and related to the school district estimate much slower growth.

The table below shows MAPC’s population forecasts for Bolton through 2030 (It should be noted, however, that the 2013 population was 5,075, so 2020 projections are likely to be higher than shown in MAPC):

	1990	2000	2010	2020	2030
Total Population	3,134	4,148	4,897	5,038	5,116
Population under 15	730	1,079	1,169	767	696
Population over 65	213	258	463	837	1,312

In mid-2016 at the request of the (Nashoba Regional) School Committee, the New England School Development Council (NESDEC) conducted a population study for the Nashoba Regional School District. Their sources included regional planners, the local town planning offices and realtors; an analysis of recent real estate sales and up-to-date population data; and recalculated student projections. As noted earlier, the Recession of 2008 reduced home sales and caused the school population to stagnate. By 2016, some new families are once again moving in, and the number of births is beginning to stabilize. Thus it appears that the continuing enrollment

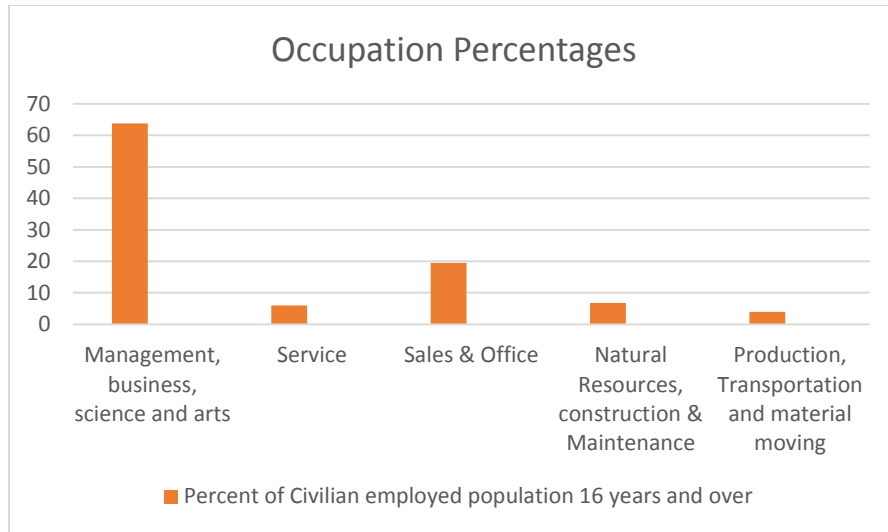
decline will be less severe with school population shrinking by 4-5 children per year. This is demonstrated by the table below which shows actual and projected births and population in each grade at Bolton's Florence Sawyer (K-8) School.

Florence Sawyer School Population Actual and Projected 2004-2020

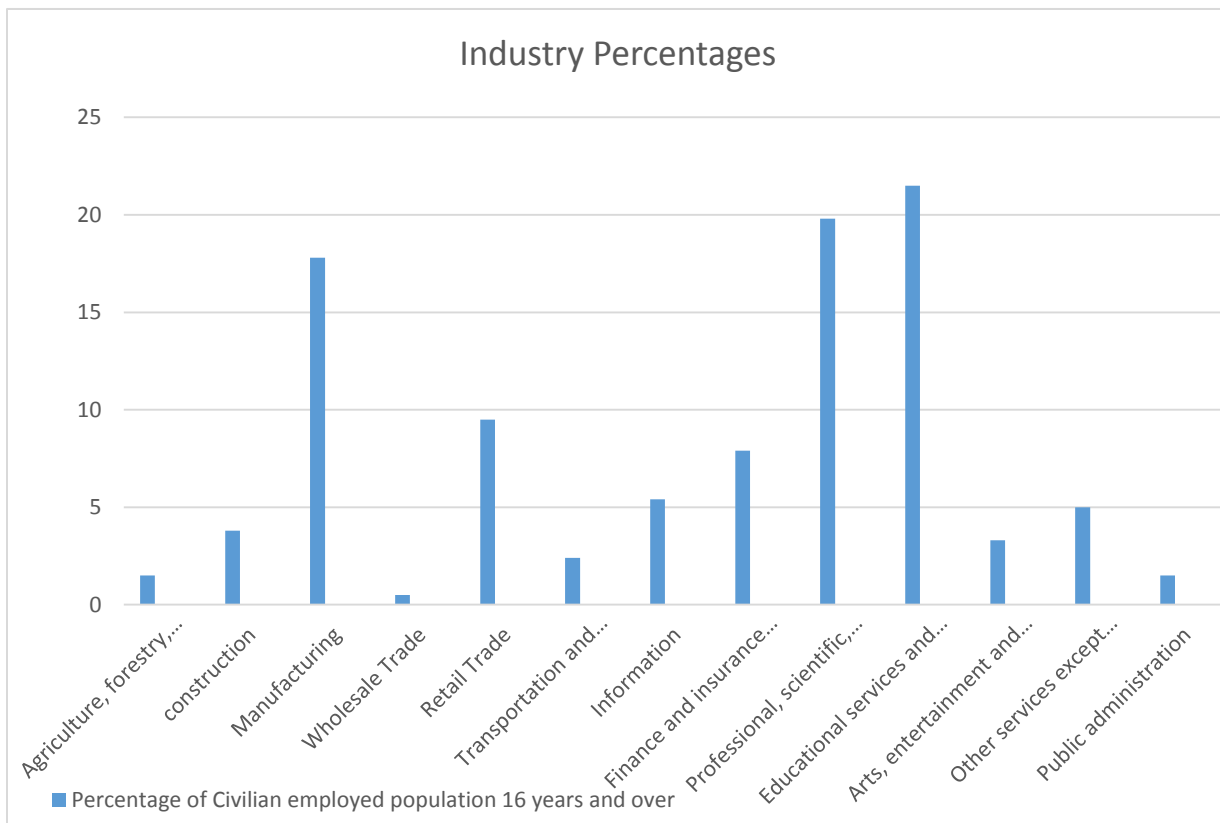
BIRTH YEAR	BIRTHS		SCHOOL YEAR	PK	K	1	2	3	4	5	6	7	8	PK-8 TOTAL
2004	64		2009-10	48	87	89	77	93	83	82	100	90	79	828
2005	61		2010-11	58	75	101	90	82	98	89	89	103	88	873
2006	50		2011-12	53	64	78	100	93	87	103	93	84	105	860
2007	53		2012-13	52	22	58	76	98	95	84	107	92	83	767
2008	36		2013-14	49	54	78	59	77	101	99	86	107	90	800
2009	42		2014-15	48	61	62	78	61	75	99	101	85	105	775
2010	40		2015-16	46	77	63	66	82	64	77	96	101	84	756
2011	42		2016-17	42	68	83	69	65	81	66	68	94	91	727
2012	37		2017-18	43	60	75	88	68	66	82	64	69	87	702
2013	38		2018-19	44	62	66	80	87	69	67	80	65	64	684
2014	53		2019-20	45	86	68	70	79	89	70	65	82	60	714
2015	42	(est.)	2020-21	46	68	94	72	69	80	90	68	66	76	729
2016	42	(est.)	2021-22	47	69	75	100	71	70	81	87	69	61	730
2017	42	(est.)	2022-23	48	69	76	80	99	72	71	79	89	64	747
2018	44	(est.)	2023-24	49	71	76	81	79	101	73	69	81	83	763
2019	45	(est.)	2024-25	50	72	78	81	80	80	102	71	70	75	759
2020	43	(est.)	2025-26	51	70	79	83	80	81	81	99	73	65	762

Source: NESDEC Study, revised July 12, 2016

Bolton is supported by citizens in an array of occupations across various industry. The 2015 census data reports employment status of the population in Bolton that is 16 years and older at an estimated total of 3,869. These individuals consist of 75.7% existing in a civilian labor force of which 72.7% are employed while 3% are unemployed. Civilians who are employed in the population aged 16 years and over total 2,813. Out of these individuals 63.8% are in management, business, and science and arts occupations. 6% are in service occupations, 19.5% in sales and office, 6.8% are in natural resources, construction and maintenance occupations, 3.9% are in production transportation and material moving occupations.



The majority of individuals hold occupations in management business, science and arts. The major industry supporting Bolton through its resident’s occupations are Educational services, health care and social assistance.



Bolton’s population density is impacted by the zoning regulations that permit one dwelling per 80,000 square feet. There are also allowances for FOSPRD that allow one dwelling for every acre but also requires land be set aside for open space. The Town’s population of 4,897 was totaled in 2010 and the town covers 20 square miles, resulting in the calculated population density being 244.85 people per square mile.

The character of the population of Bolton has changed as a result of the growth since the 1970s. The existence of Interstate 495 through Bolton and the proximity to other major highways has increased Bolton's role as a bedroom community for workers in eastern Massachusetts. The influx has tended to be upper middle class and the new housing construction has tended to reflect the needs of this cohort. The significant increases in real estate and land values from the 1980s through 2007 were curtailed during the Great Recession to the extent that the total town valuation in 2017 essentially the same as the 2006 levels. In 2003 the average house valuation was \$450,550, while the 2016 average value was \$484,900. On the other hand, the average tax bill was \$5,731 in 2003 and was \$10,279.88 in 2016.

Along with the influx of young and middle-aged professionals to Bolton has come an increase in median family income. In 2015 federal census data, Bolton's median household income was \$147,446. The increase in families has produced a need for particular town services, most notably education. The town's expenditure on schools has increased in recent years to more than \$14 million.

New Bolton residents choose the town because of the uncluttered, rural character and lifestyle that exist in the town, compared with the suburbs closer to Boston. (The new homes must be built on 1.84-acre lots unless they are in a FOSPRD development.) Consequently, the existing open spaces in Bolton, both private and public, represent an important asset to new residents. These new residents add to the current demands for passive and active recreational opportunities and bring to Bolton a desire to maintain its rural atmosphere and appearance.

3.D Business Development

Bolton has an Industrial zone at the east end of town on both sides of Route 117. Paragon Inc. owns the former GenRad and Future Electronics complex on the north side of Route 117, using some space for its electronics recycling business and leasing a portion of the space. The former Cobham and Atlantic Microwave buildings across 117 are vacant. Also vacant is the former Skinner auction gallery on the north side of 117 between Route 85 and Slater's Restaurant.

Just beyond Route 85 to the west is a Business zone that contains a gasoline station and the Country Cupboard convenience store and retail complex. There are plans to raze the business-zoned single family house within this zone to include an additional building and a proposed restaurant. Between Country Cupboard and Interstate 495 is privately-owned business-zoned land that was the proposed location for a hotel in the early 1990s, and more recently, a travel center style gas station and convenience store.

There is Limited Business zoned land to the west of 495 which contains Colonial Candies' retail operation on Sugar Road, the Bolton Corners professional building on the north side of 117, Clinton Savings Bank, a veterinarian, and an antique shop/home on the south side, Bolton Office Park on the south side, and Bolton Global Capital in the former Holman property on the north side.

The former Salt Box retail complex was completely renovated by a local resident in the 2014-16 timeframe and is now thriving as 626 Main Street on the south side of 117, just east the center of

town which houses the local coffee shop Bolton Bean and quilt shop along with other office space. In the center at the intersection with Wattaquaddock Hill Road remain two businesses that were formerly the former Reflections lamp shop on the north and the old Cracker Barrel on the south. The former Smith gas station property has been rehabilitated into a Town Common. Further along Route 117 across from the library, there remains an insurance company and dental office.

There is a Business zone at the intersection of 117 and Forbush Mill Road that includes a restaurant, liquor store, and tutoring business. Further west on Main Street is a real estate office, Ducharme and Dillis Engineering/Surveyors and Nashoba Park is in the Limited Business zone and includes additional retail and office space. At the intersection with Route 110 is Bolton Orchards retail store along with two other pre-existing businesses.

Agriculture and retail sales of agricultural products continue to be the dominant business in Bolton. In addition to Bolton Orchards, there are orchards and a retail store at Bolton Spring Farm on the east side of town near East End Road. In between lie the Schartner and Nicewicz farms, two orchards protected by Agricultural Preservation Restrictions that offer pick-your-own and seasonal farm stands along West Berlin and Sawyer Roads. The Nashoba Valley Winery, J's Restaurant and orchard on Wattaquaddock Hill Road has become a major attraction in Massachusetts and also protected by an Agricultural Preservation Restriction. Bolton has an Agricultural Business special permit that allows the Winery to have additional buildings and ancillary business uses to support the orchard operation.

There are numerous pre-existing non-conforming businesses within the residential zone throughout town including the Fotini's restaurant and Bolton Printing on Wattaquaddock Hill Road, Broomfield Labs on Still River Road, some antique shops, and other owner-operated businesses. Several of these include construction equipment and repair businesses operated by the owner of the property.

Expansion of buildings and businesses is possible on property adjacent to the Bolton Corners building and in the Bolton Office Park. By and large however, there is relatively little business-zoned land remaining in Bolton. Over the years, Bolton town meetings have not been willing to significantly expand business by rezoning land to business.

Telecommunications towers were built on town-owned land just southwest of the I 495/Rt. 117 interchange and at the transfer station site on Forbush Mill Road which are leased to cellular telephone companies and provide annual revenue for the town. The town purchased 4+ acres on West Berlin Road at the top of Wattaquaddock Hill and placed a public safety radio tower there in 2002. There are cell towers on private property at the Girl Scout land on Hudson Road and behind the Paragon building on Main Street.

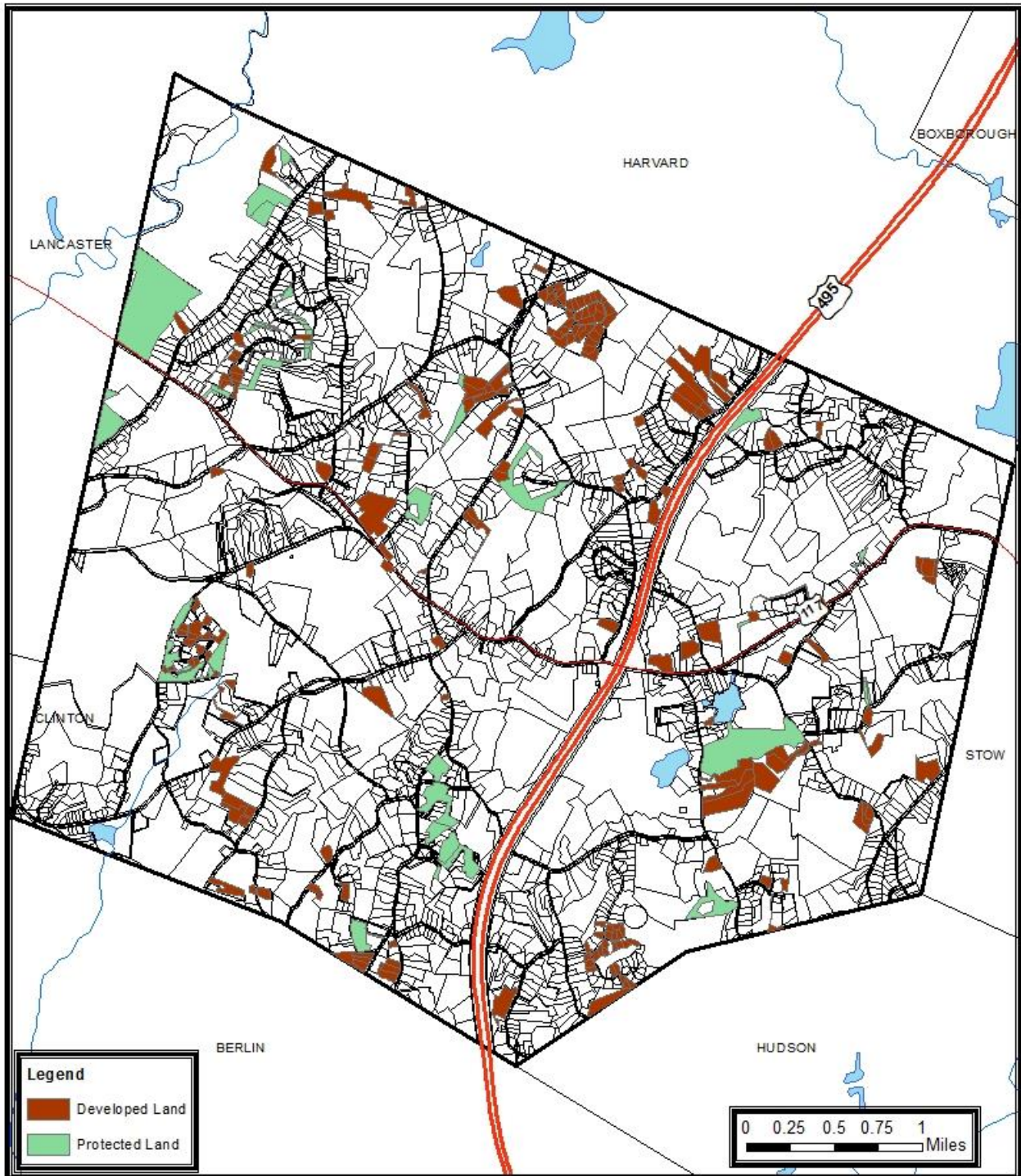
3.E Growth and Development Patterns


3.E.1 Patterns and Trends

Agriculture has always been important to Bolton. Early settlers farmed the land and there have been important farms and orchards that have lasted through two and one half centuries. Today,

apple orchards are among Bolton's claims to fame. Lands in active agriculture remain in Bolton while the more easterly towns such as Acton, Sudbury and Concord have lost much of theirs to urbanization. Over the years, development has occurred along major roads such as Routes 117, 110 and 85, intertown roads such as Harvard Road or Wilder Road, and in gradual development of large tracts of open land or former farms.


Subdivisions were approved and developed during the 1980s and 1990s as the town also took steps to introduce zoning to manage subdivisions while protecting open space. Backland lots were introduced in conjunction with multi-house common driveways. Instead of new roads and more houses, land around the Wilder Mansion on Wilder Road was developed using several common driveways while preserving a pond and fields as open space. The Farmland and Open Space Development (FOSPRD) bylaw was implemented November 8, 1989 and gave developers an option to build homes on smaller lots in exchange for setting aside part of the development as open space. The subdivision currently being developed at Century Mill Road and Spectacle Hill Road has resulted in more than 100 acres of open space set aside for the town. In 2005 there were 231 acres set aside; the current number is more than 367 acres. The open spaces preserved as part of FOSPRD developments are inventoried in Section 5 in Table 5.7.





 Map created February 2017
 by M. Simpson

**Bolton Lands Protected and
 Developed Since 2005
 Town of Bolton**

1 in = 1 miles

 Source: NLCD & Mass GIS

**Figure
 4**

3.E.2 Affordable Housing

As property values rise in Bolton, there is a strong concern in town about the availability of affordable housing. The townspeople have signified the importance that the town remains diverse and that there is adequate housing for both lower income families and for long-time residents and fixed-income retirees who may no longer be able to afford to live in their family homes. In addition, Bolton continues to come up short against the State's affordable housing chapter, 40B, which requires 10% of a town's housing stock be affordable. In addition to the senior housing complex at 600 Main Street and the Bolton Woods Way development off Main Street, the town has several "Comprehensive" permits under 40B, including Pondsides Drive off Main Street, Sunset Ridge off Wattaquodock Hill Road, and Craftsman Village at Brigham Farm on Sugar Road. Bolton's bylaws encourage affordable housing by offering a subdivision developer to either to earmark some housing units as affordable or to contribute money to the town's affordable housing fund.

3.F Transportation System

Interstate 495 divides the town from north to south and is a major thoroughfare connecting Interstates to Worcester and points east and west on the Massachusetts Turnpike. Northbound traffic exiting onto Route 117 often backs up onto 495 during rush hours. Interstate 495 helps make it easier for commuters to get to their jobs to the east as far as Boston and at the many high technology companies along Interstate 495. The highway has played a major role in the residential development of Bolton in the last 45+ years.

Automobile traffic on Route 117 continues to be a major problem as Bolton and central Massachusetts grow. As the main artery from Routes I-190 to the west and 2 and 495 to the north and east to Stow and Maynard, Route 117 has traffic which chokes the two-lane roadway each morning and evening rush hour. It is not uncommon for westbound traffic to be stop-and go east of Route 495 to the center of town during the evening rush hour during the school year, with similar morning backups heading east from Lancaster. Trucks of all sizes use Route 117 as a shorter route from 495 to Route 2 in Leominster. The high volumes of traffic negatively impacts the serenity of the center of the town and produces increased noise and air pollution.

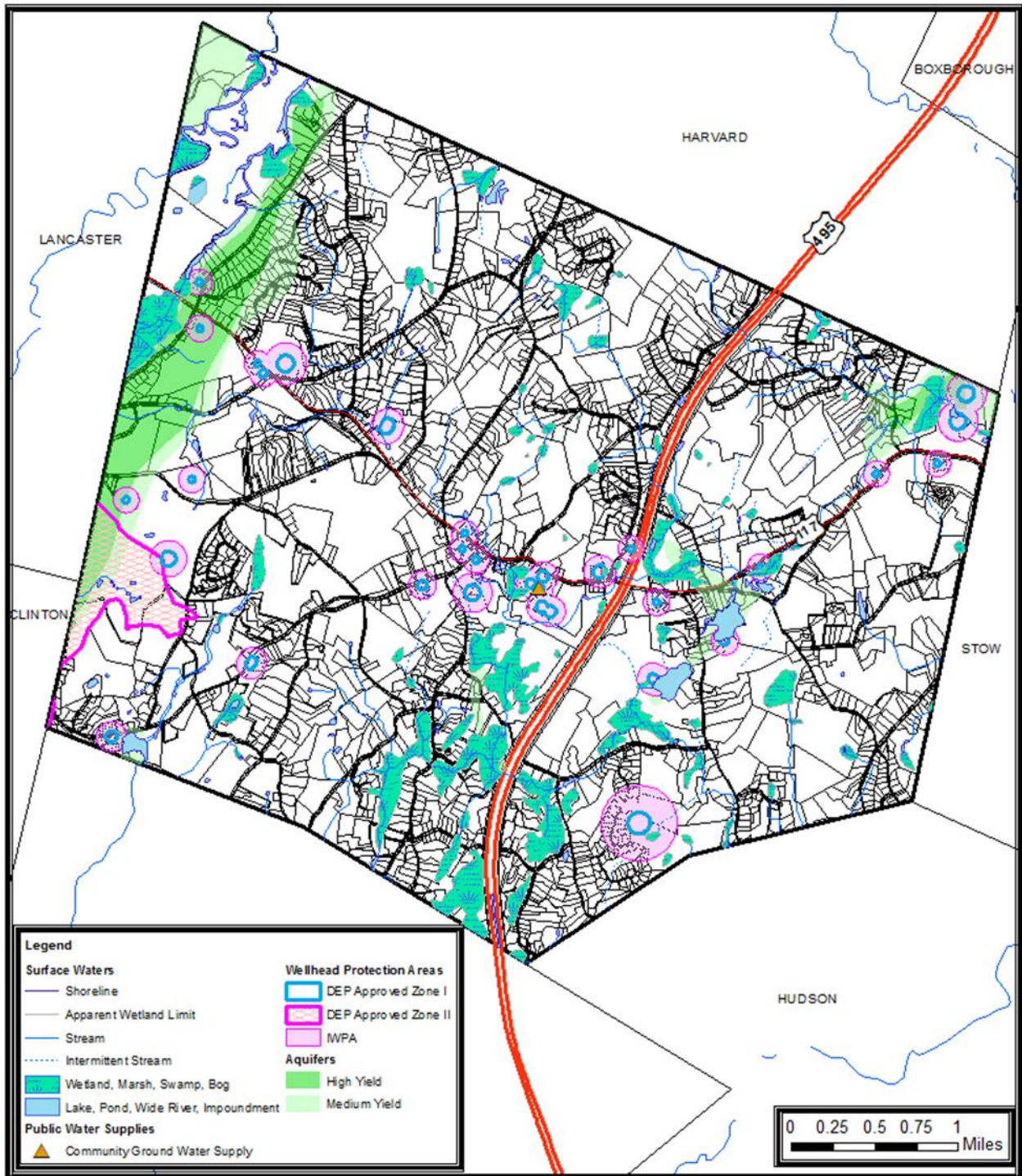
In addition, traffic flow on connecting roads is adversely affected by the rush hour traffic on Route 117. There are now two traffic signals on Route 117 at both ramps of 495, as well as the traffic signal at Route 110 near the Lancaster line. Other signals have been proposed at various times for the center of town. The congestion on Route 117 has caused numerous out-of-town commuters to seek alternate routes on the back roads of Bolton. This leads inevitably to excessive speed on the back roads and complaints from residents. There have been numerous requests for lower speed limits, truck exclusions, and other measures to reduce the speed hazard to local residents, but such exclusions are not possible under state laws and safety regulations. In 2015 the town investigated turning Route 117 over to the state Department of Transportation, but public opposition including a lawsuit and non-binding town meeting vote caused MassDOT to back away. The town continues to work with MassDOT and through implementation of the Complete Streets Initiative to find solutions to various intersection problems and to introduce

traffic calming and other improvements.

Bolton has no public transportation of any kind. There are no current rail lines through the town, although commuter rail stations are within 15 minutes in Littleton and Acton. There is also no bus service. This means that virtually all movements within Bolton as well as to and from shopping, work, and recreation must be by automobile. Bolton has a van provided by the Montachusett Regional Transit Authority (MART) that is sponsored by the Council on Aging and provides low cost trips for senior citizens and disabled residents to doctor's appointments and area shopping. Local volunteers also provide shopping and other transportation to senior citizens; the Council on Aging sponsors entertainment bus trips for seniors. Most commuting to Bolton's businesses is also by individual cars; in general, the traffic to local businesses has minor impacts on traffic compared with commuters traveling through Bolton.

On road bicycling exists informally throughout town along pre-existing roadways with automobile traffic without physical separation between the two. Also bicycles seem to travel along roadways with higher traffic along the informal sidewalk existing as a dirt paths that are not maintained. Other areas of Town have formal concrete sidewalks with granite curbing. There are trails throughout most of the conservation properties in town that provide off road terrain to access one part of town from another. These areas are where passive recreation is encouraged on marked trails. This allows for pedestrian use as well. The Complete Streets Initiative will improve existing roadways and sidewalks. These infrastructure improvements will make it safer for bicyclists and pedestrians to share the road with automobiles. The program will also identify and establish safer alternative routes.

Commuter parking is a problem in Bolton. If a spot could be found near the 495 interchange, it would be a logical and worthwhile location for carpool parking. There are no appropriate state or town properties near 495 for commuter parking. Federal rules prohibit the use of land within the 495 right of way including the land within the on and off ramp areas.



Map created February 2017
by M. Simpson

Water Resource Protection Town of Bolton

1 in = 1 miles



Source: Mass GIS

Figure

5

3.G Sewage Systems and Water Supplies

Bolton is one of only 50 of the 351 cities and towns in Massachusetts that does not have public water supply. Each of the > 1500 residences and businesses in Bolton has its own private (or sometimes shared) well. Nor does Bolton have a town sewer system. Each house or building has its own onsite sewage disposal system.

The town installed a municipal use sewage treatment plant for the Florence Sawyer and Emerson School complex and designed the system for future expansion of a new school. Subsequently, the public library, public safety center, and Houghton Building were tied into the system. Currently, there are three other treatment plants in town; at Paragon, Nashoba Regional High School, and the International Golf Club. Several subdivision and 40B projects included shared septic systems or treatment facilities. It is anticipated that other 40B-type projects will come before the various town boards with shared drinking water and septic systems. In 2017 the town will undertake a further study of the needs for resident and business sewage treatment plants for the center of town.

Board of Health regulations have incorporated the State's Title 5 revisions, updated in 1995, which provides for a more stringent review of septic systems, while also accepting the use of alternative technologies in areas where traditional septic systems may not perform properly. The use of soil mottling to more accurately estimate high groundwater levels is resulting in subsurface disposal systems which are more protective of groundwater resources. As development pressures increase with associated increase in land values, disposal systems that were prohibitively expensive to install and maintain may become more economically feasible.

Title 5 places strict scrutiny over the performance of existing septic systems by requiring septic system inspections and improvements, if necessary, in conjunction with all home sales. Notices of Intent for replacements of failed systems that are proposed for buffer zones are often needed. Required upgrades and repairs are generally designed and placed in such a way that will result in continued protection of groundwater resources as well as wetland and buffer areas.

Open spaces are essential to the private water supplies because of the continual danger to the private wells from pollution such as septic leachate, road salt, and agricultural runoff. Bolton's Board of Health regulations requires septic systems to be located 100 feet from wells. The minimum lot size of 1.84 acres is one method of protecting private water and sewer systems. This zoning and the separation of houses from each other help assure the integrity of wells. Soil limitations also necessitate low house density. There is a strong feeling among residents that large lot zoning and private water and sewerage systems are the keys to preserving the rural character of Bolton.

Though current offsets and lots sizes discussed in the above paragraph may achieve similar goals, an action item for the Board of Health may be to consider changes to the existing groundwater protection bylaw that could provide increased groundwater protection.

The highest yield aquifers currently identified in Bolton are shown on Figure 5, and run along Route 110 in the Bolton Flats area under land primarily owned by the Commonwealth of

Massachusetts, and in the Great Brook area near East End Road, primarily on the Commonwealth's Delaney Watershed Project. The purchase of land for water supply purposes is currently a high priority in Bolton.

3.H Long-Term Development Patterns

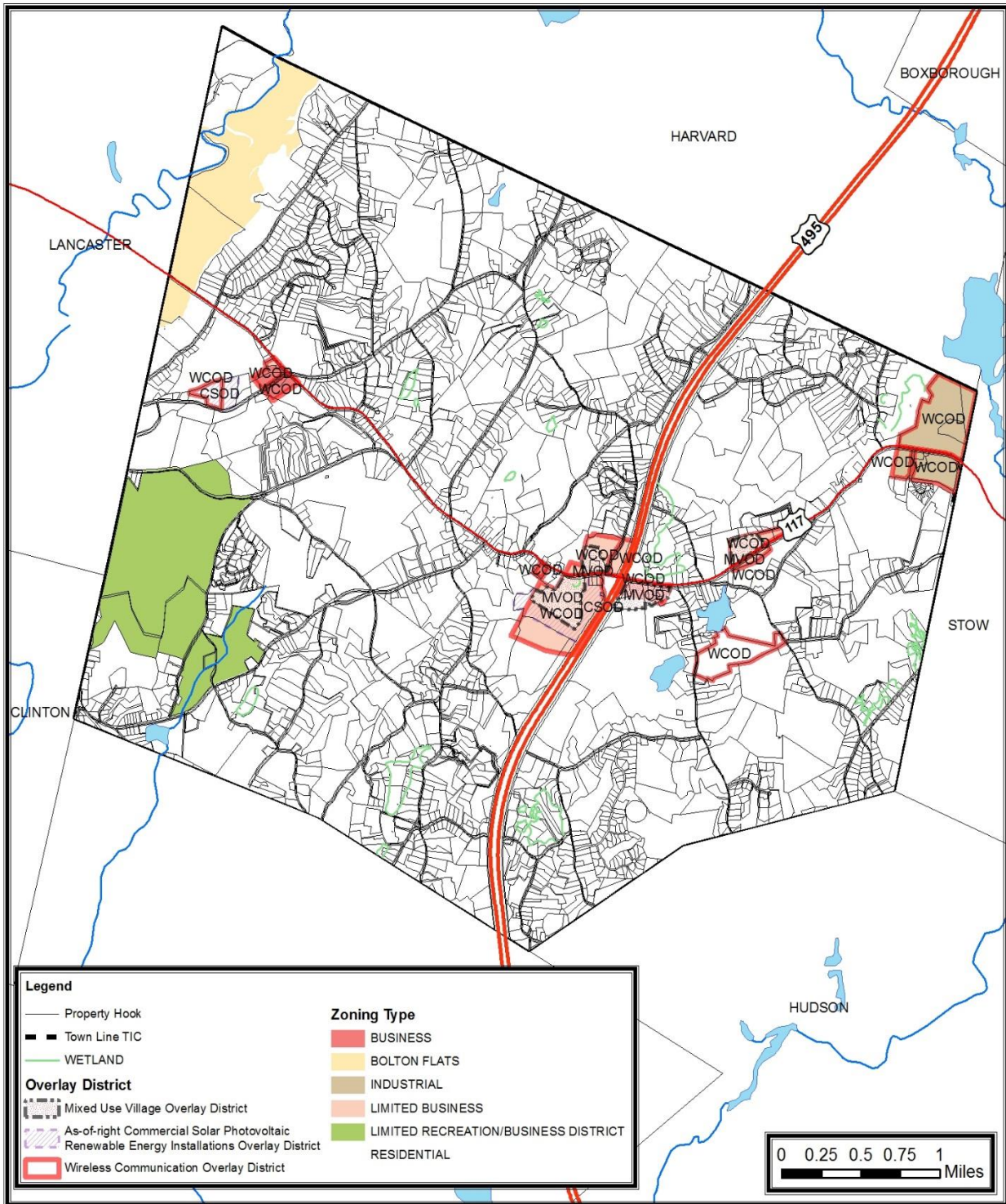
For a number of years, there have been discussions in Bolton of "creative" residential zoning to increase the flexibility developers have in providing housing and maximum value from the land while protecting open spaces. Bolton has backland zoning (sometimes referred to as hammerhead or "porkchop" lots) that allows reduced road frontage (50 feet) with larger acreage (4.5 acres) under special permit from the Planning Boards. The backland zoning is intended to be used with standard 80,000 square foot lots to increase developer flexibility while reducing the cost to the developer and the town of new roads. The town allows common driveways to as many as five houses with a special permit. The more flexible, yet controllable common driveways have been used in conjunction with frontage and backland lots to develop parcels of land that might otherwise have seen subdivisions with town roads.


Another creative zoning mechanism utilized by the town is the Farmland and Open Space Planned Residential Development (FOSPRD). A FOSPRD plan allows for reduced frontage and setbacks in order to set-aside open land to be held by the town under a conservation restriction or other means. Currently, developers of large subdivisions are required to file both a FOSPRD plan and a conventional subdivision plan for consideration by the Planning Board. The Planning Board then decides which plan is in the best interest of Bolton.

Bolton has several overlaying zoning districts that are important to open spaces. These deal primarily with wetlands and the floodplain of the Nashua River. The Floodplain District is defined by the Federal government's flood insurance program. The floodplain now extends to include the major brooks in Bolton as well as the Nashua River itself. While the intent of the Federal study and of the revised town bylaw is primarily to define the areas and premium rates for Federal flood insurance, the new bylaw acts as protection of open space by regulating potential development in floodplains which overlap the aquifer. Any development in the floodplain requires protective measures to the dwelling and a replacement of the flood area taken.

The town has a local wetland bylaw that provides greater local control over wetlands protection than the State regulations under the Wetland Protection Act. Individuals requesting work to be done within 25 feet from the resource area or 100-foot buffer zone must file under the Bolton bylaw. The Conservation Commission implements both the Rivers Act, Wetland Protection Act and the Stormwater Management Policy.

Many of the zoning mechanisms necessary to preserve open space, while promoting appropriate development are currently in place. While residential development is expected to grow, the FOSPRD bylaw will be an effective mechanism for setting aside open space as compensation. Likewise, the selectmen have some control over business development in town. Growth pressures are sure to continue particularly near the Interstate 495 interchange, which will impact the character of the town. Figure 6 shows the various zoning districts in Bolton.






Map created February 2017
by M. Simpson

Zoning

Town of Bolton

1 in = 1 miles



Source: NLCD & MassGIS

Figure
6

Section 4

Environmental Inventory and Analysis

Bolton is rich and somewhat unique in its natural history and diversity, owing in large measure to its geologic past. Due to folding and faulting many millions of years ago, the various bedrock formations have been aligned in a generally north-northeast to south-southwest orientation forming the Vaughn Hills, Wattaquadock hill, and Rattlesnake hills. Amidst the compressed and metamorphosed rock persisted several lime-rich deposits, quite uncommon in eastern New England. The soils that have developed atop these deposits have given rise to numerous floral species, many of which are very unusual in central and eastern Massachusetts. The geology of the town has also created many seasonal habitats, most notably vernal pools. These unique ecosystems harbor many rare and threatened amphibian species.

In the extreme northwest corner of town is the Nashua and Still River valley. Hundreds of acres of floodplain provide habitat to a diversity of mammals including otter and white-tailed deer, and to several rare and endangered avifauna. The Still River is home to several uncommon reptiles and amphibians as well.

Across town, Bolton's streams flow into Great Brook, Danforth Brook, and Forbush Mill Brook which eventually enter the Assabet, Still and Nashua Rivers. Unlike the large, slow flowing river on the west of town, Great Brook and Mill Brook are much smaller, relatively high gradient, cold water streams which at one time supported several small mills. Today, the clear flowing streams are popular trout waters.



Fyfeshire Dam Conservation Area; winter 2016 by Rebecca Longvall

4.A Geology, Soils, and Topography

Bolton has a well-documented geological history which has produced many of the town's natural features and helped to shape the growth and rate of development throughout the town. Bolton's geology has greatly influenced the town's land use and open space patterns.

The literal foundation of Bolton is its bedrock that is exposed in numerous road-cuts or as "ledge" along the slopes of most of the town's prominent hills and ridges. The majority of rock underlying Bolton is comprised of meta-sedimentary deposits called gneiss and schist that are roughly 500 million years old. These banded layers are part of the Nashoba Formation, which extends from Lowell to Connecticut. Bolton's hills and ridges, along with others in New England, are now believed by geologists to have been formed approximately 250 million years ago when the continent of Africa collided with North America, compressing and folding the rock

layers, creating the Appalachian mountains of which Bolton's hills are part of a northern extension. The best-known relict in the Bolton area of this continental collision is the so-called Clinton-Newbury fault zone, which occurs along the northwestern-most part of town, in the Nashua River valley. The general soil composition in Bolton and surrounding towns is found on Figure 7 of this document.

At the time of their formation, the Bolton hills were considerably higher in elevation than at present. The force primarily responsible for eroding the one-time Alp-like mountains of New England, was continental glaciation which, in geologic terms, occupied Bolton fairly recently. Geologists estimate that 15,000 years ago there was a one-mile thickness of glacial ice over Bolton.

During glaciation, ice movement was generally southerly, with the glacier's terminus coinciding with Cape Cod and Long Island. As the ice "retreated" during its melting, enormous amounts of water further eroded and smoothed the landscape. Mountains were rounded and valleys were filled with sediment. Boulders, which the glacier had carried from the north, dropped to the land surface as the ice melted and are numerous today in the hills and ridges.

Though only stumps of their one-time prominence, Bolton's hills and ridges are still impressive. The Vaughn Hills and Wattaquaddock Hill form part of a residual ridgeline, much of which exceeds 550 feet in elevation. This ridge and associated hills offer many spectacular seasonal views to Mount Wachusett and beyond looking west and, on a clear day, to the Boston skyline some 40 miles east. At the right moment, one might catch the red fire of the setting sun reflecting off the John Hancock tower far across the horse pasture at the junction of West Berlin and Wattaquaddock Roads.

In addition to its effect on topography, the glacier has shaped Bolton's drainage patterns. It appears that before the glaciers, Great Brook flowed south into Danforth Brook along Hudson Road; Mill Brook at one time flowed northeast to the Great Brook, but was diverted into Danforth Brook and separated from Great Brook by glacial debris at the sites of Little Pond and West Pond. These pre-glacial streams were filled with loose sorted glacial deposits as the glaciers retreated, and are now buried valleys of sand and gravel and important sources of groundwater.

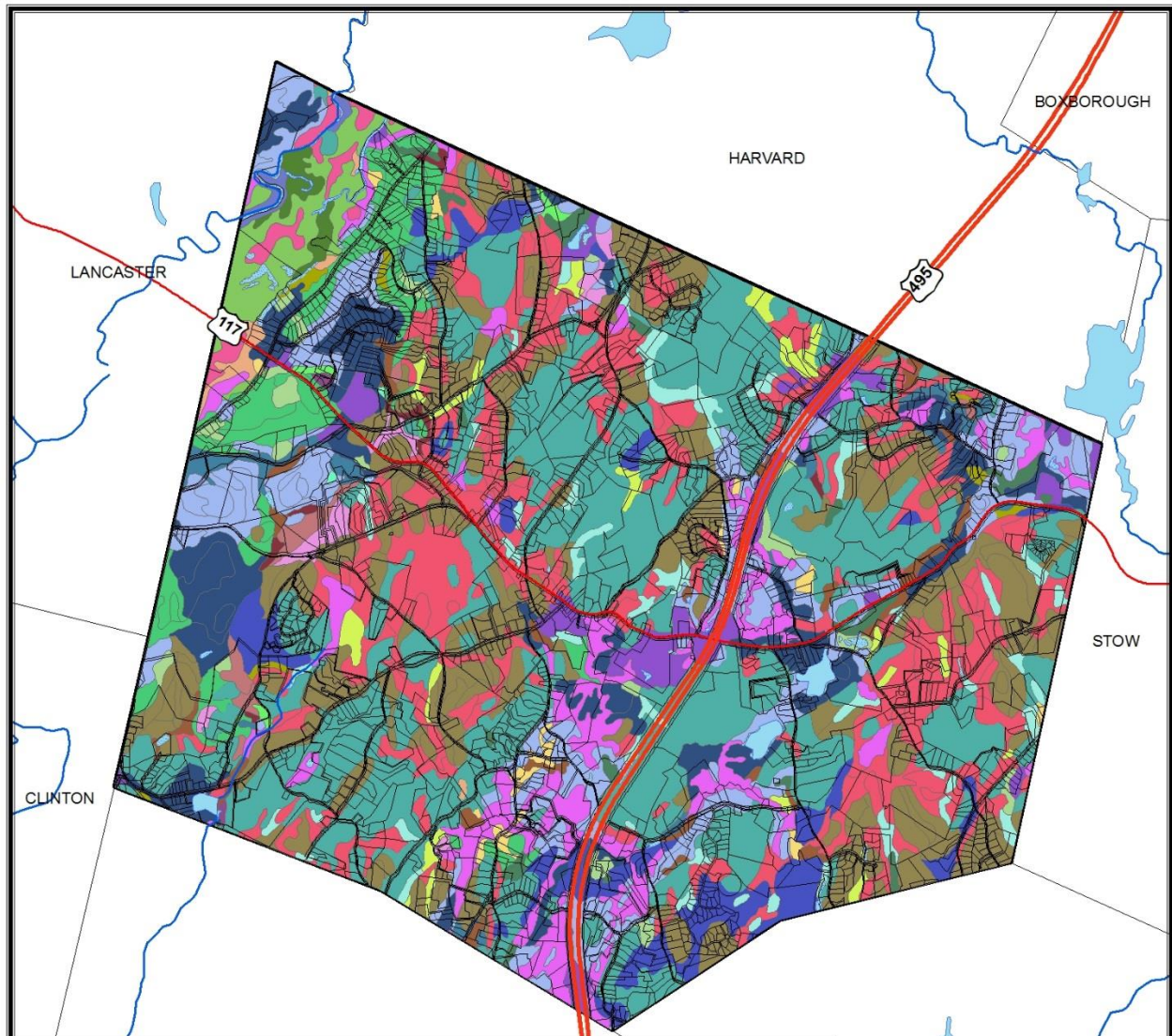
Similarly, near the end of the last glaciation, a large lake (Glacial Lake Nashua) occupied an area larger than Quabbin Reservoir. The eastern shoreline of Glacial Lake Nashua lay just west of the Vaughn Hills and Nashoba Regional High School. Today, remnants of the lake are observed in the several large gravel pits that occupy the eastern wall of the Nashua River valley. The valley and associated sand and gravel deposits comprise, potentially, Bolton's richest aquifer. All of Bolton's existing natural ponds, swamps and marshes were also formed by the glaciers.

Among the unique geological features in Bolton are the bedrock outcroppings on the two peaks of the Vaughn Hills (including a type of rock named the Vaughn Hill member by Wallace R. Hansen due to its exposure and appearance being thickest on the southern of the two Vaughn Hills in the town of Bolton" (Hansen 1956), garnets an outcrop on Pine Hill, and the marble and

lime deposits near Rattlesnake Hill, the locale for the mineral "Boltonite." This mineral is a magnesium rich member of the rare olivine family. The mineral has only been found in Bolton in granular form as a part of a larger light colored limestone. Historically there had been some controversy regarding whether it was indeed its own species or of a variety. J Alex Speer, Executive director of Mineralogical Society of America defines Boltonite as a local varietal name of the mineral Forsterite that contains the same elements; magnesium, silica, oxygen and is colorless (American Journal of Science 1844). It is typically discovered containing some iron which gives it a green or yellowish appearance. Since Forsterite and Boltonite have the same physical and chemical makeup the variety comes from the color itself. Boltonite has a distinguishable pale green or yellow hue (Dana 1868). This mineral is just one notable resource of the thirty minerals that make Rattlesnake Hill a conservation priority. There are numerous old quarries in this area which were worked in the 18th and 19th centuries. Today the quarries are important sources of study for geology students and are of historical value to the town. There are also many boulders and small cliffs where exposed bedrock was broken away by glaciers and deposited up to three miles away.

The soils that have developed in Bolton since the last glaciation 15,000 years ago reflect the underlying geology. The majority of the town is underlain by glacial till-derived soils. These soils occupy virtually all land above an elevation of 400 feet in Bolton, with various forms of stratified deposits (ice contact, outwash, terraces and alluvium) occurring in the valleys and plains. Deposits associated with wetlands account for about 8% of the town.

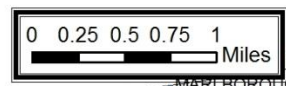
Bolton's soils have played a major role in the development pattern of the town. Though the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service) lists only 16.5% of the town's soils as prime agricultural, history has shown that Bolton's soils have been, and continue to be, well suited for a variety of agricultural pursuits, with apple growing heading the list. The Preservation Plan of Bolton, completed by a consultant for the Historical Commission, has an excellent summary of Bolton's Geological history.



Legend

Soil Types

Limerick Silt Loam	Merrimac Fine Sandy Loam	Sudbury Fine Sandy Loam
Amostown and Belgrade Soils	Ninigret Fine Sandy Loam	Suncook Loamy Fine Sand
Canton Fine Sandy Loam	Paxton Fine Sandy Loam	Swanseae Muck
Chatfield-Hollis-Rock Outcrop Complex	Gravel Pits	Udorthents
Deerfield Sandy Loam	Poquonock Loamy Sand	Walpole Sandy Loam
Freetown Muck	Raynham Silt Loam	Water
Hadley Very Fine Sandy Loam	Ridgebury Fine Sandy Loam	Whitman Fine Sandy Loam
Hinckley Loamy Sand	Saco Silt Loam	Windsor Loamy Sand
Hinesburg Loamy Sand	Scarborough Mucky Fine Sandy Loam	Winooski Very Fine Sandy Loam
		Woodbridge Fine Sandy Loam



Map created February 2017
by M. Simpson

Bolton Soil Types
Town of Bolton

1 in = 1 miles

 Source: MassGIS

Figure
7

4.B. Landscape Character Description

Bolton is somewhat distinctive among east-central Massachusetts communities in that it still retains some of the openness of colonial times. This is due to the fact that there remain a number of large, active farms that have held firm against the invasion of both suburbia and forest. Nevertheless, subdivision and backland lot development is increasingly visible. However, the vast floodplain of the Nashua and Still Rivers and the opportunities for scenic views from numerous prominent, positive topographic features offer natural opportunities to appreciate Bolton's openness.

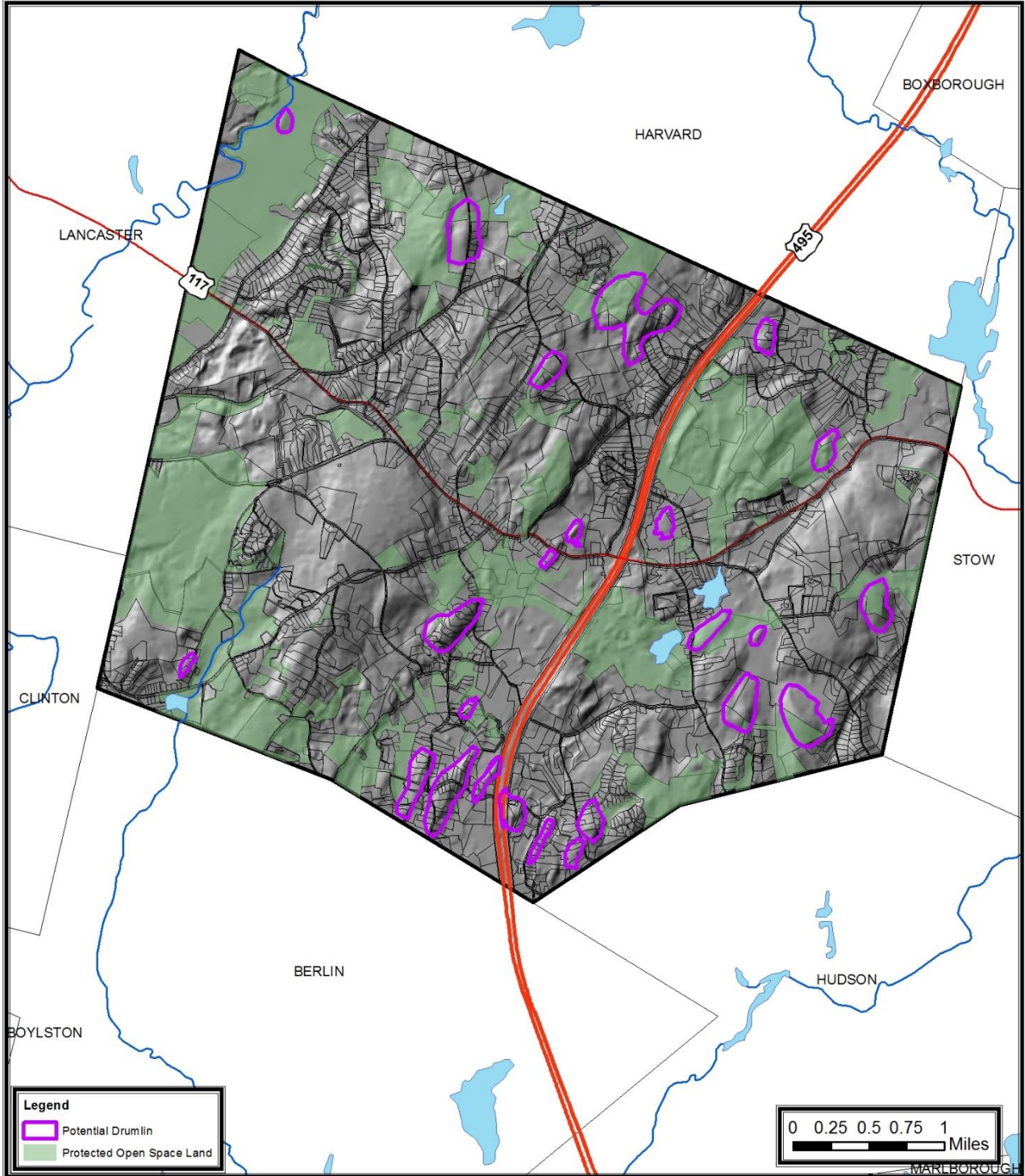
It is, in large measure, the diverse variety of land cover types which typifies Bolton's landscape character. The admixture of both deciduous and coniferous woodlands, wetlands of virtually all inland variety, expansive floodplains, high gradient streams, rolling orchards, pastures, hayfields, minor amounts of cropland, proper colonial homes, several white church spires -all smattered like a patchwork quilt on a three-dimensional surface - is what characterizes Bolton's landscape.



A major component of Bolton's open space is held privately in its viable agricultural industry. Approximately, 1,500 acres are owned by local farmers of which more than 1,000 acres are in active agriculture. Bolton's major agriculture lies in six commercial orchards totaling 550 acres.

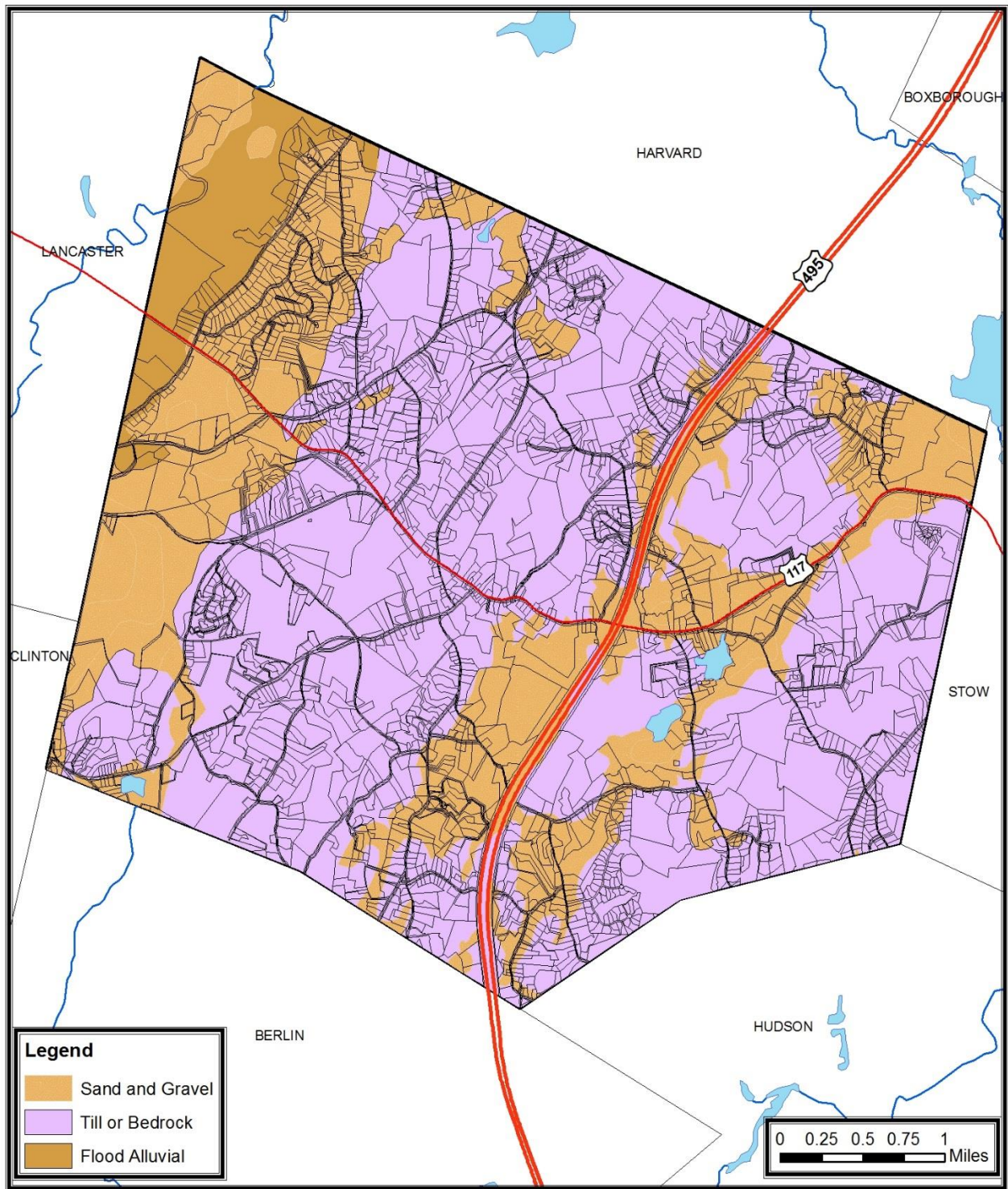
The typical signs of a changing community character are increasing in Bolton. Interstate 495 is the most prominent feature of the town's landscape. Several large office buildings and numerous nondescript commercial establishments are distractions among an otherwise most appealing landscape.

The concerns for Bolton's landscape future are several. Hodge-podge, strip commercial development along Main Street would cut the heart out of a charming town. Standard tract development, replacing woodland, orchard or meadow is incrementally destroying Bolton's landscape diversity. There have been many changes to Bolton's infrastructure over the past few years; such as road widening, road straightening, road leveling, signalization, and limited public sewerage, reducing the amount of protected landscape and community character.

Bolton is fortunate in finding ways for growth to work in conjunction with the historical and rural aspects that characterize the town. The many capable and hard-working volunteer town board members are a large part of enabling this fine balance. Recognition of, and respect for, landscape and architectural integrity have been the focal point in the town's residential and some business development over the last decade or two. The sustainable development of Bolton will continue with guidance from quality leadership, talented local boards, conscientious developers and effective bylaws.



 <p>Map created February 2017 by M. Simpson</p>	<h3>Drumlin Protection Status</h3> <h3>Town of Bolton</h3>	<p>1 in = 1 miles</p>  <p>Source: MassGIS</p> <h2 style="float: right;">Figure 8</h2>
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Map created February 2017
by M. Simpson

Surficial Geology
Town of Bolton

1 in = 1 miles



Source: MassGIS

Figure
9

4C. Water Resources, Surface Waters and Watersheds

The town of Bolton exists in two watersheds, the Nashua and SuAsCo (Sudbury, Assabet and Concord) Watersheds. The streams of Bolton are tributary to two primary river systems, the Assabet and the Nashua. Wattaquadock Hill and the peaks of the Vaughn Hills form the predominantly north to south divide which surface waters flow to the east and west through three major perennial streams – Great Brook, Danforth Brook and the Still River (see Figure 3 for watersheds and Figure 5 for surface waters). The streams in Bolton were historically too small to support major industry but were used to power local sawmills and gristmills.

Both Great Brook and Danforth Brook flow east to southeast and eventually join the Assabet River in Hudson and Stow. Great Brook rises from tributary streams east of Harvard Road and South of Main Street, which flow a combined distance of over 10 miles through 37 percent of the town's northeastern and central areas before entering Delaney Pond at the Stow town boundary. The eastern slopes of Wattaquadock Hill are drained by several small watercourses that merge in the wetlands of Sunk Meadow to form Mill Brook, tributary to Danforth Brook. Hog Swamp lies on Bolton's southern boundary with Berlin, and also contributes to Danforth Brook. The watershed to the Danforth Brook system encompasses 21 percent of the land surface in the southern section of Bolton.

The third major stream, the Still River, is fed by brooks originating in the Vaughn Hills and on the western slope of Wattaquadock, draining one quarter of the town land surface. The Still River converges with the Nashua River in the northwest corner of Bolton. Other unnamed streams to the south also flow to the Assabet River. To the north, Bowers Brook flows to Bare Hill Pond in Harvard.

Great Brook, Forbush Mill Brook, and Branch Still River, the latter two both tributaries to the Still River, are all actively used for recreational fishing. The Still and Nashua Rivers are popular for canoeing and support hunting within the Bolton Flats Wildlife Management Area. Many of the rivers and streams in Bolton are accessible from roadways and several offer multiple access points within conservation land.

Bolton has a few open water resources. The two major ponds are West Pond and Little Pond, both located in close proximity on Route 85 south of route 117. Bowers Springs Conservation Area contains two small dammed ponds while Fyfeshire Conservation Area includes small and large dammed ponds. Welch Pond lies on the western side of Wattaquadock Hill, and has a small central area of open water surrounded by shrub swamp. Several smaller water bodies exist within the town including old millponds and farm ponds. Some of these are shallow depressions characterized by seasonal flooding and include vernal pool habitat.

West Pond waterfront property includes that of Camp Virginia, currently owned and for sale by the Girl Scouts of America. The pond itself is included in the State list of Great Ponds. Although no formal public access has been established, many residents of the town use the pond

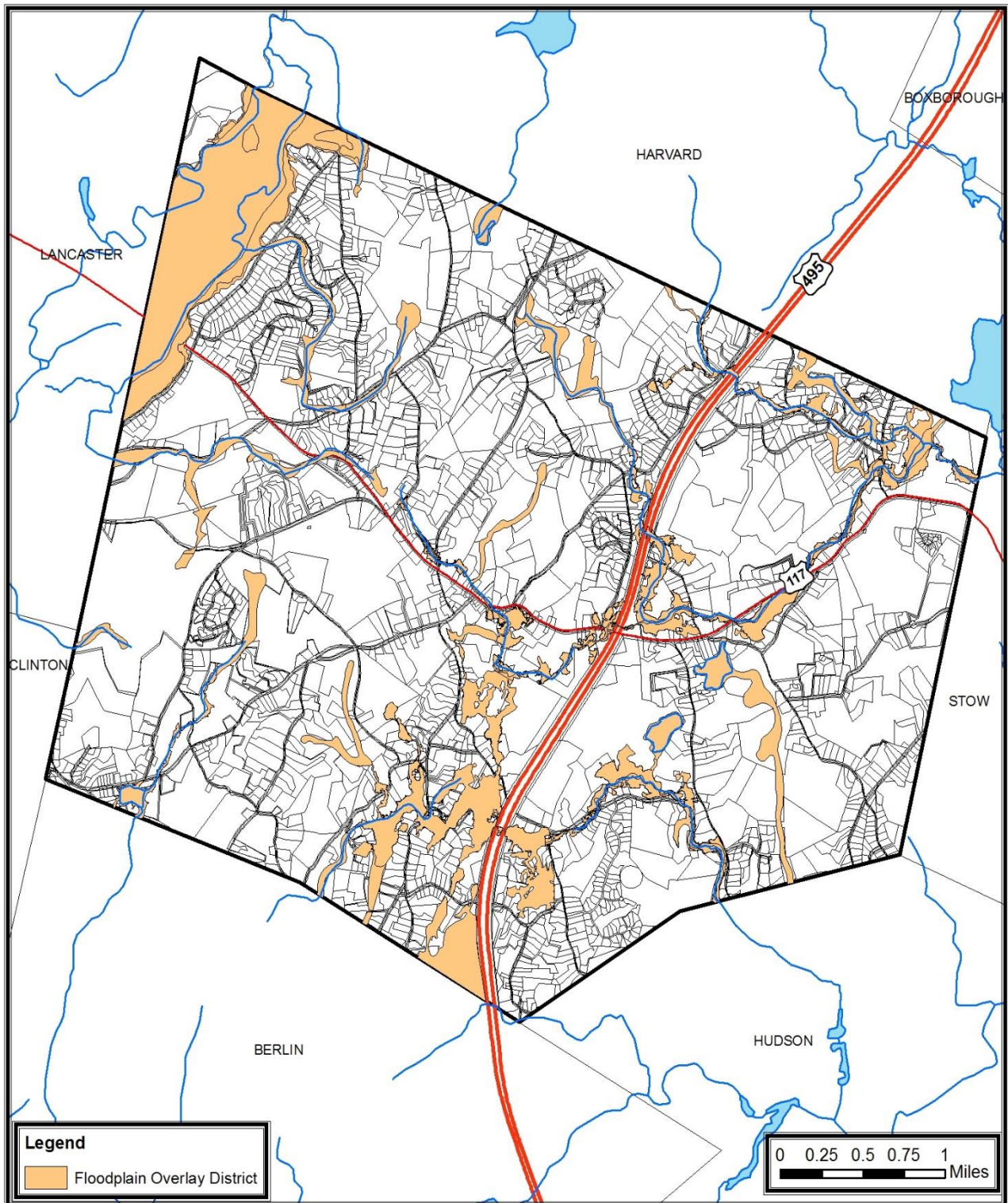
for ice skating and fishing. Little Pond is extensively used by the Boy Scouts of America as Camp Resolute. The Algonquin Council BSA owns nearly all of the shoreline of Little Pond, Bolton leases a portion for used as the town beach. The town owns Persons Park which has a small waterfront access available to town residents for unsupervised swimming and canoeing or kayaking. Person's Park, a 5.5 acre gift to the town, provides 312 feet of frontage on Little Pond.

The ponds at Bowers Springs are used in the summer months by the Bolton Conservation Trust for their popular Tom Denney Nature Camp, which draws day campers from towns across Massachusetts. Throughout all seasons the ponds are used by residents of Bolton and Harvard for passive recreation, although no swimming is allowed. The smaller ponds at Fyfreshire and the more remote Welch Pond primarily support natural habitat and can be viewed from hiking trails nearby. Both of these areas offer valuable wildlife habitat due to the variety of vegetative communities.

Bolton has installed and manages multiple underground cistern and open surface fire ponds throughout town. These fire ponds range in size and volume, and many include PVC piped connection points for the fire department to draw from. There are 15 designated fire ponds, 15 additional natural ponds identified, and 11 cisterns total.



Pond at Vaughn Hills



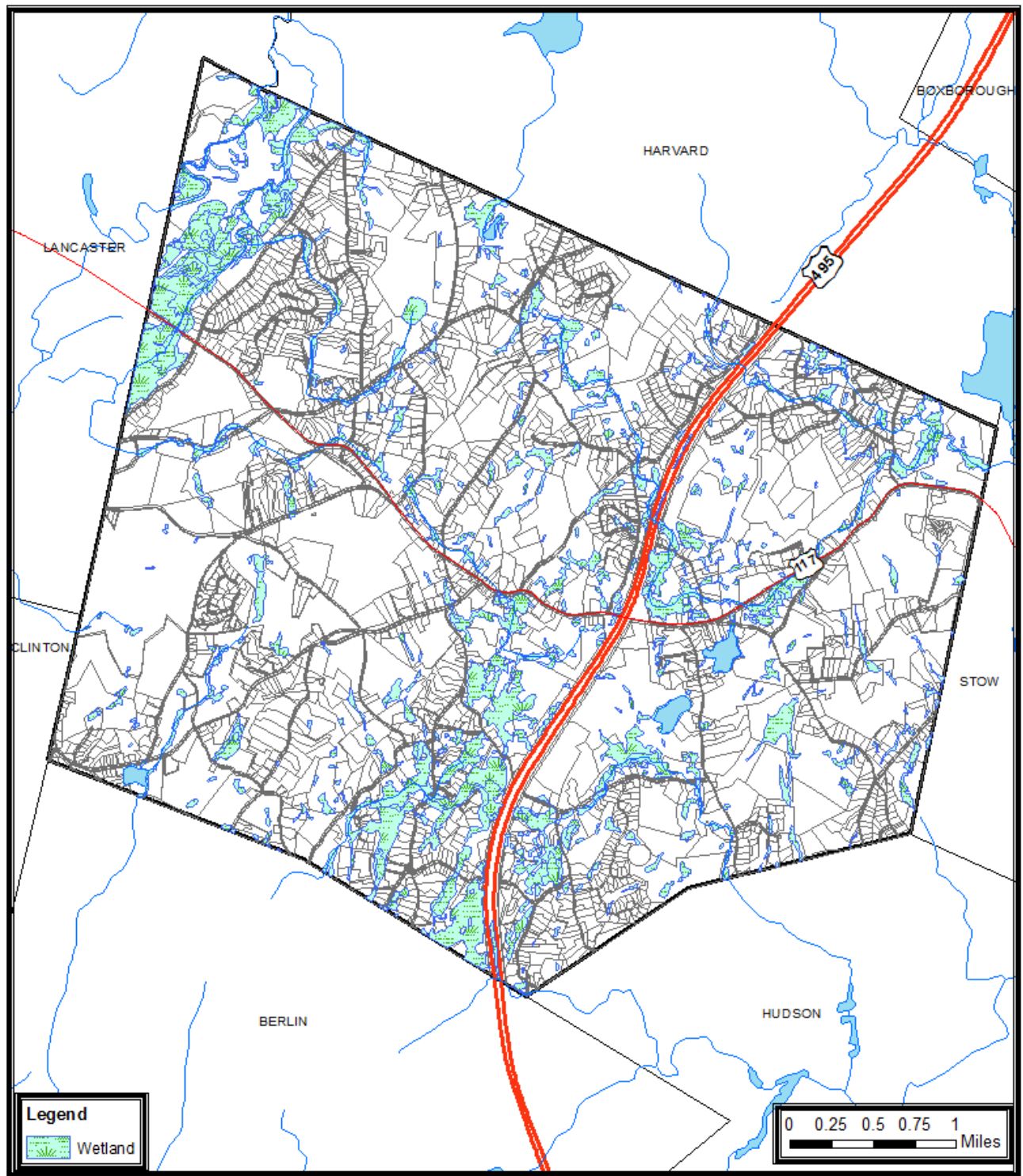
Flood Hazard Areas

Definition of the major floodplain and floodway areas are contained in the Flood Insurance Rate Maps (FIRM) and the Flood Boundary and Floodway Maps for the Town of Bolton (see Figure 10). These maps are published by the Federal Emergency Management Agency (FEMA), dated 2014. These indicate extensive areas subject to the 100-year and 500-year floods within the town. The Massachusetts Wetlands Protection Act includes jurisdiction over the 100-year floodplain. The Massachusetts Rivers Protection Act includes jurisdiction over lands adjacent to waterways that flow year-round (perennial) to protect important resource areas and buffer zones.

Preservation of floodplain areas is critical to the town and given that Bolton's floodplains exist within two major watersheds, the Nashua River/Still River and the Assabet River, preservation is important to the region. The FIRM maps for Bolton identify the 100-year floodplains and floodways in association with the following perennial water courses and their tributaries:

- Great Brook
- Nashua River
- Mill Brook
- Still River
- Danforth Brook

Floods in Bolton, associated with excessive rainfall, snowmelt, hurricane and tropical storms have resulted in localized damage in certain low-lying areas of the town. The most significant flooding is usually associated with the Nashua and Still Rivers that occasionally overtop Route 117 at the western end of town. Fortunately, the extensive natural flood storage provided by the State-owned Bolton Flats Wildlife Management Area which incorporates portions of these two rivers, results in the ability to absorb and contain flood waters, thereby minimizing flood damage to populated areas. Great Brook, Mill Brook and Danforth Brook are higher gradient streams with smaller tributary watersheds and thus do not exhibit the extreme flooding that is associated with the Nashua and Still Rivers. Furthermore, portions of Great Brook occur within existing town-owned conservation land that provides a buffer during flood events to adjacent developed parcels. Acquisition of properties for conservation land adjacent to Mill and Danforth Brooks would be desirable as these parcels could also provide a buffer during flooding events.



Map created February 2017
by M. Simpson

Wetlands Town of Bolton

1 in = 1 miles



Source: Mass GIS

Figure
11

Wetlands

Bolton is fortunate to contain extensive wetland areas for the significant ecosystem services. These wetland resource areas are significant for their scenic beauty and the integral role they play in water supply, filtration, flood control, storm damage prevention, pollution prevention and providing wildlife habitat.

Activities in wetlands are regulated under the Massachusetts Wetlands Protection Act (MGL Ch. 13 1, s. 40) which is locally overseen by the Conservation Commission. The Bolton Wetlands Bylaw (General Bolton Bylaw Ch. 233, s. 1.18) also provides considerable protection for wetlands and portions of the buffer zone, setting a strict standard for work within these areas. Wetlands are becoming more widely recognized as a valuable community resource for the reasons stated above.

In Bolton, the most predominant wetland resource area is a forested wetland with red maple as the most common tree species. Most of these wetlands are contiguous to streams or linked to them and are thus constituents of the floodplain. Notable forested wetlands include Hog Swamp in the southeastern corner of Bolton that forms the headwaters of Hog Brook, a tributary of the Assabet River in Hudson. Sunk Meadow, located off South Bolton Road, is another large red maple dominated forested wetland which is hydrologically connected to Mill Brook downstream. Another notable wetland located east of I-495, where Great Brook floods a large forested wetland north of Wests pond.

A state owned but still noteworthy wetland system that contains a diversity of wetland types is the Bolton Flats Wildlife Management Area. A highly significant wetland system along the Nashua and Still Rivers. The Flats provide Bolton with its only true riparian habitat, much of which is bordered by scrub-shrub and emergent wetland types. These habitats provide a haven for wildlife as evidenced by documentation of state-listed rare and endangered amphibian and bird species that breed in Bolton within the Management Area. As described in the Floodplain section above, Bolton Flats provides a critical natural flood storage area that protects adjacent developed areas in Bolton and Lancaster. Although much of Bolton Flats would be classified as wetlands it is very popular with hunters, birdwatchers, cross-country skiers and hikers. During summer and autumn months, much of it is dry enough to be accessible to the public. It is a noteworthy and much appreciated wetland in Bolton. The recently designated ACEC (Area of Critical Environmental Concern) includes the Bolton Flats Wildlife Management Area and lands to the north and west located in the towns of Bolton, Lancaster, Harvard, and Leominster. The total acreage of this extensive protected riparian system is 12,900 acres.

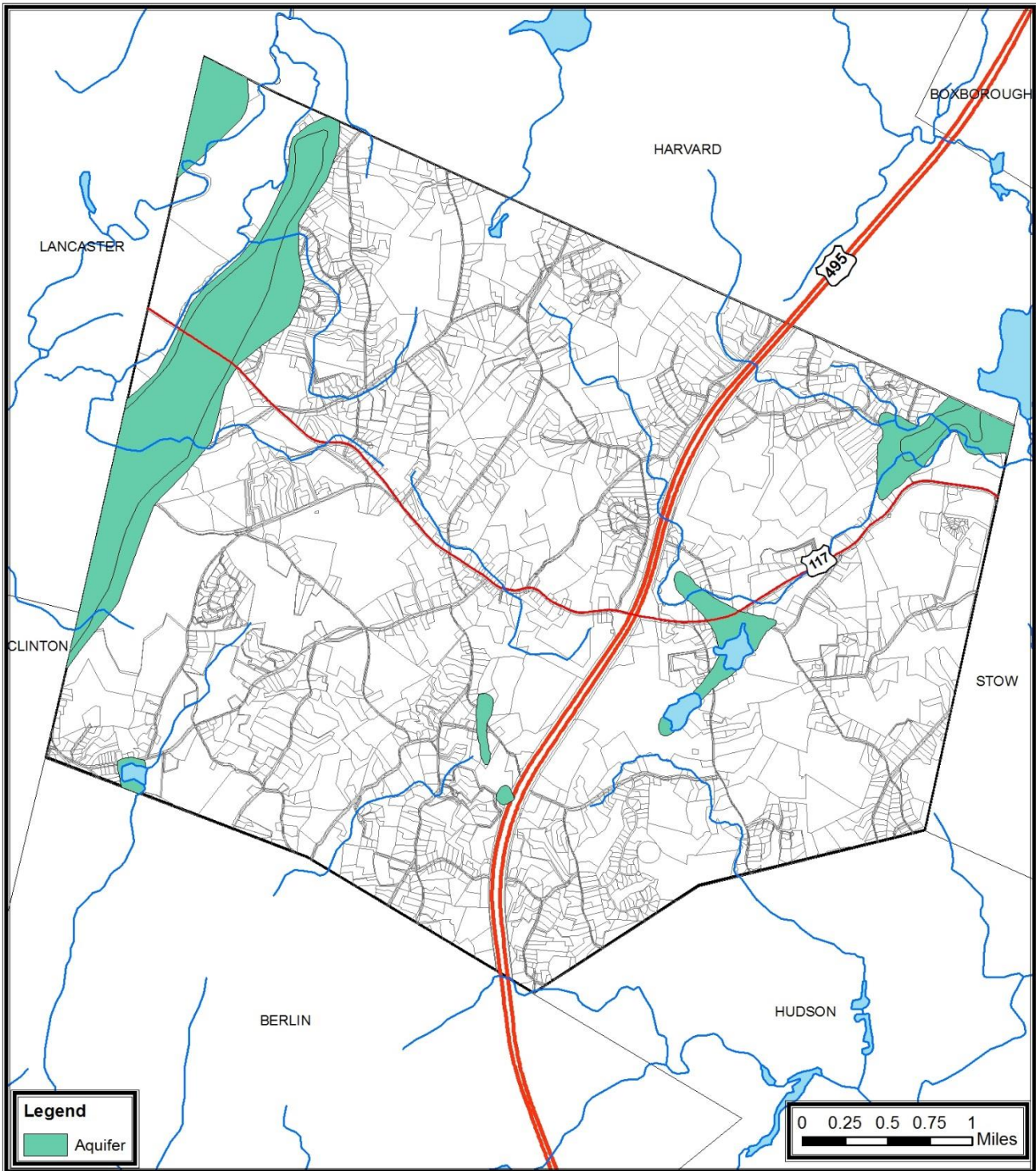
In 1978, the Wetlands Restriction Program of the Department of Environmental Protection (DEP) had aerial photographs taken of Bolton and other towns within the upper Nashua River watershed. The purpose of this state-directed program was to place strict limitations on any encroachment upon areas designated as inland wetlands by the Inland Wetlands Restriction Act (MGL Ch. 13 1, sec. 40A). Section 40A includes "inland wetlands and is that portion of any bank which touches any inland waters or any freshwater wetlands and any freshwater wetland subject to flooding." Delineation of major wetland systems within Bolton was completed during

this inventory on aerial orthophotos at a scale of one-inch equaling 600 feet. Although the baseline inventory was completed for Bolton, funding was eliminated for the Wetland Restriction Program. The regulatory goals for protecting these wetlands were never implemented by the state DEP. More recently, the DEP has instituted the Wetlands Conservancy Program to extend mapping of Massachusetts wetlands.

Aquifer Recharge Areas

Aquifer and recharge area data exist for the town in the form of maps prepared by Goldberg-Zoino Associates, and can be found in Figure 12. There is one high yield aquifer covering several hundred acres on the west end of the town, some of which is preserved, some already developed into single family homes, and some remaining land which might be set aside. For example, the aquifer lies under the International Golf Course, recently zoned as recreational open space, and under Bolton Flats, State preserved open space. It also lies under the Town Dump, the Eastwood Cemetery, and under Bolton Orchards, privately owned farmland. This same aquifer also underlies another 65 acres of privately-owned open space. Additional land under the aquifer is subdivided into individual single-family house lots.

There is a medium yield aquifer near the Nashoba Regional High School. Some open fields remain around the high school, but most of this area has already been developed into individual single-family house lots. There is another smaller medium yield aquifer in the east end of town, below the Delaney WMA, which is also State preserved land. This is also where Great Brook flows through an orchard (Bolton Spring Farm) and into the Delaney land. There are a number of single-family homes above the aquifer on Sugar and East End Roads.



	<h3>Aquifers Town of Bolton</h3>	1 in = 1 miles	Figure
Map created February 2017 by M. Simpson			12
		Source: MassGIS	

4.D Vegetation

Forest Land

Typical of the south central New England area, Bolton's upland forests are characterized by a mixed deciduous community. Red, black and white oaks are interspersed with hickory, cherry, maple and ash, in varying association with white pine, which also occurs in small groves at lower elevations. Examples of white pine stands are to be found along Forbush Mill Road, in the Fyfeshire and Vaughn Hills Conservation Areas, and at the base of Pine Hill.

Cooler, more mesic areas are dominated by beech, birch and hemlock, all of which are less common species in Bolton. Some species, such as sycamore, silver maple, basswood and tupelo, occur here toward the northern limit of their ranges, with higher and cooler elevations just 35 miles away lacking significant populations. The larches, firs and spruces of more northern parts of the state are for the most part absent in Bolton.

Forested wetlands are comprised of red maple, ashes and elms. Some sections of the floodplains along the Nashua and Still Rivers support continuous forest with silver maple and sycamore among the more interesting species.



Fyfeshire Dam Conservation Area
Fall 2016 by R. Longvall

Although there are nearly 12,800 acres in Bolton, slightly less than 300 acres are currently under the Chapter (61) tax incentive program for forestry purposes. Overall, properties in Chapter 61 tax incentive program for agriculture, recreation or forestry total around 2,000 acres. It should be noted, that Chapter lands are not protected in perpetuity. Some of these properties are no longer under this classification and have been developed, clear cut or have plans to be developed. Some examples include Coolidge which was taken out of Chapter 61A (2000). The development of Coolidge called for a FOSPRD plan which in this case involved an APR to be placed on the open space. Some very significant woodland areas are protected in perpetuity through state or local ownership. All forested areas are in second or third growth, but are approaching maturity in some locales.

Of far more influence is the current tendency to utilize existing frontage for house lots, and to design long driveways extending into single-family backland house lots. This design alternative seldom results in the large scale clearing or logging operations common to subdivision design and construction. Many (non-)conventional subdivisions result in significant amounts of lost forest, in part to create views. This trend has continued with successive subdivisions and the

Planning Board and Conservation Commission are working with developers to limit tree cutting where possible.

The town currently has a *Scenic Roads Bylaw* that protects shade trees that exist in the right-of-way. Trees provide huge benefits to the health of a community through many ecosystem services managing storm water, carbon dioxide and air quality. Trees intercept gallons of rainfall which produces a reduction of sedimentation and erosion factors that would otherwise result from rainfall over time. Carbon dioxide is reduced in the atmosphere by absorption and therefore reduces energy consumption overall. Air quality is improved through the absorption and interception of pollutants such as ozone, sulfur dioxide, nitrogen dioxide and particulate matter. The ecosystem services of improving air quality reduce energy production needs and reduce air temperature as well. Bolton is a rural town with many tree lined roads therefore receiving shade tree benefits daily that improve the overall health of its residents both wildlife and humans.

Forty-two of the roads in Bolton are listed under the *Scenic Roads Bylaw* which states:

“Acting under *Section 15C, Chapter 40 General Laws* ... Designation as a Scenic road allows the Town to preserve the qualities and character of the town ways. Any repair, maintenance, reconstruction, or paving work done with respect thereto, of a Scenic Road shall not involve or include the cutting or removal of trees, or the tearing down or destruction of stone walls, or portions thereof, except with the prior written consent of the Planning Board after a Public Hearing duly advertised.

In granting or refusing such consent the Planning Board shall consider, among other things, the public safety, scenic views, preservation of historic and regional characteristics, and preservation and enhancement of natural and aesthetic qualities of the environment.

The Planning Board may adopt reasonable further standards relative to scenic Roads not inconsistent with this Bylaw and the General Laws.”

This *Scenic Roads Bylaw* was adopted and is pursuant to *Massachusetts General Law Chapter 87 Shade Trees* which protects public shade trees by the jurisdiction of the Town’s Tree Warden.

Upland forested areas coincide with the major hills and adjacent slopes, including Powderhouse, Spectacle, Rattlesnake, Barrett, Pine and the Vaughn Hills areas. The exceptions to this pattern are Wattaquadock and Long Hill, which include large areas of cleared agricultural land. Between the hills, roadways usually follow the bases of the slopes, leaving the summits and upper elevations in continuous cover or agricultural use.

The last Open Space and Recreation Plan from 2005 named the largest undisturbed forest tracts throughout Bolton that were noted in the 1998 Plan. Over the last 20 to 30 years, Bolton still continues to see a decrease in previously-undisturbed forest tracts. The disturbance is largely from housing development in subdivisions. Quail Run and Sugar Mill subdivisions in the Sugar Road –Golden Run area, Danforth Brook subdivision that leads into the Barretts Hill area and Century Mill Estates toward Spectacle Hill all resulted in the loss of forested areas that were previously undisturbed. FOSPRD previously explained in section 3, provides a requirement to

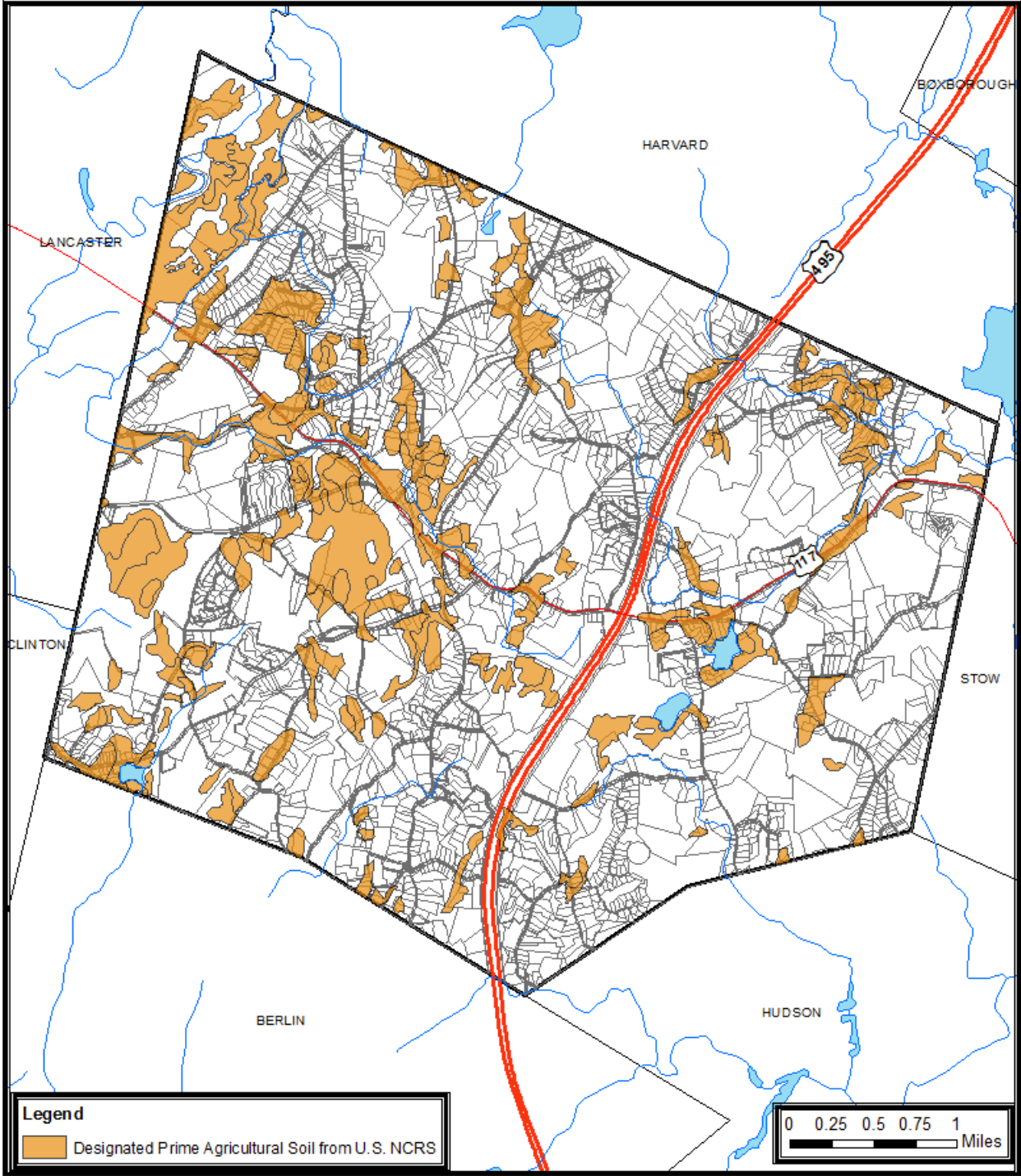
set aside open space therefore reducing the overall impact of development throughout town. However there is still a net loss of forest in the two largest forested areas in Bolton.



The largest remaining areas containing significant forest resources include Rattlesnake Hill, Vaughn Hill, and Wattaquadock Hill/Randall Road. Smaller forested areas lie between virtually all other roadways, and cover most undeveloped land, with the exception of agricultural, mowed and landscaped areas. The largest protected areas are the Rattlesnake/Phillips (444 acres), Century Mill Estates (100 acres), the Vaughn Hills (162 acres) and the Powderhouse Hill (75 acres). Major wooded swamp areas include Sunk Meadow and Hog Swamp, the Vinger properties off of Berlin Road, the wetlands bordering Danforth and Great Brooks, and the floodplains and wetlands bordering the Nashua and Still Rivers.

Much of the forested land in Bolton is accessible to the recreational user, as most landowners do not post their properties, and many welcome residents engaged in passive recreation, some even clearing trails for these users. With the exception of the Bolton Flats Wildlife Management Area and the Delaney Wildlife Management Area, hunting in Bolton is prohibited without the landowner's permission, and is not permitted on town-owned land. In permitted areas, hunting is practiced throughout town.

The extensive areas of (glacial) till underlying forested areas increase the importance of erosion and sedimentation control. In developments where clear-cutting has taken place, the poor permeability has resulted in the loss of topsoil on slopes, and damage to understory communities adapted to shade from the tree layer.

Economic benefits from forest land has been realized mostly by the individual landowner contracting with Timber harvesters for land clearing under the Forest Practices Act, and site preparation for residential development. During the early 1980's, a successful woodcutting program was managed on several parcels of conservation land, including Vaughn Hill and Powder house Hill. There remain many areas of public land suitable for such harvesting. In recent years, the concept of "healthy" forests through forest management have come into question, since many wildlife species depend upon dense protected forests and dead and dying trees or snags for food and shelter.



 <p>Map created February 2017 by M. Simpson</p>	<p>Prime Agricultural Soils Town of Bolton</p>	<p>1 in = 1 miles</p>  <p>Source: Mass GIS</p>	<p>Figure 13</p>
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General Inventory

The overall vegetative community characteristics are determined by the forest cover. Smaller plant communities of special interest occur within the separate forest types. (Forest cover types common to Bolton are described above in the Forest Land section).

The importance of the Nashua River floodplain's wetland community types is related both to geologic and hydrologic influences, and is further affected by agricultural use and land management practices for the benefit of wildlife. The floodplain includes the previously mentioned bottomland hardwoods, extensive sedge meadows and shrub swamp, and intensively used agricultural fields. Harvest management is practiced in these areas to leave a portion of the resources for wildlife, specifically migratory waterfowl. Similarly, hedges, shrub areas and open water are managed for a balance of fruit and seed bearing plants. As a result, the area has a vast potential for wildlife habitat and varied recreational opportunities related to wildlife and scenic values, to include hunting, fishing, trapping, bird-watching, cross country skiing, cycling and hiking.

A second extremely unusual vegetative community exists in Rattlesnake Hill Conservation Area, where the limestone substrate creates soil conditions required by species that prefer to live in an environment rich in Calcium Carbonate. Most of this habitat fortunately has been protected, with the exception of some isolated and adjacent parcels. The challenge remains to encourage recreational uses to allow the community to be aware and enjoy this resource all while protecting the plant communities established there.



Bloodroot (*Sanguinaria canadensis*) by R. Longvall

A flora inventory and documentation of this area has been started, includes several hundred species of wildflowers and other herbaceous plants, with a section on trees and shrubs being planned. Another management objective is to regulate invasive species along with shrub and tree growth in a wet meadow that currently supports a station of *Gentianesis crinita* (fringed gentian), which is on the "watch list" of the Massachusetts Natural Heritage and Endangered Species Program.

Bolton has three areas that support bog vegetation: Cranberry Meadow, Welch Pond and the small pond on the Gould Conservation Area. Both host communities of *Cephalanthus occidentalis* (buttonbush), and the Gould parcel also contains a colony of *Woodwardia virginica* (Virginia chain fem). All three fortunately are included in Bolton's list of protected areas, and require little to no management objectives other than monitoring of adjacent land use and invasive species.

Other herbaceous plants of interest are colonies of *Lobelia cardinalis* (cardinal flower) at the Fyfeshire Conservation Area also along Sugar and Meadow Roads. The Meadow Road station is presently threatened by changing land use. The Hansen Conservation Area and adjoining Turner

land contain an area of shrub swamp and open marsh with a sizeable stand of *Decodon verticillatus* (water willow), protected both by its presence in bordering vegetated wetland and by its location between conservation land and a donated trail easement.

A pine forest off South Bolton and Wheeler Roads includes a very unusual colony of *Linnaea borealis* (twinflower), common in northern New England but possibly at the southern limit of its range in this area. Landowners have been approached to encourage protection of the plants.

An area off Bare Hill Road supports a small colony of *Isotria verticillata* (whorled pogonia), also uncommon in this region. The plants were threatened by development plans, and the owner was requested to provide an undisturbed buffer for the station. A second smaller community of *verticillata* exists east of Nourse Road.

The presence of these plants in widely separated sections of town indicates varying ecological conditions existing within Bolton. It also physically notes the importance of having sufficient undisturbed areas remain to reduce immediate threat to a diversity of vegetative plant communities. Preliminary work has been done in the past to locate interesting plants both in a floristic list and on a USGS quad sheet of Bolton.

Larger areas of unusual vegetation communities exist within the framework of the mixed deciduous forest, and include:

- Isolated pine knoll on the east bank of the Nashua River
- Hemlock stands off Forbush Mill Road, Sawyer Road, Annie Moore Road, and Old Bay Road
- Tupelo stand on the shores of West Pond
- Rock ravine community off Annie Moore Road
- Swamp white oak surrounding a possible vernal pool off Whitcomb Road

Economically the most important native plants are the oaks and white pine, both existing in places that are acceptable for timber harvesting; most woodlot management in the town has been exercised as selective cutting, preserving the area's ability to regenerate.

The agricultural planted areas are most notable for fruit and vegetable crops, with apple orchards covering a significant amount of land. The inclusion of this resource is due to its long-standing nature as a feature of the vegetative landscape that characterizes Bolton.

Rare and Endangered Plant Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) has records of two rare plant species occurrences in Bolton. Both species are within the Orchid Family that comprises several genera of orchids. *Arethusa* (*Arethusa bulbosa*) is listed as threatened by NHESP. This species is a spring flowering orchid that usually inhabits sphagnum bogs. The second listed species, autumn coralroot (*Corallorhiza odontorhiza*), a saprophytic plant, is rated as a species of special concern by NHESP. This orchid usually flowers in late summer and fall and is found in woodland areas.

Coral Roots are so named due to the short, stubby-branched root that resembles coral. The fringed gentian (*Gentianesis crinita*), occurring at the Lime Kiln Conservation Area, is also listed as a species of special concern. The sensitivity of the area within which these two species occur, prevents their disclosure to the public. This is to prevent damage to sensitive populations through collection or vandalism.

4.E Fish and Wildlife

Inventory

The diversity of woodland, open fields, orchards and wetlands in Bolton provide ideal habitat for supporting a broad range of wildlife species. The wetlands, in association with undeveloped upland areas, have long been recognized as important and necessary habitat for a variety of wildlife of particular interest to Natural Heritage. There are significant resources throughout Bolton including 41 certified vernal pools in town. Areas such as Bolton Flats Wildlife Management Area along the Still River in Bolton and the extensive undeveloped land along Great Brook in the Rattlesnake Hill area offer superb habitat for fish and wildlife.

The wooded swamps and marshes commonly found adjacent to the Still River support large number of migrant and nesting gamebirds, waterfowl and songbirds, many forms of water dependent mammals, such as muskrat, mink and otter, and upland mammals as white-tailed deer, red fox and skunk. The Still River wetlands and floodplain within Bolton Flats are also home to state-listed rare species such as Blanding's turtle, American bittern, least bittern and the pied-billed grebe, as designated by the Massachusetts Natural Heritage and Endangered Species Program.

The Rattlesnake Hill area offers habitat for numerous resident and migratory songbird species, upland game birds such as ruffed grouse and ring-necked pheasant, and recently, wild turkey. Large mammals, such as white-tailed deer, and vernal pool species such as spotted salamanders also inhabit this diverse area of town. Two additional state-listed species, the blue-spotted salamander and marbled salamander occur in several wetlands across town. Other notable wildlife habitat in Bolton, due to size of undeveloped areas, interspersed vegetation types and proximity of open or flowing water, include Vaughn Hills, Wattaquodock Hill, Spectacle Hill and Long Hill.

A small portion of the extensive Delaney Wildlife Management Area (WMA), owned by the State Division of Fisheries and Wildlife is found in east Bolton off of Delaney Rd. This large flood impoundment area is located in the towns of Bolton, Stow and Harvard. The Delaney (WMA) and Bolton Flats (WMA) are stocked with ring-necked pheasant by the Division of Fisheries and Wildlife in October of each year for hunting purposes, as part of the ongoing game management program.

Bolton's significant fishery resources are found within the Still River, Great Brook, Danforth Brook and the two ponds Little Pond and West Pond. The Still River supports a warmwater fishery with the principal game fish being largemouth bass along with some brown trout. Other species such as bluegill, sunfish, and perch are also present. The Division of Fisheries and

Wildlife historically stocked both Great Brook and Danforth Brook with brown trout in the spring. Little Pond and West Pond are popular warm-water fishing areas. Public access is available at Person's Park on Little Pond for fishing. Ice fishing is very popular in the winter months although there only public access at little pond through Person's Park. It has been suggested that species such as carp, largemouth bass and bluegill are found in both ponds.

Corridors

Wildlife and fish populations cannot survive within restricted habitat confines as they roam and move about through paths of least resistance relative to each species' preferred habitat resources. Wildlife habitat corridors extend in a linear direction beyond limits of conservation lands and town boundaries. Rivers and streams form the basis of many natural corridors through which fish and wildlife travel, breed, feed, and rest during migration. Protecting and managing these streamside corridors is necessary for wildlife protection and management.

One of the most significant corridor for wildlife and fisheries in Bolton exists along the Still River and in the Bolton Flats Wildlife Management Area. This State-managed preserve is the second most important stopover in Massachusetts for migratory waterfowl. This 923 acre conservation area (Consisting of 698 acres in Bolton) is an important component of a greenway system along the Nashua River that extends for nearly 70 miles and encompasses over 8,000 acres of land protected local, state and federal agencies and private entities. Bolton Flats is within proximity to the federally owned Oxbow National Wildlife Refuge downstream in Harvard. In addition, the U.S. Fish and Wildlife Service recently obtained 4,830 acres of the South Post of Fort Devens that will be added to the Oxbow National Wildlife Refuge. Much of this land is also part of the recently designated Central Nashua Area of Critical Environmental Concern (ACEC).

Another natural wildlife corridor in Bolton is the Vaughn Hills/Bowers Springs complex that extends from the Nashoba Regional High School on State Rte 117 northeast across the Vaughn Hills Conservation Area and to the Bowers Springs Conservation area which extends into Harvard. More than 270 acres are permanently protected through acquisitions and conservation restrictions. This linkage of conservation lands allows wildlife to migrate through an open space system that is of greater value to maintaining regional animal populations than separate and isolated conservation lands.

The Rattlesnake Hill area, encompassing the Lime Kiln/Quarry Conservation Area, the Philip Phillips Family Conservation Area, the Rattlesnake Hill Conservation Area, the Harris Farm Conservation Area and extending northeast to the Delaney Wildlife Management Area, provide several hundred acres of interconnected conservation lands which extend into Stow and Harvard through the Delaney property. As with the Vaughn Hills area, the Rattlesnake Hill complex is a priority area in Bolton for additional land acquisition, to extend the existing wildlife corridors and to provide permanently protected open space for its citizens. Local, state, and federal partners should establish a land acquisition plan for the region which would connect the Oxbow/Bolton Flats Complex on Bolton's western boundary with the Great Meadows National

Wildlife Refuge Complex in the Towns of Wayland, Concord, Sudbury, and Hudson to the east and south.

Rare, Threatened and Endangered Animal Species

The Massachusetts Natural Heritage and Endangered Species Program (MNHESP) currently lists 15 rare animal and plant species occurrences in Bolton (increased by 5 species since the 2005 OSRP), as listed in the following table. The definitions associated with the table are provided by Natural Heritage & Endangered Species Program in the 2008 *Listing Endangered Species in Massachusetts* publication as follows:

Endangered – (plant or animal) in danger of extinction throughout all or significant portion of its range, or in danger of extirpation from Massachusetts, as documented by biological research and inventory

Threatened – (plant or animal) likely to become endangered within the foreseeable future throughout all or a significant portion of its range, or to be declining or rare as determined by biological research and inventory, and likely to become endangered in Massachusetts in the foreseeable future

Special Concern – (plant or animal) documented by biological research and inventory to have suffered a decline that could threaten the species if allowed to continue unchecked, or occurring in such small numbers, or with such a restricted distribution, or specialized habitat requirements, that could easily become threatened within Massachusetts

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Bird	<i>Ammodramus savannarum</i>	Grasshopper Sparrow	Threatened	2016
Bird	<i>Botaurus lentiginosus</i>	American Bittern	Endangered	2015
Bird	<i>Caprimulgus vociferus</i>	Eastern Whip-poor-will	Special Concern	2014
Vascular Plant	<i>Carex typhina</i>	Cat-tail Sedge	Threatened	1999
Beetle	<i>Cicindela duodecimguttata</i>	Twelve-spotted Tiger Beetle	Special Concern	2007
Vascular Plant	<i>Corallorhiza odontorhiza</i>	Autumn Coralroot	Special Concern	2010
Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	Threatened	2013
Bird	<i>Gallinula chloropus</i>	Common Moorhen	Special Concern	2011
Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	Special Concern	1999

Bird	<i>Ixobrychus exilis</i>	Least Bittern	Endangered	2010
Vascular Plant	<i>Linnaea borealis</i> ssp. <i>americana</i>	American Twinflower	Special Concern	1980s
Bird	<i>Podilymbus podiceps</i>	Pied-billed Grebe	Endangered	2010
Bird	<i>Poocetes gramineus</i>	Vesper Sparrow	Threatened	2003
Bird	<i>Rallus elegans</i>	King Rail	Threatened	1999
Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	Special Concern	2013

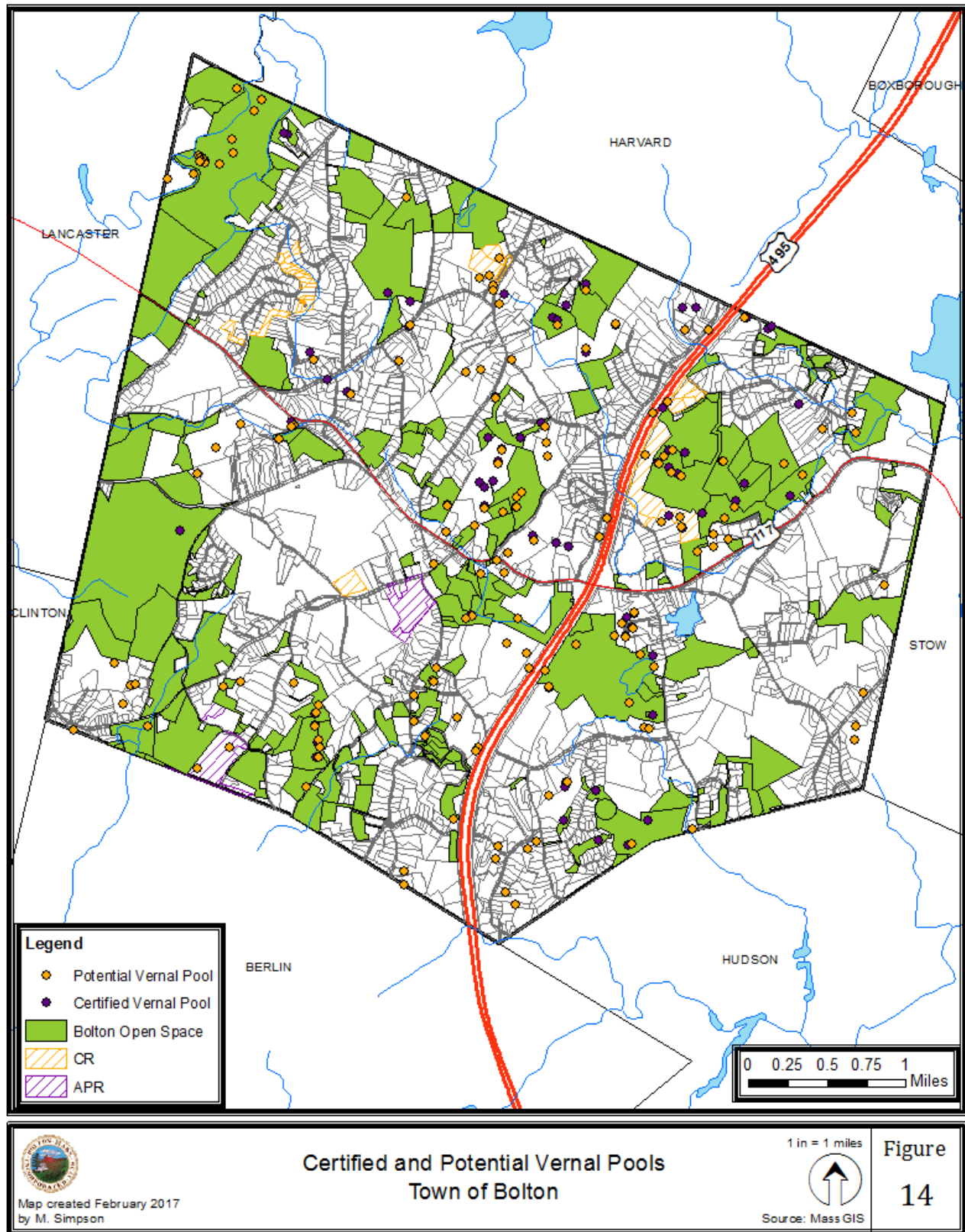
Listed pursuant to the Massachusetts Endangered Species Act, MGL Chapter 131

Three of the 52 current state records for the marbled salamander are in Bolton. This species was first notably observed here in 1969. As with rare vegetation, the sensitivity of these animal populations prohibits their locations from being publicized. The Conservation Commission is especially interested in protecting these populations, and their habitats are priorities for town acquisition.

Vernal Pools

Vernal pools have significant ecological and hydrological importance. These pools typically form in the spring and fall during periods of high rainfall and elevated water tables. During drier periods of mid to late summer, they will often be completely devoid of water. It is for this reason when vernal pools dry up, they cannot support fish species. Many amphibian species have adapted to breeding in vernal pools where their offspring have a greater chance of survival. A few of these species are listed under the State's Endangered Species Act, notably the blue-spotted and marbled salamanders, both recorded in Bolton. Vernal pool habitats are highly at risk from development. Because of their temporary nature, they can become filled during development, unless they have been certified. If certified by the State Division of Fisheries, vernal pools receive protection under the State Wetlands Protection Act; and relative to Bolton, vernal pools are duly protected under the local wetlands bylaw. As a result, many towns and local groups are looking for vernal pools each spring to certify and protect.

A number of listed amphibian species have been recorded in Bolton and several of these depend on vernal pools for breeding habitat. The Bolton Conservation Trust has held a number of workshops to educate school children and the general public about vernal pools and to enlist volunteers to look for and certify pools in town. Through these efforts, the number of certified (and thus protected) vernal pools has grown over the past few years. Approximate locations of certified vernal pools are displayed on Figure 11. Along with certifying additional vernal pools, the town hopes to work with the Division to inventory which species are using the vernal pools. Thus far, Marbled Salamanders have been found in the Lime Kiln quarries and adult marbled salamanders have been found near the Country Cupboard. In addition, blue-spotted salamanders have been found in the other pools throughout town.



Bird List

See Appendix E for a list of Division of Fisheries and Wildlife's "Bolton Flats Bird Life List."

4.F Scenic Landscapes, Unique Areas and Historical Features

Scenic vistas have been inventoried by the state through the Massachusetts Landscape Inventory. Figure 31 shows important scenic areas identified by the inventory in Bolton. Scenic vistas noted in the inventory and others well known to residents in town include:

- Wattaquodock Hill Road looking east over apple orchards, pasture land and the towns lying beyond.
- Nourse Road looking west to grasslands, forest and many distant hills, including land in agricultural use. Vaughn Hill Road looking west over Bolton Flats conservation area and the Still and Nashua Rivers. From the Southern peak of the Vaughn Hills, now the site of a private residence, there is a spectacular view to the west and northwest to Mount Wachusett and Mount Monadnock.
- West Berlin and Sawyer Roads looking east over farmland and forests to the Boston skyline on a clear day.
- Wilder Road looking west over apple orchards, fields and forest to Mt. Wachusett, Mt. Watatic, Mt. Monadnock, and beyond.
- Old Bay Road east of Wattaquodock Hill Road overlooking rolling farmland.
- Kettle Hole and Still River Roads with views to the west over Bolton Flats Wildlife Management Area and the Nashua River Valley to Mount Wachusett.

Figure 31 shows many of the unique areas of Bolton discussed in this section and the ones that follow.

Major Characteristics or Unusual Geologic Features

Among the unique geological features in Bolton are the bedrock outcroppings on the two peaks of the Vaughn Hills. The predominantly quartzitic rock of the Worcester Formation has been named the "Vaughn Hill member" in this area.

Another interesting geologic site in Bolton is the kettle hole, left in the terrain by the receding glaciers of the last glaciation. It is located on a loop trail just off Kettle Hole Road. Although there are other fine examples of ice contact deposits in Bolton, this kettle hole is most noteworthy due to its size and the fact that it is dry and can be walked.

The marble and lime deposits near Rattlesnake Hill also constitute unusual geological features of Bolton. The lime kiln and quarry areas are preserved on conservation land and date back to the early 1700's, when limestone was quarried and burned in the kiln to make lime for plaster. The unique grey plaster is still found in many of the old homes in the area. The quarry area was purchased from Gertrude Anderson in 1974 and, with the help of a state bicentennial grant and generous efforts of many in the town, the lime kiln was restored in 1976. Boltonite is also found

in the quarry, an unusual mineral named for the town. Thirty other minerals can also be found in this area. The adjacent Rattlesnake Hill conservation land is covered with glacial age rock formations, including huge boulders, small caves and small kettle hole ponds.

Another unusual geologic feature is the Spectacle Hill esker and the deep gorge between Spectacle Hill Road and South Bolton Road created by the glaciers. There is also a brook running through the gorge, although this area is well hidden by the surrounding woods.

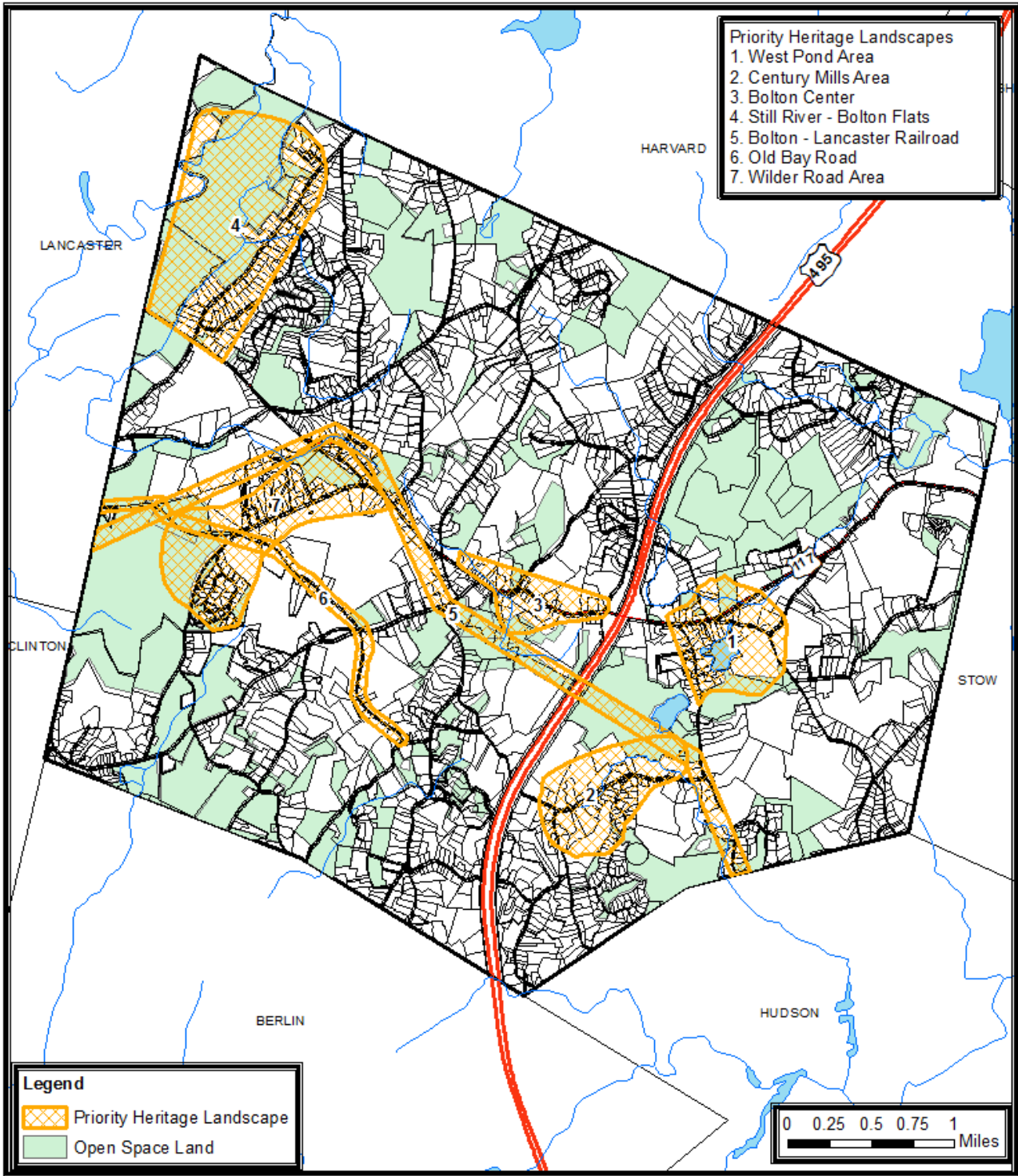
There is an esker on Parcel A of the Vinger land, just off Berlin Road near the Bolton/Berlin boundary. It is a ridge of high land created by the deposition of sediments associated with a glacial stream. Another esker can be found just to the west of Sugar Road near the intersection with Main Street.


Drumlin hills can also be found, predominantly on the eastern side of Bolton. Examples of drumlin hills are Barretts and Stratton Hills in the south eastern part of town, Spectacle Hill and Long Hill.

Pine Hill is also mentioned in Hanson's "Geology of the Hudson and Maynard Quadrangles" because of the continuous beds of garnet occurring here in association with amphibolite.




Annie Moore

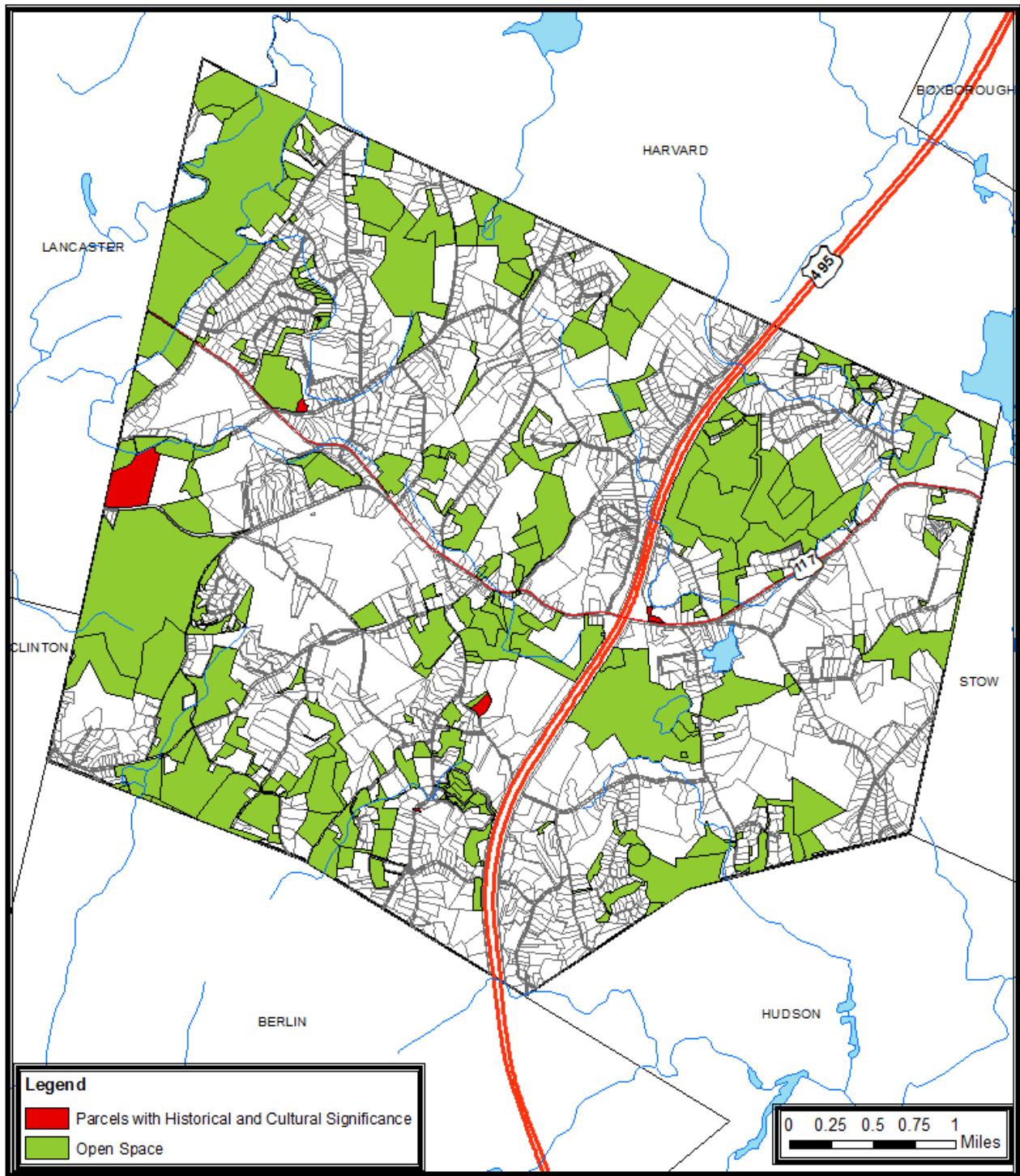



 Map created February 2017
 by M. Simpson

**Unique Features
Town of Bolton**

1 in = 1 miles

 Source: Mass GIS

**Figure
15**



Map created February 2017
by M. Simpson

**Unprotected Parcels with Historical
and Cultural Significance
Town of Bolton**

1 in = 1 miles
↑
Source: Mass GIS

**Figure
16**

Cultural and Historic Areas

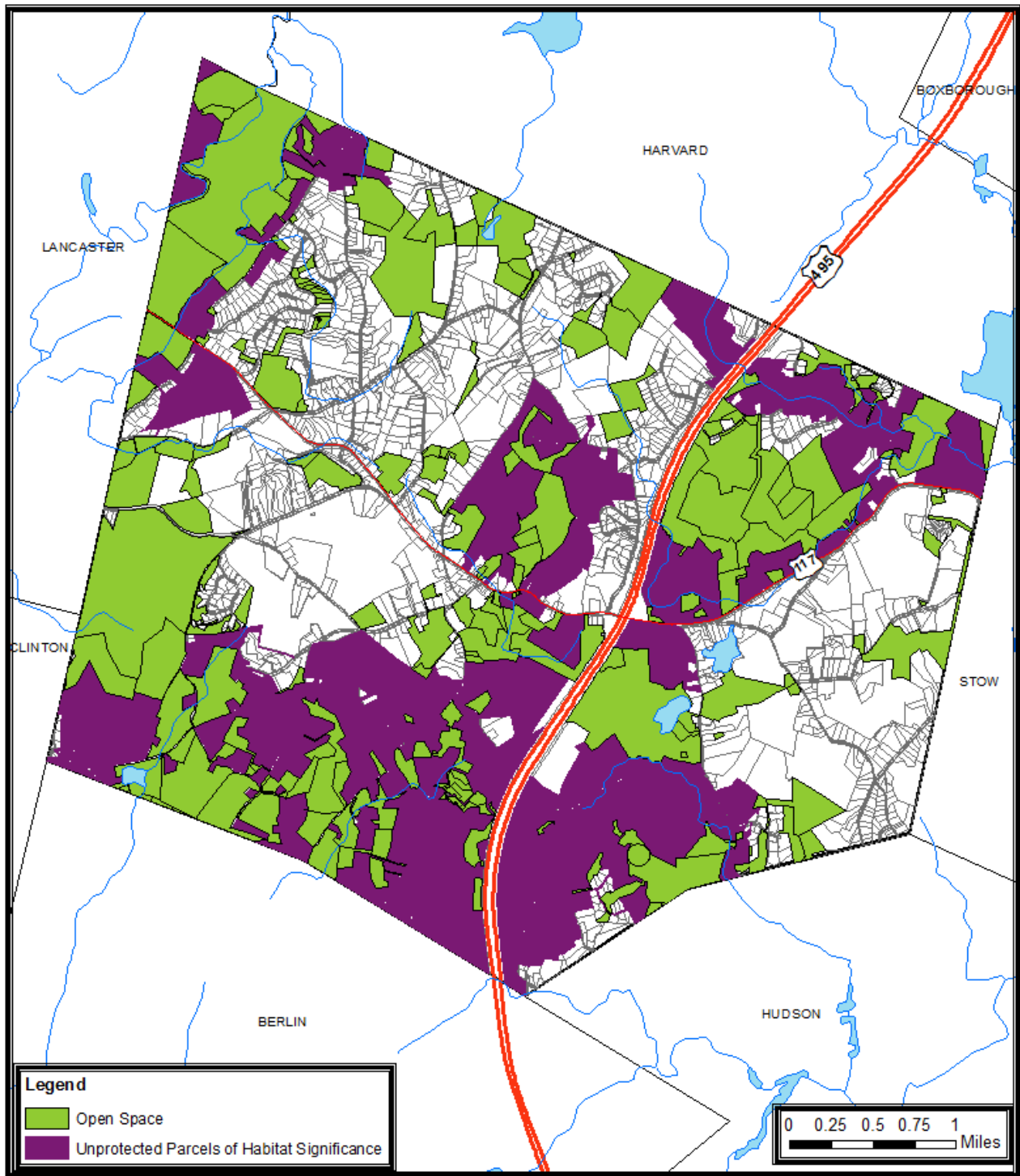
The Powder House on Powder house Hill dates back to 1812. It was restored in 1957 by the Lions Club. The almost four acres surrounding it were given to the town in 1916 by George B. Newton, and another adjoining acre was given by his sister Fidelia Newton in 1930.


The Whitcomb Garrison House is noted as the oldest house in town, built in 1681. While the house, is no longer standing, the foundation of the house has been discovered and protected through the efforts of the Historical Commission and Bolton Historical Society, and remains one of the most important historical artifacts in town. The site has been owned by the Bolton Conservation Trust since 1990

The area between Wilder Road and Forbush Mill Road includes the foundation of an old ice house lovely stone walls along an abandoned cart road, and several scenic fields and wetland areas. This section was cited in the Shrewsbury Ridge Report as being of prime scenic importance. In addition, the Forbush Mill Brook and two old dam sites exist as historical remains of water-powered mills of colonial Bolton.

In the Corn Road area there are also two ponds and a mill site, on scenic conservation land. The dam site and mill pond on Century Mill Road at South Bolton Road is among the first in Bolton. David Whitcomb's Inn on Old Sugar Road is the oldest house in Bolton dating from 1728. It was once the private home of Dr. Philip Phillips, who donated 75 surrounding acres as conservation land.

There is an old railroad bed that is of both scenic and historic interest, running from Lancaster through Bolton. It was built in the early 1870s, but only one train passed over the line before service was abandoned. In many areas through which the rail line passes the bed is several feet higher than the surrounding terrain and provides a natural path for a trail. In the Wilder Road area some stone work from railroad underpasses still remains. One of the best areas to see the old railroad bed is just west of Hudson Road as it runs north to south along Danforth Brook. Other dams at Fyfeshire and Schultz conservation parcels on Wattaquadock also near Wilder Road and on the railroad bed are the remains of Tadmor, the cottage SVS Wilder built for Napoleon.




 Map created February 2017
 by M. Simpson

Unprotected Parcels with Habitat Significance
Town of Bolton


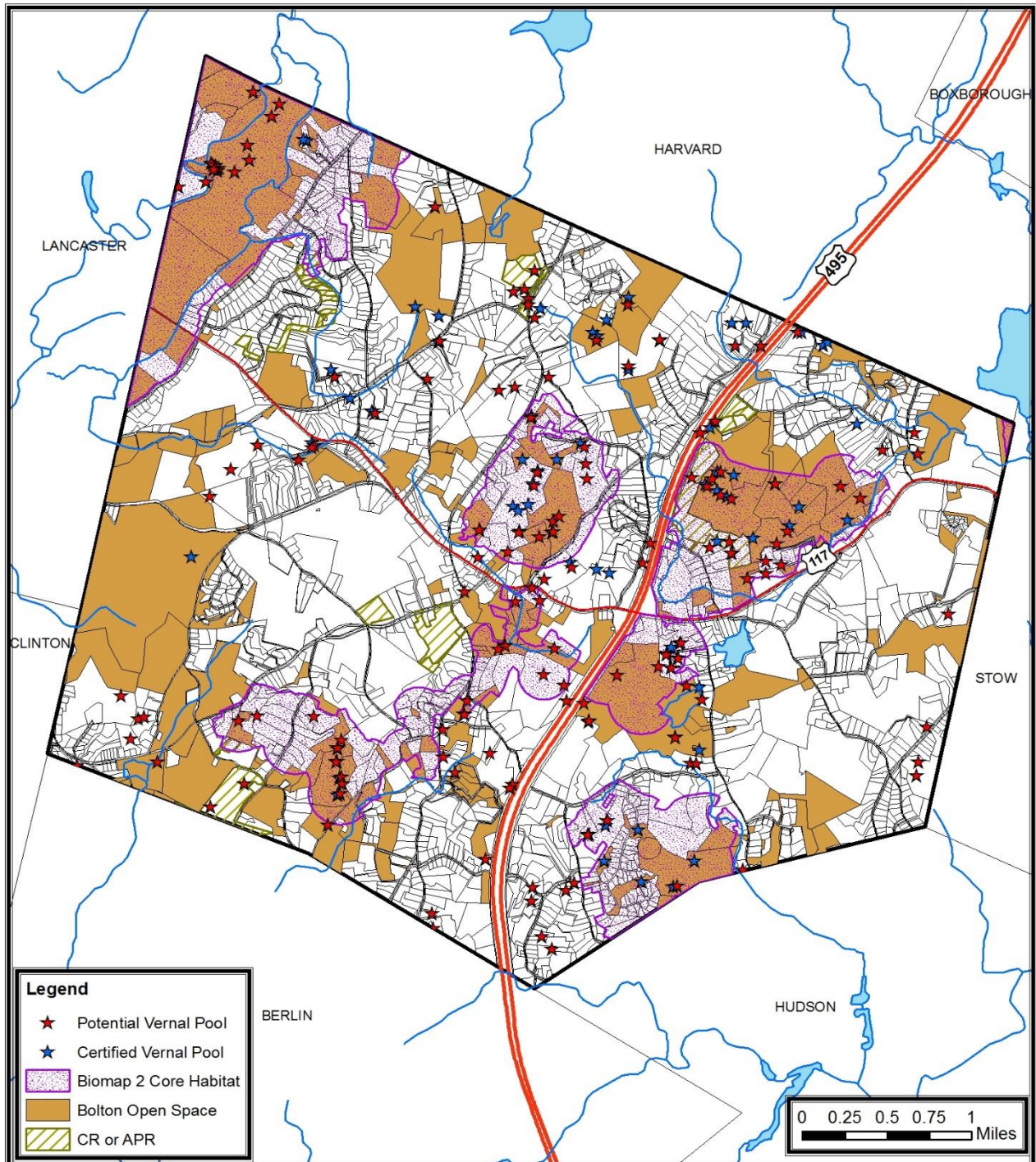

1 in = 1 miles

 Source: Mass GIS

Figure
 17




 Map created February 2017
 by M. Simpson

**Unprotected Area of Habitat Significance
 Town of Bolton**


1 in = 1 miles

 Source: MassGIS

Figure
 18

Areas of Critical Environmental Concern (ACEC)

Part of Bolton was included in the Central Nashua River Valley Area of Critical Environmental Concern (ACEC). The ACEC, announced in January 1996, totals 12,900 acres of land in the towns of Lancaster, Leominster, Harvard and Bolton. The area in Bolton is nearly identical to the boundaries of the Bolton Flats State Wildlife Management Area, with the only exception being that the ACEC boundary is Route 110 while the Management Areas boundary is slightly west of Route 110. The total acreage in Bolton included in the ACEC is 700 acres.

The next step for the ACEC is to develop a management plan so that specific regulations can be adhered to. This will be a major process. While the ACEC program was created in the mid-1970's and the total number of ACECs is currently 25, only one, the Neponset River, has a management plan. A second ACEC, Pleasant Bay, will also soon have a management plan. Both plans were developed with considerable State and local resources. A long-term goal of Bolton and its neighboring ACEC communities should be to develop an ACEC management plan for the Central Nashua River Valley.

Environmental Challenges

The challenges of a rural community are few in comparison to larger urban areas. Nonetheless Bolton does not have hazardous waste sites but does have one landfill located at 95 Forbush Mill Road. The extent of the town's erosion is focused along the sides of roads that are mitigated as necessary and usually on a continual basis. Sedimentation is controlled through site specific retention basins that are cleaned and maintained as needed. The town is unaware of any outstanding ground and/or surface water pollution. Most environmental challenges are addressed by conditioning projects but also encouraging responsible development and measures to reduce impacts. These challenges are addressed on multidisciplinary assessments during permitting processes from various town departments including Planning Board, Board of Health, Historical Commission, Conservation Commission, etc.

Beavers have become a cause of flooding in numerous areas around town. The Massachusetts legislature amended G.L. c.131, s80A, with the passage of "An Act Relative to Foothold and Certain Other Devices." This law became effective on July 21, 2000 making it easier for citizens to alleviate threats caused by flooding from beaver and muskrat activity. Beavers remain active throughout town. Anyone may apply to the Bolton Board of Health for an emergency permit to immediately alleviate a threat to human health and safety from beaver and muskrat activity. The law includes a list of activities that may constitute a threat to human health and safety. The list may be found at <http://www.state.ma.us/dep>. Whereas most ways to alleviate these threats to human health and safety will occur within the resource area of a wetland, the issuance of a permit from the Bolton Conservation Commission is also required, prompting the Bolton Conservation Commission to adopt a set of guidelines to help with the overall process, which can be found in Appendix I – Beaver & Muskrat Management Guidelines.

The Department of Environmental Management (DEM) has set forth that trapping of the beaver or muskrat is only to be done as a last resort and that control flow devices should be installed first to alleviate any public health and safety threat.

Currently the Bolton Conservation Commission has installed several flow control devices on several parcels that are town owned, in an attempt to follow the Department of Environmental Management's guidelines.

Bolton's private water wells and private sewage disposal require the town and its residents to be vigilant to avoid contamination and malfunctions. Board of Health regulations and careful enforcement of Title 5 by the Board of Health assist in assuring the continued environmentally safe operation of wells and septic systems. The requirements for septic system testing in conjunction with the sale of a house, while inconvenient in some cases and an unexpected homeowner expense in other cases, helps assure continued safe operation of systems and the resultant protection of the groundwater. There are some concerns about the age and concentration of septic systems in the center of Bolton. Preliminary discussions amongst town boards in 1995-6 dealt with future sewage disposal in this section of town and the alternatives were faced with the potential for a multiple septic system fail. A study committee was discussed, but was never officially appointed at that time, currently there is a water subcommittee. Although the likely solutions of a sewage treatment plant for the area or tying into neighboring towns' sewers will be expensive, environmental protection will be improved in the center of Bolton. A recent study committee is examining alternatives.

Environmental Equity

Bolton has well dispersed open space throughout town through a combination of private, public and restricted use vehicles. This plan will help us create and assess our conservation properties to see which areas may become more accessible. Many trails throughout Bolton have been in place for many years. Therefore if there are new trail installations we will attempt to make at least a portion of them accessible. This will allow individuals that cannot overcome significant grade changes and rough terrain to be able to experience our conservation properties.

The areas are dispersed but some may require further open space relative to the area development. There are areas in town that are under Chapter 61 tax program conditions and therefore not permanently protected. Most of these areas are in agricultural practice and have historically been used as such therefore these areas are a priority for protection. The two large parcels near Little and West pond are for the most part camping areas with low disturbance and impact to the landscape. This serves the water resources a great service along with providing larger tracts of wildlife habitat. These properties are not permanently protected as open space. As they abut major surface water ponds it is important to maintain a forested or vegetated buffer to account for storm water management, wildlife corridors, privacy and access to water-based recreation activities.

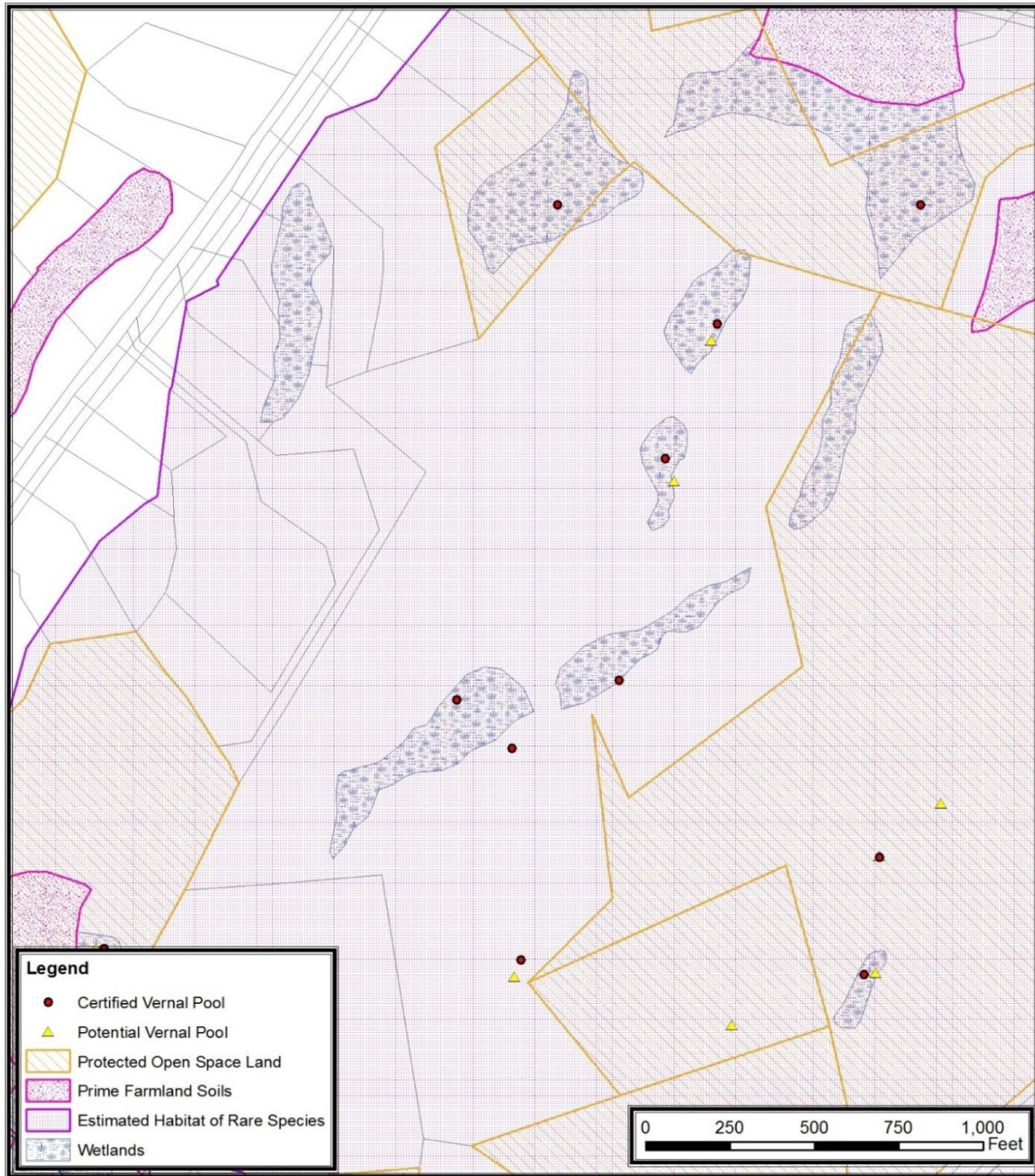
There are a few parcels at present that remain undeveloped but would provide further open space benefits along with public access ways throughout town. The dispersed open space areas are wide-spread throughout town without connectivity. Areas that lack open space would be around larger developments which would encourage use of properties along with the connectivity to main Conservation areas popular for varying passive recreation uses. The open space around the elementary school is mostly sports fields allowing for active recreation. There should be


connectivity from this area towards other areas of town to allow community engagement and other forms of transportation away from the heavy traffic roads (such as route 117, Wattaquaddock Hill Road, Forbush Mill Road, etc.). The areas in close proximity to aquifers or major water bodies while providing significant habitat or recreational opportunity are areas that should be protected in perpetuity. These areas should be encouraged to be preserved for the above referenced activities.



Bolton Flats Wildlife Management Area: Fall 2016

Image by Rebecca Longvall




 Map created February 2017
 by M. Simpson

Bolton Areas of Habitat Significance:
Harvard Road
Town of Bolton


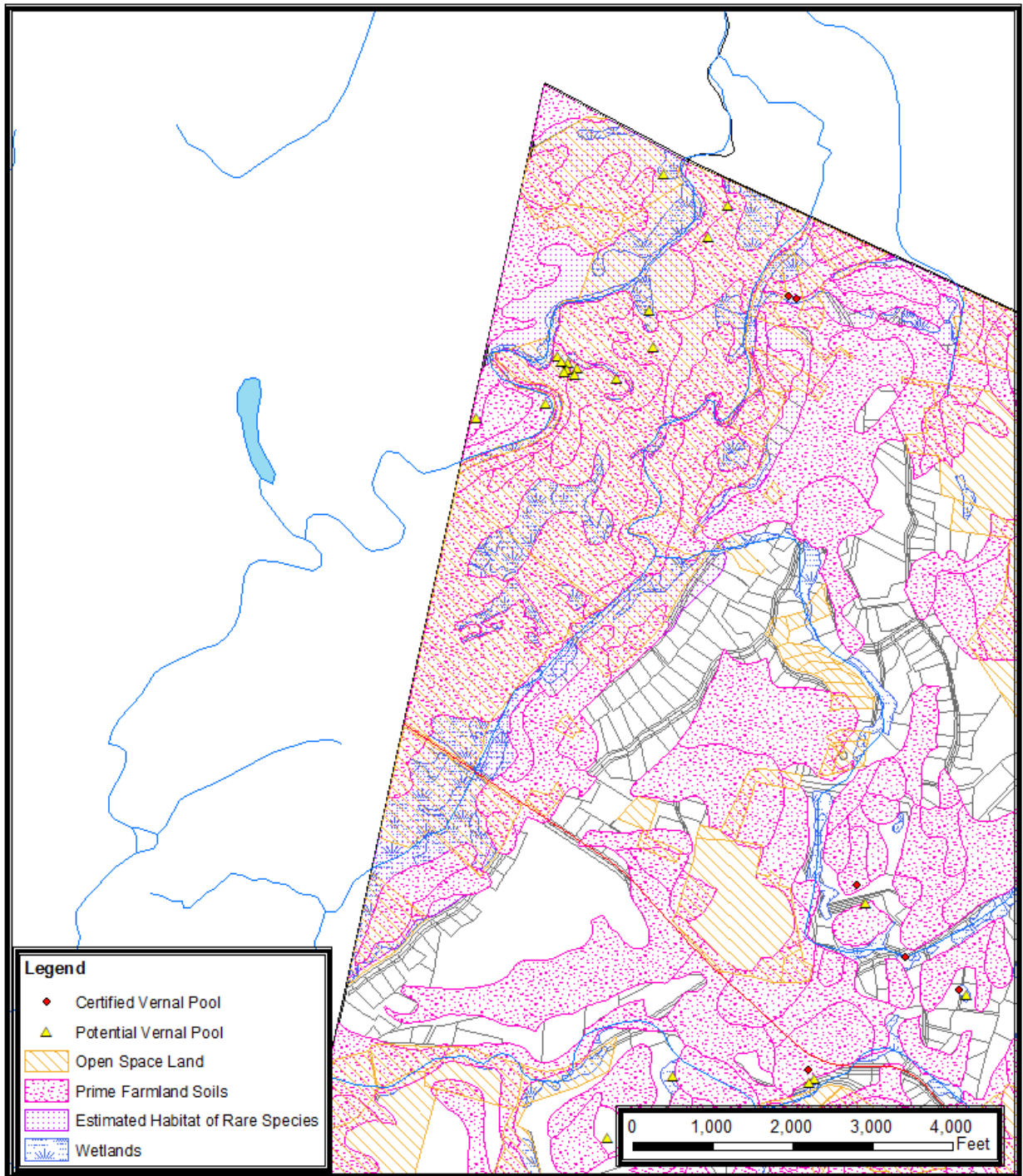
1 in = 0 miles

 Source: MassGIS

Figure
 19

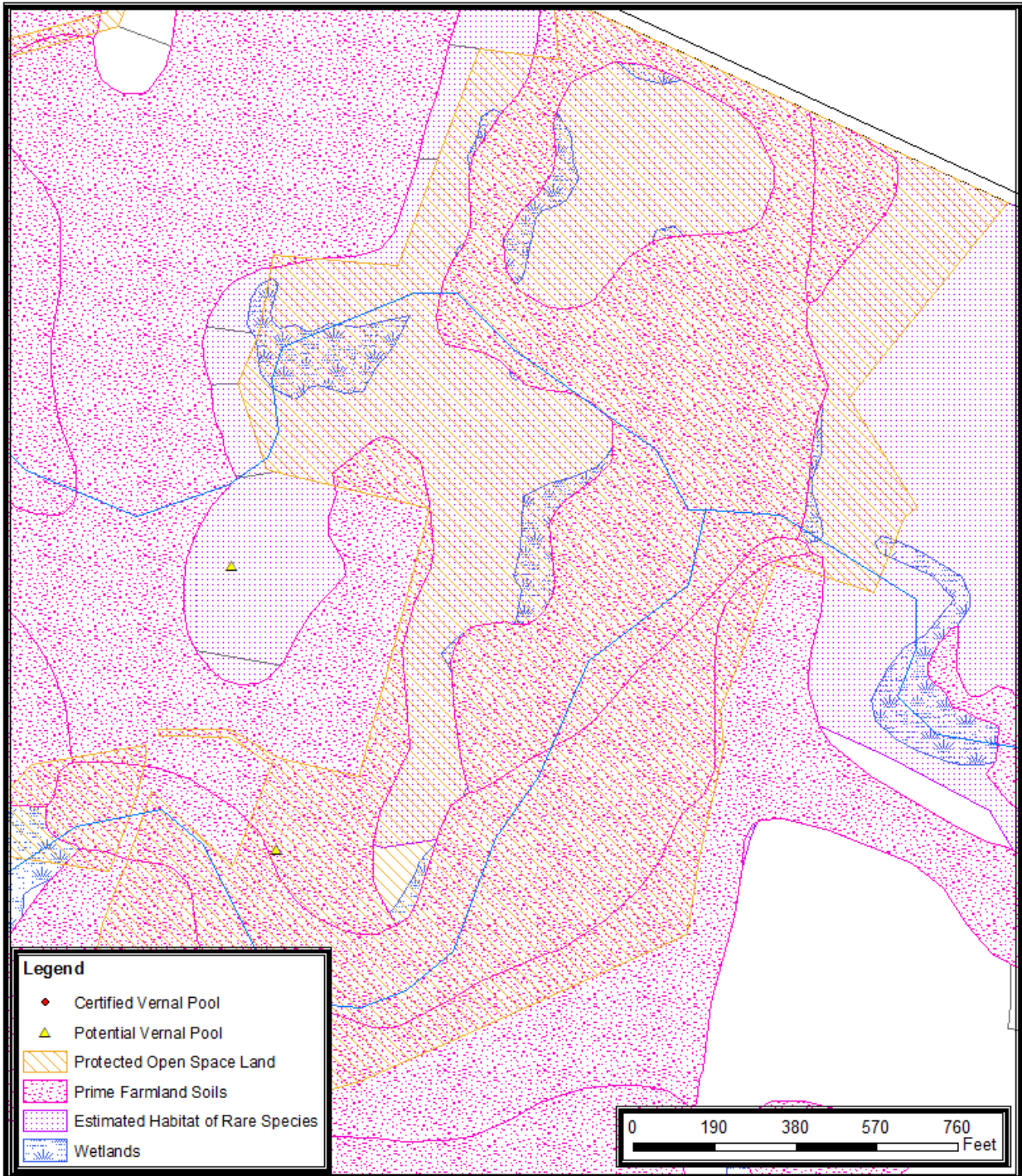


Map created February 2017
by M. Simpson

**Bolton Areas of Habitat Significance:
Bolton Flats
Town of Bolton**

1 in = 0 miles
↑
Source: Mass GIS

**Figure
20**



- Legend**
- ◆ Certified Vernal Pool
 - ▲ Potential Vernal Pool
 - ▨ Protected Open Space Land
 - ▤ Prime Farmland Soils
 - ▥ Estimated Habitat of Rare Species
 - ▧ Wetlands

0 190 380 570 760 Feet



Map created February 2017
by M. Simpson

**Bolton Areas of Habitat Significance:
Delaney
Town of Bolton**

1 in = 0 miles



Source: Mass GIS

**Figure
21**

Section 5

Inventory of Lands of Conservation and Recreation Interest

This section contains an inventory of open space properties that presently exist in the Town of Bolton. These properties encompass both private and publicly owned properties, but also land that has been identified as being beneficial to the community for future conservation and recreational purposes. These properties are categorized and explained in the following narrative. Figure 22, shows Bolton's open space, including all current publicly-owned conservation and municipal lands, private conservation lands, and properties with development restrictions (including zoning restrictions).

Importance of Land Conservation

An important municipal activity which advances a wide array of opportunities and objectives can be described in two words: Land Conservation. Land acquisition, or obtaining development rights on a property through a Conservation Restriction or Agricultural Preservation Restriction, benefits both owner and the town in the following ways:

- ❖ Tax reductions
- ❖ Income tax deductions
- ❖ Lump sum for APR or CR purchase of development rights
- ❖ Protects surface and groundwater resources to ensure public health while also providing future economic expansion opportunities
- ❖ Maintains community character and preserve the rural, historical and agricultural character of Bolton
- ❖ Maintains active agricultural land in production to ensure continued local food production and local business activity
- ❖ Provides recreational opportunities to encourage physical fitness and natural areas where residents can recharge from everyday life
- ❖ Preserves habitat for native wildlife and plant species
- ❖ Maintains infrastructure in a sustainable manner, preserving ecosystem services that provide as clean air, soils and drinking water
- ❖ Preserves stream corridors and floodplains, helping to minimize the impacts of flooding and heavy storms through the land's natural resiliency

There are many other ways in which communities benefit from ongoing municipal land conservation efforts. The list above highlights a few that can be achieved through both private and municipal efforts focused on land conservation. Opportunities to increase these benefits and in turn the land being conserved pass in some cases. That is when valuable key pieces of this tool are lost. Most cases result in communities not knowing what they have until it is too late and gone. The challenge both private and municipalities have is to continuously be proactive in sustaining these benefits while guaranteeing this for the future as well. The Open Space and Recreation Plan is a roadmap to guide the community towards a sustainable land conservation plan that will benefit both; wildlife and people.

5A. Inventory of Protected Land in Bolton

Town Land Managed by the Conservation Commission

All Land acquired by the Town and placed under the control of the Conservation Commission is protected by Article 97 of the Amendments to the State Constitution. This provision protects lands acquired for natural resource purposes, meaning “conservation, development and utilization of the agricultural, mineral, forest, water, air or other natural resources.” Lands acquired for these uses can be converted to another use with the following actions: (1) the local Conservation Commission must vote that the land is surplus to its needs, (2) the matter must be taken up at Town Meeting and pass by a 2/3 vote, (3) the town must file an Environmental Notification Form with the Commonwealth Executive Office of Energy and Environmental Affairs, and (4) the matter must pass by a 2/3 vote of the Massachusetts Legislature. If the property was either acquired or developed with grant assistance from the EOEEA’s Division of Conservation Services (DCS) the converted land must be replaced with land of equal monetary value and conservation utility. Lands protected by Article 97 are often owned by the municipal Conservation Commission, Parks and Recreation Commission, Water Department, or state and/or federal agencies. Note that lands acquired for general municipal purposes and under the control of the Board of Selectmen are generally not protected under the same, Article 97.

Table 5.1, is comprised of information compiled by the Bolton Conservation Commission, Bolton Conservation Trust and Town Assessors. The extent to which each parcel is protected is identified where the information was available. Where this information is not provided, additional research is needed to complete the table.

Key to Table 5.1 Categories:

Owner/Mgr: CC = Conservation Commission, PR = Parks and Recreation, TOB = Town of Bolton

Acquisition Type: P = Purchase, G = Gift, T = Transfer, TT = Tax Taking, B = Bargain Sale

Funding: 1 = State/Federal Funds, 2= Bolton Conservation Fund, 3 = Other Municipal

Protection: 1 = Article 97, 2 = Agreement, 3 = 3rd party CR, 4 = Permit conditions, 5 = Deed Restrictions, 6 = Revert

Current Uses & Access: 1 = Conservation & Passive, 2 = Trails, 3 = Agriculture & Community Gardens, 4 = Playing Fields, 5 = parking

Zone: R = Residential, RC = recreation/conservation

Condition: E = Excellent, G = Good, P = Poor

The condition of the property is decided by the existence of routine maintenance carried out relative to resources present or lack thereof such as public access, trails, signage, structures, athletic fields, etc.

Recreation potential: *Most properties owned by the Bolton Conservation Trust and the Town managed by the Conservation Commission have passive recreation opportunities. The Recreation Potential listed as “Trails” notes that there is an existing trail on the property*

Public Access: P = Trail head with Parking, T = walking trails, N = No trails but access is allowed, W = wildlife habitat

Table 5.1 Town of Bolton Owned Conservation and Recreation Land

<u>Map/Parc.</u>	<u>Area</u>	<u>Core Conservation Area</u>	<u>Parcel Name</u>	<u>Location</u>	<u>Owner /Mgr</u>	<u>Acq. Date</u>	<u>Acq. Type</u>	<u>Funding</u>	<u>Protection</u>	<u>Current Use</u>	<u>Zone</u>	<u>Condition /Access</u>	<u>Rec. Potential</u>
4.E-38	0.75	Annie Moore/Long Hill	Annie Moore	Annie Moore Rd	BCC	Dec-1987	G	N/A	1	1,2	R	G/N	Trails
4.E-35	66.25	Annie Moore/Long Hill	Annie Moore	Annie Moore Rd	BCC	Dec-1987	G	N/A	1	1,2,5	R	G/P	Trails
5.E-17	11.91	Annie Moore/Long Hill	Annie Moore	Bolton Woods Way	BCC	Dec-1987	G	N/A	1	1,2	R	G/N	Trails
3.E-1	40	Barretts Hill	Danforth Brook	Long Hill Rd	BCC	Jan-2000	P	3	1	1,2	R	G/T	Improve Trail Access
2.D-48	5.12	Barretts Hill	Danforth Brook	Danforth Ln	BCC	Jan-2002	G	N/A	1,5	1,2	R	G/P	Trails
2.D-49	13.45	Barretts Hill	Danforth Brook	Danforth Ln	BCC	Jan-2002	G	N/A	1,5	1,2,5	R	G/T	Trails
2.D-50	12.07	Barretts Hill	Danforth Brook	Danforth Ln	BCC	Jan-2002	G	N/A	1,2,5	1,2	R	G/N	Potential connection to Hudson
2.D-51	12.52	Barretts Hill	Danforth Brook	Danforth Ln	BCC	Jan-2002	G	N/A	1,2,5	1,2	R	G/N	Potential connection to Rte. 85
2.D-52	0.82	Barretts Hill	Danforth Brook	Danforth Ln	BCC	Jan-2002	G	N/A	1,2,5	1,2	R	G/N	N/A
7.C-18.A	48.1	Bowers Springs	Bowers Springs	Bowers Springs	BCC	May-1973	G	LWCF*	1	1,2,5	R	G/P	Potential for ADA project

2.D-3	1.7	Leduc Rt. 85	N/A	Hudson Rd.	BCC	Apr-1998	P	3	0	1	R	G/N	N/A
6.B-172	6.65	Fox Run	Fox Run	Fox Run Rd.	BCC	Oct-2008	G	N/A	5	1,2	R	G/N	N/A
6.E-43	8.55	Butternut Farm	Butternut	Butternut Ln	BCC	Feb-2000	G	N/A	1,2,5	1,2,3	R	G/N	Potential Grassland bird view
6.E-56	3.24	Butternut Farm	Butternut	Butternut Ln	BCC	Feb-2000	G	N/A	1,5	1,2,3	R	G/N	Potential Grassland bird view
6.E-38	4.31	Butternut Farm	Butternut	Butternut Ln	BCC	Feb-2000	G	N/A	1,5	1,2,3	R	G/N	Potential Grassland bird view
6.D-64	32.96	Northwoods	Open Space (partial)	Harvard Rd North of	BCC	May-2004	G	N/A	2,5	1,2	R	G/N	Trail
6.D-32	38.29	Northwoods	Open Space	Houghton Farm Ln	BCC	Oct-2011	G	N/A	1,5	1,2	R	E/P	Trail
6.C-58	31.28	Northwoods	Sochalaski	Harvard Rd	BCC	May-1996	P	3	1,3	1	R	E/N	Potential Trail Extension
7.C-114	4.39	Northwoods	Open Space	Harvard Rd	BCC	Jun-2004	P	3	1,5	1,2	R	E/N	Trail
7.C-115	28.57	Northwoods	Open Space	Harvard Rd	BCC	Jun-2004	P	3	1,5	1,2	R	E/N	Trail
4.D-38	1.27	Phillips / Rattlesnake	Cranberry Meadow	Burnham Rd	BCC	Sept-1981	G	N/A	1	1	R	G/N	N/A
5.D-22	67.9	Phillips / Rattlesnake	Atlantic Union College	Burnham Rd	BCC	Jan-2001	P	3	1	1,2,5	R	G/T	Trail

5.D-26	77	Phillips / Rattlesnake	Stephenson	Old Sugar Rd	BCC	Mar-2005	P	3	1,5	1,2	R	G/T	N/A
5.D-35	12	Phillips / Rattlesnake	Braman	Main St	BCC	Jul-2004	P	3	1	1,2	R	G/T	Trail
5.E-44	55.54	Phillips / Rattlesnake	Harris Land	Sugar Rd	BCC	Jun-1988	G	N/A	1	1,2	R	G/T	Trail
5.E-2	42.36	Phillips / Rattlesnake	Lime Kiln	Anderson Purchase	BCC	Apr-1976	G	N/A	1	1,2	R	G/T	Trail
4.C-28	12.2	Powderhouse Hill	Goodrich	Main St Off	BCC	Jul-1987	G	N/A	1	1,2	R	G/P	Trail
5.C-22	60.75	Powderhouse Hill	Philbin Land	Rear of Town Hall	BCC	Oct-1973	G	N/A	1	1,2	R	G/T	Trail
3.B-25	9.6	Randall Rd	Wallie	Randall Rd	BCC (partial)	Apr-1994	G	N/A	2	1,2	R	G/N	Trail
3.B-43.1	10.07	Randall Rd	Open Space	Randall Rd	BCC	Mar-2000	P	3	1	1,2	R	G/T	Trail
3.B-47	6.77	Randall Rd	Gould	W Berlin Rd	BCC	May-1987	G	N/A	1	1,2	R	G/T	Trail
3.C-9	5.2	Randall Rd	Richards	Berlin Rd	BCC	Jul-1997	P	3	1,5	1,2	R	G/N	Trail
2.B-24	1.4	Randall Rd	Open Space	Rocky Dundee off	BCC	Oct-1975	G	N/A	1	1,2	R	G/N	Trail
3.B-78	16.2	Randall Rd	Rocky Dundee Open Space	Rocky Dundee Rd	BCC	Apr-2003	P	3	1,5	1,2	R	G/P	Trail
3.B-84	20.8	Randall Rd	Rocky Dundee Open Space	Rocky Dundee Rd	BCC	Apr-2003	P	3	1,5	1,2	R	G/N	Trail
2.B-3	17.94	Randall Rd	White Gift	Randall Road	BCC	Dec-1993	G	N/A	1,5	1,2	R	G/T	Trail

2.B-42	9.36	Randall Rd	Vinger-Venable Gift	Berlin Rd	BCC	Dec-1990	G	N/A	1,3,5	1,2	R	G/T	Trail
2.B-43	11.5	Randall Rd	Vinger-Venable Gift	Berlin Rd	BCC	Dec-1990	G	N/A	1,3,5	1,2	R	G/T	Trail
2.B-45	7.76	Randall Rd	Vinger-Venable Gift	Berlin Rd	BCC	Dec-1991	G	N/A	1,3,5	1,2	R	G/T	Trail
6.C-24	17.4	Vaughn Hills	Hanson Land	Green Rd	BCC	Jan-1991	G	N/A	1	1,2,3	R	G/P	Potential for ADA project
7.C-1	100.6	Vaughn Hills	Vaughn Hills	Vaughn Hill Rd	BCC	Jul-1976	G	N/A	1	1,2	R	G/T	Trail
7.B-22.1	44.46	Vaughn Hills	Moen Land	Vaughn Hill Rd	BCC	Mar-2001	P	3	1	1,2,3	R	G/P	Trail
7.C-70	2.19	Vaughn Hills	Open Space	Mt. Wachusett Ln	BCC	Nov-2003	G	N/A	1	1,2	R	G/T	N/A
3.A-83	2.06	Wattaquodock	Fyfeshire - Schartner link	Wattaquodock Hill Rd	BCC	Jan-2013	P	3	1	1,2	R	G/N	Potential for ADA project
3.A-44	31	Wattaquodock	Fyfeshire - Plummer Gift	Wattaquodock Hill Rd	BCC	Nov-1969	G	N/A	1,5	1,2	R	G/P	Potential for ADA project
4.A-14	8.14	Wattaquodock	The Oaks Open Space	Oak Trail	BCC	Apr-2008	P	3	1,5	1,2	R	G	Trail
4.A-49	0.43	Wattaquodock	The Oaks Open Space	Oak Trail	BCC	Apr-2008	P	3	1,5	1,2	R	G/P	Trail
4.A-7	18.63	Wattaquodock	The Oaks Open Space	Oak Trail	BCC	Apr-2008	P	3	1,5	1,2	R	G/T	Trail
3.B-30.1	1.443	Wattaquodock	Sawyer Rd. Link	W Berlin Rd	BCC	Apr-2009	P	3	1,5	1,2	R	G/T	Trail link

3.B-37	11.03	Wattaquadock	Welch Pond	Welch Pond	BCC	Jul-1980	G	N/A	1	1,2	R	G/P	Trail
3.A-43	5.25	Wattaquadock	Haynes-Wheeler Gift	Wattaquadock Hill Rd	BCC	Dec-1970	G	N/A	1	1,2	R	G/N	Trail link
5.A-17	15.79	Wilder Pond / Forbush Mill	Forbush Mill	Forbush Mill Rd	BCC	Oct-1999	P	3	1	1,2	R	G/P	Trail
5.A-18	11.11	Wilder Pond / Forbush Mill	Forbush Mill	Forbush Mill Rd	BCC	Oct-1999	P	3	1	1,2	R	G/N	Trail
5.B-83	5.63	Wilder Pond / Forbush Mill	Wilder Pond	Wilder Goose Pond	BCC	Oct-1991	G	N/A	1	1,2	R	G/P	Trail
6.D-54	6.81	Open Space	Near I-495	Sugar Rd	BCC	Dec-1999	P	3	1,5	1,2	R	G/N	Potential trail link
3.C-66	17.05	Open Space	Millbrook Open Space	Berlin Rd	BCC	Jul-2002	P	3	1,5	1	R	G/N	N/A
2.C-86	1.26	Wildlife Habitat	Habitat	S Bolton Rd	BCC	Oct-2006	P	3	1	1	R	G/W	N/A
3.D-44	1.11	Woodland	Easement	Hudson Rd	BCC	Jun-1999	P	3	1,5	1,2	R	G/W	Trail
6.C-84	7.56	Open Space	Easement	Harvard Rd	BCC	Jul-2005	P	3	1,5	1,2	R	G/N	Trail
4.C-12	10.53	Recreation Field	Veteran's Memorial Park	Wattaquadock Hill Rd	TOB	May-1947	G	N/A	1	1,2,4	RC	E/P	N/A
5.A-9	7.37	Soccer Field	Forbush Mill	Soccer Field	TOB	Oct-1999	P	3	1	1,2	RC	E/P	N/A
6.E-1.1	13.15	Open Space	Daman Gift	Whitcomb Rd.	BCC	2015	G	MCTLC*	1	1,2	R	G/N	Potential trail Link
Total	1156.553	Acres											
Total	65	Parcels											

LWCF – Land and Water Conservation Fund grant awarded for purchase of Bower Springs Conservation Area

MCTLC – Massachusetts Conservation Land Tax Credit Program Donation

Throughout Bolton's 1156.553 acres of open space across 65 parcels there are many diverse natural resources. The use of the land beyond strictly natural resource and water protection/conservation only varies on a few parcels managed by the Conservation Commission. One newly acquired property does not allow for any public access aside from emergency vehicles or Conservation staff.

State and Federal Protected Land

The town of Bolton contains three areas owned and managed by State and Federal agencies, two of which are managed and preserved by Massachusetts Division of Fisheries and Wildlife.

- ❖ *Bolton Flats Wildlife Management Area* - The Massachusetts Division of Fisheries and Wildlife manages the Bolton Flats Wildlife Management Area (WMA) which is a combination of open water, Nashua River, and what is described by MassWildlife as a High-Terrace Floodplain Forest accompanied by a Low-Energy Riverbank which extends through marsh habitat. This property also borders Lancaster and Harvard. The natural resources throughout Bolton Flats provide habitat preferred by various turtle species (Commonwealth of Massachusetts 2017). Approximately 642.42 acres are located in Bolton and actively used for hunting.

- ❖ *Delaney Wildlife Management Area* - The Massachusetts Division of Fisheries and Wildlife manages the Delaney Wildlife Management Area (WMA). The expansive 580-acre Delaney Wildlife Management Area straddles the Bolton, Harvard, and Stow town lines, with 77.42 acres of the state-owned area located in the northeast corner of Bolton. Delaney Pond, which lies at the center of the property, offers canoeing, fishing, and wildlife viewing opportunities. The pond also provides important habitat for otter, fisher, and many bird and fish species. The entire management area is open to hunting in season, so visitors should check the hunting schedule posted at the main entrance off Harvard Road in Stow (BCT 2017).

- ❖ *Wilder Pond to Forbush* – The Massachusetts Division of Fisheries and Wildlife manages two parcels that straddle the area between the Conservation Commission Acting for the Town of Bolton owned Wilder Pond Area and Forbush Mill Road, with 29.60 acres toward the western side of Bolton. This area provides important habitat for various species.

TABLE 5.2 State Protected Land				
Massachusetts Division of Fish and Wildlife				
Area	Location	Assessors ID	Acres	Manager
Bolton Flats WMA	Autumn Lane	034/007.B-0000-0001.0	476.00	MADFW
Bolton Flats WMA	Pine Hill Rd	034/008.A-0000-0002.0	52.00	MADFW
Bolton Flats WMA	Pine Hill Rd	034/008.A-0000-0006.0	7.40	MADFW
Delaney WMA	East End	034/005.E-0000-0021.0	71.22	MADFW
Delaney WMA	Main St	034/005.E-0000-0097.0	6.20	MADFW
Wilder Pond to Forbush	Sand Rd	034/005.A-0000-0008.0	23.00	MADCAM
Wilder Pond to Forbush	Wilder Rd	034/005.A-0000-0010.0	6.60	MADCAM
Total			642.42	

Nonprofit Conservation Land

The Bolton Conservation Trust (BCT) was formed in the mid-1970s to assist the town in protecting Bolton’s rural heritage and natural assets (BCT 2017). The Trust works closely with the town and other land trusts (including the Trustees of Reservations or TTOR) in acquiring land to be protected. This recognized non-profit along with the Bolton Trails Committee, work closely with the town on trail systems and land management projects. The BCT owns 305.96 acres of land which are listed below in table 5.3.

Table 5.3 Land Owned by Non-profit Conservation Organizations				
Parcel Name	Location	Assessor ID	Area	Manager
Dunnells Corner	Nashaway / Still River Rds	034/007.B-0000-0012.A	0.71	BCT
Whitcomb Garrison	Sugar Rd	034/005.D-0000-0055.A	0.05	BCT
Levison	Warner Rd	034/006.D-000-0065.1	44.26	BCT
Smith	Warner Rd	034/007.C-0000-0028.0	0.75	BCT
Davies/Sheldon	Sugar / Old Sugar Rd	034/006.D-0000-0083.0	1.90	BCT
Great Brook FOSPRD	Main St	034/005.D-0000-0058.0	27.50	BCT
Phillips	Old Sugar Rd	034/005.D-0000-0050.0	75.02	TTOR
Rattlesnake Hill	Main St	034/005.D-0000-0041.0	10.57	BCT
Skinner Parcel B	Main St	034/004.D-0000-0096.0	18.19	BCT
Skinner Parcel C	Main St	034/004.D-0000-0097.0	3.00	BCT
Phillips	Harvard Rd	034/005.C-0000-0041.0	3.01	BCT
Potter	Nourse Rd	034/005.C-0000-0002.A	4.00	BCT
Quail Run FOSPRD	Quail Run Rd	034/005.C-0000-0075.0	21.49	BCT
Sullivan	Harvard Rd	034/005.C-0000-0042.0	6.00	BCT
Town Common Parcel 1	Main St	034/001.0-0000-0042.0	6.38	BCT
Town Common Parcel 2	Main St	034/001.0-0000-0003.0	1.68	BCT
Town Common Parcel	Main St	034/001.0-0000-0041.0	0.24	BCT

3				
McGourty (Hindsight)	Randall Rd	034/003.B-0000-0064.0	3.23	BCT
Wallie	Sawyer Rd	034/003.B-0000-0025.0	9.58	BCT & BCC
Coolidge Farm FOSPRD	Berlin / Farm Rds	034/003.C-0000-0073.0	7.42	DAR
Coolidge Farm FOSPRD	Berlin / Farm Rds	034/003.C-0000-0004.0	15.60	DAR
Held	Bare Hill Rd	034/007.C-0000-0008	15.05	BCT
Harris Lane FOSPRD	Still River Rd	034/008.B-0000-0015.0	15.90	BCT
Bolton Overlook	Wattaquaddock Hill Rd	034/004.C-0000-0067.0	4.50	BCT
Ela	Old Bay Rd	034/003.B-0000-0079.0	6.50	BCT
Indian Maiden's Leap	Old Bay Rd	034/003.B-0000-0065.0	3.44	BCT
Total Acreage Jointly Owned with Town of Bolton			9.58	
Total Acreage Jointly Owned with Landowner			15.05	
Total Acreage			305.96	
Total Parcels Owned in Entirety			24	
Total Parcels Owned With Town of Bolton (Wallie)			1	
Total Parcels Owned Jointly with Landowner (Held)			1	
Total Parcels			26	

Conservation Restrictions and Agricultural Preservation Restrictions

The two other important tools in protecting land are Permanent Conservation Restrictions (CRs) and Agricultural Preservation Restrictions (APRs). These devices allow land to remain in private ownership and receive tax benefits, while preventing future development. These restrictions are held by the town, the state or a nonprofit conservation organization - or a combination of the three. Land under an APR or CR may be acquired through donations or purchases. There are 26 properties in Bolton protected by CRs and APRs which total 889.8 acres. Of this, just 297.37 acres are protected by APRs, the remaining 592.43 acres are CRs. The parcels associated with these CRs and APRs are listed in table 5.4.

Table 5.4 Conservation Restrictions & Agricultural Preservation Restrictions

Grantor	Grantee	Date	BK; PG	Parcel ID	Notes	Area	APR or CR
Donald & Carolyn Atwood	BCC & BCT	07/26/99	21653; 67	7.B-65 <i>partial</i>	Atwood	0.51	CR
Pinehill Realty Trust George C Dunnells Florence J Dunnells Dunnells Family RT	BCC & BCT	07/11/97	18990; 361	<i>multiple lots</i>	Dunnells		CR
Laurie Ducharme 58 Old Harvard Road RT	BCC & BCT	05/16/12	48978 ;19	7.C-77 <i>partial</i>	Freedom Farm	3.95	CR
Paul & Barbara Weatherbee, Weatherbee Family Irrev.Trust	BCC & BCT	05/16/12	48978 ; 1	7.C-22.1	Freedom Farm (Weatherbee)	3.80	CR
William Hapgood Julie Schecter	BCT	09/12/05	37287; 302	3.B-31	Hapgood/Schecter	42.00	CR
Harris Lane, LLC	BCT	04/03/00	22459; 343	8.B-15	Harris/BCT	15.90	CR
J Robert Held Lucille Held	BCT	12/23/96	18494; 254	7.C-03 7.C-40	Held	27.98 11.57	CR
Anita W. N. Hooker	BCT	12/29/95	17579; 98	5.C-6.1	Norseen	41.00	CR
Robert P. Kiley	BCC & BCT	10/13/11	47961; 86	6.D-32.0	Houghton Farm	38.29	CR
Curtis Plante	BCT	02/17/10	45467; 229	3.B-79 <i>partial</i>	BCT	2.35	CR
Arklow Limited Partnership (The International)	BCT	12/23/98	20839; 190 17509;	3.A-60 3.A-56	Schultz Farm	58.87 48.44	CR CR

			165				
Terry Miskell Judith Miskell	BCC & BCT	01/31/97	18578; 190	3.C-49	Miskell; owned by Calcagni	13.06	CR
David A Simpson	BCT	05/28/02	26661; 41	4.B-18	Philbin Salmon Trail	4.13	CR
Paul F. Vinger	BCT	12/26/90	13853; 304	2.B-45	Vinger/V enable 3 parcels owned by TOB	7.75	CR
			13166; 329	2.B-43		11.50	CR
			13166; 339	2.B-42		9.67	CR
Bradley Reed Nancy Williams	BCT	07/16/04	34148; 104	3.B-21.B <i>partial</i>	Williams/ Reed	10.81	CR
Trustees of Reservations	Davis Farm Trust			5.B-78	Wilder Pond/ Davis Farm	27.30	CR
BCT	Commonwealth of Massachusetts	09/25/95	18682; 21	4.C-51	Nashoba Valley Winery	1.95	CR
Partridge John F. Jr.	Commonwealth of Massachusetts	09/29/95	17390; 143	4.C-49	Nashoba Valley Winery	39.16	APR
Schartner Revoc TR	Commonwealth of Massachusetts	03/10/2006	24695; 254	3.B-8.1	Schartner Farm	57.70	APR
Schartner Revoc TR	Commonwealth of Massachusetts	03/10/2006	24695; 255	3.B-7.1	Schartner Farm	37.50	APR
David J Nicewicz Kenneth J Nicewicz Vera Nicewicz	Commonwealth of Massachusetts	03/10/2006	38533; 49	3.A-64.1; 3.A-80	Nicewicz Family Farm	72.4	APR

Total Conservation Restrictions Held in Entirety by Bolton Conservation Trust	11		
Total Conservation Restrictions Held Jointly with Town of Bolton	6		
Total Conservation Restrictions Held	17		
Total Acreage in Conservation Restriction			378.87
Total Agricultural Preservation Restriction	4		
Total Acreage in Agricultural Preservation Restriction			206.76
Total Acreage in CR & APR			585.63

Other Town Land

Table 5.5 displays parcels owned by the town of Bolton, but not held by the Conservation Commission, nor are Parks and Recreation Commission with the responsibility of managing the land. These parcels are devoted to specific uses such as schools, public safety buildings, cemeteries, etc. Persons Park is a 5.5 acre shore front parcel of land and a small cottage that was gifted to the town in 1997. Others were donated or taken back for taxes and are not currently in use. Many of the parcels in the latter category are small or include wetland resource areas and have limited utility. All of these parcels do not enjoy Article 97 protection, are available for municipal development or potentially for sale by the town through a town meeting vote.

For all intents and purposes the legend for this table; TOB = Town of Bolton, NRHS = Nashoba Regional High School, CMRR = Central Massachusetts Railroad

Table 5.5 Other Town Land (not held for conservation or recreation)				
Parcel_ID	Location	Owner	Acres	Area
034/006.D-0000-0058.A	495 East of	TOB	1.20	Harvard town line
034/002.B-0000-0059.0	Berlin Rd	TOB	0.25	Florence Sawyer School Area
034/003.C-0000-0049.0	Berlin Rd	TOB	6.51	Florence Sawyer School Area
034/004.C-0000-0004.0	Berlin Rd	TOB	40.98	Florence Sawyer School Area
034/004.C-0000-0023.0	Berlin Rd	TOB	1.18	Florence Sawyer School Area
034/002.B-0000-0012.0	Berlin Rd	TOB	0.60	Friends Cemetery
034/006.D-0000-0053.0	Corn Rd	TOB	3.00	Corn & Sugar Roads

034/006.E-0000-0006.2	Coventry Wood Rd	TOB	0.18	small triangular lot
034/005.A-0000-0020.0	Forbush Mill Rd	TOB	2.82	Transfer Station
034/006.A-0000-0016.0	Forbush Mill Rd	TOB	4.50	Transfer Station
034/006.B-0000-0001.0	Forbush Mill Rd	TOB	1.16	DPW Yard
034/005.A-0000-0011.0	Forbush Mill Rd	TOB	8.06	Old Landfill/Transfer Station
034/005.A-0000-0019.0	Forbush Mill Rd	TOB	11.38	wooded
034/006.B-0000-0155.0	Fox Run/Deer Path Rd	TOB	7.95	Roads
034/006.B-0000-0013.0	Green Rd	TOB	2.61	West Cemetery
034/006.B-0000-0012.0	Main St	NRHS	47.61	Nashoba Regional School
034/006.C-0000-0053.0	Harvard Rd	TOB	0.27	Twin Maple Road
034/002.D-0000-0003.0	Hudson Rd	TOB	1.70	along brook;Hudson line
034/001.0-0000-0030.0	Main St	TOB	1.85	Florence Sawyer School Area
034/004.C-0000-0038.0	Main St	TOB	49.18	Florence Sawyer School Area
034/005.B-0000-0092.0	Main St	TOB	0.25	Wilder Pond trailhead
034/005.E-0000-0095.0	Main St	TOB	0.25	Delaney Rd at town line
034/005.E-0000-0096.0	Main St	TOB	0.25	Old Bolton Rd at town line
034/006.A-0000-0037.0	Main St	TOB	2.31	Route 110 & Still River Rd
034/004.D-0000-0014.0	Main St	TOB	3.30	Pan Cemetery
034/002.0-0000-0009.0	Main St	TOB	5.72	Powder House Hill
034/001.0-0000-0006.0	Main St	TOB	1.50	Houghton Building
034/001.0-0000-0040.0	Main St	TOB	1.84	Library Building
034/001.0-0000-0029.0	Mechanic St	TOB	7.19	Florence Sawyer School Area
034/001.0-0000-0043.0	Mechanic St	TOB	19.76	Florence Sawyer School Area
034/003.D-0000-0020.0	Hudson Rd	TOB	5.50	Persons Park
034/001.C-0000-0044.0	Lively Rd	TOB/CMRR	0.25	Central Mass Railroad
034/008.A-0000-0001.0	Pine Hill/Still River	TOB	5.00	Bolton Flats

034/002.C-0000-0008.0	Quaker Lane	TOB	5.05	Near I-495
034/003.C-0000-0028.A	South Bolton Road	TOB	6.00	South Cemetery
034/004.D-0000-0047.0	495 EAST OF	TOB	3.70	Burnham Road
034/004.B-0000-0018.0	Sugar Rd	TOB	4.13	Cell Tower
034/003.A-0000-0078.0	Wattaquaddock Hill Rd	TOB	0.25	CSX Railway
034/003.A-0000-0079.0	Wattaquaddock Hill Rd	TOB	0.25	CSX Railway
034/004.C-0000-0013.0	Wattaquaddock Hill Rd	TOB	2.66	Fire Station
Total			268.15	

Limited Recreational Business Zone

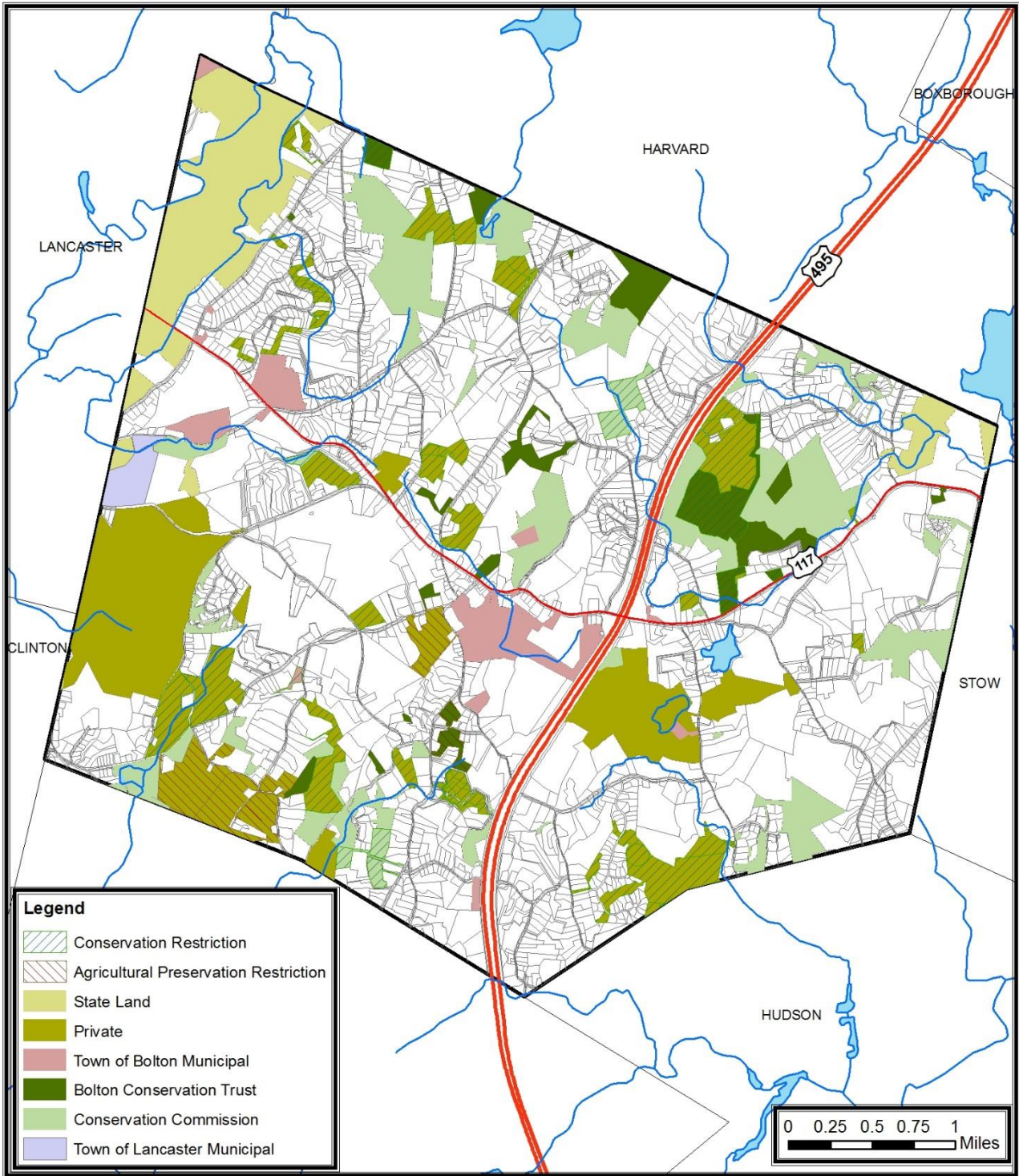
The Limited Recreational Business Zone district is intended to promote recreational businesses, to conserve and secure the public health and safety, to facilitate the adequate provision of water and water supply, aquifers and recharge areas, and to protect natural and landscaped conditions as well as open space for commercial use, education, recreation and general welfare. The special permit granting authority for this district shall be the Board of Selectmen. Uses which are municipal, rural, agricultural, conservation and/or open space are permitted as of right without site plan review or special permit. (Chapter 250. Zoning Town of Bolton General Bylaws)

Table 5.6 Limited Recreational Business District Zone (LRBD)			
Parcel_ID	Street	Acres Description	Acres
034/005.A-0000-0002.0	Wilder Rd	International Golf Course - LRBD	329
034/004.A-0000-0005.0	Ballville Rd	International Golf Course - LRBD	59.4
034/005.A-0000-0005.0	Wilder Rd	International Golf Course - LRBD	26.5
034/004.A-0000-0001.0	Lancaster Rd	International Golf Course - LRBD	54.2
034/003.A-0000-0060.0	Sawyer Rd	Arklow Limited Partnership - LRBD	58.8
034/003.A-0000-0056.0	Ballville & Sawyer Rd	Arklow Limited Partnership - LRBD	46.6
Total			574.5

Subdivision Open Space

The last category of parcels included in this inventory in Table 5.6 are “open space” lands that have been set aside as part of the subdivision review process (FOSPRD). They are not protected by Conservation Restrictions except where noted, but cannot be used for other purposes under the terms of the Planning Board approvals for these projects.

Table 5.7 FOSPRD (Farmland and Open Space Planned Residential Development)			
Development	CR	Parcels	Acreage
Great Brook Estates		005.D - 0058.0, 004.D-0097.0	22
Fox Run		006.B-0172.0	13
Danforth Brook		002.D-0051.0, 002.D-005.0, 002.D-0048.0, 002.D-0049.0, 002.D-0050.0	43.98
Oaks		004.A-0007.0, 004.A-0014.0	26.92
Northwoods		006.D-0000-0032.0, 006.C-0000-0058.0, 007.C-0000-0114.0, 007.C-0000-0115.0	32.96
Butternut		006.E-0000-0043.0,006.E-0000-0056.0, 006.E-0000-0038.0	16.1
Rocky Dundee		003.B-0084.0 003.B-0078.0	37
Century Mill Estates	BCC	002.D-0125, 002.D-0127.0, 002.D-0136.0	100
Houghton Farm	BCT & BCC	006.D-0032.0	43.6
Total FOSPRD Open Space			335.56




 Map created February 2017
 by M. Simpson

**Open Space
 Town of Bolton**

1 in = 1 miles

 Source: MassGIS

**Figure
 22**

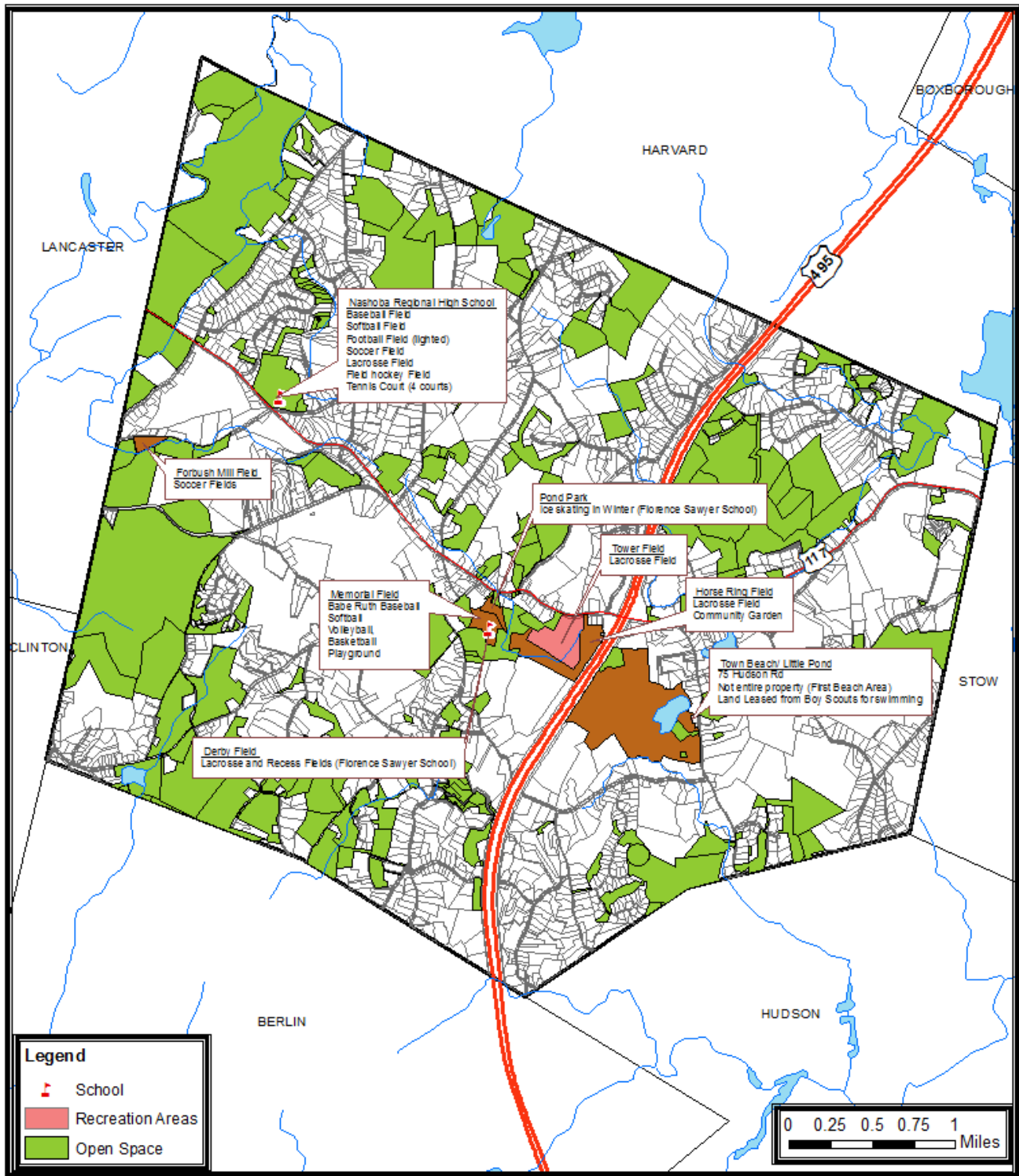
5B. Inventory of Town Recreational Facilities

The Parks and Recreation Commission has a focus on maintaining, restoring action and repairing their current properties and infrastructure. Pond Park and the Town Beach are two properties that have official maintenance plans associated with them. Parks and Recreation also place an emphasis on hosting public events for the community throughout the year: the Halloween parade, Easter egg hunt, Memorial Day and Veteran's Day exercises. The Commission also looks to host and assist in other town celebrations relative to holidays and other important dates.

Pond Park located off of Main St. is a historic park that is most popularly used for ice skating when weather permits. In the past years, the basin has been flooded and volunteers clear the ice for public skating. Pond Park is also the site of the Bolton holiday tree which is decorated seasonally by a representative from the Commission. Parks and Recreation is currently seeking funds to restore the park and its features that have fallen into disrepair.

The Memorial Field is maintained by the specific active sports teams. The baseball fields are financially supported by the teams and their sponsors. The playgrounds at the schools should be annually assessed and maintained to ensure their longevity and safety. The basketball and volleyball courts are in need of regular annual repairs and maintenance.


The Town Beach is another popular and heavily visited property that Parks and Recreation Commission maintains. The town is able to lease this property from the Boy Scouts to allow public swimming and other recreational activities associated with waterfront access. This area is most popular not only for the recreational opportunities but also the cool breeze and sheltered waterfront area that provides comfort even on the hottest days throughout the summer months. It too requires constant maintenance annually, if not more frequently, to keep the vegetation away from the dock and beach and to maintain, the sand along the lakeside area.

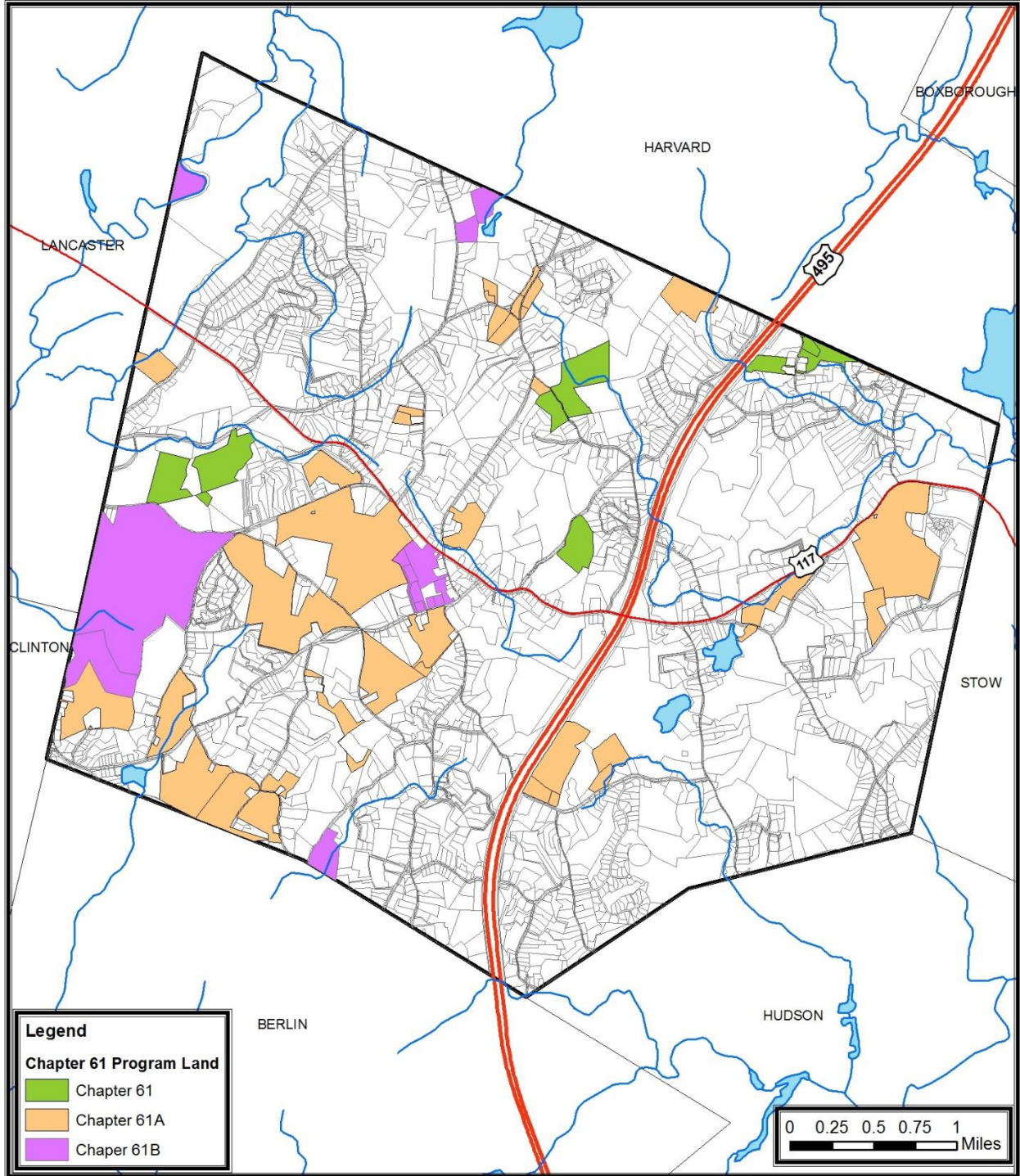




 Map created February 2017
 by M. Simpson

Recreation Department Interest
Town of Bolton

1 in = 1 miles

 Source: Mass GIS
Figure 23



Map created February 2017
by M. Simpson

**Land Enrolled in Current Use Programs
Town of Bolton**

1 in = 1 miles



Source: MassGIS & MAPC

**Figure
24**

5C. Lands in Current Use Tax Programs

Agriculture has always been important to Bolton. Early settlers farmed the land and there have been important dairy farms and orchards in town for over 275 years. Today, apple orchards are one of Bolton's "claims to fame." Farmland remains in Bolton while more easterly towns such as Acton, Sudbury and Concord have lost much of theirs to urbanization. There have been, however, continuing pressures to remove the choice open fields and aesthetically pleasing hillsides of apple trees in favor of housing development. The Commonwealth of Massachusetts through its Department of Agriculture has shown its concern for the decline in agricultural practices throughout the state and has worked to establish programs and policies that promote agriculture and the retention of agricultural lands. The legislature created tax assessment and preservation programs designed to provide financial assistance to farmers so that the land they farm will remain in agricultural use.

The most important State program outside of the Agricultural Preservation Restriction (APR) is the farmland assessment program under General Laws Chapter 61 and 61A. Farmland is taxed at a much lower level (Chapter 61A) than normal commercial or residential property, providing important incentives for landowners to continue to use their land for agriculture. There is a similar Forest Management Program, known as Chapter 61. In both of these cases, assessment rates are set by the town's Board of Assessors based on guidelines from a state-appointed committee.

The loss of farms to development is a primary concern as land values continue to soar. Though the town has "right of first refusal" on lands being removed from Chapter status, the town is struggling to match a potential developer's offer, as the value of developable land is higher than that valued for agricultural purposes. Many farms have been in Chapter status for decades, yet the land owner only needs to pay the last five years of back taxes as a penalty for withdrawing the land from the program. Though it is encouraging that many farms remain in 61 and 61A, people interested in preserving the farms in Bolton should be discussing ways to permanently protect key agricultural parcels with the owners that farm the land, such as with an APR.

Bolton is proud to state there is land being returned to active agriculture by new and competitive enterprises. The Nashoba Valley Winery purchased and revitalized the nearly abandoned Clemens orchard on Wattaquadock Hill Road beginning in 1983. The Nashoba Valley Winery and its associated business, including a brewery, restaurant, wedding and events venue, and shop, has become a destination for visitors from across the region. Under current ownership, the Winery has added a variety of vines, trees and berry bushes to its orchard as the production to produce other fruits for its variety of wines and other beverages expands. On former orchard land leased from the Bolton Conservation Trust, the Winery is extending its heritage variety apple production.

A number of the farmers in Bolton have farm stands, the most prominent being Bolton Spring Farm and Bolton Orchards. Along with the roadside stands throughout the scenic roads of town. These stands sell products grown and processed elsewhere in addition to their own produce. They combine agriculture with commercial operations and carry additional products in order to

cover facilities costs.

The Nicewicz Family Farm on Sawyer Road, grows all the produce sold at their stands and at several farmers markets in Worcester and the greater Boston area. The Schartner Farm on West Berlin Road offers hay rides, a corn maze and pick-your-own apples in season. There are also orchards that have been historically harvested from the Lord orchards on Annie Moore Road is grown for the commercial market. In general, most of Bolton's farms do not have extensive production, storage, and transportation facilities to move the produce to market. Markets for produce have become more difficult and costly for farmers to find. These situations make it difficult for the farms to compete while relying on their own produce and adds further pressures to place the farmland in more financially attractive use.

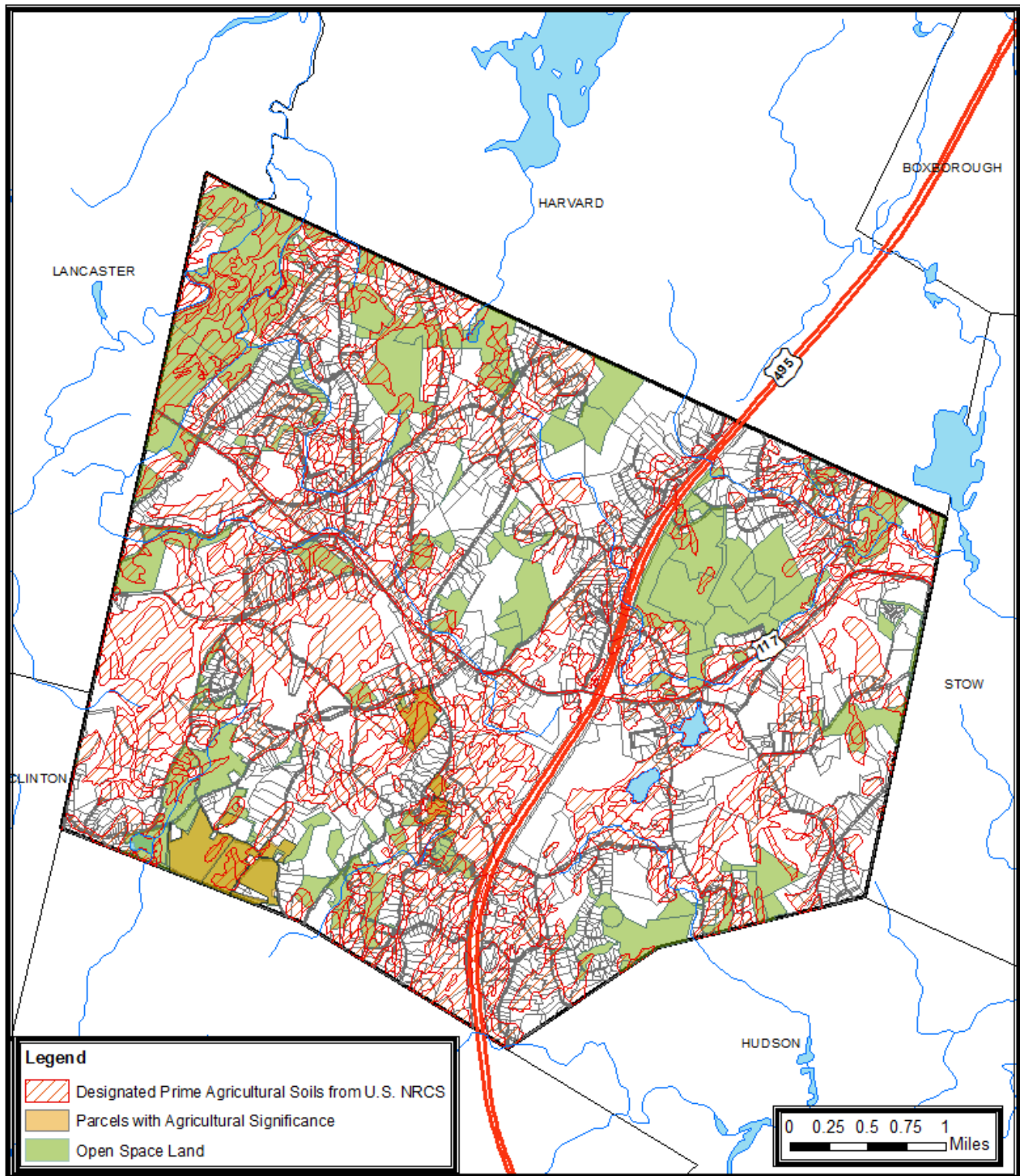
The development of a food co-op in Maynard may provide local farms with an outlet closer to home.

Table 5.10 lists the land presently under the Agriculture Assessment of Chapter 61 A of the General Laws, Chapter 61 and Chapter 61B.. There is additional land being farmed that is not in Chapter 61 A, although these are small-scale enterprises. Unfortunately, areas of prime farm soils have been uncultivated for some time on other properties. Ideal husbanding of agricultural resources would attempt to bring together new agriculture endeavors and remaining prime soils.




Table 5.10 Lands Enrolled in Current Use Tax Program				
Ch.	Parcel_ID	Location	Acres	Owner
61A	003.A-0000-0010.0	Sargent Rd	58.31	Vattes William F & E Marian E
61A	006.C-0000-0053.1	Green Rd	10.42	Zayka Paul R
61A	004.B-0000-0012.1	Old Bay Rd	141.13	Ela Family Farm LLC
61A	003.B-0000-0021.B	Harvard Rd	26.56	Norseen NW & HN McClennen
61A	005.B-0000-0004.1	Wilder Farm Rd	202.7	Davis Farm Trust
61A	005.C-0000-0006.1	Sawyer & W Berlin Rd	68	Nicewicz Vera & David J & Kenn
61A	003.B-0000-0008.1	W Berlin Rd	37.5	Schartner Farm LLC
61A	004.C-0000-0005.1	Main St	96	Stephenson John H & Joan M TR
61A	003.A-0000-0056.0	Ballville & Sawyer Rd	46.6	Arklow Limited Partnership
61A	006.D-0000-0068.1	Warner Rd	30.1	Firefly Farm LLC
61A	004.D-0000-0060.0	S Bolton Rd	47	Slade Mark E & Victoria Haske
61A	004.D-0000-0099.0	Long Hill Rd	27	Slater Bruce
61A	003.C-0000-0040.1	Century Mill Rd	32.2	Smith Realty Trust Smith A LE

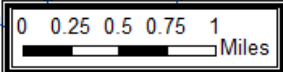
61A	004.E-0000-0005.0	Annie Moore Rd	26.45	Donato Joseph B & B Richmond
61A	007.C-0000-0017.1	Harvard Rd	6.56	Ducharme Lawrence J & Lauri
61A	004.D-0000-0070.0	Long Hill Rd	4.05	Hastings Susan Trustee
61A	006.E-0000-0029.0	Stow Rd. - Harvard	0.64	Heudorfer John
61A	003.C-0000-0026.0	Sawyer & W Berlin Rd	51.7	Schartner Farm LLC
61A	006.C-0000-0023.0	Golden Run Rd	11.9	Colby Herbert W & Lori H
61A	003.E-0000-0003.0	Long Hill Rd	74	Ettinger Doris E
61A	006.C-0000-0006.0	Green Rd	15.07	Hagins Whitney C & Cullen R CR
61A	003.B-0000-0012.0	Old Bay Rd	18.41	Hills Warren S
61A	005.E-0000-0037.0	Harris Farm Rd	9.31	Kovacs Joseph B & Sherry A
61A	007.C-0000-0077.0	Old Harvard Rd	7.18	Laurie A Ducharme Family TR
61A	004.E-0000-0007.0	Annie Moore Rd	10.04	Lord Stephen H
61A	003.C-0000-0031.1	S Bolton Rd	10.87	Slade Chaloner & Charlotte E
61A	003.C-0000-0031.A	Meadow Rd	6.91	Slater Scott
61A	007.C-0000-0022.1	Harvard Rd	13.82	Weatherbee Paul L & Barabara
61A	006.C-0000-0018.1	Long Hill Rd	32.8	Wilson David & Amy
61B	007.C-0000-0008.0	Bare Hill Rd	15.05	Bartsch Noel R & Julie A
61B	007.A-0000-0002.1	Nashua River	15	Kanis John E, TR, The John E Kan
61B	004.C-0000-0060.0	Wattaquaddock Hill Rd	1.89	Stephenson John H & Joan M TR
61B	003.A-0000-0010.1	Wattaquaddock Hill Rd	24.06	Stephenson Phyllis M
61B	005.A-0000-0002.0	Wilder Rd	329	Arklow Limited Partnership
61B	002.B-0000-0004.1	Randall Rd	24.57	Berlin Country Club Re RTS
61B	007.C-0000-0041.0	Bare Hill Rd	11.57	Bartsch Noel R & Julie A
61B	004.E-0000-0037.0	Annie Moore Rd	15	Confer Charles L Est Of
61B	006.C-0000-0061.0	Harvard Rd	14.07	Demers Christopher & Leslie A
61B	003.B-0000-0031.0	W Berlin Rd	47.11	Hapgood William & Julie Schec
61B	007.C-0000-0003.0	Bare Hill Rd	30.02	Held John Robert & Lucille Livin

61B	005.E-0000-0052.0	Annie Moore Rd	15	Koppelman Rdward A
61B	004.E-0000-0017.0	Annie Moore Rd	14.93	Larrabee Johnathan H & Kathe
61B	003.B-0000-0016.0	Randall Rd	7.01	Mauro Paul J & Linda M
61B	005.C-0000-0026.0	Golden Run Rd	29.8	McClure Kenneth L & Melinda
61B	003.B-0000-0007.1	Randall Rd	12.53	Reed Bradley I
61B	007.C-0000-0010.0	Annie Moore Rd	15.08	Velardocchia David L & Cathie
61	005.A-0000-0003.0	Wilder Rd	23.12	Vespa Mary Est of & Donato B
61	005.A-0000-0004.0	Wilder Rd	9	Vespa Donato
61	005.A-0000-0006.1	Wilder Rd	34	Vespa Mary Est of & Donato B
61	005.A-0000-0014.0	Forbush Mill Rd	43.14	Taggart Paulett L TR
61	005.A-0000-0015.1	Wilder Rd	3	Vespa Donato
61	005.C-0000-0046.0	Main St. off Golden Run	27.8	Benjamin Michael A & Connie B
61	005.D-0000-0064.0	Powder Hill Rd	3.72	Benjamin Michael A & Connie B
61	006.C-0000-0010.0	Harvard Rd	40	Caless Arthur G & Carol J
61	006.C-0000-0023.1	Golden Run Rd	49.6	Grouse Hill Realty Trust
61	006.C-0000-0027.1	Golden Run Rd	14.75	Grouse Hill Realty Trust
61	006.D-0000-0058.1	Whitcomb Rd	12.31	Santini Ruth J & David R, TR
61	006.D-0000-0071.1	Whitcomb Rd	15.18	McAfee Robert E
61	006.E-0000-0057.0	Whitcomb Rd	4.79	Santini Ruth J & David R, TR
Total Lands Enrolled in Current Use Tax Program			2025.33	




Legend

-  Designated Prime Agricultural Soils from U.S. NRCS
-  Parcels with Agricultural Significance
-  Open Space Land

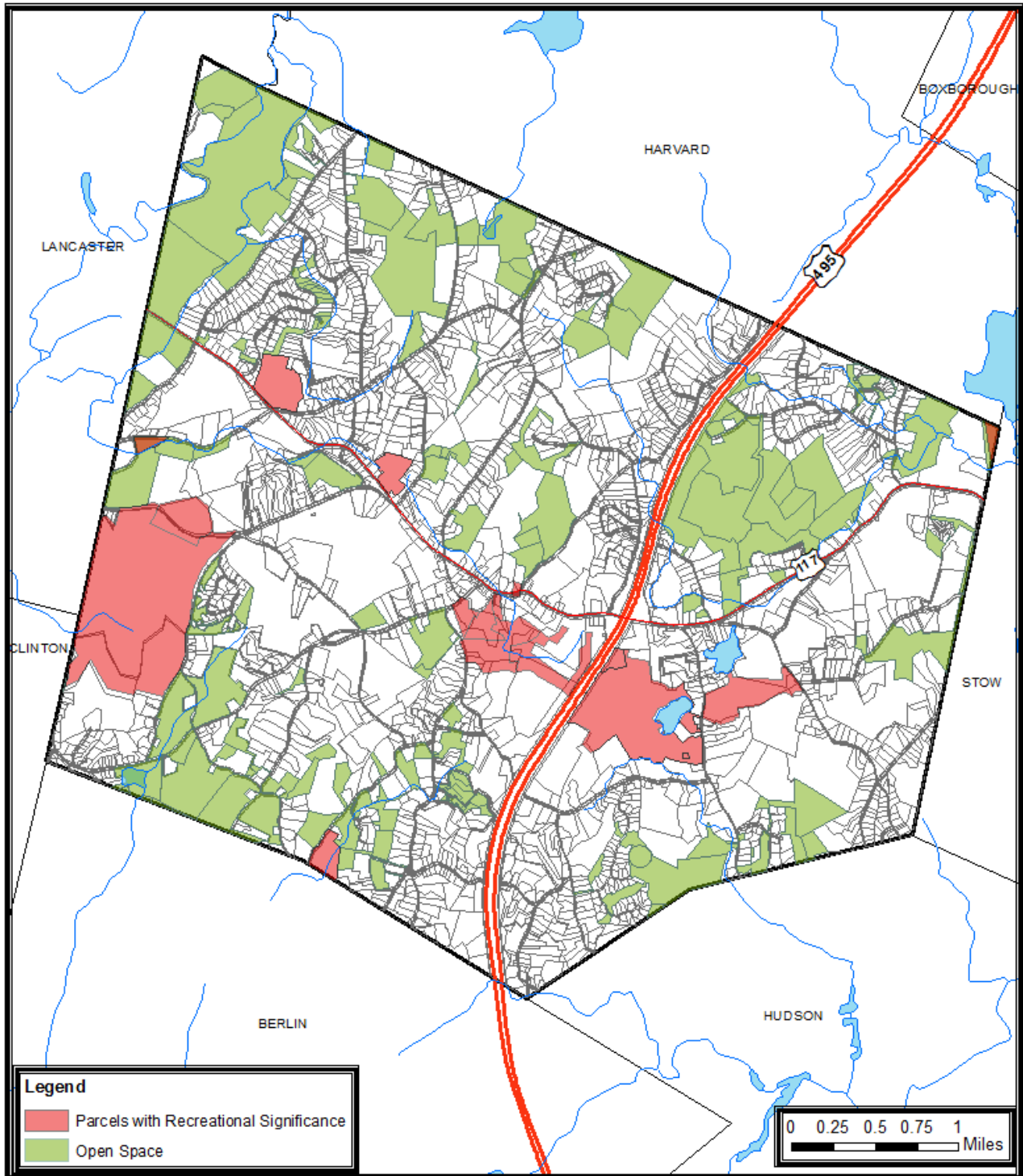



Map created February 2017
by M. Simpson

**Unprotected Parcels with Agricultural Significance
Town of Bolton**

1 in = 1 miles

 Source: Mass GIS

**Figure
25**




Unprotected Parcels with Recreational Significance
Town of Bolton

Map created February 2017
 by M. Simpson


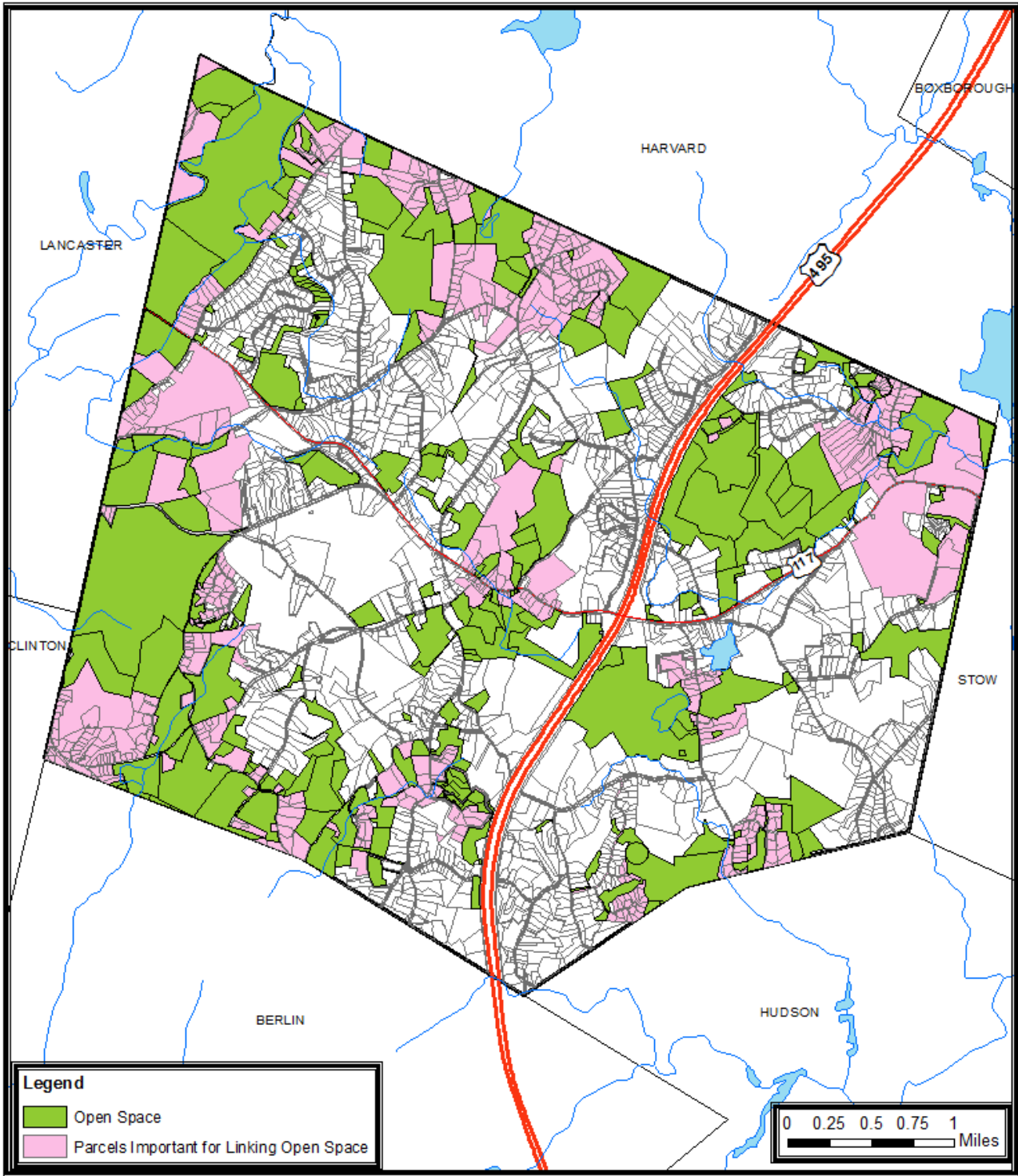

1 in = 1 miles

 Source: Mass GIS

Figure
26




Parcels important for Linking Protected Lands
Town of Bolton


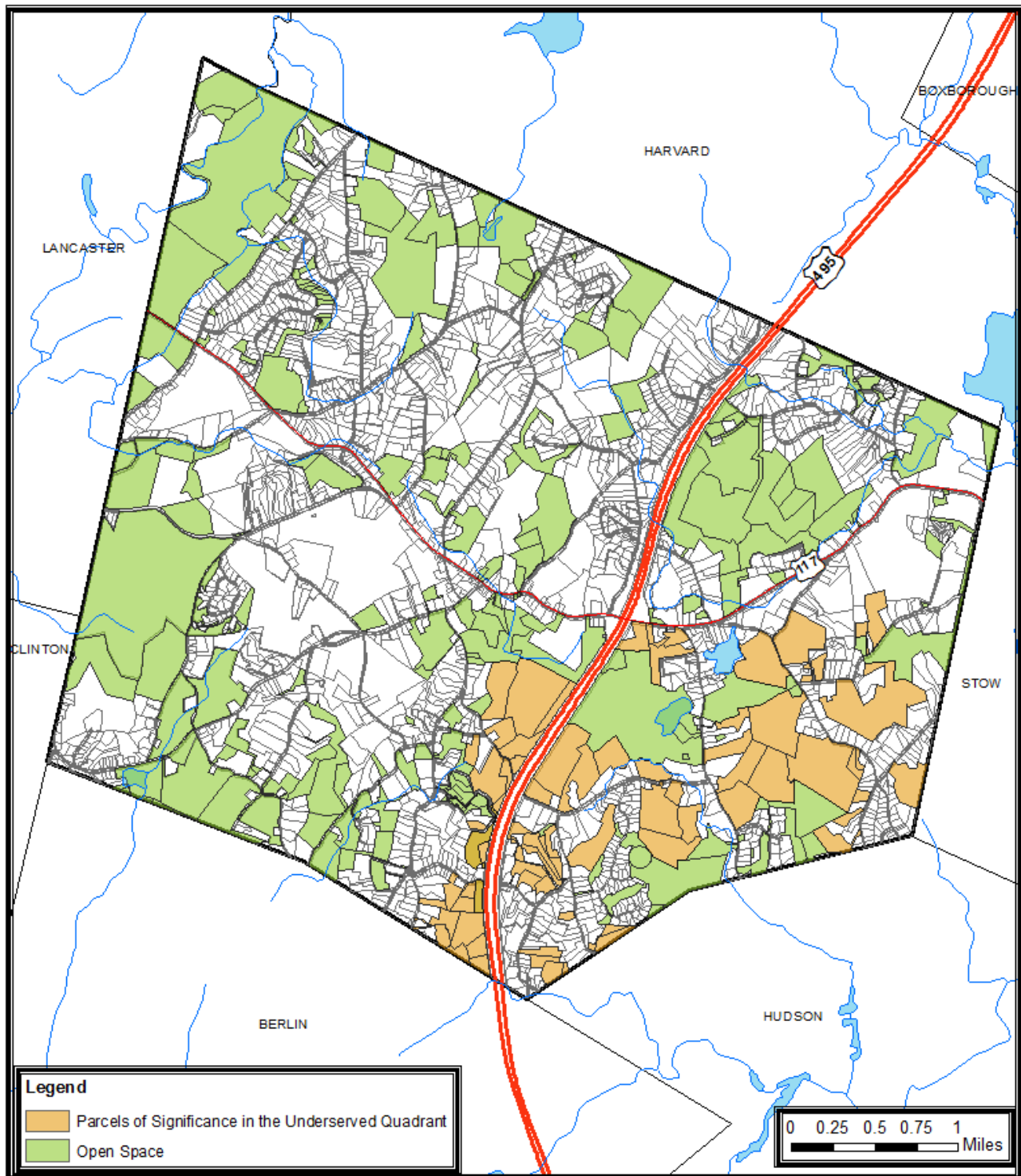
1 in = 1 miles

 Source: Mass GIS


Figure 27

Map created February 2017 by M. Simpson

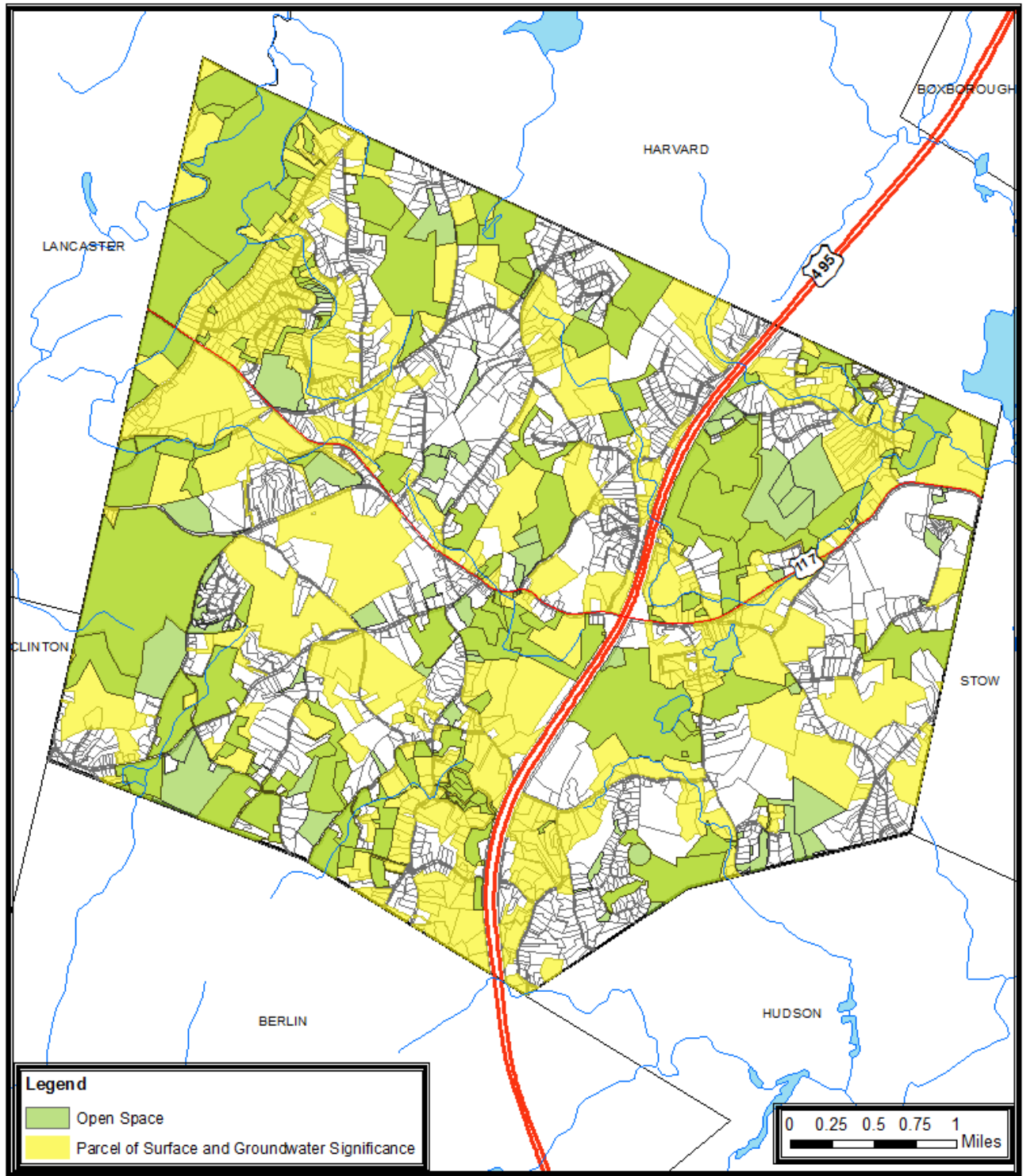




 Map created February 2017
 by M. Simpson

**Unprotected Parcels of Significance
 in the Underserved Quadrant
 Town of Bolton**


1 in = 1 miles

 Source: Mass GIS

**Figure
 28**

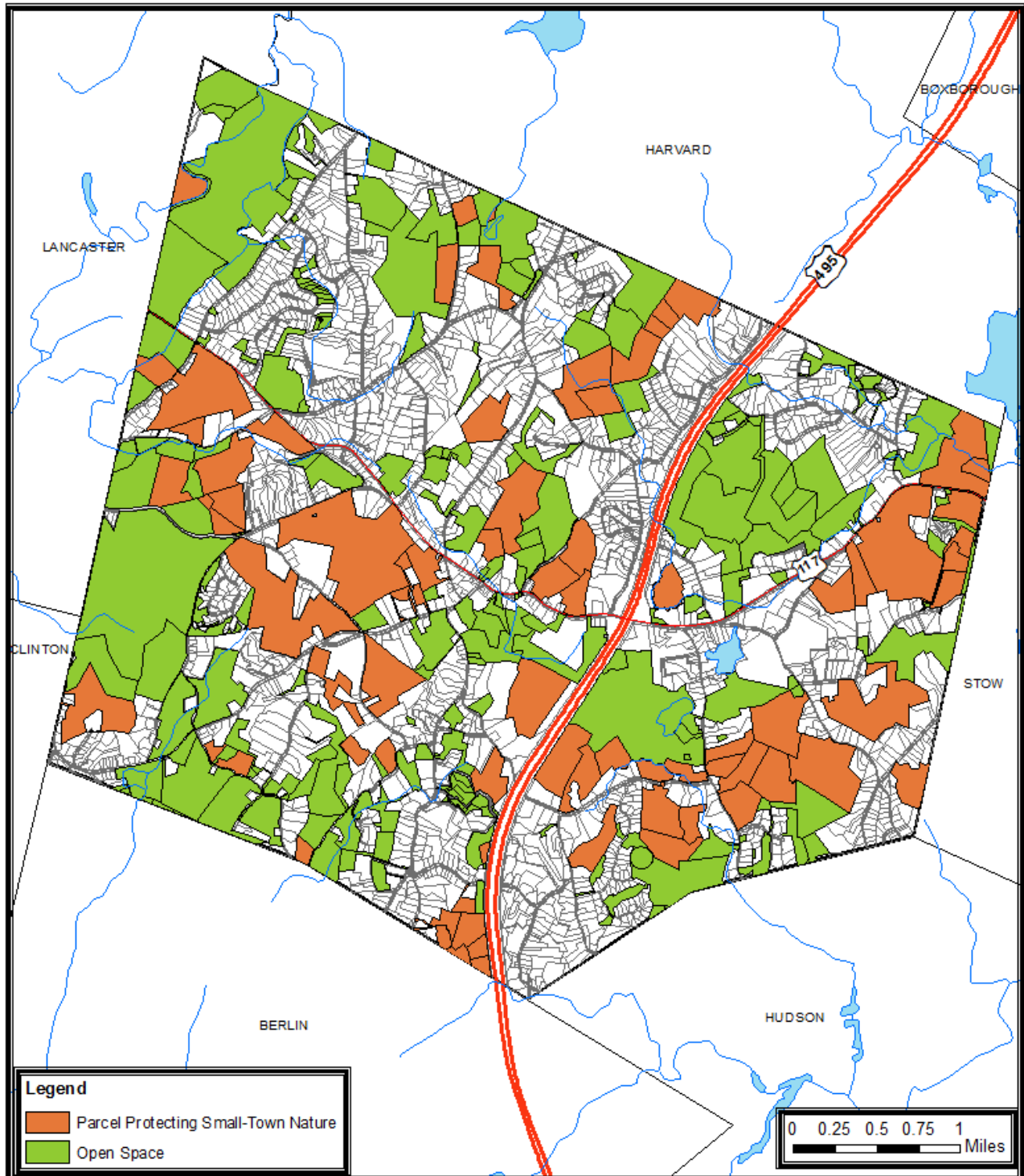



 Map created February 2017
 by M. Simpson

**Parcels of Surface Water and
 Groundwater Significance
 Town of Bolton**

1 in = 1 miles

 Source: Mass GIS

**Figure
 29**



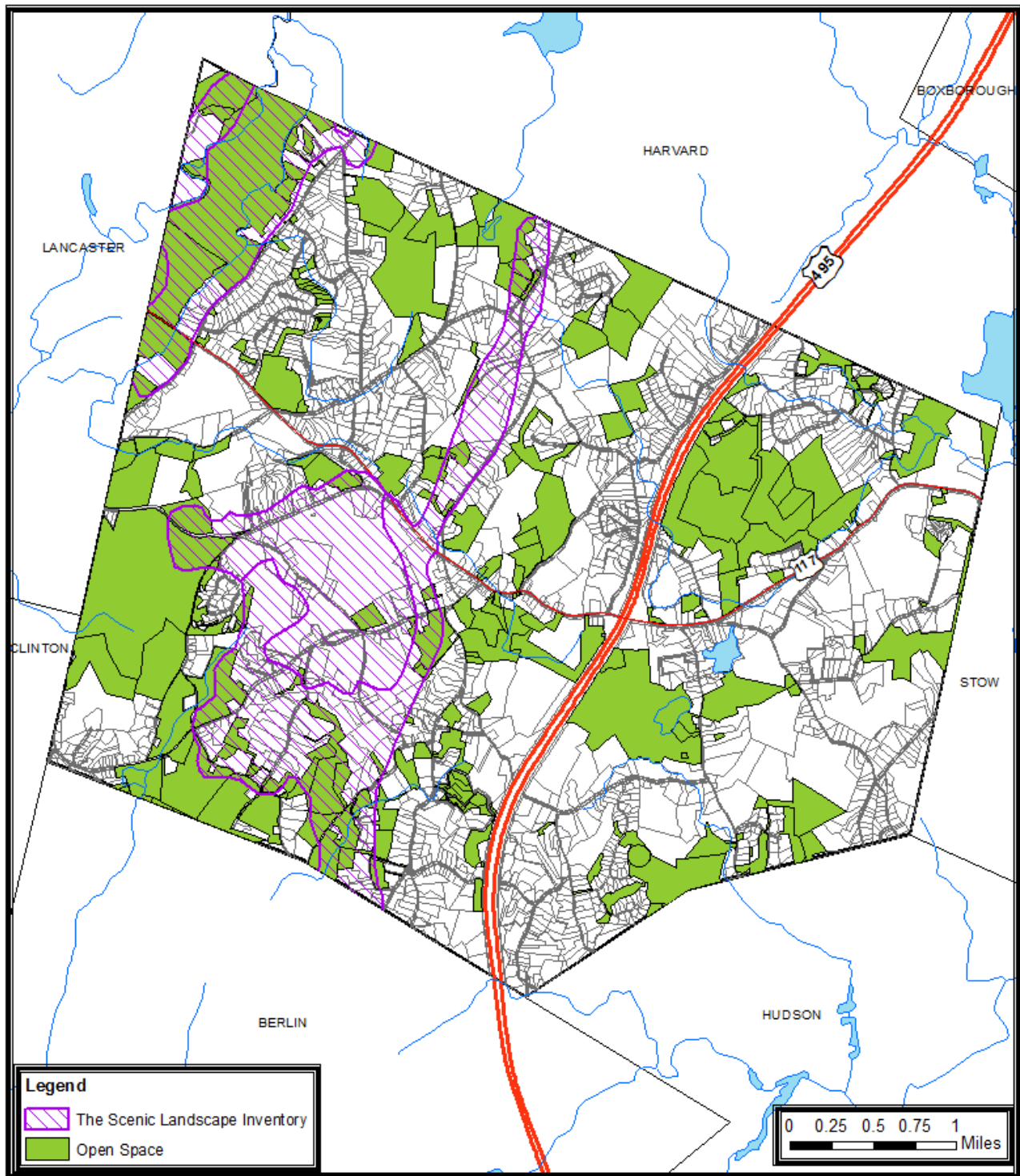

 Map created February 2017
 by M. Simpson



Unprotected Parcels Preserving Small-Town Nature
Town of Bolton

1 in = 1 miles

 Source: Mass GIS

Figure
 30



 <p>Map created February 2017 by M. Simpson</p>	<h3>Unprotected Parcels with Scenic Significance</h3> <h3>Town of Bolton</h3>	<p>1 in = 1 miles</p>  <p>Source: Mass GIS</p> <h2 style="float: right;">Figure 31</h2>
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Current Protected Open Space

Land Type	Percent of Bolton Protected on 2016 Assessor's Data										
	2004				2017				Change		
	#of Parcels	Total Acres	% of Total Open Space	% of Bolton Protected	#of Parcels	Total Acres	% of Total Open Space	% of Bolton Protected	#of Parcels	Acres	Increase
Town or Trust Owned Conservation Land Only	67	1280.22	11.65%	9.94%	91	1606.25	14.05%	12.54%	24	326.03	25.47%
Conservation Restrictions & APR's (not counted above)	46	591.38	5.38%	4.59%	58	917.65	8.02%	7.16%	12	326.27	55.17%
Limited Recreational business District (not counted above)	5	472.4	4.30%	3.67%	6	574.5	5.02%	4.48%	1	102.1	21.61%
Other Municipal Land	47	961.79	8.75%	7.47%	50	910.57	7.96%	7.11%	-3	-51.22	-5.33%
Total Protected in perpetuity	165	3305.79	30.09%	25.67%	205	4008.97	35.07%	31.32%	32	60.762	1.80%
Chapter Lands (not in perpetuity)	70	1914.12	17.42%	14.86%	59	2025.33	17.71%	15.82%	-11	111.21	5.81%
Total Open Space		10986				11429.1			Net Loss of Open Space		-841.73
Bolton Land Total		12800				12800					7.67%
Percent of total Open		85.31%				89.28%					
Percent of Unprotected Open Space		69.91%				64.92%					

The table above expresses the Percent of Bolton Protected on 2016 Assessor's Data. The permanently protected land in town totals over 4,000 acres, either through acquisition, gifts, CR, APR and Limited Recreational Business Zoning. Note, this number includes under 1,000 acres of Municipal Land, which is not necessarily permanently protected (discussed below). Through the achievements listed in Section 2 of this plan, this represents more than a 60 acre increase from 2004, and although there is a consistent loss of unprotected open space to development each year the FOSPRD and donation of residential land to open space protected land allows for a remediation of that loss. Currently, 89.28% of Bolton remains undeveloped. This open space can be found along roadways as fields, forests, wetlands, surface waters, and other operations, providing the rural character that defines Bolton. Consider over 64% of the town's remaining open space remains privately held and unprotected. Including Chapter 61 parcels. The future uses of this unprotected privately-held open space is uncertain, which is why it is important to define and distinguish between "protected" and "unprotected" open space.

Open spaces are protected in perpetuity when a parcel of land or the future uses of a parcel of land is owned and reserved specifically for conservation. This is accomplished by acquiring the development rights restricting certain activities on the property, by purchasing or receiving as a gift or donation the entire parcel in the name of conservation. Both public agencies and private institutions may purchase property or the development rights, known as fee simple; however, in order to receive legal protection in the future as conservation, these lands must be protected under State Statutes and by the appropriate legal documentation.

A municipality that plans to acquire a property for conservation purposes must state so in the article language proposed at Town Meeting. The article must state that the land is being acquired for conservation purposes under Massachusetts Chapter 40, Section 8C. The municipality may acquire land for purposes other than conservation, including, schools, infrastructure, cemeteries, etc. It is important to distinguish that all municipally owned properties are not permanently

protected open space. While certain uses may be restricted on other municipal land purchases, the land receives permanent protection in the name of conservation only if it is protected under Massachusetts Chapter 40. Bolton's key conservation lands are protected under Chapter 40, including Fyfeshire, Vaughn Hills, Bowers Spring, Rattlesnake Hill, and Powderhouse Hill, to name a few. In addition, properties, such as the Lime Kiln, that were purchased with state financial assistance for conservation lands, must be purchased under Chapter 40.

Both municipalities and private institutions may purchase or receive in gift the development rights to a particular parcel of land. This is also known as a Conservation Restriction (“CR”) or Agricultural Preservation Restriction (“APR”). A legal document known as a conservation restriction must be appropriately developed and signed by the owner (or purchaser) of a property and the entity (either municipality or private institution) that will hold the development rights to the property. This legal document is authorized under Massachusetts Chapter 184 Sections 31-33. Private institutions may also place a CR onto a property that it purchases to ensure that the property is permanently protected, even beyond the life of the institution or past its ability to own the property.

The Agricultural Preservation Restriction (APR) Program, the state (and town) purchase the "development rights" to farmland from the farmer so that the land will remain in an undeveloped condition suitable for farming in perpetuity. The land is appraised by the state as farmland and as residential development and the landowner receives the difference while retaining full ownership of the land. The Conservation Commission began an intensive effort in 1984 to bring some of Bolton's farms and orchards under the APR Program. After 11 years, the town was successful in securing an APR for the Nashoba Winery. A second conservation restriction on a farm, the Schultz farm, was gifted to the town. In 2004, Bolton teamed with the Commonwealth of Massachusetts, Bolton Conservation Trust, and the Trust for Public Land to acquire development rights through the APR Program on two other farms, Nicewicz and Schartner, totaling nearly 300 acres to stay in active agriculture.

It's important to note that though many of these private lands contain significant open space and agricultural activities, they also contain homes, barns, and other structures not normally associated with open space, and may not be accessible to the public.

Temporarily Protected Open Space (Not in Perpetuity)

Some lands in Bolton currently receive temporary protection under the Chapter 61 Program. Landowners may be eligible to receive property tax breaks under the Chapter 61 Program if they agree not to develop their land. Landowners may qualify if they are farming the land (Chapter 61A), managing forested land (Chapter 61), or if using land for recreational purposes (Chapter 61B). Landowners are not permanently bound to the program, however, and may depart the program upon giving the municipality a "right of first refusal" to purchase the property and paying the back taxes for the last five years. Although these lands are not permanently protected, the Chapter 61 Program provides landowners with incentives not to sell for development and allows a mechanism where the municipality has a 120-day “right of first refusal” window to match any purchase price on the land before it changes hands for development. However, when

land values increase significantly as has been the case in recent years, there is considerable financial pressure to exit the program even with the financial penalties, and the town may have difficulty matching the developer's price. Therefore, we recommend working with current owners holding high priority conservation lands under Chapter 61 to migrate these parcels to CR's or APR's.

The Twin Springs Golf Course is a LRBD where there is an impressive 18 hole private course as part of the International country club complex and a 9 hole public course. It is highly desirable for these areas to remain as golf courses for the benefit of open spaces in Bolton and the recreational value they provide. If the present owners ever decide to sell the courses, it would be useful for the town to pursue more public operation of the International although the country club as its present form is an important open space resource for Bolton. Because the IGC is the largest property tax payer to the town and because of the potential impacts of future residential of the property, the town should aid the IGC in continuing as a golf enterprise and plan for its future. The town rezoned this 575 acre property for recreational uses in 1997.

Forest land remains Bolton's largest undeveloped natural resource. The vegetation analysis in Section 4 indicates that from 70 to 75% of Bolton's land area remains in forest cover. While some of this woodland now lies within individual house lots, under current zoning these parcels may be quite large and are often contiguous with larger backland wooded acreage.

A fundamental purpose of this open space plan is to list the town's priorities for open space acquisition in the near future. These priorities are provided in this section. The rationale for the Town's acquisition priorities is consistent with the overall purpose of the open space plan. First and foremost, these priorities are established based on the broad goals of the Open Space and Recreation Plan as listed in Section #9, the Action Plan. The goals are:

- 1) Preserve Rural and Historical Character of Bolton
- 2) Protect the Water Resources of Bolton
- 3) Preserve and Encourage Agriculture
- 4) Protect Natural Resources and Wildlife Habitat
- 5) Conserve Open Space Areas for Public Use
- 6) Provide Active Recreation Opportunities to Bolton Citizens

Land acquisition or protection proposals that meet any of the above goals are broadly considered to be priorities. These include acquisitions which contribute to the rural and historical appearance in town, protect known high-yield aquifers and wetlands, preserve farms, protect unique natural resources (i.e., geologic formations, endangered species), expand and connect existing trail networks, and enhance active recreation opportunities.

In addition, land acquisition actions will also depend upon priority, opportunity and circumstance. Therefore, while the acquisition areas are presented, the selection of which specific parcels to purchase will greatly depend upon the availability of resources and the

opportunities presented in each situation. Given opportunity and circumstance, the town's conservation and open space priorities include:

- Protection of additional land in core areas
- Protection of farms and encouragement of agriculture
- Known high-yield aquifer protection
- Linkage with greenways and wildlife corridors
- Important wetland buffer acquisition
- Lands that serve multiple interests
- Historical landscape protection
- Protection of wildlife habitat

Parcels of interest are those parcels that will meet any of the six broad goals of the plan. Higher priority is placed upon those parcels that either (1) contribute to achieving more than one of the goals; and/or (2) are able to multiply the benefits for any one goal because of size, uniqueness or other special attributes, or is deemed to be of particular temporal importance to the town in the following tiered priority ranking. Higher priority is placed upon those parcels that either (1) contribute to achieving more than one of the goals; and/or (2) are able to multiply the benefits for any one goal because of size, uniqueness or other special attributes, or is deemed to be of particular temporal importance to the town in the following tiered priority ranking. These priority labels described below:

#1 Priority) Protect active farms, known high-yield aquifers, and parcels central to core areas, or those areas considered highly and uniquely scenic

- Active Farms -A number of farms in town are high priorities for preservation because they offer the most abundant open space in town in terms of fields and meadows, and because agriculture is historically significant in Bolton. Nicewicz and Schartner Farms were recently protected under an APR, but Bolton Spring Farm, Bolton Orchards, Townsend Horse Farm, Lord Farm, Wilson Farm and other key farms remain only under Chapter 61A. Because farms are always in immediate danger to development, the town considers all remaining farms to be a top priority for acquisition. Preserving agriculture is Goal #3, and is also a major part of achieving Goal #1, preserving rural and historical character.
- Known high-yield aquifers -Though Bolton is currently served by private wells, water remains a most precious resource. Based on current growth trends and forecasted population density, it makes sense to protect private parcels that sit above known high-yield aquifers to insure the towns' water needs will be taken care of in the future.

- **Parcels Central to Core Areas** – This plan has identified 15 core areas of open space in Bolton that currently hold great preservation value. They contain farms and open fields; forest reserves wetlands, brooks and ponds; wildlife habitat; vegetative and scenic variety, and; provide numerous recreational opportunities. They constitute sections of town where considerable land has already come under public domain as protected Open Space under Chapter 40 Section 8C of Mass. State law, or offer unique conservation opportunities. Adjacent parcels of privately held land are very valuable for enhancing the conservation values of these areas.

The fifteen core areas include:

Annie Moore/Long Hill

Barretts Hill

Bolton Flats

Bower Spring

Boy Scout Area

Danforth Brook/Century Mill

Delaney

Northwoods

Phillips/Rattlesnake

Powderhouse Hill

Randall Road Area

Sawyer School Area

Vaughn Hill

Wattaquadock Hill

Wilder Pond to Forbush Mill

Bolton is fortunate that several large tracts of privately-held, undeveloped land still exists in town, some of it is contiguous with other privately-held parcels of conservation interest along with already protected open space. The largest parcels exist near the Boy Scout Area, Danforth Brook/Century Mill, Northwoods, Powderhouse Hill, Randall Road Area, Sawyer School Area, and Wilder Pond to Forbush Mill, though a large development is in the works for Danforth Brook/Century Mill. Opportunities exist for gaining financial assistance lands associated with large parcels or transportation benefits particularly with the Phillips property due to its location

near Interstate 495. It is of primary importance that a single land group be formed to work together to create a plan of working with landowners before these tracts are developed.

#2 Priority) Protect large interesting parcels or those that abut core areas creating larger blocks of contiguous open space

#3 Priority) Protect portions of large house lots, improved lots, or other parcels that would provide greenways and wildlife corridors, link core areas, or could serve multiple interests, including historical, wetland buffer, key wildlife habitat, and municipal needs. One of the long-term goals for acquisition which would satisfy many of this plan's objectives would be to link these major core areas with each other, and with core areas in neighboring towns to establish regional greenways that could link the large federally-protected areas of Great Meadows to the East and Oxbow/Bolton Flats complex to the west. Some of this work should be in conjunction with completing the other trail projects, and may be done with a mixture of purchases, trail easements, conservation restrictions, FOSPRD open space, and gifts.

Other Priority # 3 items include:

- Major wetland buffer acquisitions and protection of land near aquifers are top priorities for protecting water resources. Areas of town that would fit into this priority include aquifer recharge areas on the eastern and western borders of town, and the major hydrologic corridors in town, notably the Great Brook, Mill Brook, and the Forbush Mill systems.
- Identifying areas that serve multiple interests. As Bolton grows and more subdivisions are proposed and built, the need for small neighborhood parks, active recreation fields, municipal buildings, affordable housing, and passive recreation areas will increase. There should be an opportunity to prioritize lands that would be able to service all of these interests, in a similar fashion to #2 above.
- Through coordination with the Historical Commission and their Preservation Plan, historic landscapes have been identified as important for preserving the rural and historical character of Bolton. Several of these areas also connect with core areas. The historical areas reflect villages within Bolton, such as East End Road and the Shaker Cemetery, that retain many buildings and the landscapes from the nineteenth century. Other areas contain geological features unique to Bolton, such as Bolton Flats and Forbush Mill Road.
- Protection of diverse natural habitats is also a top priority. Areas for consideration include sites of rare animal and plant species. Geologic formations associated with the several hills in town should also be considered a top priority. Some of the most unique areas are discussed more in-depth in Section 4, Environmental Inventory.
- Assist in identifying, acquiring and protecting those lands that provide primarily municipal interests, such as schools, active recreation, affordable housing, police, fire,

library, with limited conservation areas. The interest from the Open Space and Recreation Plan here is primarily in identifying areas for suitable for active recreation, but also in potential open space set-asides to create buffer zones and potential trails to link other areas.

The Section Self-Evaluation as it applies to Bolton's park, recreation and conservation land reveals the fact that few accommodations exist within these areas for the handicapped. The reasons for this situation derive from Bolton's semi-rural character, and from the emphasis that has been placed in Town acquisition efforts on securing areas of natural resource interest and maintaining them primarily for wildlife habitat and passive recreation. Funding over the past five years, from both State and local sources, has dropped markedly, with support for maintenance and improvement available only for addressing public safety concerns.

The checklists, while useful for parks and other areas with existing improvements and heavy public use, may not serve to target those areas in Bolton most suitable for improvements as part of the action plans. Further, recreational facilities, such as ball fields, have been maintained and improved to serve as traditional athletic areas. With these facts in mind, the following assessment is made through a listing of the Section 504 Administrative Requirements and how Bolton meets those requirements, followed by a listing of facilities with handicapped and general public services.

Section 504: Administrative Requirements

- The former Frank Krysa as 504 Coordinator on August 25, 1998 was appointed by the Board of Selectman.
- The Personnel By-Law and Grievance Procedure is included as Appendix J
- Notice of all vacancies shall be posted on each department's bulletin board and at the Town Hall prior to public advertising. Advertising is to be done in area newspapers for a maximum of two weeks. All positions must be classified and all interviews must be held after the advertisement period has ended. Bolton Town jobs are always advertised without discrimination as to age, sex, marital status, race, color, creed, national origin, handicap, veteran status, or political affiliation.

The town promotes universal access therefore we will be looking to see where better accessibility may be created for the various recreation facilities.

1) Memorial Ball Field the parking area is gravel and dirt. The playing fields are grass. There is paving over the basketball area and a few other patches. The area is wheel chair accessible based on grade level. There is also a handicap accessible water fountain.

2) Leatherwood Playground parking is from a paved road surrounding the Florence Sawyer School and there is a handicapped access ramp from which a portion of the playground can be reached.

3) Town Beach parking area is gravel and grass; the slope to the water is hard sand becoming softer at water's edge. The swimming area is not wheelchair accessible.

4) Derby Soccer Field is level and accessible by vehicle with ample parking. It is considered handicap accessible.

5) Forbush Mill Field This brand new field opened in the spring of 2004, is level, and accessible by vehicle. It is considered handicap accessible.

Conservation Facilities Access

Bolton is a rural community and all of our conservation areas are unimproved natural lands. Many are very small. They are grouped for purposes of the following inventory. Doing a separate report on each would not add value.

1) Bolton Flats and Delaney; these are large state owned conservation areas with parking for at least 20 vehicles, including handicap vans. They afford beautiful views of the land and water from the parking area. Some of the trails are wide and flat enough to afford access to a motorized or pushed wheelchair. None are paved.

2) Pond Park, Persons Park, Mentzer, Partridge, Le Duc, Wilder Pond, Vinger, and Dunnell Kettlehole; these sites are all view accessible from a paved or gravel road, so a person without the ability to walk could see the sights from a vehicle. There are new picnic facilities at Pond Park.

3) Phillips Conservation Land; this site is entered from a hard dirt road at one location, which would admit less strenuous access for some distance into the property. There is a bench located for viewing, accessible through this route.

4) Fyfreshire; this site has handicap accessible parking and a 10 foot long bench located near one of the ponds for viewing.

5) Bower Springs and Lime Kiln; these areas have parking for at least five vehicles and are wheelchair view accessible.

6) Vaughn Hill and Moen; these areas have parking for a few vehicles. Moen offers a gravel, though level lot which is wheelchair accessible.

7) Annie Moore, Goodrich, Harris, Hansen, White, Wallie, Sochalski, Richards, Smith and Sullivan; these areas are wooded, with narrow trails, or in some cases as yet incomplete trails, and are not very accessible to any but agile hikers. They are, however, excellent wildlife habitat areas, a primary reason for preserving them.

Other Public Facilities

Drinking Fountains: The only public drinking fountains in Bolton are located at Camp Resolute, by the swimming area which the Boy Scout camp provides for Town use. A pump for drinking and washing was installed at Bowers Springs by the Conservation Trust, but has not been consistently operational. The Trust is continuing improvement of this facility.

Toilet/Bathing Facilities

This type of facility exists only at Camp Resolute, which is a private facility. Since Bolton has no public water or sewer systems, improvements in this category are not practical at this time.

Picnic Areas

Picnicking is allowed on all park, recreational and conservation land. No amenities exist, however, except for trash barrels at Bowers Springs. Open fires and grills are not permitted on Town land except by individual permit. Peron's Park allows for informal picnics as there are trash barrels on the property. Improvements in this area should initially focus on properly sited and constructed picnic tables. Town Common has a pavilion with benches and trash receptacles as well.

Boat Docks

Persons Park does not have a formal dock but has availability for non-motorized public boating access on Little Pond. The Still River is accessible by canoe only for a short distance. The one section of the Nashua River located within Bolton adjoins private land. Informal access to West Pond off of Long Hill Road is used by boaters.

Fishing Facilities

Several areas in Town offer opportunities for fishing; most are along streams, with access from the roadside or over existing trails. The areas most suitable for a significant number of fishermen are the Still River, the Delaney Project and Little and West Ponds. The Still River frontage is primarily in private and State ownership; fishing at Delaney is located primarily at a small roadside pond. Little and West Ponds are accessible by permission of the landowner. Little Pond is also accessible through Persons Park. West Pond has been classified as a Great Pond, but the only point of public access is at Long Hill Road, where room does exist for formal entry. Ice fishermen generally reach the pond through private property. The best attempt at compliance with this category would most likely be made at the Bolton Flats Wildlife Management Area through Fish and Wildlife. An appropriate location is by the Still River Road entrance, where a parking lot exists, and where level ground leads to the river.

Section 6

Community Vision

6A. Description of Process

The Open Space and Recreation Plan informal subcommittee was formed in 2016 to update the Town of Bolton's 2005 Open Space and Recreation Plan. The subcommittee was composed of representatives from the Conservation commission, Conservation Trust, staffed by the Conservation Agent with mapping support from the IT department. A community survey was conducted through the early months of 2017 to refine the goals to be associated with the OSRP. The survey incorporated responses from 291 residents and further comments were received as the OSRP was conveyed at a public meeting. The background information from the 2005 OSRP was retained and updated as needed in this 2017 revision. The needs and goals have been developed anew in response to current and projected conditions as well as considerable progress that has been made on action items from the 2005 plan.

6B. Statement of Open Space and Recreation Goals

Bolton has been successful in maintaining its rural character and historical sites even while other surrounding communities have been less successful. Products and artisan work such as fruit, trees, vegetables, cut flowers and wine continue to propel the town's economy and legacy. The farms are important contributors to Bolton's quality of life through preserving open space, providing local products along with many other practices. Bolton's small town rural feel is accentuated by the stone walls, scenic vistas, and tree lined roads, most notably the Bolton Overlook, properties off of Harvard, Wattaquaddock and Old Bay Rd. A small town energy encompasses the town of only 5,375 residents where you are sure to regularly recognize a familiar face. Annual events such as the Halloween Parade, Memorial Day exercises, Easter Egg hunt and the newly established Winterfest exhibit the town's special characteristics while allowing newcomers to become one of those familiar faces. The Town of Bolton where beavers, birds and tree frogs are frequently heard and seen throughout the day; welcomes the night when residents enjoy the quiet nights far from traffic or bright lights.

The survey of residents completed in 2006 as part of the town's Master Plan found that people moved to Bolton because of its rural character. In a survey question specific to "Town Proprieties if Cost if Not an Issue," Conservation Land was ranked second, (tied with school systems) out of 10 categories, with respondents favoring pursuit or preservation through purchase and conservation restrictions. The preservation of the existing small-town character continues to benefit the community as the town continues to conservatively grow. The Open Space and Recreation Plan encourages distinct actions to fulfill the conservation and preservation needs of the town. These actions include land acquisition, protection of priority lands, along with providing increased recreational opportunities for Bolton's community that are expressed in the goals below.

Goal # 1: Preserve the rural and historical character of Bolton.

New residents are attracted to Bolton by the open space and rural nature of the town. The intent of this plan and primary open space goal is to protect that character. Bolton's open spaces, agricultural lands, forested lands, historic sites, and low housing density contribute to its character. It is of paramount importance to the town residents that this character be protected and that Bolton remain a rural town. This can be achieved by continual action from town government and its citizens through zoning bylaws that encourage open space protection and citizen education about benefits to the community. It may also be supplemental to form long-term sustainable planning efforts similar to the process followed every five years in updating an Open Space or Master plan.

Goal # 2: Protect the water resources of Bolton

This is a vital goal since all of Bolton currently uses individual private wells as its water supply. The town desires to maintain its private system. This private system in turn increases the need for low density development to appropriately accompany the private wells without strenuous use. The drought in 2014 through 2016 further emphasizes the importance of private wells. Although Bolton's open spaces and zoning bylaws help protect existing wells; the town will have a focus on protecting watershed areas and currently known high-yield aquifers both for private wells and for potential public water supplies in the future.

Goal # 3: Preserve and encourage agriculture

Bolton is a 'Right to Farm' community that prides itself in the farms and orchards all through town. Bolton has an Agricultural Commission to assist farmers and residents who maintain just a few animals and also to communicate between the communities about the importance of continuing agricultural practices. Farmland is an essential natural resource in need of protection agreed upon by many residents. One of the key goals of this Open Space Plan is to protect existing agricultural, forest lands and additional new agriculture in Bolton, particularly on designated prime soils. This can help to meet the growing need for locally-produced food while enabling the protection of existing open space in the Town. Bolton has an active sustainable living effort in town with many small farming operations to supplement larger farms. Bolton also has an active 61A program, but there still remain a number of large farms that are not necessarily protected as farmland for the future. Town support for those engaged in agriculture whether on a large scale or small roadside farm stands; is part of the goal.

Goal # 4: Protect natural resources and wildlife habitat

The woods, fields, wetlands, floodplains, vernal pools, orchards, and scenic views of Bolton combine to form a diverse natural resource base which includes habitats for many species of birds, reptiles, amphibians, and mammals. Protection of this habitat is a priority goal of the Open Space Plan. Particular attention will be paid to rare and endangered species of plants and animals. Plants and wildlife are integral to the rural nature of Bolton and contribute to insect control, water purification, and ecosystem services providing balances within the greater

ecological system. It is important that this heritage be preserved, so that it can be enjoyed by future generations.

Goal # 5: Conserve open space areas for public use

The passive recreational potential of Bolton is exceptional due to the hilly nature of the terrain, the number of woodlot roads, and the existence of large amounts of undeveloped backland. This goal relates to providing open spaces for such passive recreation as nature study, cross country skiing, snowshoeing, hiking, horseback riding, non-motorized mountain cycling, running, etc. These activities are available to the general public on Bolton's many public open space parcels and offer inexpensive opportunities for enjoying nature close to home and help to give Bolton residents a better appreciation for their town. Where possible, public access to connect open spaces for passive recreation could be gained from individual landowners through trail easements and conservation restrictions. Purchase of land by the town or Conservation Trust for conservation purposes has also been a policy and will continue where appropriate. Public access to open space is a priority goal that allows for increased community engagement through many activities.

Goal # 6: Provide active recreation opportunities to Bolton citizens

Active recreation is important to for all ages, and especially for the development of good life-style habits in children. There is a consistent need for space in Bolton where active recreational activities can take place. This priority became apparent in the 2017 survey particularly with respect to water activities. The Town Common adds an additional space for forms of unorganized active recreation and space making. The current popularity of field sports such as soccer and baseball create an expanding need for fields for practice and games, along with allowing certain fields to be rotated or rested through specific seasons. This goal relates to identifying recreation areas, facilities, and programs which should be developed by the town to serve the future needs of townspeople. While various practice spaces have been added in recent years, no new athletic fields have been added since 2000. This goal also relates to management of open spaces so that, if permitted, athletic fields can be scheduled as well as maintained. The current popularity of field sports such as soccer and baseball create an expanding need for fields for practice and games, along with allowing certain fields to be rotated or rested through specific seasons. This goal relates to identifying recreation areas, facilities, and programs which should be developed by the town to serve the future needs of townspeople. There is even a larger demand for passive recreation opportunities regarding trails for walking, bicycling, skiing, horseback riding, etc. Furthermore, the continual maintenance of properties to enable passive and active use of open spaces throughout town.

Section 7

Analysis of Needs

The community of Bolton expressed similar needs to those defined in the Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2012 and draft update for 2017. Their needs are specific to increasing availability of trails for recreation, increased water – based recreation opportunities and increased event-based recreation opportunities for groups with diverse accessibility needs. Much like Division of Conservation Services, the local Parks and Recreation Department list their active recreation facilities on their website along with the associated amenities on site. The Conservation Department also collaborates with the Bolton Trails Committee and Bolton Conservation Trust to provide updated maps to the public through the Trails Committee website. Bolton’s residents also expressed interest in public health, agricultural products and local opportunities for workshops or day trips. The SCORP survey resulted in “hiking” as being the number one improvement or request regarding recreation opportunity. There are currently 65 miles of trails throughout Bolton and the town is working to increase access to these trails from neighborhoods. The level of interest in open space varied related to specific subject matter focused events. The Action Plan outlines items that will assist the town in accomplishing projects that will address the needs expressed through the outreach opportunities in the form of surveys, open forums and public meetings.

7A. Highest Priority Resource Protection Needs

1. Protection of Priority Parcels Identified on this Plan
2. Continued Protection of Bolton’s Agricultural Base
3. Continued Protection of Bolton’s Water Resources
4. Continued Protection of Bolton’s Wildlife and Biodiversity

7B. Highest Priority Community Needs

1. Enhancing Public Access to Conservation Land
2. Organized Activities on Conservation Land
 - a. Educational / Workshops
 - b. Water Based Activities
3. Sustainable Conservation Opportunities
 - a. Balanced Land Use Mix
 - b. Fiscally Responsible Land Acquisitions

7C. Highest Priority Management Needs

1. Land Stewardship Efforts within Existing Open Space
 - a. Manage Passive Recreation - Stewardship within Conservation Land
 - i. Trail Network & Property Needs
 - ii. Specific Activities
 - b. Manage Active Recreation - Parks and Recreational Land
 - i. Manage and Maintain Sports Fields
 - ii. Specific Activities

7.A. Highest Priority Resource Protection Needs

1. Protection of Priority Parcels Identified in this Plan

The Town of Bolton currently uses GIS mapping to identify parcel type, use, zoning, ownership, and restrictions. These maps help identify specific areas that might represent conservation opportunities in the future. Current map shown in figure 4 indicates that approximately 40 acres have been developed and 326.03 acres of Bolton have been placed under perpetual protection since 2005. As of 2017, the community of Bolton has 3,023 acres protected in perpetuity. The town has a total overall acreage of 12,800, therefore 23.6% of land is protected. Overall, there are 6,227 acres that are protected presently this total includes chapter land and other municipal town land totaling 48.6%. However, it is important to note these categories are not assured to be protected forever. These percentages leave 76.4% of Bolton's land available for possible residential development or future conservation.

The process used by the OSRP committee to identify specific areas within Bolton for future conservation was multifaceted. The process was sensitive not to identify specific privately owned parcels, but rather identify areas within town that held opportunities. Privately held undeveloped parcels within proximity to existing conservation land with public access trails were a priority. Privately held undeveloped parcels containing water resource areas were also identified as a priority. In addition, larger privately owned parcels supporting residential development opportunities were reviewed and identified as areas of interest to protect and preserve.

The 2017 Bolton Open Space and Recreation Plan Survey polled residents on questions regarding the preservation and protection of agricultural land, wildlife habitat, natural resources, open space public use, recreational opportunities, and the relationship between biodiversity and human well-being. Specific to this section, residents were asked about areas of town needing additional protection in the form of future conservation land. While some respondents were adamant that Bolton has enough open space and already high taxes, others focused their feedback on areas South of RT 117. The map shown in figure 26 & figure 27 represents the aggregate of all these considerations.

2. Continued Protection of Bolton's Agricultural Base

Bolton is a "Right to Farm" community and home to 5 large business farms with a total of 245.12 acres under Agricultural Preservation Restriction. This represents 2 % of the total land area in Bolton. These farms provide vast open space that helps to define the rural character of Bolton. As part of the 2017 OSRP survey, residents were asked to identify which farms they frequent and why. Forty-seven percent of respondents communicated they frequent local farms to shop at farm stands. Another 20% responded they support local agriculture because they provide the opportunity to pick your own food. Our local farms represent an irreplaceable resource that not only helps define the fabric of our community but also provide interactive experiences. Farm businesses also provides livelihoods for the farm families and local jobs for their employees; local food reduces the carbon footprint and provides food security; they are also

major part of Bolton's economic activity.

Included in this agricultural base are the smaller local farm stand operations. Even though these private ventures do not have a direct impact on open space, they do accentuate the theme. Having the ability to buy locally produced food is not just about convenience. It about quality and perspective, both for those who farm and for the customers who support local products.

The protection of Bolton's agricultural base will continue to remain a priority. The prime agricultural soils throughout town are expressed in Figure 13.

3. Continued Protection of Bolton's Water Resources

Bolton residents and operators rely on private wells to provide water for their homes and businesses. There are several larger zones within Bolton with subsurface water resources. In addition to the figures referenced above and as portrayed in the wetlands Figure 11; the Conservation Commission works to protect a significant surface area of both wetland, riverfront, and water resources. The jurisdictional area of the Commission is directly involved with the Massachusetts Wetland Protection Act and the Bolton Wetland Bylaw to manage the regulated buffer zones around water resource areas by helping to minimize the introduction of contaminants and sediment.

Contaminants can enter our local water table from many sources, both naturally and synthetically. The introduction of unwanted nutrients and substances can happen over time through groundwater absorption or rapidly through storm water runoff. Decisions and actions by Bolton residents and businesses directly impact the water quality. The responsible and proactive regulations and individual action can help offset any potential impacts to water resources. Two examples involve agricultural practices or vehicular traffic. Although the protection of Bolton's agricultural base is a high priority, appropriate controls and responsible use of farm specific chemicals is a factor in Bolton's groundwater quality. The increase of vehicular traffic on RT 117, appropriate controls and responsible use of sand and salt is a factor given the proximity to Great Brook. Responsible and proactive regulations are necessary to offset any potential impacts to the water resources.

One great restoration project was completed in 2017, where the Bolton Conservation Trust completed the cleanup of the former Smith Sales Garage site at 719 Main Street to create the Bolton Town Common. This project was paramount to water resource protection since it involved the removal and remediation of three underground gasoline tanks all within twenty feet of Great Brook. The ongoing work of the Conservation Commission, the Bolton Conservation Trust and the greater Town of Bolton assures the continued protection of existing water resources.

4. Continued Protection of Bolton's Wildlife and Biodiversity

Any rural community setting is not complete without a flock of turkeys crossing the road or a deer and fawn crossing a field. These are natural events Bolton residents enjoy, sometimes in their backyards. Sightings or signs of coyote, beaver, turkey, deer, hawk, pileated woodpecker, fisher cat, bear, and muskrat are common on conservation land, especially in the winter months

when the snowpack showcases prints for discovery and identification. In addition to wildlife, Bolton is home to a variety of natural habitats. These habitats include a range of environments and soil conditions supporting undefinable numbers of flowering plants, tree, fungus, fern, shrub, bush, and aquatic species. Several queries in the 2017 OSRP survey asked residents questions regarding wildlife habitats and the importance of biodiversity.

Goal 4 of the survey resulted in 59% of respondents communicating that protection of natural resources and wildlife habitat should be a high priority. Another 40% agreed these protections were of moderate priority while less than 2% voted this item as a low priority.

In the “Additional Questions” survey section, residents were asked if they agreed that the preservation of biodiversity is important for human wellbeing. A resounding 89% of respondents agreed it was, while less than 1.5% disagreed.

In the same section residents were asked if they agreed that protecting wildlife habitat is a good approach to protecting biodiversity. Eighty-six percent of respondents agreed it was a good approach while 0% of all survey responses disagreed.

7.B. Highest Priority Community Needs

1. Enhancing Public Access to Conservation Land

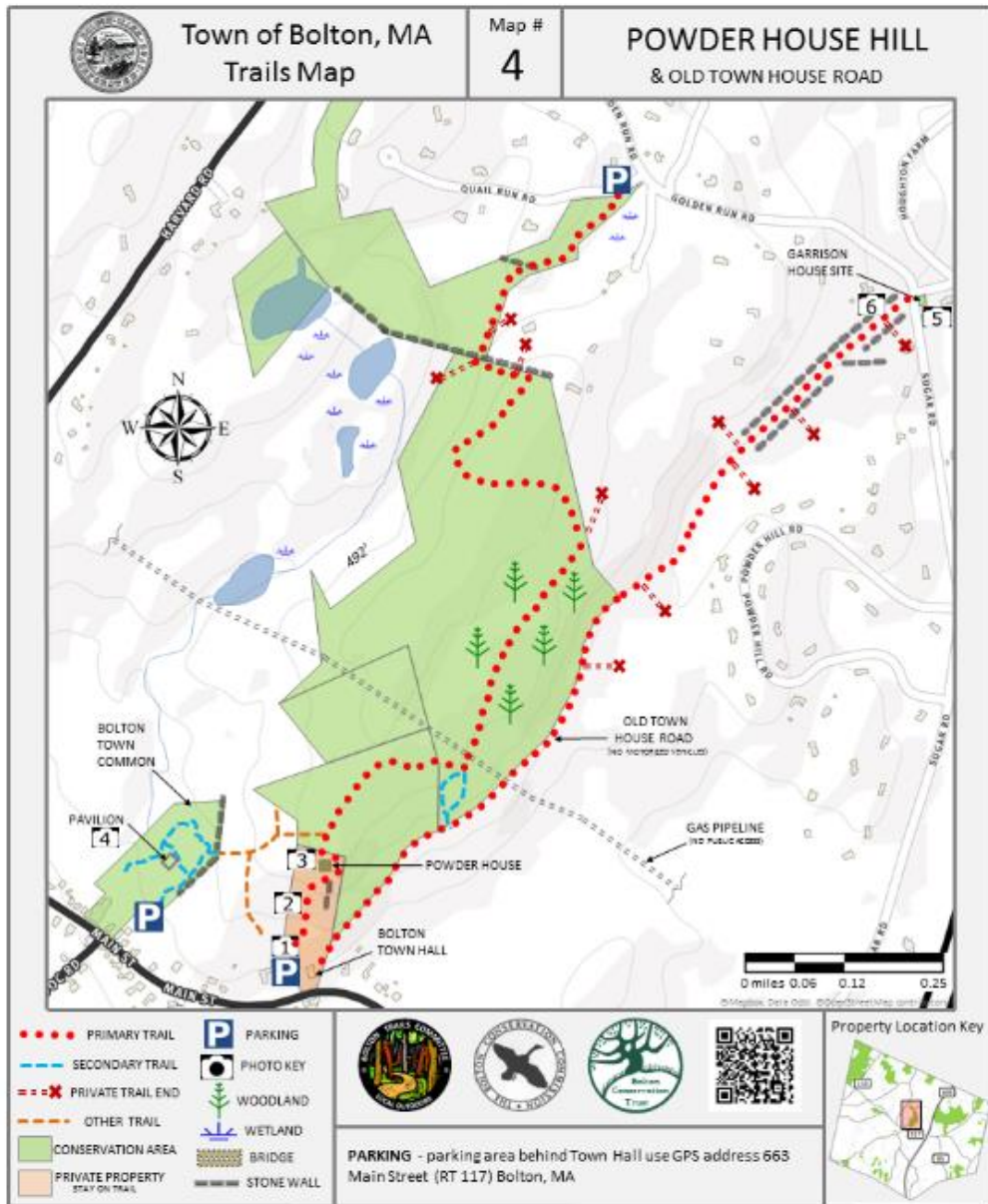
As of 2017, Bolton has twelve (12) core conservation properties offering thirty five (35) miles of mapped, signed, and marked trails. The documentation of these properties was updated in 2016, replacing previous data from 1991. A process of combining GPS, GIS, and property specific way point data was designed and implemented by Jeff Larence creating Bolton’s very first catalog of digital and editable conservation property maps and full color “*The Bolton Trails Guide*”.

Once the documentation was complete, the maps and files were posted to the web for use by everyone for free. Maps can be printed at home or downloaded to a mobile device. GPS files in the form of KML files were made available for trail users to “track” their progress within properties in real time using their smart phones. Specialty trail head signs with scan ready QR codes were implemented to “link” trail users in the field to current digital map and property information on the website.

This work has helped to enhance public use of conservation land in Bolton through easily obtained property documentation. It is all used to navigate and to tie properties together by leveraging technology. Additional management of this new library is required to keep information current and accurate over time. Finding the right people to maintain this detailed information will be a challenge in the future.

As part of the 2017 OSRP survey, 64% of respondents placed a high priority on protecting land for public use. A majority of 26% responded that when Bolton acquires land for conservation it should focus on land that has public access and trails. In Goal 6 of the survey, a majority of 36% of residents identified trails for hiking, biking, horseback riding, and XC skiing as the preferred recreation opportunity. These results enforce the need to provide access to open space for Bolton residents.

In addition to walking trails, enhancing public access to open space now includes access to the Bolton Town Common. This 6.4 acre park is located in the center of town along RT 117 and offers parking, casual walking, a natural playground, in property trails linking to larger properties, and limitless opportunities for individual experiences and community events. All local organized stakeholders must continue working toward improvements to conservation access and driving value in open space land access.



Map information is approximate. This map is for display purposes only and is not a legal survey. Consult appropriate boards or town departments for specific questions and accuracy requirements. The Town of Bolton disclaims responsibility for damages or liability that may arise from the use of this map. All content designed by JML. Trail and property specific information is created and updated by the Bolton Trails Committee. Revision (1.2017)

Coordinates N 42°26'01.2" W 71°36'18.8" Contour Lines in Feet (33' Intervals)

2. Organizing Activities on Conservation Land

Open space in Bolton (both existing and future) can add value to the community through activities and experiences on Conservation Land. The needs of Bolton residents specific to active and passive use of our collective open space revolved around educational events and water based activities.

a. Educational / Workshops

Results of the OSRP survey communicated a strong desire for organized activities within Bolton conservation land. Three quarters of the responses fell into five equally distributed category results. Guided walks, nature exploration, gardening/landscaping, and farm-to-table cooking all averaged around 16% respectively. A key area of interest for Bolton residents is providing an organized outlet for conservation based experiences with a strong focus on outdoor activities. Conservation groups need to create opportunities that engage the community in organized and individual activities within conservation land. This would further promote the perceived value of current open space.

b. Water Based / Ice Skating

Seasonal ice skating and boating or swimming were the second and third highest responses to the survey, with 36% combined overall. Only “trails for hiking” received more responses, with 36%. There is no water based activities allowed in conservation land. However, Bolton does operate a town beach on the edge of Little Pond. Persons Park on Little Pond also allows access for non-motorized boating, fishing and unsupervised swimming. Town Common now provides seasonal ice skating within the circular amphitheater. The Girl Scout “Camp Virginia” property located on West Pond could provide additional water based activities in the future depending on ownership status.

3. Sustainable Conservation Efforts

Several factors exist when developing a responsible, holistic, and sustainable open space model. The needs of the community and its residents are always at the forefront. Having funds available to support these needs and desires is an important element in sustainable conservation.

a. Balanced Land Use Mix

Identifying a balanced land use mix in Bolton is critical in our sustainable conservation efforts. Growth in housing, business, and municipal infrastructure can counter the efforts of protecting additional lands. Finding the right percentages without creating a predominance will continue to challenge leadership in Bolton. The implementation of comprehensive plans and policies that accommodate both population needs and preserve natural resources will promote a healthy community in Bolton for years to come.

b. Fiscally Responsible Land Acquisitions

The most prominent reason against procurement or acceptance of new restricted land involves increased taxes. When presented with an opportunity to obtain additional conservation inventory, the financial impact is as big a factor as the resource protection. Bolton needs to analyze the cost

implications of every new conservation land opportunity. There should be high value in terms of benefits when procuring or accepting new restricted land. This value can be determined through cost per acre analysis, proximity to existing conservation land, resources protected, habitat preserved and other similar markers. Applying a systematic approach ensures effective responsible acquisitions.

7C. Highest Priority Management Needs

1. Land Stewardship Efforts within Existing Open Space

The use of existing open space in Bolton provides residents an outlet for passive outdoor recreation. Keeping parking areas clear, trails free of obstructions, navigation documentation current, and water crossings safe is part of a necessary and responsible stewardship effort. However, managing conservation land encompasses more than just trail work. Invasive species, nuisance animals, meadow mowing, and the creation of new habitat also require attention and resources. In order to accomplish these tasks, Bolton needs a managed, active, and organized focused on responsible land stewardship. The Bolton Trails Committee, Conservation Trust, and Town Conservation Agent/Commission all work to help fill these needs. In addition, the Bolton appointed its very first “Land Steward” to help facilitate management efforts in 2017.

a. Manage Passive Recreation- Stewardship within Conservation Land

Passive recreation within Conservation land is self-initiated and does not require administration. This includes trail walking, running, biking, photography and other type non-scheduled activities. Passive recreation areas in Bolton do require active management (stewardship).

i. Manage Trail Network & Properties

There are two primary conservation land owners in Bolton; The Bolton Conservation Trust and the Bolton Conservation Commission. The Trust owns 306.40 acres, and the Commission 1156.55 acres. Active stewardship (and the associated cost) of these passive recreation areas is the responsibility of each owner. These two groups and their agents do not employ a staff specific to land stewardship. Rather, the town appoints a volunteer conservation Land Steward and in conjunction with the Trust and Conservation department they help manage a larger volunteer effort.

Bolton’s open space requires an organized volunteer effort now and in the future to keep land publicly accessible, safe, and in its intended condition. This is a significant need, help filled by the Bolton Trails Committee in collaboration with the property owners. Engaging and retaining residents in land stewardship is important for conservation in Bolton. Activity examples include:

1. Trail clearing, building, signing, and marking public access trails and parking areas
2. Building and maintaining bridges and walkways to protect resource areas and safe travel
3. Enabling and encouraging responsible access through conservation land
4. Providing accurate way finding tools through signage, maps, and digital content
5. Monitoring of property conditions to identify corrective action requirements

6. Creating and encouraging healthy habitat for native plants and animals
7. Communicating and educating property users on land use regulations
8. Documenting stewardship efforts to support conservation restriction requirements

ii. Manage Specific Activities

There are specific activities within our conservation land that require additional management and oversight. These activities are “high-impact”, and change the way a property is used or perceived. These may require funding or administration. Examples include:

1. Mowing or meadow cutting - a necessary event that sustains a habitat, as intended.
2. Invasive species - controlling the introduction and spread of non-native plants
3. Nuisance animals - that change habitat or access in a negative way
4. Domestic animals - that interfere with the intended use of a conservation area
5. Tree & brush removal - selective to provide improvements to safety and appearance
6. Survey work - identify the intended location of easements and boundaries
7. Land grants - identify and apply to state and federal land grant programs

b. Manage Active Recreation- Parks and Recreation Land

Active recreation within Bolton’s open space is organized, scheduled, and often requires a fee. This includes youth leagues, competitive sports, fee based events and other types of programs. Active recreation areas in Bolton do require maintenance and administration.

Section 8

Goals, Objectives and Actions for Meeting These Needs

A. Preserve Rural and Historic Character of Bolton

Objectives:

1. Protect scenic vistas
2. Protect underserved areas by open space
3. Protect lands that will preserve Bolton's small town nature
4. Protect lands with significant historical or cultural resources
5. Help residents visualize implications of buildout and anticipated timeframe for change.
6. Maintain strong partnerships among town entities.
7. Maintain support of town funding for protection of important parcels and continued protection and stewardship of existing conservation holdings.
8. Continue to emphasize small scale solutions to affordable housing concerns as an alternative to large developments.
9. Add historic structures GIS layer to town maps
10. Preserve stone structures and stone walls
11. Identify changes to the scenic road bylaw to better protect scenic roads
12. Continue pursuit of historic districts to increase public awareness and protection of historic properties.
13. Revitalize town-funded tree planting beside Bolton's roadways

Actions:

A.1. Conservation Commission, Planning Board and Bolton Conservation Trust should continue to evaluate parcels of open land in conjunction with one another. This is of utmost importance to be effectively proactive in protecting the determined priority parcels and in making decisions.

A.2. Bolton should continue to protect land in throughout town relative to resource impacts which is specified as the underserved southeastern quadrant in town taking into consideration a variety of data regarding natural resources.

A.3. Use GIS mapping to evaluate which properties that may be developable in the future should be held in conservation to determine if a change of use should be encouraged.

A.4. The various town departments should continue to work together ensuring the use of FOSPRD development and other zoning bylaws that support the small town nature of Bolton.

A.5. A "model" conservation restriction and deed should be developed and provided to applicants. The town provisions that address the timing associated with these processes and estimated cost associated for due diligence and boundary marking should be available to landowners.

A.6. The town should track re-enrollment of lands in 61, 61A, and 61B programs and periodically reach out to landowners of high priority parcels to make them aware of land conservation options. Similarly, the town should track the conservation restrictions and

encourage land owners to make these permanent.

A.7. Continue to update and revise zoning bylaws to reflect lessons learned from past development and preservation experience.

A.8. Provide credible information to municipal leaders, civic organizations and residents about the property tax implications of various growth scenarios. Enlist the assistance of Bolton Conservation Trust for outreach efforts when applicable.

A.9. The Board of Selectmen and Capital Planning Committee should be proactive in working with the Conservation Commission and Planning Board to identify and secure sites to meet future (long-term) municipal and community needs.

A.10. In contemplating taking and disposition of tax title lands, the Board of Selectmen and Treasurer should consult with the Conservation Commission, Planning Board and other municipal boards along with the Bolton Conservation Trust. Lands that are important for conservation should be transferred to the Conservation Commission; other lands deemed important should be transferred to the appropriate town board.

A.11. The Board of Selectmen and Conservation Commission should continue to review notices of withdrawal of sale of lands enrolled in Chapter 61, 61A and 61B in accordance with the adopted procedures that ensure that such parcels are given due consideration by all boards for all municipal needs.

A.12. Uncover and preserve the history of Bolton's conservation properties.

B. Protect Water Resources

Objectives:

1. Continue to protect lands with significant surface and groundwater resources including land around streams and ponds
2. Make information about Bolton's water resources clearer and widely available to the public.
3. Educate the public about links between open space and climate change mitigation and adaptation
4. Strengthen Groundwater Protection Bylaw
5. Preserve aquifers identified in geologic databases
6. Implement periodic testing of streams and ponds in Bolton
7. Identify and reduce impacts of excess nutrients and stormwater runoff
8. Protect wetlands from filling and further degradation
9. Encourage integrated pest management to reduce impact on water resources

Actions:

B.1. Conservation Commission should review and update its wetlands bylaw regulations based on lessons learned from the past years.

B.2. Publish a guide to “live with clean water” (title TBD) with information on water pollution control, control of common invasive species, native plantings, minimizing lawn/fertilizer, rainwater recharge and other low-impact suggestions.

B.3. Educate residents on the local impacts of climate changes and steps that they can take to prepare mitigation measures. This should include the importance of land conservation for the present and future increasing resilience to drought and other water resource challenges that may occur. Also the identification of key parcels that advance the protection of water resources and use.

B.4. Identify areas that are at risk for flooding due to increased frequency and intensity of rain events; including potentially undersized culverts, conservation property water levels, residential property heightened water levels specifically adjacent to wetland resources. Develop a plan for mitigation in these areas.

C. Preserve and Encourage agriculture

Objectives:

1. Encourage new and support current agricultural properties throughout Bolton.
2. Educate Bolton residents about the physical and fiscal benefits of agricultural land protection as part of the open space plan.
3. Permanently preserve existing farms ensuring the indefinite continuance and viability of farming and limited resource of agricultural soils.
4. Encourage and support agriculture including landowners with limited animals and produce.
5. Identify opportunities for establishing community gardens on public lands.

Actions:

C.1. Encourage and promote additional Agricultural Preservation Restrictions and Conservation Restrictions that help preserve farms.

C.2. Conservation Commission and Bolton Conservation Trust should continue to work with the Agricultural Commission to monitor the status of Bolton’s key agricultural properties. Also create a relationship by working with farmers on all scales to maintain and sustain local farms through various means including funding to assist with farmland preservation.

C.3. The Conservation Commission consider opportunities to lease appropriate parcels for agricultural purposes

D. Responsibly Protect Wildlife Habitat and Natural Resources

Objectives:

1. Protect important natural habitats and wildlife corridors, including areas important to minimizing and mitigating the impacts of climate change
2. Provide education-based training and events for the public
3. Engage in scientifically thoughtful long-term decision-making about such activities as forest management, invasive species control and deer management.

4. Preserve natural resources and wildlife habitat through land acquisition and/or protection; along with lands already under protection
5. Protect endangered species on public and private lands
6. Publicize information about Bolton's unique natural resources and wildlife habitat

Actions:

D.1. The Conservation Commission should educate owners of vernal pools and help to certify, preserve and protect those resources.

D.2. Continue to advance efforts towards creating a town center park with accessible trails.

D.3. Identify and designate trails along waterways in Bolton

D.4. Work with state agencies such as Fish and Game, Natural Heritage and others to review and implement best management strategies along with providing input to consider during future land acquisition.

D.5. Develop and distribute simple invasive species fact sheets for homeowners on identification and control of the most common invasive species.

D.6. Routinely monitor boundaries of Town conservation properties, following up with abutting landowners to address issues with dumping and encroachments as needed. Flyers with information about conservation land should be distributed to abutting residential landowners, as well as realtors and lawn care companies.

D.7. The Conservation Commission should conduct mapping of invasive species at Town Conservation areas and prioritize key areas for management. The commission should also assist other town land-managing departments in addressing invasive species issues.

D.8. The Conservation Commission should explore the possibility of deer, turkey, coyote, goose along with other wildlife management and/or forest management on select town conservation areas, with a focus on forest health and ecology. This management considered may include hunting, trapping, fishing and timber harvesting among other strategies that have been productive in other towns.

D.9. Responsibly maintain open space properties being mindful to bird habitat and other wildlife necessities.

D.10. Build and Maintain bridges and walkways to protect resource areas from adverse impacts while still allowing public access.

D.11. Encourage responsible access through conservation land

E. Conserve Open Space Areas for Public Use

Objectives:

1. Protect lands that provide areas for passive recreation including trails, woods, and open fields; as well as lands adjacent to existing public open spaces.
2. Enhance accessibility at selected conservation lands to make these areas more inviting

for various focus groups

3. Encourage trail systems and events that promote connectivity between community borders
4. Explore expansion of biking trails to afford residents safer bicycling opportunities and enhance recreational bicycling away from the heavily traveled main roads. Enhance associated amenities and wayfinding signage along bicycle routes.
5. Encourage implementation of recommendations contained in other studies regarding access to open space and the Nashua and Assabet Rivers.
6. Make information about Bolton's conservation and recreational lands more clear and widely available to the public.
7. Incorporate open space in capital planning and siting projects.
8. Continue to ensure wayfinding experience through marked trails.
9. Ensure conservation land regulations are well publicized and easy to understand, and that reasons for permitted and prohibited use are clearly communicated.
10. Minimize conflicts among conservation land users.

Actions

E.1 The Conservation Commission should increase its efforts to obtain trail easements throughout the underserved areas of town and also other established trails.

E.2. Review and Update regulations regarding respectful and responsible use of public property.

E.3. Develop a bicycle plan focusing on understanding shared use and wayfinding along with economic benefits of cycling to Bolton. Also economic and health benefits of traveling by bicycle.

E.4. Sponsor at least 2-3 guided walks on Conservation Land annually to make residents and the greater community aware of these resources.

E.5. The Conservation Commission should monitor use of conservation areas with a goal of minimizing user conflicts. Specifically, regulations relative to dog walking (on/off leash) may need additional attention and/or enforcement.

E.6. The Conservation Commission and Conservation Trust should develop a long-term plan for carrying out its land management responsibilities including mowing, trail maintenance, invasive species management and boundary posting and monitoring. Additional funding and/or volunteer resources will likely be needed for personnel and equipment. Opportunities to collaborate with the highway, cemetery, and recreation departments as well as Bolton conservation trust should be explored.

E.7. The Conservation Commission should review its regulations for the use of conservation land and standardize the permitted/prohibited uses insofar as feasible. Regulations should be available on the Commission's website at major trailheads.

E.8. The Conservation Commission should evaluate its land holdings to determine whether there is an additional site that would be suitable for other public activities that may become more permanent; (community garden)

E.9. The town should make an annual appropriation of funds to the Town’s conservation fund to provide money for costs associated with land acquisitions.

E.10. Maintain trail system for recreation use throughout all four seasons including access to parking.

E.11. Identify and initiate revenue opportunities including grants and the Community Preservation Act.

E.12. Publish literature associated with the history of conservation and recreational lands either in print or electronic form to increase a sense of place.

E.13. Protect lands that provide linkages to existing conservation properties in Bolton and other neighboring communities.

E.14. Continue to create, mark and maintain trail systems throughout Bolton.

E.15. Analyze and continue to improve wayfinding throughout trails.

E.16. Create and update property trail maps and cross reference with deeds to ensure easements and right of way.

F. Provide active Recreation Opportunities to Bolton Citizens

Objectives:

1. Protect lands that provide areas for active recreation including sports and playing fields
2. Enhance accessibility at parks and recreation lands to make these areas more inviting for various focus groups.
3. Provide additional sports fields to meet municipal needs.
4. Continue to provide and expand recreation programs on town property.
5. Develop and implement a plan for maintenance and upkeep of existing and future parks and other lands where active recreation occurs.
6. Acquire beach frontage for public use.

Actions:

F.1. As Bolton works toward accomplishing Complete Streets, trail linkages should be taken into consideration as sidewalk networks are created. Make connections to conservation and recreation areas. Create targeted walking plans for specific neighborhoods in town.

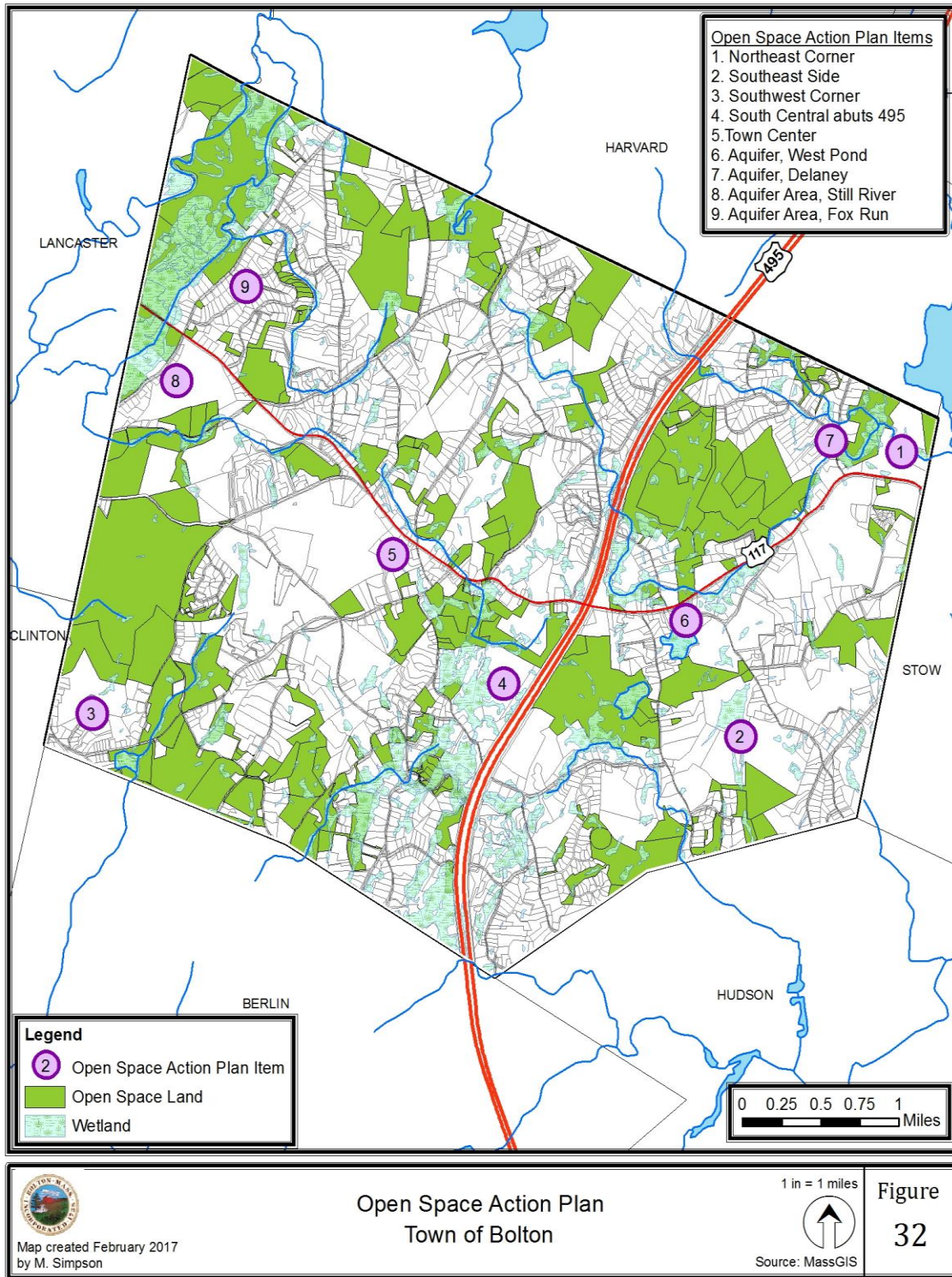
F.2. Complete a detailed evaluation of feasibility/design of improving access for persons with disabilities at the conservation and recreational areas that may be applicable. Build accessibility into any new recreational facility development. Complete at least one accessibility project.

F.3. Evaluate walking and outdoor recreational opportunities in the vicinity of the Town Common, Police Station, Town Library and other municipal areas.

F.4. Evaluate water-based recreational activities throughout conservation and public properties

throughout town.

F.5. Acquire beach frontage to provide permanent, town-owned water recreation opportunities.



Section 9
Seven Year Action Plan

In the following section, the Town presents its specific action items required to meet the goals and objectives for the 2017 Open Space and Recreation Plan. It should be noted these actions are based on four principles without which they will not be achieved. The four principles are:

1. Efficient and inclusive town government,
2. integrated land planning,
3. Coordination with local, regional, and state efforts, and
4. Excellent and open communication at all levels.

Although these principles seem basic and easily understood, through the revisions to the Open Space and Recreation Plan representatives have felt that it was important to present them up-front to emphasize their importance. The town boards and citizens must regularly engage in these four activities if the town is to achieve the goals and implement the actions set forth in Bolton's Open Space and Recreation Plan. Section 9 uses the following abbreviations for town boards and local groups who are responsible for implementing the applicable action items:

TA - Town Administrator
PLAN – Town Planner
BOS - Board of Selectmen
AC - Advisory Committee
CC - Conservation Commission
BCT - Bolton Conservation Trust
PB - Planning Board
BOH - Board of Health
TC – Bolton Trail Committee
AGC - Agricultural Committee
PR - Parks and Recreation Committee
AH – Affordable Housing
ZBA – Zoning Board of Appeals
SVT - Sudbury Valley Trust
BTC - Bolton Trails Committee
DPW – Department of Public Works
IT - CMGEEKS

(Please view the prior section for full text of each item)

The following table represents the current estimated schedule of the time scale of action items in this Plan. The schedule will be determined largely by available funding and active volunteers. The seven year action plan is an effort to put the recommendations in this plan in priority order for implementation -- with those highest priorities being completed in the early years of Plan Implementation.

Ongoing Action Items - Year 1 through 7

Action	Primary Responsibility	Funding
The Conservation Agent in conjunction with the Conservation Trust and Agricultural committee should continue to evaluate parcels of open land and assist the Town in working proactively to protect the most significant areas. Also in making decisions about priorities as parcels become available to the Town.	CC, BCT, AGC, BOS, PLAN, PR	Volunteer Efforts
The Town should make an annual appropriation of funds to the Bolton Conservation Fund to provide money for costs associated with land acquisitions.	CC, AC	Town Budget
Funding should be given to projects consistent with the OSRP. Projects that leverage funds from other sources should be given additional priority.	CC, AGC, BOS, PLAN, BTC	Volunteer Efforts
Conservation Commission, Bolton Conservation Trust and Sudbury Valley Trustees should continue to work as partners to protect open space and should coordinate each other's strengths.	CC, SVT, BCT, PLAN, PR, AGC	Volunteer Efforts, Town Budget, Private Fundraising
Conservation Commission should work with the Agricultural Commission to monitor the status of Bolton's key agricultural properties and work with farmers to maintain the viability and sustainability of local farms and/or seek funds to assist with farmland preservation.	AGC, CC, BCT, BTC, ZBA	Volunteer Efforts
Continue to expand the Town's pedestrian and alternative ways of transportation including making connections to conservation and recreation areas.	PLAN, DPW, CC, PR, BCT, BTC	Town Budget, Grants, Volunteer Efforts
Review notices of withdrawal or sale of lands enrolled in Chapter 61, 61A and 61B that ensure that such parcels are given due consideration by all Boards for all municipal needs.	BOS, CC, BCT, PLAN, AGC, PR	Volunteer Efforts
The Selectmen and Economic Development Committee should be proactive in working with the Conservation Commission, Bolton Conservation Trust, Planning Board and others to identify/secure sites to meet future (long-term) municipal needs.	BOS, EDC, CC, BCT, PLAN	Volunteer Efforts, Town Budget
The Planning Board should continue to work with	PB, CC, BCT	Volunteer Efforts,

the Conservation Commission and Bolton Conservation Trust in the encouragement of FOSPRD development where applicable.		Town Budget/ Staff
When priority parcels are proposed for development, the planning board should either encourage the land to be developed as FOSPRD or encourage provisions which allow the temporary set aside of park and open space that the town may be interested in purchasing in the future.	PB, CC, PR	Volunteer Efforts, Town Budget/Staff
In contemplating taking and disposition of tax title lands, the Board of Selectmen and Treasurer should consult with the Conservation Commission, Planning Board, Agriculture Commission and other municipal boards. Lands that are important for conservation should be transferred to the control of the Conservation Commission; other lands important for other uses should be transferred to the control of the appropriate board.	BOS, CC, PR, AGC, PLAN	Volunteer Efforts, Town Budget/Staff
The Conservation Commission should continue to consider opportunities to lease existing parcels of conservation land for agricultural purposes.	CC, AGC, BCT	Town Budget/Staff
Encourage joint affordable housing-open space projects where appropriate to the site in order to foster support for both of these important municipal needs.	CC, BCT, EDC, PLAN	Volunteer Efforts, Town Budget/Staff, Grants

Short Term Action Items - Years 1 and 2 (2017-2018)

Actions	Primary Responsibility	Funding
The Town should continue to protect land throughout Bolton and create a network of sidewalks and trail linkages in this part of Town.	CC, PLAN, BCT, BTC	Grants, Town Budget/Staff
The Planning Board should consider an overlay zone relative to underserved areas of Bolton specifically, the southeastern quadrant that encourages or requires	CC, PLAN, BCT, AGC, BTC	Grants, Town Budget/Staff

planned conservation development with a land conservation “master plan” for the open space designed to foster such linkages.		
Use GIS analysis to evaluate Bolton’s municipal properties to determine which areas are most important to preserve; and determine a potential change of use.	PLAN, CC, GIS	Town Budget/Staff, Volunteer Efforts
Complete a more detailed evaluation of the feasibility/design of improving access for all individuals at the conservation and recreational areas identified in Section 7. Identify, design and permit one access project. Possibilities include: Town Common, Fyfeshire, Powderhouse extension.	CC, BTC, PR, BTC, PLAN	Town Budget/Staff, Volunteer Efforts, Grants
Build accessibility into any new recreational facility development. Identify, design and permit one access project.	CC, PR, BCT, PLAN, BTC	Town Budget/Staff, Volunteer Efforts, Grants
Create targeted walking plans specific to neighborhoods in Bolton and continue to seek an annual appropriation for maintenance of these walking areas.	PB, DPW, CC, BTC	Town Budget/Staff, Volunteer Efforts, Grants
Continue updating (print/electronic) Bolton Conservation and recreation lands. Include easily accessible walking areas.	CC, GIS, BCT, BTC	Town Budget/Staff
Develop and distribute simple invasive species fact sheets for homeowners on identification and control of the most common invasive species.	CC, BCT	Town Budget/Staff, Volunteer Efforts
The Conservation Commission should update its bylaw regulations and include regulations relative to responsible use of properties with public access.	CC, BOS, TA	Town Budget/Staff, Volunteer Efforts
A “model” conservation restriction and deed should be developed and provided to applicants. The model should incorporate into their regulations provisions that address timing of these conveyances and	PLAN, CC, BCT	Town Budget/Staff, Volunteer Efforts

payment of due diligence costs, boundary marking and maintenance.		
Continue to encourage proposal regarding a town center park with accessible trails.	CC, BOS, PR, BCT, PLAN	Town Budget/Staff, Volunteer Efforts
The Conservation Commission should post and routinely monitor boundaries of Town conservation areas, following up with abutting landowners to address issues with dumping and encroachments as needed. Flyers with information about conservation land should be distributed to abutting residential landowners, as well as realtors and lawn care companies.	CC, BCT, BTC, PR	Town Budget/Staff, Volunteer Effort
The Conservation Commission should monitor use of conservation areas with a goal of minimizing user conflicts. In particular, the regulations relative to dog walking (on/off leash) may need additional attention and/or enforcement.	CC	Town Budget/Staff, Volunteer Effort
The Conservation Commission should conduct mapping of invasive species at Town conservation areas and prioritize key areas for management. Also assist other Town land-managing departments (DPW, PR) in addressing invasive species issues.	CC, DPW, PR, BCT, GIS	Town Budget/Staff, Volunteer Efforts
Revise and update bylaw to reflect lessons learned with these projects to date.	PLAN	Town Budget/Staff, Volunteer Efforts
Continue to work towards coming into compliance with Complete Streets; incorporate pedestrian and bike facilities as part of roadway projects.	PLAN, DPW, CC	Town Budget/Staff, Grants
Plan celebration events around significant Conservation dates.	CC, BCT	Town Budget/Staff
Sponsor at least 2-3 guided walks on conservation land annually to raise awareness in the community.	CC, BCT, BTC	Town Budget/Staff

Mid-Term Actions - Years 3 and 4 (2019-2020)

Actions	Primary Responsibility	Funding
Complete implementation of one accessibility project: plan and design second project. Possibilities include: Fyfeshire, Town Common, Powderhouse extension.	PR, CC	Town Budget/Staff, Grants
Develop a Bicycle Plan for Bolton focused on both understanding shared use and wayfinding improvements measures to enhance convenience for recreational cyclists using regional roadways as well as conservation areas. Consider opportunities to maximize the economic and health benefits of traveling by bicycle.	PLAN, CC, DPW, BTC	Town Budget/Staff, Volunteer Efforts
Publish a guide to live with clean water with information on water pollution control, control of common invasive species, native plantings, minimizing lawn/fertilizer, rainwater recharge and other low-impact suggestions.	CC, BOH, PLAN, GIS	Town Budget/Staff, Grants, Volunteer Efforts
Provide credible information to municipal leaders, civic organizations and residents about the property tax implications of various growth scenarios. Enlist the assistance of Bolton Conservation Trust for outreach efforts when applicable.	CC, BCT	Town Budget/Staff, Volunteer Efforts
The Conservation Commission should explore the possibility of wildlife management and/or forest management on select town conservation areas, with a focus on forest health and ecology.	CC, PR	Town Budget/Staff, Volunteer Efforts
The conservation commission should develop a long-term plan for carrying out its land management responsibilities. Additional funding and/or volunteer resources will likely be needed for	CC, DPW, PR, BCT, BTC	Town Budget/Staff, Volunteer Efforts

personnel and equipment. Opportunities to collaborate with the highway, cemetery, and recreation departments as well as Bolton Conservation Trust should be explored.		
Evaluate water-based recreational activities throughout conservation and public properties throughout town.	CC, PR	Town Budget/Staff, Volunteer
The Town should track re-enrollment of lands in current use taxation programs and periodically reach out to landowners of high priority parcels to make them aware of land conservation options.	CC, AGC, BOS	Town Budget/Staff
The town should track conservation restrictions and encourage landowners to make these restrictions permanent.	CC, AGC, BOS	Town Budget/Staff
Publicize Right to Farm Community; education efforts throughout departments to help sustain farms.	PLAN, AGC, CC	Town Budget/Staff

Long-Term Actions - Years 5 and 6 (2021-2022)

Actions	Primary Responsibility	Funding
Complete another accessibility project begun in previous year	PR, CC, BCT, BTC, PLAN	Town Budget/Staff, Grants
The Conservation Commission should educate owners of vernal pools and encourage their resource and protection.	CC	Town Budget/Staff, Volunteer Efforts
Work with state agencies such as Fish and Game, Natural Heritage and others to	CC	Town Budget/Staff

review and implement best management strategies along with providing input to consider during future land acquisition.		
Identify and designate trails along major waterways.	CC, OARS, PR, SVT	Volunteer Efforts
The Conservation Commission should evaluate its land holdings to determine whether there is an additional site that would be suitable for other public activities that may become more permanent.	CC, AGC,	Town Budget/Staff
Educate residents on the local impacts of climate changes including the importance of land conservation for the present and future increasing resilience to drought and other climate changes that may occur. Also the identification of key parcels that advance this goal of reducing flood impacts.	CC, PLAN, GIS	Town Budget/Staff, Volunteer Efforts
Identify areas that are at risk for flooding due to increased frequency and intensity of rain events. Develop a plan for mitigation in these areas.	CC, PLAN, GIS, DPW	Town Budget/Staff
Continue to sponsor guided walks on conservation land.	CC, BTC, BCT	Town Budget/Staff

Final Actions and Open Space and Recreation Plan Review - Year 7 (2022)

Action	Primary Responsibility	Funding
Update Open Space and Recreation Plan	CC, BCT, BTC, PLAN, GIS, PR, BOS	Town Budget/Staff, Volunteer Efforts

Section 10

Comments from the Public and from Town Boards

The completion of the Open Space and Recreation Plan involved a draft plan circulated throughout Town Boards. Copies of the plan were also placed in Town Hall. There was a public forum held in May 2017 to obtain the opinions of the public along with having been presented at the Annual Meeting as an exhibit display and discussion point May 1st 2017. The plan was also distributed electronically on the Town's website. Formal written comments were received from several boards and a handful of residents. The comments have been incorporated throughout the document.

Section 11

Resources

Open Space and Recreation Plan Bolton 2005 edition

Stow 2016 Open Space and Recreation Plan

MassGIS

Department of Environmental Protection

Town of Bolton Masterplan 2005

United States Census Bureau

“The First Scientific Journal in the United States: Devoted to the Geological Sciences and Related Fields.” *American Journal of Science* 47 (1844): 210. Print. Web.

Dana, James D. *A System of Mineralogy: Descriptive Mineralogy, Comprising the Most Recent Discoveries*. New York: John Wiley & Son, Publishers, 1868. Print. Web.

Hansen, Wallace R. *Geology and Mineral Resources of the Hudson and Maynard Quadrangles Massachusetts*. Washington: United States Government Printing Office, 1956. Print. Web.

NHES Advisory Committee. *Listing Endangered Species in Massachusetts The Basis, Criteria, and Procedure for Listing Endangered, Threatened, and Special Concern Species*.

Massachusetts: Natural Heritage & Endangered Species Program Massachusetts Division of Fisheries and Wildlife, 2008. Web.

Appendices

Appendix B

Letters of Support

Board of Selectmen

Conservation Commission

Planning Board

MAPC

State Representative, Kate Hogan

Groups which provided support but did not choose to write a formal letter:

Board of Health

Historical Commission

Bolton Conservation Trust

Trail Committee

Parks and Recreation

Bolton Local

Appendix C

Open Space Informal Committee Members

Rebecca Longvall Conservation Agent

Betsy-Taylor Kennedy Bolton Conservation Trust

Panny Gerken Council on Aging

Emily Winner Citizen

Jeff Larence Volunteer Land Steward

Kenneth Troupe former Selectman

Al Ferry Bolton Conservation Trust

Gary Perwak IT Specialist

Fred Van Bennekom Survey Specialist

Marissa Simpson GIS Professional

APPENDIX D

LIST OF OFFICIAL MEETING DATES

Annual Town Meeting

May 1st 2017

Public Forum - Publicized in Bolton Independent Newspaper and held at the Houghton Building

May 22nd 2017

Town Boards - Published in Individual Meeting Agendas, held in Open Public Meeting Format

Bolton Conservation Commission, Houghton Building June 9th 2017

Planning Board, Board of Selectmen Meeting Room May 10th 2017

Discussed during meetings:

Bolton Conservation Trust

Board of Health

Board of Selectman

Parks and Recreation Commission

APPENDIX E
BOLTON BIRD LIST

Kingdom	Phylum	Class	Order	Family	Genus	Taxonomic Name	Common Name
Animalia	Chordata	Aves	Anseriformes	Anatidae	Chen	Chen caerulescens	Snow Goose
Animalia	Chordata	Aves	Anseriformes	Anatidae	Branta	Branta canadensis	Canada Goose
Animalia	Chordata	Aves	Anseriformes	Anatidae	Cygnus	Cygnus olor	Mute Swan
Animalia	Chordata	Aves	Anseriformes	Anatidae	Aix	Aix sponsa	Wood Duck
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas rubripes	American Black Duck
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas platyrhynchos	Mallard
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas discors	Blue-winged Teal
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas clypeata	Northern Shoveler
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas acuta	Northern Pintail
Animalia	Chordata	Aves	Anseriformes	Anatidae	Anas	Anas crecca	Green-winged Teal
Animalia	Chordata	Aves	Anseriformes	Anatidae	Aythya	Aythya collaris	Ring-necked Duck
Animalia	Chordata	Aves	Anseriformes	Anatidae	Lophodytes	Lophodytes cucullatus	Hooded Merganser
Animalia	Chordata	Aves	Galliformes	Phasianidae	Meleagris	Meleagris gallopavo	Wild Turkey
Animalia	Chordata	Aves	Suliformes	Phalacrocoracidae	Phalacrocorax	Phalacrocorax auritus	Double-crested Cormorant
Animalia	Chordata	Aves	Pelecaniformes	Ardeidae	Botaurus	Botaurus lentiginosus	American Bittern
Animalia	Chordata	Aves	Pelecaniformes	Ardeidae	Ardea	Ardea herodias	Great Blue Heron
Animalia	Chordata	Aves	Accipitriformes	Cathartidae	Cathartes	Cathartes aura	Turkey Vulture
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Haliaeetus	Haliaeetus leucocephalus	Bald Eagle
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Accipiter	Accipiter striatus	Sharp-shinned Hawk
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Accipiter	Accipiter cooperii	Cooper's Hawk
Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Buteo	Buteo jamaicensis	Red-tailed Hawk

Animalia	Chordata	Aves	Accipitriformes	Accipitridae	Buteo	Buteo lagopus	Rough-legged Hawk
Animalia	Chordata	Aves	Gruiformes	Rallidae	Rallus	Rallus elegans	King Rail
Animalia	Chordata	Aves	Gruiformes	Rallidae	Rallus	Rallus limicola	Virginia Rail
Animalia	Chordata	Aves	Gruiformes	Rallidae	Porzana	Porzana carolina	Sora
Animalia	Chordata	Aves	Gruiformes	Rallidae	Gallinula	Gallinula chloropus	Common Moorhen
Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Charadrius	Charadrius semipalmatus	Semipalmated Plover
Animalia	Chordata	Aves	Charadriiformes	Charadriidae	Charadrius	Charadrius vociferus	Killdeer
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Actitis	Actitis macularius	Spotted Sandpiper
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Tringa	Tringa solitaria	Solitary Sandpiper
Animalia	Chordata	Aves	Galliformes	Phasianidae	Phasianus	Phasianus colchicus	Ring-necked Pheasant
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Tringa	Tringa melanoleuca	Greater Yellowlegs
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Tringa	Tringa flavipes	Lesser Yellowlegs
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Calidris	Calidris minutilla	Least Sandpiper
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Calidris	Calidris melanotos	Pectoral Sandpiper
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Calidris	Calidris alpina	Dunlin
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Gallinago	Gallinago delicata	Wilson's Snipe
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Scolopax	Scolopax minor	American Woodcock
Animalia	Chordata	Aves	Charadriiformes	Scolopacidae	Phalaropus	Phalaropus lobatus	Red-necked Phalarope
Animalia	Chordata	Aves	Charadriiformes	Laridae	Larus	Larus delawarensis	Ring-billed Gull
Animalia	Chordata	Aves	Charadriiformes	Laridae	Larus	Larus argentatus	Herring Gull
Animalia	Chordata	Aves	Columbiformes	Columbidae	Columba	Columba livia	Rock Pigeon
Animalia	Chordata	Aves	Columbiformes	Columbidae	Zenaida	Zenaida macroura	Mourning Dove
Animalia	Chordata	Aves	Strigiformes	Strigidae	Asio	Asio otus	Long-eared Owl

Animalia	Chordata	Aves	Caprimulgiformes	Caprimulgidae	Chordeiles	Chordeiles minor	Common Nighthawk
Animalia	Chordata	Aves	Caprimulgiformes	Apodidae	Chaetura	Chaetura pelagica	Chimney Swift
Animalia	Chordata	Aves	Coraciiformes	Alcedinidae	Megaceryle	Megaceryle alcyon	Belted Kingfisher
Animalia	Chordata	Aves	Piciformes	Picidae	Melanerpes	Melanerpes carolinus	Red-bellied Woodpecker
Animalia	Chordata	Aves	Piciformes	Picidae	Picoides	Picoides pubescens	Downy Woodpecker
Animalia	Chordata	Aves	Piciformes	Picidae	Picoides	Picoides villosus	Hairy Woodpecker
Animalia	Chordata	Aves	Piciformes	Picidae	Colaptes	Colaptes auratus	Northern Flicker
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Empidonax	Empidonax virescens	Acadian Flycatcher
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Empidonax	Empidonax alnorum	Alder Flycatcher
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Empidonax	Empidonax traillii	Willow Flycatcher
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Empidonax	Empidonax minimus	Least Flycatcher
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Sayornis	Sayornis phoebe	Eastern Phoebe
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Myiarchus	Myiarchus crinitus	Great Crested Flycatcher
Animalia	Chordata	Aves	Passeriformes	Tyrannidae	Tyrannus	Tyrannus tyrannus	Eastern Kingbird
Animalia	Chordata	Aves	Passeriformes	Vireonidae	Vireo	Vireo flavifrons	Yellow-throated Vireo
Animalia	Chordata	Aves	Passeriformes	Vireonidae	Vireo	Vireo gilvus	Warbling Vireo
Animalia	Chordata	Aves	Passeriformes	Vireonidae	Vireo	Vireo olivaceus	Red-eyed Vireo
Animalia	Chordata	Aves	Passeriformes	Corvidae	Cyanocitta	Cyanocitta cristata	Blue Jay
Animalia	Chordata	Aves	Passeriformes	Corvidae	Corvus	Corvus brachyrhynchos	American Crow
Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Stelgidopteryx	Stelgidopteryx serripennis	Northern Rough-winged Swallow
Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Tachycineta	Tachycineta bicolor	Tree Swallow
Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Riparia	Riparia riparia	Bank Swallow
Animalia	Chordata	Aves	Passeriformes	Hirundinidae	Hirundo	Hirundo rustica	Barn Swallow

Animalia	Chordata	Aves	Passeriformes	Paridae	Poecile	Poecile atricapillus	Black-capped Chickadee
Animalia	Chordata	Aves	Passeriformes	Paridae	Baeolophus	Baeolophus bicolor	Tufted Titmouse
Animalia	Chordata	Aves	Passeriformes	Sittidae	Sitta	Sitta carolinensis	White-breasted Nuthatch
Animalia	Chordata	Aves	Passeriformes	Troglodytidae	Cistothorus	Cistothorus palustris	Marsh Wren
Animalia	Chordata	Aves	Passeriformes	Poliopitidae	Poliopitila	Poliopitila caerulea	Blue-gray Gnatcatcher
Animalia	Chordata	Aves	Passeriformes	Turdidae	Sialia	Sialia sialis	Eastern Bluebird
Animalia	Chordata	Aves	Passeriformes	Turdidae	Turdus	Turdus migratorius	American Robin
Animalia	Chordata	Aves	Passeriformes	Mimidae	Dumetella	Dumetella carolinensis	Gray Catbird
Animalia	Chordata	Aves	Passeriformes	Mimidae	Mimus	Mimus polyglottos	Northern Mockingbird
Animalia	Chordata	Aves	Passeriformes	Sturnidae	Sturnus	Sturnus vulgaris	European Starling
Animalia	Chordata	Aves	Passeriformes	Bombycillidae	Bombycilla	Bombycilla cedrorum	Cedar Waxwing
Animalia	Chordata	Aves	Passeriformes	Parulidae	Mniotilta	Mniotilta varia	Black-and-white Warbler
Animalia	Chordata	Aves	Passeriformes	Parulidae	Geothlypis	Geothlypis trichas	Common Yellowthroat
Animalia	Chordata	Aves	Passeriformes	Parulidae	Setophaga	Setophaga ruticilla	American Redstart
Animalia	Chordata	Aves	Passeriformes	Parulidae	Setophaga	Setophaga petechia	Yellow Warbler
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Spizelloides	Spizelloides arborea	American Tree Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Spizella	Spizella passerina	Chipping Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Ammodramus	Ammodramus nelsoni	Nelson's Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Passerella	Passerella iliaca	Fox Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Melospiza	Melospiza melodia	Song Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Melospiza	Melospiza lincolnii	Lincoln's Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Melospiza	Melospiza georgiana	Swamp Sparrow
Animalia	Chordata	Aves	Passeriformes	Emberizidae	Zonotrichia	Zonotrichia albicollis	White-throated Sparrow

Animalia	Chordata	Aves	Passeriformes	Emberizidae	Junco	Junco hyemalis	Dark-eyed Junco
Animalia	Chordata	Aves	Passeriformes	Cardinalidae	Piranga	Piranga olivacea	Scarlet Tanager
Animalia	Chordata	Aves	Passeriformes	Cardinalidae	Cardinalis	Cardinalis cardinalis	Northern Cardinal
Animalia	Chordata	Aves	Passeriformes	Cardinalidae	Pheucticus	Pheucticus ludovicianus	Rose-breasted Grosbeak
Animalia	Chordata	Aves	Passeriformes	Icteridae	Agelaius	Agelaius phoeniceus	Red-winged Blackbird
Animalia	Chordata	Aves	Passeriformes	Icteridae	Sturnella	Sturnella magna	Eastern Meadowlark
Animalia	Chordata	Aves	Passeriformes	Icteridae	Quiscalus	Quiscalus quiscula	Common Grackle
Animalia	Chordata	Aves	Passeriformes	Icteridae	Molothrus	Molothrus ater	Brown-headed Cowbird
Animalia	Chordata	Aves	Passeriformes	Icteridae	Icterus	Icterus galbula	Baltimore Oriole
Animalia	Chordata	Aves	Passeriformes	Fringillidae	Haemorhous	Haemorhous mexicanus	House Finch
Animalia	Chordata	Aves	Passeriformes	Fringillidae	Spinus	Spinus tristis	American Goldfinch

Table created from Bolton Flats WMA Check List on inaturalist.com of species identified by a private party participating in recreational birding

APPENDIX F
BOLTON CONSERVATION COMMISSION
BEAVER & MUSKRAT MANAGEMENT GUIDELINES

Bolton Conservation Commission
Beaver & Muskrat Management Guidelines
Dated April 16, 2004
Version 1.0

Overview

The Bolton Conservation Commission, (“the Commission”), recognizes that the beaver and muskrat population are part of the rural landscape of Bolton, and in general, should be left alone as part of the natural environment. As part of its charter, the Commission will continue to enforce the Wetlands Protection Act and the Bolton Wetlands Bylaw, as applicable, to protect the resource areas that provide their habitat.

Best intentions aside, the Commission recognizes that there are times when the activities of these animals may become a public health threat. For general guidance, the Commission subscribes to the regulations and procedures (together the “Regs”) as set forth by the Commonwealth of Massachusetts (“the Commonwealth”), Massachusetts Department of Public Health (“DPH”), and the Division of Fisheries and Wildlife (“DF&W”). These Regs are documented at the following Web site: <http://www.state.ma.us/dph/beha/beavers/beavh.htm>.

Process

In general, the first step an individual must take if they believe there is a problem caused by beaver or muskrat activity in the town of Bolton is to determine if the problem is a threat to public health and safety. If the individual (“Applicant”) believes the problem is a threat, they must contact the Bolton Board of Health (“BoH”), who will walk the applicant through a checklist that identifies the potential threat. If the BoH determines there is a threat, they will issue a 10-day emergency permit that allows the Applicant the following options:

- A) Trap with a box/cage or Conibear trap
- B) Breach the dam
- C) Install a water-flow device

If it is determined the problem is not a threat to public health and safety, the Applicant can contact the DF&W, Massachusetts Society for Prevention of Cruelty to Animals (“MSPCA”), or a private contractor who can advise of available solutions.

Activities Requiring Review by the Commission

In either an emergency or non-emergency/non-threatening situation, both B and C must be approved by the Commission, either of which can be expedited without a Public Hearing if the BoH issues the emergency permit. However, if the problem is not a threat to public safety or if the BoH denies the emergency permit and either option B or C are required to alleviate the problem, the Applicant must file an NOI and the Commission must hold a Public Hearing and issue a decision and a permit before any work can be done in the resource area.

Financial Considerations

The Applicant is financially responsible for any action taken on private land.

If any of the permitted activities are to occur on town-owned conservation land, the Commission may contact the DF&W, MSPCA, or a private contractor to discuss the best approach for a short and long term solution, and if budgeted, may take immediate steps to solve these issues. This may include hiring a contractor, or a trained individual, either employed by the town or independently. If funds are not immediately available to the Commission to solve the issue, the Commission will review with the Board of Selectmen and/or Advisory Committee if contingency funds are available. If contingency funds are also unavailable, the Conservation Commission will work with other boards/commissions to locate suitable funds to address a more financial viable, short term solution.

On an annual basis, the Conservation Commission will provide a historical account of locations and funds used to control the above issues in the previous fiscal year, and will provide an estimate to Advisory Committee to control potential new issues on public conservation land through the upcoming fiscal year. Should contracting expenses become a financial burden, the town may consider training certain individuals in the community, either employed by the town or not, in beaver control.

Appendix G: ADA Self-Evaluation

Part I: Administrative Requirements:

1. Don Lowe Town Administrator is also the ADA Coordinator
2. Bolton Town jobs are always advertised without discrimination as to age, sex, marital status, race, color, creed, national origin, handicap, veteran status, or political affiliation.
3. The Grievance Procedures:

For the General Public

EQUAL ACCESS TO FACILITIES AND ACTIVITIES

Maximum opportunity will be made available to receive citizen comments, complaints, and/or to resolve grievances or inquiries.

STEP 1:

The Town Administrator will be available to meet with citizens and employees during business hours.

When a complaint, grievance, request for program policy interpretation or clarification is received either in writing or through a meeting or telephone call, every effort will be made to create a record regarding the name, address, and telephone number of the person making the complaint, grievance, program policy interpretation or clarification. If the person desires to remain anonymous, he or she may.

A complaint, grievance, request for program policy interpretation or clarification will be responded to within ten working days (if the person making the complaint is identified) in a format that is sensitive to the needs of the recipient, (i.e. verbally, enlarged type face, etc).

Copies of the complaint, grievance, program policy interpretation or clarification and response will be forwarded to the appropriate town agency (i.e. park commission, conservation commission). If the grievance is not resolved at this level it will be progressed to the next level.

STEP 2:

A written grievance will be submitted to the Town Administrator. Assistance in writing the grievance will be available to all individuals. All written grievances will be responded to within ten working days by the Town Administrator in a format that is sensitive to the needs of the recipient, (i.e. verbally, enlarged type face, etc). If the grievance is not resolved at this level it will be progressed to the next level.

STEP 3:

If the grievance is not satisfactorily resolved, citizens will be informed of the opportunity to meet and speak with the Board of Selectmen, with whom local authority for the final grievance resolution lies.

4. Public Notification requirements (EOE) for both visually impaired and learning impaired

5. Participation of individuals with disabilities

Access to Conservation and Recreation Lands

The Section 504 Self-Evaluation as it applies to Bolton's park, recreation and conservation land reveals the fact that few accommodations exist within these areas for the handicapped. The reasons for this situation derive from Bolton's rural character, and from the emphasis that has been placed in Town acquisition efforts on securing areas of natural resource interest and maintaining them primarily for wildlife habitat and passive recreation.

The checklists, while useful for parks and other areas with existing improvements and heavy public use, may not serve to target those areas in Bolton most suitable for improvements as part of the action plans. Further, recreational facilities, such as ball fields, have been maintained and improved to serve as traditional athletic areas. With these facts in mind, the following assessment is made through a listing of the Section 504 Administrative Requirements and how Bolton meets those requirements, followed by a listing of facilities with handicapped and general public services.

Recreation Facilities Access

- 1) **Memorial Ball Field**
The parking area is gravel and dirt. The playing fields are grass. There is paving over the basketball area and a few other patches. The area is wheel chair accessible based on grade level. There is also a handicap accessible water fountain.
- 2) **Leatherwood Playground**
Parking is from a paved road surrounding the Florence Sawyer School and there is a handicapped access ramp from which a portion of the playground can be reached.
- 3) **Town Beach**
The parking area is gravel and grass; the slope to the water is hard sand becoming softer at water's edge. The swimming area is not wheelchair accessible. The slope toward the water's edge is also too great to traverse in a wheel chair.
- 4) **Derby Soccer Field**
The field is level and accessible by vehicle. It is considered handicap accessible.
- 5) **Forbush Mill Field**
This field is level and accessible by vehicle. This area is considered handicap accessible.

Conservation Facilities Access

Bolton is a rural community and all of our conservation areas are unimproved natural lands. Many are very small. They are grouped for purposes of the following inventory. Doing a separate report on each would not add value. Two of the properties were included in the audit carried out by the "ADA/504 Self- Evaluation & Transition Plan" have been attached as Exhibit A to this document. There is an acknowledgement that unless there is certain infrastructure in place, the only suggested updates to the properties would be signage denoting various changes in grades or terrain, educational information and appropriate handicap parking spaces.

- 1) **Bolton Flats and Delaney**
These are large state owned conservation areas with parking for at least 20 vehicles, including handicap vans. They afford beautiful views of the land and water from the parking area. Some of the trails are wide and flat enough to afford access to a motorized or pushed wheelchair. None are paved.
- 2) **Pond Park, Persons Park, Mentzer, Partridge, Le Due, Wilder Pond, Vinger, and Dunnell Kettlehole.**
These sites are all view accessible from a paved or gravel road, so a person without the ability to walk could see the sights from a vehicle. There are picnic facilities at Pond Park along with a dilapidated building.
- 3) **Phillips Conservation Land**
This site is entered from a hard dirt road at one location, which would admit to wheelchair access for some distance into the property. There is a bench located for viewing, accessible through this route.
- 4) **Fyfeshire**
This site has no signage to indicate the handicap accessible parking and a 10 foot long bench located near one of the ponds for viewing.
- 5) **Bower Springs and Lime Kiln**
These areas have parking for at least five vehicles and may offer some access into the property. This property does not have signage indicating a handicap accessible parking space.
- 6) **Vaughn Hill and Moen**
These areas have parking for a few vehicles. Moen offers a gravel, though level lot which is wheelchair accessible.
- 7) **Annie Moore, Goodrich, Harris, Hansen, White, Wallie, Sochalski, Richards, Smith and Sullivan.**
These areas are wooded, with narrow trails, or in some cases as yet incomplete trails, and are not very accessible to any but agile hikers. They are, however, excellent wildlife habitat areas, a primary reason for preserving them.

Other Public Facilities –

Public Telephones: Bolton has two public telephones on Rt. 117 in the town center near Smith's gas station and there are three more phones near the 1-495/Rt. 117 juncture: two at the Country Cupboard Store and one at the Mobil gas station.

Drinking Fountains: The only public drinking fountains in Bolton are located at Camp Resolute, by the swimming area which the Boy Scout camp provides for Town use. A pump for drinking and washing was installed at Bowers Springs by the Conservation Trust, but has not been consistently operational. The Trust is continuing improvement of this facility.

Toilet/Bathing Facilities: This type of facility exists only at Camp Resolute, which is a private facility. Since Bolton has no public water or sewer systems, improvements in this category are not practical at this time.

Picnic Areas: Picnicking is allowed on all park, recreational and conservation land. No amenities exist, however, except for trash barrels at Bowers Springs. Open fires and grills are not permitted on Town land except by individual permit. Improvements in this area should initially focus on properly sited and constructed picnic tables.

Boat Docks: There is only non-motorized boating in Bolton. There are few access points to the minimal ponds and Rivers located in Bolton's Town borders. The access from Person's Park allows boating in Little Pond. The Still River is accessible only for a short distance off of Route 117 on the Lancaster Town Border. Informal access to West Pond off of Long Hill Road is used by boaters with permission from the appropriate property owners.

Fishing Facilities: Several areas in Town offer opportunities for fishing; most are along streams, with access from the roadside or over existing trails. The area's most suitable for a significant number of fishermen are the Still River (Bolton Flats Wildlife Management Area), the Delaney Wildlife Management Area, Little and West Ponds. The Still River frontage is primarily in private and State ownership; fishing at Delaney is located primarily at a small roadside pond. Little pond is accessible by Person's Park which has a small amount of water frontage. West Pond is accessible by permission of the landowner. West Pond has been classified as a Great Pond, but the only point of public access is at Long Hill Road. Ice fishermen generally reach the pond through private property. The best attempt at compliance with this category would most likely be made at the Bolton Flats Wildlife Management Area. An appropriate location is by the Still River Road entrance or on the Lancaster Town Border along Route 117, where a parking lot exists, and level ground lead to the river.

Town of Bolton Open Space and Recreation Plan (OSRP)

ADA Self-Evaluation: Community/Council on Aging (COA) Meeting Notes
11 AM, May 7th, 2015

Overview

Bolton is updating its Open Space and Recreation Plan (OSRP). As part of this plan, the State asks that each town conduct an Americans with Disabilities Act (ADA) Self-Evaluation to determine how accessible a community's conservation and recreation programs and properties are to people with disabilities. An important part of this evaluation is gathering feedback directly from those most affected by these issues. The OSRP Subcommittee members met with Bolton residents, as well as Council on Aging (COA) staff, to discuss their needs and how the Town might address them moving forward. The COA organized this meeting and invited residents they thought might be interested in providing feedback on this subject.

General Discussion Questions

- Do you use conservation or recreation areas in Town? If so, how do you use them and how often. If not, why not? What would help you visit these areas or participate in programs more?
- Are there any physical obstacles that limit your use of an area or participation in a program?
- Is there anything you feel is needed? (greater accessibility, additional activities or programs, additional or changes equipment, structural changes, relocating services to accessible buildings, providing auxiliary aids such as audio tapes and sign language, interpreters for your

presentations, providing home visits, delivering services to an alternate site that is accessible, etc.)

- Is there any other general input you'd like to make about the Town's recreation and conservation areas and activities?

After speaking with a focus group representative of the elderly population and residents with disabilities in Bolton September 19, 2017 a few items were discussed and pointed out by multiple individuals. The first were general items throughout conservation properties such as benches, bathrooms and transportation. There seems to be a need for transportation to various places throughout town including the conservation properties. Some of these transportation issues may be resolved with the town's adoption of the Complete Streets which encourages connectivity throughout town and will address some of these issues on a more grand scale. The focus group also highlighted a need for a trail that would provide access off the highly trafficked main road to the bank and businesses in town, specifically the Bolton Bean. There was also a call for scheduled walks or events for community members to attend. This was also noted through the open space and recreation survey that had been distributed with the census. There was also discussion related to a need for some form of rules for animals on public properties as there has been a mix of good and bad experiences that affect the community as a whole. Lastly, there is a call for a community center that can be used as a senior center as well. A community center that would have access to outdoor and indoor recreation opportunities.

These needs expressed by the seniors during the focus group highlighted multiple opportunities for community engagement but also implement minimal infrastructure to accommodate the elderly generation. These accommodations would enable more community members to be encouraged to become more active and explore the town's public properties. There is a town parcel adjacent to the senior center parcel that would allow connectivity from the bank and sports fields to the Bolton bean and other local business. A trail could be cut in to accommodate this access for not only the seniors but also many residents and community members from the Emerson school to Main Street. The implementation of Benches on open space and recreation properties again not only serve the seniors (specific to this focus group) but also the larger community of property users for sports fields, fans and other individuals that need a temporary place to rest. The animal rules are being addressed at present through drafting and beginning forums regarding rules and regulations for dogs on conservation property. These rules and regulations are being drafted then will be followed by outreach focus groups to address the issues that many residents have experienced while out on a few of the more popular properties. The community center is the largest project needed that requires extensive funding for creation and long term maintenance.

An active meeting was held on July 9th 2018 visiting three of the Conservation and Recreation properties most feasible in terms of improving trails for accessibility. These properties were Bowers Springs Conservation Area, Fyfeshire Dam Conservation Area and Town Common. Four individuals represented the seniors on these visits. There were three items pointed out on each of the properties of needing improvement: signage, resting places (in the form of benches) and terrain awareness. The signage in terms of larger mapping of the property visible as you

walk into the property along with identification of history and species thriving on the property. Benches are needed throughout various properties for use as resting places, or places to observe the wildlife/scenery. Terrain awareness is necessary to not only communicate the difficulty of the trail but also the potential hazards such as roots that may require an individual's undivided attention to maneuver over. Town Common was designed to be an accessible property. The only items desired here in addition to what currently exists were shade and an improvement of acoustics during concert series events. The concern for shade will be remedied with the new pavilion project already in process. The acoustics may be improved over time or left as is, there were suggestions of natural barriers from the roadway including large hedge rows or a back wall on the pavilion depending on the final orientation of the structure on the property.

There was great interest in creating trails through the town owned property near the Senior Center not managed by the Conservation Commission and toward the Bolton Bean. Currently there has been a senior walking group started and they use the parking lot. They would like to expand the walking distance without needing to walk on Main Street (Route 117) and without needing transportation. This unbeknownst to the participants of this site walk, has already been in the planning stages with the Conservation Agent to create/maintain a trail through the town owned property at the rear of where the Senior Center is currently located at Bolton Manor off of Route 117. Overall, most of the current conservation properties are not feasible both physically and economically to make accessible. However the three properties chosen are the most feasible and we have already begun adding resting places to Bowers Springs Conservation Area by the Ponds.

The Conservation Department has partnered with the Bolton Town Library to host two of their first annual outreach events on Earth Day (April 22nd) and World Water Day (March 22nd). These events consisted of hands on activities for the children participants to plant a seedling to take home and discuss connectivity of our natural water resources. These activities were accompanied by a reading of an associated children's book then a discussion relating the activity and book to the town of Bolton. Both parents and children stated they learned something new related to the town's natural resources and open space. The participants were also asked to provide a word that they thought of when someone said open space and recreation that were used to create a word cloud display.

Further input was provided through a survey distributed through the Teen and Children's department at the Bolton Town Library. The survey consisted of four pages of twelve questions total that was estimated to take participants a maximum of two minutes to complete. The goal of the survey was to assess the needs of this focus group further even after having presented and worked on a couple Conservation projects with them (see questions Appendix F). The questions focused on various conservation and recreation properties along with potential other recreational opportunities in town. There were seven participants in the paper survey that had been distributed through the library that did not include participants in the discussions on Earth Day and World Water Day. There will be continued feedback as the Town of Bolton and associated organizations take on projects from the Action Plan that will allow any necessary slight alterations that may come up and better suit the community.

Appendix H

Teen Survey Questions

Question 1

What water based activities are you interested in trying?

Question 2

How often do you use local outdoor recreation facilities (sports fields, trail system, ponds, playgrounds, etc.)?

Question 3

In the next 5 years what do you think your activity level will be?

Question 4

What is the value of protecting land?

Question 5

How do you access to protectd properties for recreational activities?

Question 6

Do you purchase products from local farms (Bolton Orchards, Bolton Spring Farm, Nicewicz, etc.)?

Question 7

Would you buy local produce more frequently if there was a farmer's market in town?

Question 8

Which would you most prefer?

Question 9

Do you feel there is a need for open space and natural areas in Bolton?

Question 10

Are you satisfied with the places for you to recreate in town?

Question 11

Which properties do you visit for recreation activities?

Question 12

What properties do you visit for recreation properties?

Thank you for your interest in our town's natural resources!