

Open Space and Recreation Plan 2011-2018 Berlin, MA



Berlin Conservation Commission

Town of Berlin

Open Space & Recreation Plan

2011- 2018

Conservation Commission

Clayton J. Duggan – OSRP Oversight Committee
Walter E. Bickford - OSRP Oversight Committee
Siona F.O. Patisteas – OSRP Oversight Committee
Steven E. Beard
Lee S. Tabor
Louise R. Janda
Karen Scheffer

Advisory

Tim Wheeler – Planning Board
Robert MacKay – Recreation Committee
Carl Wickstrom – Agricultural Commission
Thomas Andrew – ADA Coordinator

Consulting Assistance by:

Brown Walker Planners, Inc.

The Conservation Commission wishes to thank all volunteers and residents who contributed to the development of this planning document. Your dedication to the preservation and management of Berlin's natural and recreational resources is profoundly appreciated.

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Table of Contents

Section 1: Plan Summary	1
Commercial Development	1
Housing	2
Agricultural Land.....	3
Preserved Land.....	3
Section 2: Introduction	7
Statement of Purpose	7
Planning Process and Public Participation	7
Section 3: Community Setting	9
Regional Context	9
History of the Community	12
Population Characteristics	13
<i>Population</i>	13
<i>Population Density</i>	15
<i>Age</i>	16
<i>Household and Family Characteristics</i>	16
<i>Education</i>	17
<i>Income, Occupation and Education</i>	18
<i>Environmental Justice and Equity</i>	20
Growth and Development Patterns.....	21
<i>Patterns and Trends</i>	21
<i>Infrastructure</i>	27
<i>Long-Term Development Patterns</i>	30
Section 4: Environmental Inventory and Analysis	37
Geology, Soils, and Topography	37
<i>Soils Limitations for Development</i>	38
Landscape Character	41
Water Resources	41
<i>Watersheds</i>	41
<i>Surface Water</i>	42
<i>Aquifers and Aquifer Recharge Areas</i>	44
<i>Flood Hazard Areas</i>	45
<i>Wetlands</i>	45
Vegetation.....	46
Fisheries and Wildlife	47
<i>Inventory</i>	47
<i>Habitat</i>	49
<i>Corridors for Wildlife Migration</i>	49
<i>Invasive Species</i>	49
<i>Rare, Threatened and Endangered Species</i>	49
Scenic Resources and Unique Environments	51
<i>Scenic Landscapes</i>	51
<i>Major Characteristic or Unusual Geologic Features</i>	52
<i>Cultural, Archeological and Historic Areas</i>	53
<i>Areas of Critical Environmental Concern</i>	54

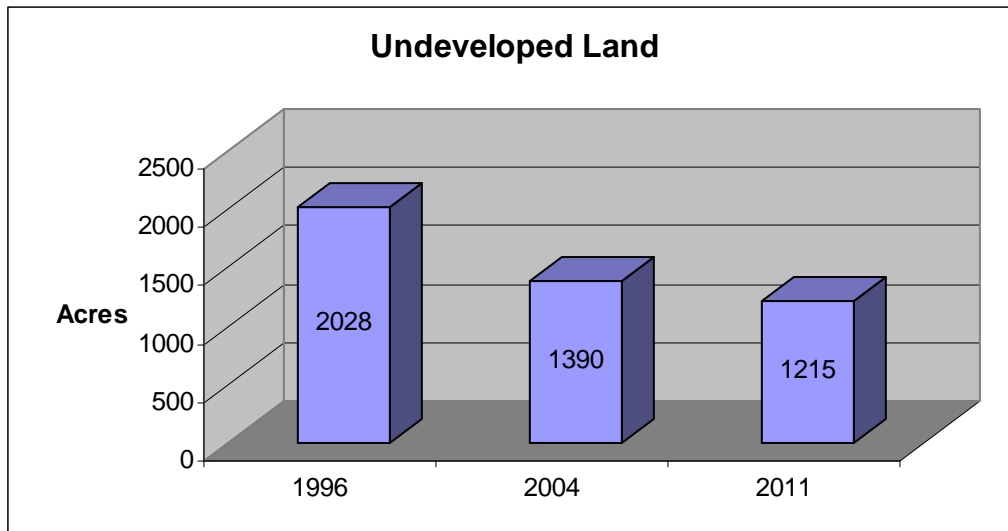
Environmental Challenges.....	54
<i>Hazardous Waste Sites</i>	55
<i>Landfills</i>	55
<i>Waste Services</i>	55
<i>Erosion and Sedimentation</i>	55
<i>Chronic Flooding</i>	56
<i>New Development</i>	56
<i>Ground and Surface Water Pollution</i>	57
<i>Invasive Species</i>	58
<i>Forestry Issues</i>	61
<i>Environmental Equity</i>	62
Section 5: Inventory of Lands of Conservation and Recreation Interest	65
Why Open Space Protection is Important	65
How Open Space is Protected	66
<i>Public Land</i>	66
<i>Private Land</i>	66
Protected Open Space	67
<i>Town-Owned Land</i>	67
<i>State-Owned Land</i>	67
<i>Land Owned by Private Conservation Organizations</i>	67
<i>Private Land with Conservation Restrictions</i>	68
<i>Community Garden</i>	68
Unprotected Open Space.....	68
Existing Recreational Facilities	69
Prioritizing Land for Acquisition and/or Preservation.....	69
Section 6: Community Vision.....	73
Description of Process	73
Summary of Community Input for Vision	73
<i>Survey</i>	73
<i>Public Meetings</i>	73
Vision Statement and Goals.....	74
Section 7: Analysis of Needs.....	75
Summary of Resource Protection Needs	75
Summary of Community's Needs	76
<i>Existing Levels of Service</i>	76
<i>Recreational Facilities</i>	77
<i>Informal Recreation</i>	80
<i>Accessibility Improvements</i>	81
Management Needs, Potential Change of Use.....	82
<i>Land Management</i>	82
<i>Impacts of Development</i>	83
<i>Acquisition and funding</i>	84
Section 8: Goals and Objectives.....	89
Section 9: Seven-Year Action Plan.....	91
Section 10: Public Comments	109
Section 11: References and Resources.....	111
Appendices.....	113

Section 1: Plan Summary

In the last decade and a half Berlin has been faced with the most significant land use changes in its history – both significant commercial development and significant residential growth has depleted open space at a rapid rate. Since 1996, vacant land¹ in Berlin has been converted to development at an average rate of 54 acres a year, amounting to 813 acres over the past fifteen years. This rapid development has been spurred by the attractive rural nature of Berlin due in part to the success of previous preservation efforts as well as the rapid growth of the general economy in the central Massachusetts region. In addition favorable access to and from I-495 and I-290 is a major draw to commercial development, while increasing employment opportunities in nearby communities has made Berlin increasingly desirable for home buyers.

The chart below illustrates that about 40% of Berlin’s vacant land has been developed in the past fifteen years.

Figure 1: Consumption of Vacant Land in Berlin 1996 - 2011



Commercial Development

Major commercial development in Berlin consists of the Solomon Pond Mall on the Berlin/Marlborough border (completed in 1996), Highland Commons located east of I-495 on the Berlin/Hudson border (still under construction), and Riverbridge, a mixed use village (Phase One under construction) that includes a residential/ assisted living facility between the rotary in South Berlin and North Brook. Both the size of these developments and their regional draw distinguish them from the historical commercial enterprises in Berlin. Due to the careful town-wide planning and citizen support and interest that occurred prior to approval of these developments, Berlin has mitigated many of the adverse impacts such large-scale uses might

¹ Vacant land refers to that land not currently listed as developed or in use in Berlin Assessor’s database. The total listed includes developable, potentially developable and undevelopable (due to various constraints) lands. Agricultural land is not considered vacant land, however it could be converted from agricultural use to vacant and developable land.

bring to its host community. Instead, Berlin has reaped substantial benefits from the agreements it negotiated as part of the permitting process for the development of these projects.

- The Solomon Pond Mall development agreement contained a provision for a substantial up-front payment and additional annual payments for 30 years for open space acquisition and management. Using funding from the conservation trust funded by this agreement, the Town has been able to increase its inventory of protected open space by well over 50%.
- The Highland Commons Mall development also results in substantial benefits from the agreement it negotiated as part of the Mall's permitting process; specifically, the Town will receive substantial funds for its conservation trust to be used for increasing its inventory of protected open space.
- The Riverbridge mixed use development agreement protected 86 acres by granting a conservation restriction along the important North Brook corridor. In addition the residential component of the project positions Berlin well to meet the affordable housing requirements of Massachusetts Chapter 40-B².

Housing

Residential development over the same period includes two large 40B housing developments (one a Local Initiative Program³ also termed a "friendly 40B"), residential units within a mixed use village (including multi-family housing) and single family homes. The 72-unit Sawyer Hill LLC co-housing development (the "friendly 40B") has taxed the Berlin infrastructure due to the large number of units developed. The 32-unit 40B Dudley Road project has been permitted but is not yet built. The Riverbridge mixed use village is expected to produce a total of 125 housing units (not including assisted living units within the Continuing Care Retirement Center). Together these three projects alone represent the amount of residential growth experienced in the previous 25 years combined⁴.

² MGL Chapter 40B is a state statute, which enables local Zoning Boards of Appeals to approve affordable housing developments under flexible rules if at least 20-25% of the units have long-term affordability restrictions.

³ Local Initiative Program (LIP) is a state program that provides technical assistance to developers and municipalities seeking to develop housing that serves households at or below 80% of the area median income within mixed-income (market and affordable) housing developments.

⁴ Based on an average growth of 10 units per year from 1970 to 1990 and an average of 6.6 per year from 1990 to 2000 (Berlin 1997 Master Plan).



Sawyer Hill Co-Housing

Through negotiations with housing developers to preserve open space, and through implementation and consistent application of a Berlin Wetland Policy, Berlin has attempted to mitigate the impact of housing development. For example, as part of the Sawyer Hill LLC co-housing development agreement, 28 acres were preserved with a conservation restriction.

Agricultural Land

Agricultural land in Berlin accounts for about 19% of the Town's land and is fundamental to the community's way of life. The proportion of the Town's land area devoted to agricultural use has remained relatively unchanged since 1996, a significant victory for those interested in preserving the Town's rural character and lifestyle. However, with vacant land rapidly diminishing, Berlin's agricultural lands will likely be subject to increasing pressures for residential development.

Preserved Land

Since 1996 Berlin has preserved over 1,300 acres of its land via outright purchases, gifts and conservation restrictions. Working with generous Berlin landowners and conservation trust organizations such as the Sudbury Valley Trustees (SVT), the Berlin Conservation Commission has judiciously targeted key passive recreational property and environmentally sensitive open space for purchase via the conservation trust fund established through the Solomon Pond Mall, purchasing 565 acres at an attractive average cost of under \$4,400 per acre. The major purchases have included:

- Devine/Pisgah property (48.4 acres south of Linden St. abutting Mt. Pisgah conservation land in Berlin/Northborough),
- Rattlesnake Hill (109 acres south of Route 62 on the Boylston line),
- Eager Woods (65 acres on Ball Hill across the road from Mt Pisgah conservation land and abutting Berlin, SVT and Boylston conservation lands comprising Wrack Meadow, the North Brook corridor),
- Berlin Meadows (13 acres at the corner of Route 62 and Pleasant St.).



Divine and Mount Pisgah Properties

Where applicable state grants have successfully been leveraged to supplement the conservation trust fund purchases.

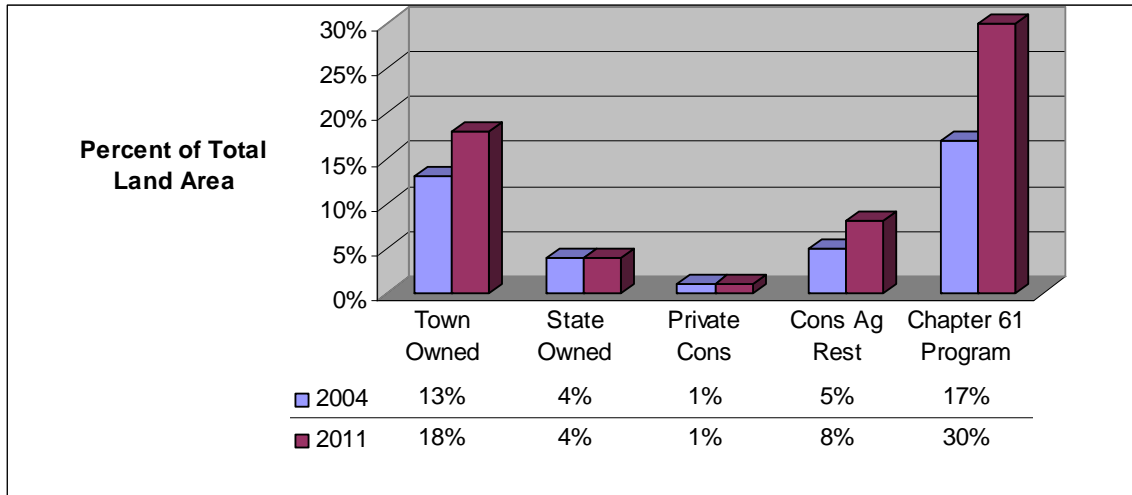
Some protected lands are due to the generosity of Berlin citizens that have gifted about 80 acres to the Town with conservation restrictions held by the Commission. Some of these gifts include:

- O'Brien Trust gift of nine acres in Hog Swamp and abutting other conservation wetlands,
- Curtis gift of seven acres abutting conservation land near Gates Pond,
- Lenkiwicz gift of over 15 acres off Lancaster Road in Forty Caves area, and
- Rhodes gift of nearly 20 acres off Collins Road.

Other conservation restrictions (CR) either granted as part of a development or purchased by the Town have preserved 658 acres of the total amount. A few of these include:

- Sawyer Hill LLC (28.56 acres abutting State of MA and Berlin conservation land),
- A portion of the Devine property described above that was not outright purchased (34.5 acres),
- Riverbridge property (86 acres abutting North Brook)
- Coldwell property (about 13 acres south of Route 62 and east of Larkin Road),
- Tall Pines condo development in Clinton and abutting Berlin (54 acres) and a deed restriction for the remaining 15.6 acres in Berlin.

Figure 2: Effects of Preservation Efforts: 2004 – 2011



Although Berlin had up until the late 1990s enjoyed somewhat less growth pressure than most of its neighbors, increasing development in sensitive and high visibility locations have reminded its citizens of the importance of planning for future land use in Town. In addition, due to the increasing cost of land throughout the region and in Berlin, and due to impacts from the overall economic slowdown of 2008 through 2011 likely extending another year or two, there is a heightened sense that time is of the essence with regard to open space acquisitions. Therefore, it is imperative that the Town act swiftly to take advantage of opportunities to preserve places that contribute to its character.

The plan’s highest priorities focus on continued open space preservation for protection of water resources such as waterways and wetlands, wildlife habitat and corridors, open space connections, rural and scenic vistas, and recreational enjoyment for the citizens of Berlin.



North Brook

Building upon the success achieved since 1996, the Conservation Commission has worked with the Central Massachusetts Regional Planning Commission to map future parcels for protection and will continue to work to develop this network. Outside of acquisition-related efforts, the Town's boards and commissions will work together to promote agriculture and develop regulations that shape future development that is consistent with Berlin's rural and scenic character.

Section 2: Introduction

Statement of Purpose

This Plan is an update of the 1996 Open Space and Recreation Plan and the 2004 update which have been actively used by the Planning Board and the Conservation Commission. Several key recommendations made in the previous plans have been implemented, in full or in part, and this update serves to both report on the progress that has been made as well as to set an action agenda for the next seven years. The plan will coordinate well with other Town goals and policies, and will serve as a broad policy tool to assist Town officials in protecting Berlin's rural heritage through its conservation and land use planning efforts.

The Town's overall vision for the future depends in large part upon its ability to implement its open space preservation goals. Critical is the Town's ability to support continuing agricultural use, maintain scenic vistas, protect important green space linkages that foster biodiversity, and maintain a healthy balance between conservation and active recreation on town-owned land.

Planning Process and Public Participation

The planning process began with the distribution of a proposed town-wide survey instrument to all Town boards, commissions and committees for comments, additions and deletions. The final survey was delivered to all 1204 Berlin mailing addresses/households and all PO boxes. The survey included several questions directly relating to open space planning, which are summarized in Section 6 of this Plan. In an effort to be able to measure changes in the survey results since the previous survey, many of the key survey questions were the same as in previous surveys. A summary of the responses to all survey questions is included in Appendix B.

A publicized public meeting was held on March 1, 2011 to review and discuss the survey results. Based on the survey results and meeting feedback, and meetings/discussion with Town boards, committees and commissions, the Conservation Commission and Planning Board developed the final Open Space Plan. The Conservation Commission advertised for a public meeting in two local newspapers, the Clinton Item and the Worcester Telegram. It also posted notices at the Library, Town Hall, Post Office and Lowe's Store, handed out flyers at Town Meeting and distributed flyers in Town Office mail boxes to reach all town Committees, Boards, and Commissions. The public meeting was held on May 24, 2011 to review and discuss the final Open Space Plan.

The community-wide visioning process sought public input on a wide variety of issues facing the Town, including open space and recreation resources. The vision that emerged from this process envisioned the preservation of Berlin's "small, rural town feel," which is highly dependent upon the Town's ability to preserve open space, watersheds, agricultural use and scenic view sheds.

The preparation of this Plan was coordinated by the planning firm of Brown/Walker Planners (formerly Taintor & Associates), under the direction of, and with input from, the Conservation Commission and Planning Board. Several citizens contributed to sections of the plan, as well as the Agricultural Commission, the Zoning Board of Appeals and the Recreation Committee.

Section 3: Community Setting

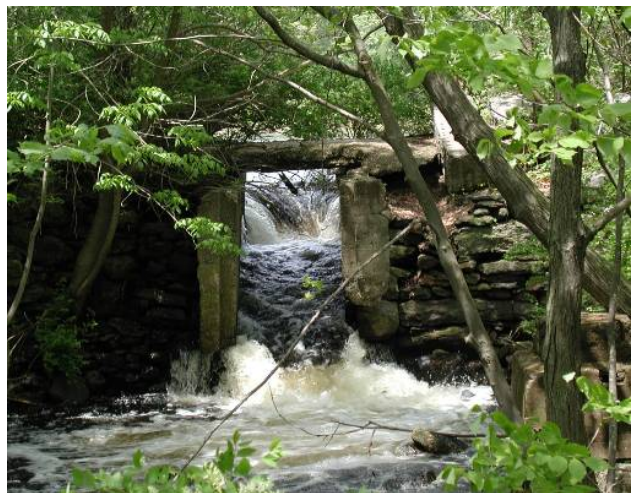
Regional Context

From a geographical context, the Town of Berlin is located in the metropolitan Worcester area in eastern Massachusetts, approximately 13 miles northeast of Worcester and 32 miles west of Boston. The Town is bounded by Hudson and Marlborough on the east, Northborough on the south, Boylston and Clinton on the west, and Bolton on the north.

For regional planning purposes, the town is part of the Central Massachusetts Regional Planning Commission region, and the Central Region defined for *Massachusetts Outdoors 2000!*, the Statewide Comprehensive Outdoor Recreation Plan. For the purpose of comparing Berlin to its neighbors, the Town chose to place it in context with ten other communities in the general vicinity - these include those which share its border, plus Sterling, Stow, Harvard, and Lancaster.

Berlin has excellent access to the regional highway system. Interstate 495 crosses the eastern side of Town from north to south, with an interchange on Route 62. Interstate 290 runs east-west just south of the Berlin-Marlborough-Northborough town boundaries, and has an interchange on Solomon Pond Road (the extension of River Road in Berlin). Route 62 crosses through the center of town from Clinton on the west to Hudson on the east.

From an ecological/hydrological context, the Town of Berlin lies in a hierarchy of watersheds. Precipitation falling on Berlin drains into three main collection streams. About two thirds of Berlin (central, southwest and western areas) drains directly into North Brook or one its several tributaries (Barefoot, Coolidge, Brewer, Wrack Meadow, Wickbee (Hale) and several unnamed brooks). The southeastern portion of Berlin drains into Gates Pond which outflows into Gates Pond Brook; the eastern area drains into Hog Swamp which exits via Hog Brook. North, Gates Pond and Hog Brooks drain into the Assabet River, which flows northeasterly through Hudson and Maynard and into Concord where it joins with the Sudbury River to form the historically famous Concord River. The Concord River flows northerly discharging into the Merrimack River at Lowell. The Merrimack, which drains much of central New Hampshire, flows east into the Atlantic Ocean at Newburyport. Ocean currents carry the Merrimack's flow southerly into Cape Cod Bay. There it swirls counter clockwise mixing with the Charles, Saugus, Neponset and other Massachusetts coastal rivers. Eventually, Cape Cod Bay spills up and around Provincetown and into the Gulf of Maine where it flows in a counter clockwise manner mixing with the great rivers of Maine, New Brunswick and Nova Scotia.



Outflow from Wheeler Pond,

Each of the above mentioned rivers has its own catchment area called a watershed. Major catchment areas (e.g. Merrimack) are called drainage basins. These have sub-basins called watersheds (e.g. the Concord in MA), which have sub-watersheds (e.g. Assabet and Sudbury), which have several sub-sub-watersheds (e.g. North and Hog Brooks), which have yet smaller, local watersheds (e.g. Barefoot, and Brewer Brooks) sort of like Chinese boxes stacked within one another. Thus any water-born pollution draining from the land in Berlin impacts the aquatic life in the Assabet, then the Concord and finally the Merrimack River. It then flows into the Atlantic to further impact the fish, shellfish and the endangered Right Whale in its Cape Cod Bay calving area, and, ultimately, the cod, haddock and other fish stocks on Georges Bank and the Gulf of Maine. Everything in nature is interconnected.

Berlin shares significant natural resources with all neighboring towns. Beginning with Bolton and progressing clockwise around Berlin's boundary:

Bolton:

- A major headwater of North Brook drains part of Bolton on the northwest side of Wattaquatic Hill. It flows through Bolton's Fyfeshire Dam Conservation area (a small portion of which is in Berlin) then into Berlin.
- Three years ago Berlin and Bolton contributed along with the Massachusetts Agricultural Preservation Restriction Program to protect the Schartner Farm with ten acres in Berlin and ~80 acres in Bolton.
- The ~80-acre Pinecrest Golf Course is half in Berlin and half in Bolton.

Hudson:

- Hudson's Gates Pond drinking water reservoir located in Berlin permanently protected 263 acres of excellent fish and wildlife habitat while providing pure drinking water to Hudson.
- Hudson also owns a 10-acre town forest and a 43-acre former landfill site, now a town well site for Hudson, located in Berlin.
- From a negative environmental perspective Berlin and Hudson share the under-construction Highland Commons shopping mall. It destroyed 100+ acres of beautiful, prime, ecologically significant woodland habitat.



Gates Pond

Marlborough:

- The Assabet River receives inadequately treated sewage from Shrewsbury, Westborough, Northborough and Marlborough before flowing through the most southerly part of Berlin as a heavily polluted and putrefied watercourse. Berlin dilutes it with pure water from North, Gates Pond and Hog Brooks.
- From a negative environmental perspective Berlin and Marlborough share the fifteen year old Solomon Pond Mall. (Note: Were it not for the fact that both Marlborough and Hudson would have built their portions of Highland Commons and Solomon Pond Malls regardless, Berlin would never have voted to allow either to enter Berlin.)

Northborough:

- The Suasco Barefoot Brook flood control dam and impoundment in Northborough is located virtually on the Berlin border and discharges clean water into North Brook.
- The 100 year old MDC Wachusett Aqueduct which enters Berlin from Clinton passes several miles through Berlin before entering Northborough could have potential for a low impact, passive trail.
- Berlin has a small conservation area located between Bellevue and Lyman Roads that abuts and is used primarily by Northborough residents.
- The Mt. Pisgah, Ball Hill, Wrack Meadow hydro geological complex is equally shared by Berlin and Northborough, and partially by Boylston. Both towns, Mass Wildlife and the APR Program have worked to protect over 2000, contiguous acres of this magnificent area to form one of the largest protected areas in the region.

Boylston:

- Berlin and Boylston share the several hundred acre Wrack Meadow area. This area is the largest area in Berlin that still possesses the wilderness values of solitude and tranquility. It has served as habitat for extended stays of moose and bear. Berlin did purchase 70 acres in Boylston as part of our effort to prevent total development of a previously privately owned 220 acre parcel. The 70 acres was gifted to the Sudbury Valley Trustees. The Berlin

Conservation Commission would like to work cooperatively with Boylston to protect the remaining area, much of it in Boylston tax title.

- Wrack Meadow Brook discharges clean water from Boylston into Berlin.
- Rattlesnake Hill straddles the Berlin / Boylston border. Berlin has protected 105 acres of it and has tried to get Boylston to protect the remainder of it, thereby creating a corridor to other Boylston conservation land and linking it to the protected Wachusett Reservoir watershed.

Clinton:

- The massive Wachusett Reservoir is located just over the western border of Berlin. It is linked by CR protected lands in both Clinton and Berlin to the Rattlesnake Hill Conservation area.
- Clinton permitted a massive Tall Pine condominium development just over the northern tip of Berlin. It destroyed one of the largest, ecologically diverse, and archeological significant areas in the region. The traffic from the development has noticeably impacted Berlin's quality of life.
- Clinton has developed extensively in recent years right up against Berlin's boundary and has negatively impacted large natural areas in Berlin.

History of the Community

Incorporated as the District of Berlin in 1784, the community had a population of 512 in 1790. The first burying ground had been given in 1768. The first Meeting House had been erected for the South Parish of Bolton in 1779. Four school houses were built in 1792 to serve the farm families spread out over the District's thirteen square miles. The District became a Town in 1812, being then empowered to send its own representative to the General Court. By the following year, Solomon Howe had erected a new tavern and store building, that continues to house a local store in 2011. The Powder House was built for the use of the local militia company in 1814.

In its early years Berlin remained a single parish, with its business transacted in Town Meeting. Town taxes supported Rev. Reuben Puffer throughout his 48-year ministry. He lived to dedicate the second Meeting House in 1826, now used by the First Parish Church. After his death, the church was marked by division, resulting in three separate churches by 1890. In addition, many local Quakers attended meeting in neighboring Bolton.

The population reached 763 in 1840, with most still farming. Shoe manufacturing started up in small local shops, being the main reason for growth to 1,100 in 1860. This brought many young men to the Town, resulting in 130 men serving in the Civil War from Berlin, 27 of who lost their lives. In 1870 the Town erected a new town hall, including therein a memorial hall. This building remains a center for community activities today.

In 1866 the first railroad was built through the Town, extending from Framingham to Fitchburg. 20 years later the Mass. Central RR was built from Boston to Northampton, with a station at Berlin Center. A large wooden shoe shop was erected in 1868 and operated until it burned in 1882. Dr. Hartshorn manufactured patent medicines locally from the 1850s until 1870. An electric car line was built through Berlin in 1900, with the power plant and car barn at West Berlin. Despite all this, Berlin's population declined to 868 in 1920. The industrial build up in neighboring towns again left farming as the Town's main occupation.

The mid-twentieth century brought slow population growth, with Berlin serving mainly as a bedroom town. This was accelerated by construction of I-495 and I-290 in the 1960s. The first zoning by-law was adopted in 1958. This was unusual in that it provided for agricultural uses alongside residential uses throughout the Town. There has been a continued desire on the part of the citizens to retain a rural atmosphere in the Town. In accepting the major commercial development of Solomon Pond Mall, the Town received significant funding to acquire open space for conservation. The 2010 population of 2,866 is Berlin's largest ever, yet it remains the smallest community in this growing area between Boston and Worcester. Supporting an active Agricultural Commission, the Town continues to value its character as a country town.



Roadside Tractors⁵

Population Characteristics

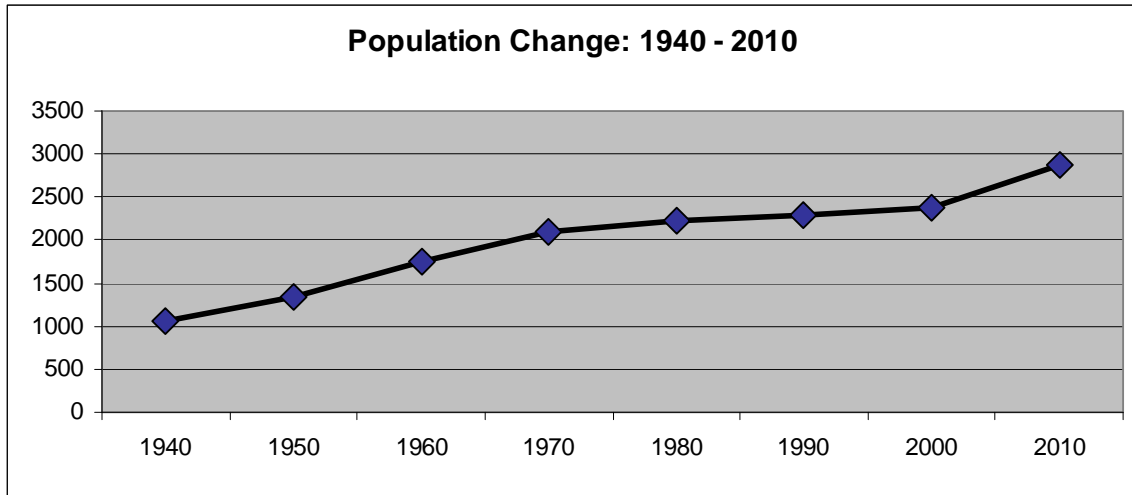
POPULATION

Berlin's population nearly doubled in the mid 1900s from 1,057 residents in 1940 to 2,099 in 1970. The next thirty years however saw growth slow to roughly only 13% in the same time frame (30 years) culminating in a population of 2,380 in 2000. However, from 2000 to 2010 Berlin experienced explosive growth, adding 486⁶ residents, more than had been added in the entire previous 30 years from 1970 to 2000! This has put significant pressure on Berlin's environment, culture and infrastructure.

⁵ Photo by Martin Miller

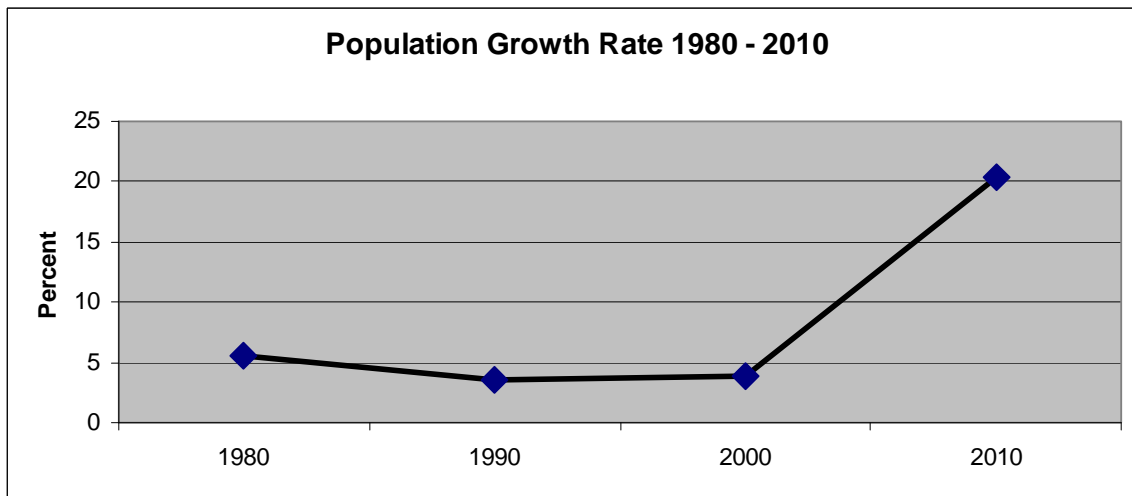
⁶ Census 2010

Figure 3: Berlin's population growth since 1940⁷



Berlin's population has nearly tripled in the last 70 years. Rapid growth of around 20% per decade occurred between 1940 and 1970 and was then followed by three decades with an average growth rate of less than 5%. Current trends however indicate that the steady slow growth the town has enjoyed for thirty years may be over. Since 2000, Berlin's population has increased to 2,866⁸, a 20% increase in the last decade alone.

Figure 4: Rate of Berlin's Population Increase by Decade: 1980 - 2010

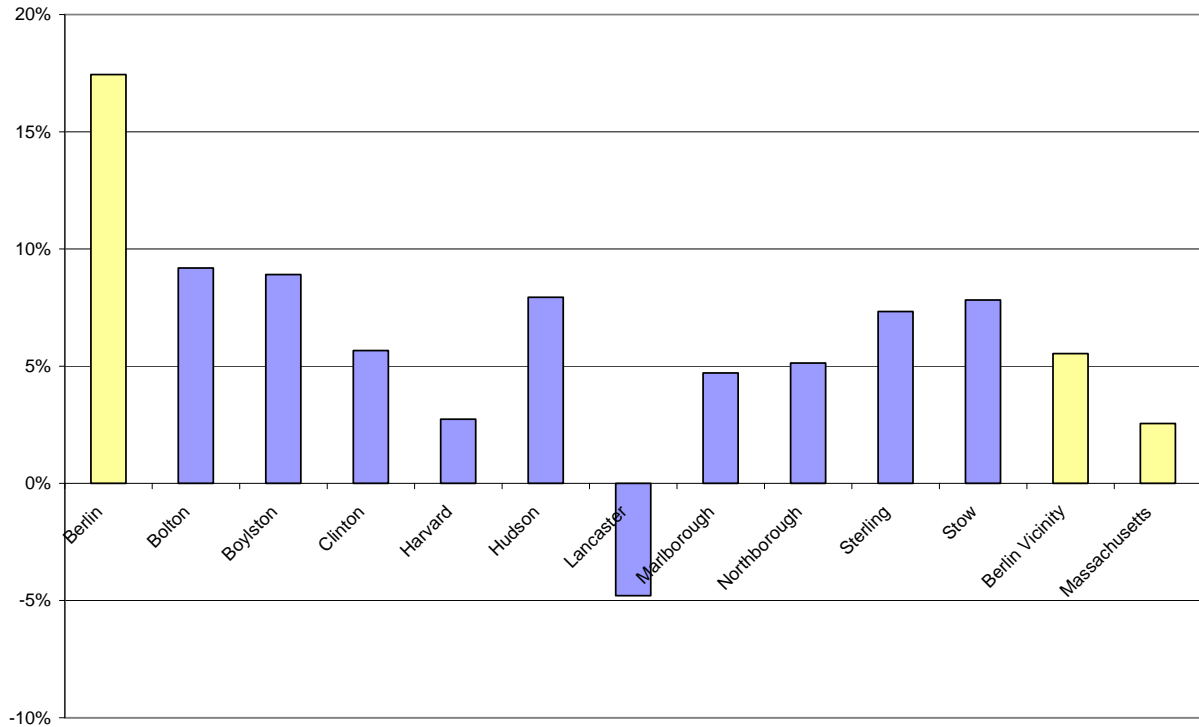


⁷1940 – 2000 data from Town of Berlin 2004 Open Space and Recreation Plan, 2010 data from Census.

⁸ Census, 2010

Figure 5: Berlin's Growth Rate Compared to 10 Area Communities, 2000-2009⁹

Population Growth Rate, 2000 - 2009



POPULATION DENSITY

Population density impacts community character and function. Low density neighborhoods generally reflect a substantial amount of public open space or private undeveloped land including large residential lots, farmland, woodlots, or wetlands. Historically higher density neighborhoods typically include houses that are closer together, have reduced private space and may have a greater amount of multi-family residential units. While density is often associated with urban neighborhoods and a lack of open space, by applying principles of smart growth such as clustering homes in town and village centers and mixing uses such as residential over retail communities can accommodate an increase in population and density without an undue consumption of open space.

Based on the 2010 population of 2,866 and the town's area, Berlin has a population density of 249 persons per square mile, or approximately 0.39 persons per acre. This is a similar population density to half of the communities in the vicinity reflecting the generally rural nature of the area. However, four of the six communities that share borders with Berlin have densities four to ten times higher indicating a development pattern that is much different than Berlin's.

⁹ Census, 2005-2009

AGE

The age of Berlin's residents has changed over the past decade with the median age increasing from 39.5 years in 2000 to 45.3 years in 2009. Since 2000 American Community Survey estimates show a 23% decline in the number of children under the age of 15, a 16% increase in residents age 15 to 24 and a 29% decrease in workforce age residents between 25 and 44. The most dramatic change can be seen in residents over the age of 55 where with all age groups combined, there is a 43% increase. These age shifts roughly correspond with state trends for residents up to the age of 64; however, the state as a whole is seeing a decrease in residents over the age of 65, while Berlin is witnessing an increase in this population segment.

Table 1: Change in Age of Population 2000-2009¹⁰

Age Group	Berlin			Statewide		
	2000 Census (% of Total)	2009 ACS Estimate (% of Total)	% Change	2000 Census (% of Total)	2009 ACS Estimate (% of Total)	% Change
under 5	7.2%	3.8%	-48.0%	6.3%	5.9%	-6.3%
5 to 9	6.6%	6.0%	-8.9%	6.8%	6.0%	-11.8%
10 to 14	7.4%	6.6%	-11.5%	6.8%	6.3%	-7.4%
15 to 19	5.5%	5.9%	5.8%	6.5%	7.2%	10.8%
20 to 24	3.4%	4.4%	27.7%	6.4%	6.8%	6.3%
25 to 34	11.0%	5.3%	-51.7%	14.6%	12.9%	-11.6%
35 to 44	19.2%	17.3%	-10.2%	16.7%	15.0%	-10.2%
45 to 54	16.6%	16.6%	0.2%	13.8%	15.3%	10.9%
55 to 59	6.4%	7.6%	18.8%	4.9%	6.3%	28.6%
60 to 64	4.1%	8.9%	116.4%	3.7%	5.0%	35.1%
65 to 74	7.6%	10.3%	36.2%	6.7%	6.5%	-3.0%
75 to 84	3.6%	5.8%	59.4%	5.0%	4.7%	-6.0%
85 and over	1.2%	1.6%	29.2%	1.8%	2.1%	16.7%

HOUSEHOLD AND FAMILY CHARACTERISTICS

Using Census estimates there were 1,057 housing units in Berlin in 2009. Nearly 86% of the units were single family and only just over 1% of all units were in structures with more than four units. Housing in Berlin is predominantly owner occupied with 17% of all housing units renter occupied in 2009. This represents a rental rate that is higher than six of its neighboring communities.

¹⁰ US Census, 2000, 2005-2009

Table 2: Comparison of Rental Units in Berlin and Vicinity¹¹

	Occupied Residential Units	Units Rented	Rental Rate
Berlin	1,057.00	184.00	17%
Bolton	1,473.00	94.00	6%
Boylston	1,697.00	251.00	15%
Clinton	5,719.00	2,300.00	40%
Harvard	1,656.00	111.00	7%
Hudson	7,871.00	2,076.00	26%
Lancaster	1,990.00	297.00	15%
Marlborough	15,443.00	5,970.00	39%
Northborough	5,144.00	864.00	17%
Sterling	2,771.00	259.00	9%
Stow	2,170.00	233.00	11%

Following national trends toward smaller households, Berlin's average household size declined from 2.72 persons per household in 2000 to 2.64 in 2009 slightly higher than the national average of 2.6 and the state average of 2.54 which rose marginally from 2.51. The 4 % drop in household size represents a smaller reduction than the previous decade which brought about a 5% decline. Berlin ranks just below the median in household size when compared to its neighbors.

The composition of the Berlin household has shifted since 2000 as well. Changes of note include a decrease in the number of single parent households, from 101 to 77. There was also an increase in the number of non family households as well as an increase in the number of residents that live alone. While 72% of all households in Berlin are occupied by family units, 25% are occupied by residents living alone.

Table 3: Household Composition, 2000 and 2009¹²

	2000		2009		Change
	#	%	#	%	#
Total Households	872		1,057		185
Family households	666	76%	766	72%	100
Married	565	85%	689	90%	124
Single	101	15%	77	10%	-24
Non family	206	24%	291	28%	85
Living alone	163	19%	246	23%	83

EDUCATION

Based on the latest available data (Census 2000) Berlin's citizens have a slightly higher level of education than the average Massachusetts resident, and they have witnessed an increase in

¹¹ Berlin Assessor's Office, US Census, 2005-2009

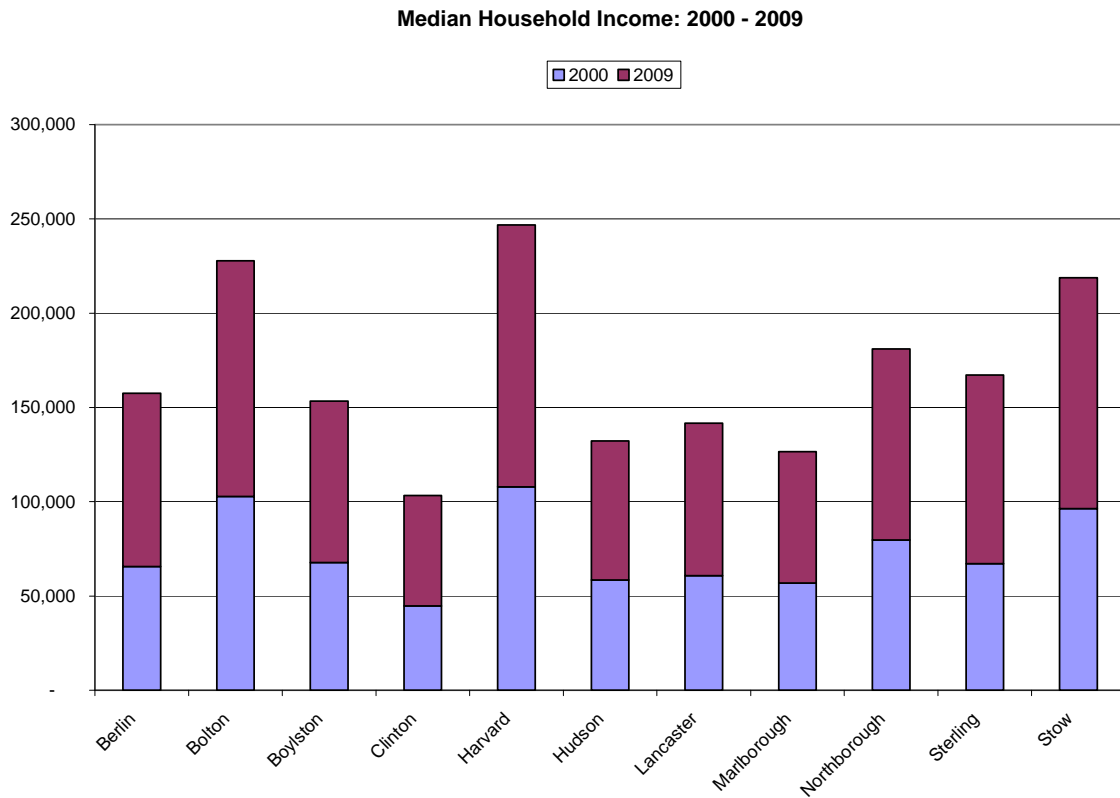
¹² Census, 2000, 2005-2009

educational attainment since 1990. Over 36% of the adult population has a bachelor's degree or higher (the State average is 33.2%, and in 1990 Berlin's average was 28%). Compared with its neighbors, Berlin's citizenry falls near the middle of the range in this regard.

INCOME, OCCUPATION AND EDUCATION

The median household income in Berlin in 2009 was \$91,856 a 40% increase since 2000 and near the average for communities in the vicinity. Berlin's neighbors have seen similar growth in household incomes ranging from a rate of 22% to 49%. While the rate of change for the vicinity was similar to that of the state (28%), the median household income for both Berlin and the vicinity is still well above the state average of \$64,496.

Figure 6: Regional Household Median Incomes, 2000-2009¹³



Berlin's labor force is 1,639¹⁴ around 56% of its total population; a profile similar to its neighboring communities. Its unemployment rate at 6.3% is among the lowest in the vicinity with only Harvard, Marlborough and Stow with lower averages.

¹³ Massachusetts Department of Revenue, Division of Local Services, At a Glance Report for Municipalities 2010

¹⁴ Massachusetts Department of Revenue, Division of Local Services, At a Glance Report for Municipalities 2010

Table 4: Regional Comparison of Labor Force and Unemployment

Community	Population	Labor Force			Unemployment Rate	
		Labor Force	as % of Population	Employed		
Berlin	2,950	1,639	56%	1,536	103	6.3%
Bolton	4,604	2,658	58%	2,483	175	6.6%
Boylston	4,373	2,317	53%	2,136	181	7.8%
Clinton	14,196	7,650	54%	6,877	773	10.1%
Harvard	6,156	2,940	48%	5,988	168	5.7%
Hudson	20,005	11,929	60%	11,130	799	6.7%
Lancaster	7,034	3,170	45%	2,882	288	9.1%
Marlborough	38,469	23,186	60%	21,748	1438	6.2%
Northborough	14,863	8,086	54%	7,568	518	6.4%
Sterling	7,786	4,527	58%	4,174	353	7.8%
Stow	6,671	3,614	54%	3,412	202	5.6%
Berlin Vicinity Avg	12,416	7,008	56%	6,503	505	7.2%

In 2010, 31% of Berlin’s labor force was employed in the production of goods including farming and manufacturing, a rate higher than all but three of its neighboring communities: Clinton, Hudson and Stow and the same rate as Sterling. Berlin had a higher percentage of workers employed in construction than all its neighbors and the lowest percent in manufacturing. Berlin and Harvard both had 5% of its workforce employed in agriculture and forestry, the highest percent in the vicinity.¹⁵

Table 5: Establishments and Employment by Industry Sector, 2010

Industry Sector	# of Establishment	Total Wages	Average Monthly Employment
Total, All Industries	94	\$4,264,754	460
Agriculture, Forestry, Fishing & Hunting	4	\$75,144	26
Construction	23	\$1,079,011	94
Manufacturing	3	\$302,985	22
Wholesale Trade	7	\$413,493	14
Retail Trade	13	\$254,697	38
Real Estate and Rental and Leasing	5	\$19,861	4
Professional and Technical Services	5	\$188,524	7
Administrative and Waste Services	10	\$538,594	49
Health Care and Social Assistance	4	\$155,677	7
Other Services, Ex. Public Admin	7	\$69,845	14

¹⁵ Labor force characteristics were obtained from the Massachusetts Executive Office of Labor and Workforce Development, based on ES 202 data (employment and wages) for June 2010.

ENVIRONMENTAL JUSTICE AND EQUITY

In 2002 the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) adopted an Environmental Justice Policy to provide equal protection and meaningful participation for all Massachusetts residents with respect to environmental regulations and policies. This policy also supports equitable access to environmental assets, which include parks, open space, and recreation areas.¹⁶ The State has identified communities that contain Environmental Justice Populations (see Map 1), those with high percentages of minority, non-English speaking, low-income, and foreign-born populations. While Berlin does not have identified environmental justice populations, this plan considers way to reduce any inequities in access to parks and recreation amenities.

¹⁶ Full text of Environmental Justice Policy at <http://www.mass.gov/envir/ej/>.

Growth and Development Patterns

PATTERNS AND TRENDS

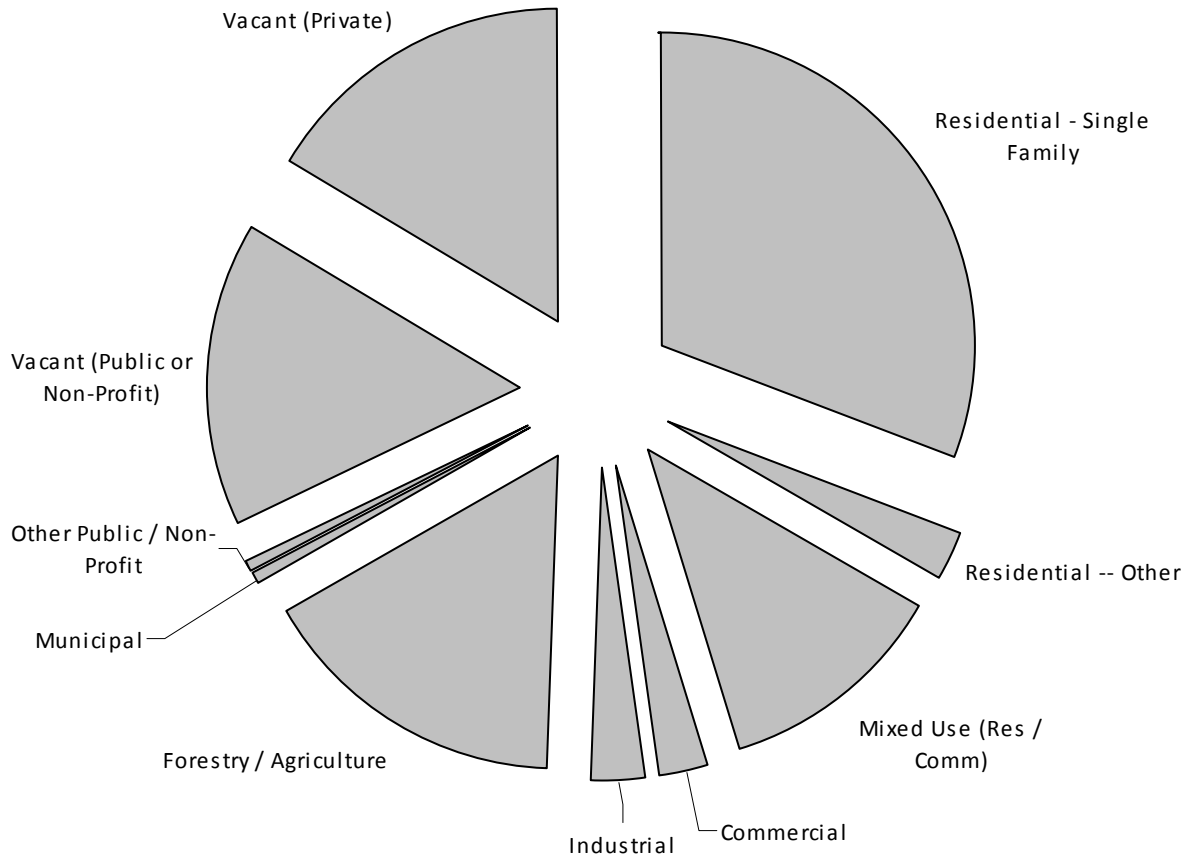
Berlin evolved as a rural, agricultural community with a center and several small villages. This pattern of settlement is still evident today even as residential density has increased along roadsides and more recently within sub-divisions, and as commercial development has expanded along Berlin's borders within regional shopping centers.



Open Land and Long Views

Distribution of land uses by land area is illustrated by Figure 7. Single family uses comprise just over 30% of the Town's overall land area. Reflective of the town's rural character, vacant and open land of all types encompasses the Town's second primary land uses with about 48% of its land area in conservation, private undeveloped, forestry or agricultural uses. The proportion of the Town devoted to agricultural use has remained relatively unchanged since 1996.

Figure 7: Current Land Use Profile (as percentage of total land area)¹⁷



Since 2004, principal changes in land use have included:

- Development of Highland Commons regional shopping center at the 495 Interchange on Route 62
- Demolition of Risi cement block manufacturing facilities on River Road West in preparation for the development of Riverbridge – a mixed use village near the rotary in South Berlin
- Rejuvenation of Old Town Hall as a center for social activities including theatre, exercise groups, coffees, art shows and meetings of various community organizations
- Purchase of the Methodist church in Berlin Center by a non-profit intending to create a community gathering space for celebrating art and music
- Sale of commercial properties that were resident-held for decades including Risi cement plant and abutting lands and Pure Hockey

¹⁷ Town Assessors database, 2010.



Entrance to Highland Commons

Agricultural and Forest Land

Active farms in Berlin still occupy about 11% of the town's land area with actively forested land occupying about 5%. The amount of forestry and agricultural land has remained fairly steady over the past two decades and continues to define the community's character. While defining the character of the community, these lands also represent the greatest potential for change if they are sold or developed. Some key farms in Berlin are highlighted below.

Berlin's active farms include five small farms that at the time of the last Open Space and Recreation Plan were known collectively as Berlin Orchards, a 400 acre farm fronting on Route 62. Today these farms offer orchards, hay production, an equestrian center and farm store and stands. The site that retained the name Berlin Orchards continues that venture; its crops are sold on site and it includes the option to "pick your own". The former Berlin Orchards barn and property, now known as Berlin Farms has been redeveloped as a farm store that sells specialty foods, a restaurant (not currently operating) and an ice cream shop. Land associated with Berlin Farms focuses on animal services including equestrian lessons and preservation of farm animal species.

Indian Head Farm on Pleasant and South Street has been family owned and operated for seven generations. Production has ranged from hops, to dairy, to hay and crops. Since the 1970's Indian Head Farm has focused on small fruit and mixed vegetables, with the addition of flowers and crop products (jam, relish, pickles) being added most recently. Indian Head farm produces in fields and greenhouses and maintains a farm stand from early spring through late fall.



Indian Head Farm¹⁸

Rainville Farm on the corner of Barnes Hill Road and Linden Street has produced and sold dairy products for multiple generations. Though it has recently sold its dairy stock and has stopped producing commercial dairy products, it continues to maintain a small herd for personal use, actively hays the farm fields, maintains vegetable gardens and orchards and associated ad hoc farm sales. Preservation of this farm through a purchase of the development rights is highly desirable.

Balance Rock Farm on Highland Street is family run dating back five generations and has been involved in the production of milk, eggs, meats, and produce. Currently, Balance Rock Farm raises naturally grown grass fed beef and lamb. They also supply hormone free chicken, pork and eggs, hay, shaving and feeds, as well as a variety of products from other local farms from their year round farm stand.

Farm lands in Berlin also include equestrian farms and facilities; a growing industry that today includes Orchard Hill Equestrian Center, Maplewood Farm, Great Oak Farm, Berlin Farms and North Berlin Farms.

It is important to note that a number of local farmers also rent vacant land in Berlin, helping to maintain active farming landscapes, even as the number of farming ventures decrease.

The following actions indicate that Berlin continues to be a community that is supportive of agriculture.

¹⁸ Photo by Martin Miller

In 2006 Berlin established an Agricultural Commission, an appointed Town standing committee whose charter is to advocate for the farming community of Berlin and to assist in mediating any dispute between farmers and neighbors and other Town boards.

As a member of the Massachusetts Farm Bureau and having established points of contact for both technical and legal assistance from the Massachusetts Department of Agricultural Resources, the Agricultural Commission can make available to the farming community information to help assure that good agricultural practices will be implemented regarding proper plowing techniques to minimize soil erosion, the use of cover crops, water conservation techniques, natural and chemical fertilizer application, composting, pest and weed control and the use of solar and wind energy. The objective is to maximize the return for those engaged in farming while utilizing modern techniques and technology to protect the environment.

On May 5, 2008 Berlin voters adopted a Farm Preservation Bylaw. The law acknowledges that all Town residents, be they backyard gardeners or commercial operations, have a right to farm. One of the goals of the law is to encourage farming and to help in maintaining the open space that farming requires and thus maintain the rural nature of the Town. The bylaw protects farmers against complaints that may arise about the nuisances that often accompany farming practices, such as dust, noise and odors. The Bylaw also requires that a full disclosure of the Bylaw be presented to potential land buyers or occupants in Berlin.

On May 11, 2009 Berlin voted to waive animal excise and farm equipment excise tax as permitted by the Commonwealth's Dairy Preservation Act 310 of 2008 that allows towns to cease assessing farm excise tax on farm animals, machinery and equipment for all farmers. The decision was felt to have minimal fiscal impact on taxpayers and the Town while helping to sustain the farming activities that currently exist in Berlin and preserve the rural quality of life.



Learning about Food and Farming at Indian Head Farm

Over 80% of residents responding to the 2011 Community Development Planning Survey indicated support (giving a 4 or 5 rating on a 1-5 scale) for preserving agricultural land and over 85% supported new farm and agriculture based businesses as appropriate commercial development in Berlin. Given the overwhelming support for the preservation of farming and farm lands in Berlin, the Town plans to actively pursue protection of these landscapes through a variety of strategies: temporary protection through enrollment in Chapter 61 programs¹⁹, conservation and agricultural restrictions, and purchase. In addition to assuring the farm lands in Berlin remain undeveloped, it is also the Town's intent to keep them in active production, thus allowing lands to be leased for farming by others. Developing partnerships with farm and food production organizations is also an important objective.

Residential Development

In 2000 Berlin's housing stock consisted of 893 units, 87% of which was detached single family homes. 2009 Census estimates show the number of units has grown by 164 units (an increase of 18%) with the percentage of detached single family homes dropping to 79% and attached single family and multi-family units increasing. No residential units are in buildings with more than nine units.

Residential development has occurred both along existing roads and within subdivisions since 2000. It is interesting to note that residential development approved under Chapter 40 B have accounted for nearly half of the 164 new units built in Berlin since 2000 and represents two thirds of all new units permitted. New residential units within subdivisions, but not permitted by Chapter 40B account for less than 20% of new units built. The balance of thirty-three homes (14% of units built) were developed along existing roads. A comparison of land consumption by these three categories of residential development is indicated in the table below. While Berlin residents are about equally divided in their support for subdivisions with a higher number of units clustered together²⁰, this type of development consumed the least amount of land for residential use overall, and considerably less per unit than any other type of residential development in Berlin over the past ten years.

Where development occurs is as critical an issue as how much development occurs. For example Berlin's most dense residential housing, Sawyer Hill co-housing is adjacent to Berlin and State Conservation lands; Berlin Woods on Dudley Road is being developed on a very steep hillside abutting wetlands; and Riverbridge, while preserving 86 acres in perpetuity, consumes significant lands along the North Brook corridor. Every effort needs to be made to preserve Berlin's ecologically significant and sensitive areas.

¹⁹ Chapter 61, Massachusetts current use programs (Ch. 61, Ch. 61A, and Ch. 61B) were created to give preferential tax treatment to those landowners who maintain their property as open space for the purposes of timber production, agriculture or recreation.

²⁰ In response to the question "what locations are appropriate for new residential development in Berlin using a scale of 1 to 5 with 1 being not appropriate and 5 being most appropriate, 30% of respondents gave a "1" rating to "Within new subdivisions that would preserve public open space by allowing houses to be built closer together and on smaller lots". 11.8 % gave a "2" rating, 13.5% gave a "3" or neutral rating, 16.5% gave a "4" rating and 28.2% gave a "5" rating.

Table 6: Residential Units Built Since 2000

	Along Existing Frontage		Within Subdivision		Within 40B Development	
	Units	Acres	Units	Acres	Units	Acres
Fielding - Gates Pond	10	58.87				
Bennet - Lyman Road	7	23.49				
Ripley - Gates Pond	2	7.00				
Gossell - Collins			10	28.09		
Estabrook- Sawyer Hill			19	58.00		
River Run - River	5	9.18				
Fritz - Crosby	2	12.79				
Whitney - Pleasant					10	6.93
Rausher - Boylston	5	24.68				
Yeiter - Pleasant			3	7.98		
Labonte - Pleasant	3	8.77				
Muldoon - Randall			1	6.16		
Sawyer Hill -Sawyer Hill					68	20.00
Total	34	144.78	33	100.23	78	26.93

Land Consumed Per						
Unit		4.26		3.04		0.35

Office and Commercial Development

Commercial and industrial uses combined account for about 5% of Berlin's land area, a number that will increase as Riverbridge is built out. Riverbridge is permitted to develop a mixed use village center on 25 acres to include retail and office uses, and a continuing care retirement facility in addition to single and multi-unit housing. Highland Commons, an 88-acre retail and office development currently under construction, will occupy a little under half of the commercial acreage in Berlin. On the Marlborough border and accessed in Marlborough, the Solomon Pond Mall occupies about 47 acres in Berlin, and Berlin Auto Parts about 25 acres. Small clusters of commercial use are found in South, East and West Berlin and the town center.

Major industrial uses, located in industrial, limited business, and commercial village zones, include Worcester Sand and Gravel on River Road, and the Berlin Stone Company on Sawyer Hill Road.

INFRASTRUCTURE

Transportation

Berlin's transportation infrastructure is composed primarily of a simple network of two-lane roadways. Unlike urban and suburban communities, there are relatively few neighborhoods in the Town with streets serving a strictly local access function.

Route 62 is Berlin's primary through route: in addition to being the main street for Berlin Center, Route 62 serves regional east-west traffic and provides a link to I-495 from Clinton and Hudson.

Other roads which provide capacity and continuity for through traffic as well as local access include South Street, Pleasant Street, River Road, Highland Street, and Linden Street.

Access to the regional highway system is provided by two limited access highways. Interstate 495 crosses the easterly portion of Berlin in a north-south direction, with an interchange on Central Street (Route 62). Berlin is also served by Interstate 290, with an interchange in Marlborough and Northborough at Solomon Pond Road (the extension of River Road in Berlin), just south of the town line.

A number of roadway and transportation infrastructure improvements have been or will be installed as a result of two recent large scale developments: Highland Commons and Riverbridge.

Highland Commons, a retail and office development with nearly 900,000 square feet of gross floor area on 163 acres generally split between Berlin and Hudson provided off-site traffic mitigation that included:

- Traffic signals along Route 62
- Intersection warning signs on Route 62 near Sawyer Hill Road
- Road widening to provide dedicated turn lanes

Riverbridge, an approved development project for a mixed-use village with 470,000 square feet of gross floor area is committed to providing (at build-out or before) transportation improvements that include:

- Widening the bridge on River Road West over North Brook
- Adding a separate pedestrian walkway over North Brook
- Continuing the sidewalk from North Brook to the rotary
- Rotary improvements
- Safety improvements at the intersections of Pleasant and South and Pleasant and Sawyer Hill

Public parking facilities are limited in the Town. On-street parking spaces are provided in the town center. A public parking area on Route 62, adjacent to Interstate 495, provides parking spaces for carpooling commuters.

Berlin is not served by public transportation.

Bicycling and Walking

The operation of a bicycle in the Commonwealth is governed by Massachusetts General Law (MGL). The law treats bicycles as vehicles, and their riders “have the right to use all public ways in the Commonwealth except limited access or express state highways where signs specifically prohibiting bicycles have been posted.”²¹ Enforcement of applicable laws is the responsibility of police departments at the state and local level.

There are no formal bicycle paths or lanes within the Town, however bicyclist use roads throughout Berlin for recreation and transportation. In addition the proposed Wayside Rail

²¹ MGL Ch 85 Sec 11B

Trail, a segment of the Mass Central Rail Trail (MCRT) when completed will travel through Berlin paralleling Route 62. The Mass Central Rail Trail generally follows the 104 mile long Central Massachusetts rail line that ran from Boston to Northampton and is the longest single off road trail proposed in Massachusetts. At present about 25 miles of the MCRT are complete and about 60 more miles are in various categories of protected status (owned by state agencies, municipalities, land trusts or conservation commissions).²² Proponents see the MCRT as a critical link in the proposed Bay State Greenway, a 740 mile, seven corridor network consisting of on-road and off-road facilities bound by a single identity.²³ Also of note is the passage of the Maine to Virginia bike route through Berlin which includes the entire length of Sawyer Hill Road and the lower half of Pleasant Street.

As a rural community, Berlin maintains a limited number of sidewalks, primarily in the Town center and around Berlin Memorial School. In the 2011 Community Development Planning Survey a number of respondents cited the need for increased sidewalks in Berlin, particularly in Berlin Center, to increase safety and expand opportunities for car free transportation and recreation.

There are a number of trails across conservation and open space areas in the Town which provide opportunities for hiking, walking, cycling and skiing. The Berlin Conservation Commission has published a trail guide to these areas, available in Appendix E. The 2011 Community Development Planning Survey results indicate that trails are highly valued by Berlin's residents: over 80% of respondents felt trails were important to preserve for Berlin's future; over 70% supported acquiring land to provide areas for informal recreation (walking, hiking, riding, skiing trails); and over 80% felt it was important to increase conservation land for walking trails, wildlife habitat, wetland preservation

Water

Berlin does not have a public water system. Residents rely on individual wells for water supply. Small community wells that serve public and/or employee use (i.e. Berlin Elementary School, Town Hall, golf club, restaurant) are located throughout Town – wellhead locations, as well interim wellhead protection areas defined by the Department of Environmental Protection (DEP), are found on Map 6.

Gates Pond, on the eastern side of Town near Interstate 495, serves as a public water supply for the Town of Hudson.

The Solomon Pond Mall, on the south side of the Assabet River, is served by an extension of Marlborough's public water system.

Highland Commons, within Berlin and Hudson east of the I-95 Exit 26 interchange is served by Hudson's public water system.

Sawyer Hill LLC is served by a private water system. Berlin Woods and Riverbridge will also develop private systems.

²² www.MassRailTrail.org

²³ www.mhd.state.ma.us

Sewer

Berlin has no public wastewater collection or disposal system. All residents and businesses use on-site wastewater disposal systems. As with water service, the Solomon Pond Mall is served by an extension of Marlborough’s sewer system, all wastewater from Highland Commons flows to an on-site treatment facility in Hudson, and Sawyer Hill LLC, Berlin Woods, and Riverbridge are to be served by private systems.

LONG-TERM DEVELOPMENT PATTERNS

Land Use Controls

Berlin’s Zoning By-Law divides the town into seven regular zoning districts and five overlay districts. Most of the town (84%) is included within the Residential and Agricultural District (RA), which permits agricultural uses and single-family residences with a minimum lot area of 80,000 square feet. Also permitted in this district are roadside farm stands and home occupations, as well as several uses requiring the issuance of a special permit. Accessory apartments, either within the main structure or in a pre-existing detached building, may be established by special permit.

Table 7: Berlin’s Zoning Districts

Zoning District	% of Land Area
RA	84.3
ARC	7.5
LB	5.9
CV	1.3
LI	.6
C	.5

The Agricultural-Recreation-Conservation (ARC) District, adopted in 1997 is the second largest zone. In this district uses are restricted to agriculture, recreation, and municipal/public utilities. ARC zones coincide with the Town’s protected open spaces.

The Town’s zoning by-law provides for three types of commercial districts – Village Commercial, Commercial, and Limited Business. The Village Commercial (CV) district allows small-scale uses in three historic village centers: Berlin Center (Central Street), West Berlin (West Street and Randall Road) and South Berlin (South Street and Pleasant Street), plus the area around the South Berlin rotary and River Road. In addition to the uses permitted in the Residential and Agricultural District, the Village Commercial District allows (via special permit and site plan review) retail stores, offices, banks and restaurants, funeral homes, production and sale of arts and crafts items, and similar businesses.

The Commercial District (C) is established in three locations: West Street north of Allen Road; Carter Street between Highland Street and Route 62; and Coolidge Street between Interstate 495 and the Hudson town line. This district allows a greater range of uses than the Commercial Village zone. Larger retail and office uses and gasoline service stations, garages, repair shops and shopping centers are permitted.

The Limited Business District was created to permit office, educational, recreational, research and development, and conference and training center uses. It comprises about 6% of the

Town's overall area. This zone includes four overall areas, along Sawyer Hill Road at Wheeler Hill, at the I-495 interchange, along River Road north of the rotary extending along the Marlborough/Hudson borders to I-495, and a very small area south of North Brook at the Marlborough line.

The Limited Industrial District allows research laboratories, manufacturing, building materials, salesrooms, warehousing, wholesale distribution, printing and publishing, and other uses. This district is limited to a 48-acre area that corresponds with the Solomon Pond Mall development, southeast of the Assabet River on the Marlborough line, with no street frontage in Berlin.

The Flood Plain District is an overlay district encompassing the 100-year floodplain of North Brook, Brewer Brook and the Assabet River, as shown on the 2011 Flood Insurance Rate Maps. It extends along North Brook from Linden Street to the Assabet River, and along the Assabet River in the southeast corner of the Town. Within this district, a special permit is required for any new, substantially improved or relocated structure, and for any dumping, filling or excavation of any material. Encroachments that would result in any increase in flood levels during the 100-year flood are prohibited.

The Regional Shopping Center Overlay District (RSCOD) was adopted in 1994 to permit the construction of the Solomon Pond Mall off Solomon Pond Mall Road at the Berlin-Marlborough line. The RSCOD is an overlay to the Limited Industrial District at that location. The regulations for the district define the uses that may be included in a regional shopping center, and include standards for intensity of use, lot and building dimensions, parking and loading, signage, building design, noise, and lighting.

The Senior Residential Development Overlay District was established in 1999 and may overlay any other zoning district. It was created for the purpose of permitting Senior Residential Development in specific areas of Town, as approved by Town Meeting.

The Highway Shopping Center Overlay District (HSCOD) was adopted in 2008 to permit the development of Highland Commons, a large scale, integrated shopping center and office uses near the Interstate highway exchange on Route 62. It overlays land within the Agricultural/Recreational/Conservation District, Commercial District, and Residential and Agricultural District in that area. The regulations for the district define the uses that may be included in a highway shopping center, and include standards for intensity of use, lot and building dimensions, parking and loading, signage, building design, noise and lighting and define approval procedures.

The Village Overlay District (VOD) was adopted in 2009 to permit the development of a mixed use village near the rotary in South Berlin that integrates residential, retail, service, and public use components, balances conservation and development goals, and protects and enhances the character of the natural and cultural resources. The VOD overlays portions of the Residential and Agricultural District, Commercial Village District and Limited Industrial District. The regulations for the VOD define the uses allowed, include design and performance standards, and define approval procedures

In addition, there is a provision in the Bylaw for Telecommunications Facilities. Sometimes referred to as the Telecommunications Overlay, it allows for the installation of stealth

monopoles throughout Berlin (with the exception of the Commercial Village) subject to requirements further detailed in the Bylaw.

Potential Land Use Change

The Town of Berlin continues to be one of only a few in the vicinity (others include Bolton and Stow) that choose to not develop public water and sewer systems to serve any part of town. The lack of public water and sewer, along with the area's thin soils, and generally low density permitted under Zoning By-Law has helped to restrain development and its resultant impacts on the Town's environmental resources to date. However, about 11% of the land in Town is classified as developable or potentially developable. In addition, about 16% of the land in Town is in agricultural and forestry use, most of which is only under partial protection (via Chapter 61). With this amount of available and potentially developable land in Berlin, it is likely that the Town will continue to attract new residential and commercial development that has the potential to incrementally consume the landscapes that contribute so greatly to the Town's rural character. Berlin has considered a number of strategies to manage growth.

Prior to 2000, Town Meeting rejected a Residential Cluster Bylaw proposed by the Planning Board that would have allowed the development of residential units on smaller lots, and required the preservation of open space within the development site. Given the community's desire to manage residential growth, a revised bylaw should be considered.

In 2000 Berlin adopted growth management zoning (Article 15) in order to assure that residential growth would not outpace the Town's capacity to provide services and facilities to support its population and would preserve community character. The article which expired on June 1, 2010 limited building permits to no more than 15 per year with exemptions included for low or moderate income housing with deed restrictions for a specified period.²⁴ Even with this growth management policy in place, housing units grew by 18%, largely as a result of Chapter 40B development.



View from along Sawyer Hill Road

²⁴ The limit of 15 was representative of the number of units generally developed in each of the five years prior to adoption of the article.

Continuing to manage the rate and type of residential development is important to Berlin’s residents. Over 75% of respondents to the 2011 Community Survey indicated support for managing residential growth a clear directive for the Town to continue to adopt policies and regulations that encourage smart growth and low-impact design.²⁵

Berlin has permitted 182 new housing units within subdivisions since 2000, as listed in the following table.

Table 8: Approved Subdivisions Since 2000

Name	Year Approved	Acres	# of Lots	# of Units
Estabrook/Sawyer Hill	2003	58	20	19
Gossell Farm	2003	28	11	10
River Run (40B)	2004	27	5	32
Whitney Estates (40B)	2005	7	10	10
Kendall Lane	2006	8	4	4
Powers Road	2007	6	3	3
Sawyer Hill, LLC (40B)	2007	65	68	68
Berlin Woods (40B)	2008	62	16	32
Summer Road	2009	16	4	1
Powell Road	2009	6	3	3

It is important to note that four projects representing 142 of the 182 units permitted were approved under Chapter 40B regulations. These include 68 co-housing units on Sawyer Hill that were developed under a Local Initiative Program (LIP)²⁶ and another ten units that were developed within duplexes off Pleasant Street. Two of the Chapter 40B developments with a combined total of 64 units have not been built to date; River Run and Berlin Woods. The River Run site was sold and a development restriction placed on it to prevent development of the permitted housing. Berlin Woods is currently being down-sized and is expected to be built in the near future.

Berlin has been under pressure from Chapter 40 B development (also known as Comprehensive Permit) through the past decade because it did not meet the State’s threshold of 10% affordable housing stock.²⁷ When a community is below the 10% affordable housing threshold developers providing affordable units to a minimum of 25% of owner-occupied units can override local zoning and appeal local zoning board denials or restrictions to a state "Housing Appeals Committee" (HAC). Berlin’s 2006 Housing Production Plan noted that only 4.81% of Berlin’s

²⁵ The Village Overlay District approved in 2009 incorporates many principles of smart growth including preserving open space, promoting diverse housing types, promoting efficient land use through compact mixed use development.

²⁶ Local Initiative Program is a state program that provides technical assistance to developers and municipalities seeking to develop housing that serves households at or below 80% of the area median income within mixed-income (market and affordable) housing developments.

²⁷ Affordable housing as it pertains to MGL Chapter 40B is defined by statute as housing that is affordable by people making 70% of the median income for a given area, adjusted for family size. In order to be counted as "affordable" units toward the 10% mandated by Chapter 40B housing statute, however, the housing also has to be built utilizing state/federal subsidies (including the LIP process and/or Community Preservation Act (CPA) funding) and must be deed-restricted to remain affordable for a certain time period (5 years for rental and 15 years for owner-occupied units).

housing stock qualified as affordable according to state statute. On December 16, 2010 however, the Town received a letter from the Department of Housing and Community Development certifying that the Town of Berlin is in compliance with its Affordable Housing Plan. Its current Subsidized Housing Inventory on that date stood at 11.22%. The 2010 Census however shows that housing units in Berlin have increased to 1,189 thus the Town will temporarily fall short of its affordability goals. But, with the increase in the number of affordable units anticipated to be built under the approved Development Plan for Northbrook Village, the Town will again exceed the 10% threshold and regain its right to apply zoning standards and criteria to manage development.

Illustrative drawing of Main Street Riverbridge²⁸



The last "buildout analysis" of the town conducted by the Executive Office of Environmental Affairs (2000) estimated that 4,634 acres remained potentially developable under current regulations. This maximum allowable scenario projected the possibility that if all remaining land were built upon, Berlin could increase its population by over 150% by adding over 1,300 residential units. This would increase the population density in Berlin to 282 persons per square mile, just exceeding the current density of Boylston (273).

While Berlin's population grew at a modest 3.5% to 5.5% a decade from 1980 to 2000, the past decade has seen the population rate surge to over 20%. This shift may be an indication that greater efforts are needed to preserve the resources and quality of life so valued by Berlin's residents. In addition, residential development along roadsides consumed land at a rate of over four acres per unit and within conventional subdivisions at a rate of over three acres per unit. Flexible subdivisions that allowed clustered homes on smaller lots only consumed about one third of an acre per unit.

Consistent with the findings of the Town's 2004 Open Space and Recreation Plan, results of the 2011 survey show that while residents feel that overall growth should be managed, they remain more concerned that the quality and location of new development has the greater potential to impact the Town's natural resources and rural character.

²⁸ Illustration by Architect Daniel Lewis



Residential Development along Existing Roads

So the issues of growth and environmental impact are quite clear given the following. Senior Residential developments will only be allowed in the future through a Town Meeting vote as outlined in the Town's zoning by-law²⁹. When the Riverbridge and Northbrook II projects are developed the Town will have attained the state's goal of 10% affordable housing and will not be threatened by Chapter 40B developments. But the development of single family homes on existing roads and new subdivisions is likely to be held in check only with an aggressive response on the part of the Town. The acquisition and protection of strategic parcels of land, the passage of the Community Preservation Act and new zoning by-laws that provide growth management tools will all be necessary if Berlin is to maintain what the residents of the Town have clearly identified as their most important priority – open space and rural character.

²⁹ Berlin Zoning By-law Article 4, subsection 430 Senior Residential Development overlay District

Section 4: Environmental Inventory and Analysis

Geology, Soils, and Topography

The Town of Berlin is characterized by an interesting and varied landscape. A series of broad ridges and valleys traverse the area from southwest to northeast following the prominent regional geologic trends of the eastern United States. The uplands, including Barnes Hill to the west, Coburn Hill and Peach Hill to the north, rise to elevations of 400 to over 600 feet. North Brook and its tributary streams follow intervening valleys and cut across the ridges to drain southeastward to the Assabet River in South Berlin.

The upland ridges are characterized by numerous bedrock outcrops, in some instances forming dramatic cliffs. The tops of Barnes Hill, Peach Hill, and Sawyer Hill are particularly scenic, offering views east to the skyline of Boston and west to Mount Wachusett. The uplands are covered by a thin soil called glacial till, a mixture of materials ranging from fine silt to large boulders that was ground up and left behind the continental ice sheet that covered the region 10,000 years ago. As the ice retreated northward, the densely packed, unsorted material was exposed along with large erratic boulders that are found in clusters and widely scattered throughout the area. Numerous stone walls still traverse the wooded slopes, a reminder of the rocky soil that made life difficult for early farmers who cleared the forests for fields and pastures.

The lowlands are typically mantled by thicker soil deposits including glacial till and water transported sediments deposited in streams and lakes that formed near the retreating ice margin. The best agricultural soils are formed on these deposits located along the flanks of the North Brook and Assabet River valleys. As is typical in New England, less favorable upland soils were and continue to be used for agricultural purposes such as pasture and orchard.

The geologic conditions that control the scenic and agricultural aspects of the Town also influence the potential for development of Berlin. The thin rocky soils and bedrock outcrops found widely in the Town have made it difficult to site septic systems. Municipal services such as sewer and water are unlikely to be provided to large areas of Town because of the widespread occurrence of shallow bedrock, and prohibitive expense related to the Town's low density. Impervious soils and shallow bedrock on hillside slopes create localized wet conditions that limit development in some areas. Extensive wetlands are also present along the North Brook and Assabet River and their tributaries.

These natural limitations of soil, bedrock and high groundwater have resulted in slow residential growth for the Town in the past. However, new Department of Environmental Protection Title 5 regulations may open up more marginal properties to potential development.

In summary, the Town of Berlin has a unique natural character that results from a combination of geologic factors. In the past, the physical and cultural development of the Town has been controlled to a large degree by the natural limitations of topography, soil, bedrock, groundwater and surface water of the area. While the original agricultural and rural aspects of Berlin were constrained by the natural limitations of the physical environment, future residential development will likely be less restricted as technological innovations are implemented.

SOILS LIMITATIONS FOR DEVELOPMENT

The previous section outlined the general types of soils limitations to development in Berlin. This section provides a more detailed discussion of these limitations, and identifies the areas of the Town where these limitations are most restrictive.

In 1973 the Soil Conservation Service prepared a report on soils in Berlin³⁰. Subsequent reports prepared for Northeastern Massachusetts and for Middlesex and Essex Counties were prepared in 1982 and 1985, respectively^{31,32}. As part of the Northeastern Massachusetts study, a series of soil survey maps were prepared as overlays on aerial photographs. The maps covering Berlin were later updated in 1984 and used as the basis for the analysis of soils in the Town.

A complete list of soils found in the Town is presented in Table 6, which correlates the series names from the 1973 study with those shown on the 1984 map. The following discussion presents an overview of the dominant soil types in Berlin and their associated development limitations.

The most widespread soil group in Berlin is the *Chatfield-Hollis-Rock outcrop complex*, which comprises 29% of the Town's area. This complex is based on the Chatfield and Hollis soils, both of which occur on bedrock-controlled uplands. Chatfield soils are moderately deep, and are well drained to excessively drained. Hollis soils, in contrast, are shallow and excessively drained. The major limitations of both types relate to depth to bedrock, rockiness and slope. The Chatfield-Hollis soils have severe limitations for septic tank absorption fields and building site development, based primarily on depth to bedrock and slope. These soils are not considered to be important for farmland.

The second most prominent soil series in Berlin is the *Paxton* series, which covers 18% of the Town. Paxton soils are deep, well drained soils on drumlins. These soils are stony and have moderate to slow permeability, and their major limitations are based on slow permeability, slope and stoniness. The Paxton series is classified as having moderate to severe limitations for septic disposal and building site development, based primarily on slope, slow percolation and wetness. Paxton fine sandy loam with 3-8% slopes is considered a prime farmland soil, and several other soil types in this series are considered to be of statewide importance for farmland.

³⁰ U.S. Department of Agriculture, Soil Conservation Service, Soils and Their Interpretation for Various Land Uses – Town of Berlin, Massachusetts (March 1973).

³¹ U.S. Department of Agriculture, Soil Conservation Service, Northeastern Massachusetts Interim Soil Survey Report (February 1982).

³² U.S. Department of Agriculture, Soil Conservation Service, Soil Potential Ratings for Septic Absorption Fields – Middlesex and Essex Counties, Massachusetts (March 1985).

Table 9: Berlin Soil Types

1973 Soil Series	Acres	Percent		1984 Soil Series
Au Gres loamy sand	15	0.2%		?
Belgrade very fine sandy loam	26	0.3%		?
Birdsall silt loam	18	0.2%		?
Canton extremely stony fine sandy loam	487	5.8%	Cc	Canton fine sandy loam, extremely stony
Canton fine sandy loam	189	2.2%	Cb	Canton fine sandy loam, very stony
Canton very stony fine sandy loam	143	1.7%	Ca	Canton fine sandy loam
Deerfield loamy sand	25	0.3%	De	Deerfield loamy sand
Fresh water marsh	12	0.1%		?
Gravel pit	127	1.5%	Pg	Pits, gravel
Hartland very fine sandy loam	14	0.2%		?
Hinckley loamy sand	651	7.7%		?
Hinckley very stony fine sandy loam	11	0.1%	Hk	Hinckley sandy loam, very stony
Hollis extremely rocky fine sandy loam	1,868	22.1%	Ch	Chatfield-Hollis-Rock outcrop complex
Hollis fine sandy loam	118	1.4%	Ch	Chatfield-Hollis-Rock outcrop complex
Hollis very rocky fine sandy loam	485	5.7%	Ch	Chatfield-Hollis-Rock outcrop complex
Made land	163	1.9%		?
Merrimac fine sandy loam	645	7.6%	Me	Merrimac fine sandy loam
Muck	407	4.8%	Fm,Sw	Freetown muck, Swansea muck
Paxton extremely stony fine sandy loam	602	7.1%	Pc	Paxton fine sandy loam, extremely stony
Paxton fine sandy loam	258	3.1%	Pa	Paxton fine sandy loam
Paxton very stony fine sandy loam	679	8.0%	Pb	Paxton fine sandy loam, very stony
Quarry	29	0.3%	Pm	Pits, quarry
Raynham silt loam	41	0.5%	Ra	Raynham silt loam
Ridgebury fine sandy loam	27	0.3%	Rd	Ridgebury fine sandy loam
Ridgebury very stony and extremely stony fine sandy loam	184	2.2%	Rs	Ridgebury fine sandy loam, extremely stony
Rumney fine sandy loam	18	0.2%		?
Saco silt loam	28	0.3%	Sa	Saco silt loam
Scarboro fine sandy loam	127	1.5%	Sc	Scarboro mucky fine sandy loam
Scituate extremely stony fine sandy loam	28	0.3%		?
Stripped land, sands and gravel	5	0.1%		?
Sudbury fine sandy loam	43	0.5%	Sd	Sudbury fine sandy loam
Walpole fine sandy loam	27	0.3%	Wa	Walpole fine sandy loam
Wareham loamy sand	39	0.5%		?
Whitman loam	35	0.4%	Wg	Whitman loam
Whitman very stony and extremely stony loams	70	0.8%	Wh	Whitman loam, extremely stony
Windsor loamy fine sand	97	1.1%	Wn	Windsor loamy fine sand
Woodbridge extremely stony fine sandy loam	257	3.0%	Wt	Woodbridge fine sandy loam, extremely stony
Woodbridge fine sandy loam	118	1.4%	Wr	Woodbridge fine sandy loam
Woodbridge very stony fine sandy loam	175	2.1%	Ws	Woodbridge fine sandy loam, very stony
Water	144	1.7%	W	Water
TOTAL AREA	8,435	100.0%		

The *Canton* series represents about 10% of the Town's area. Canton soils are well drained sandy and loamy soils on uplands, with very stony or extremely stony surfaces. Their major limitations are related to slope and stoniness. The least stony Canton soils with gentle slopes are rated as "prime" farmland; and several other soils in this series are considered to be of statewide importance for farming.

Hinckley soils, covering about 8% of the Town, are deep, excessively drained soils. Their major limitations relate to slope and droughtiness. Except on slopes above 15%, *Hinckley* soils have only slight to moderate limitations for septic tank absorption fields, dwellings, small commercial buildings and local roads. They are not considered to be prime or important farmland soils.

Although the *Merrimac* series covers only about 8% of Berlin's area, it occurs in areas that are vital to the character of the Town: examples include South Commons and South Berlin from the rotary to the cemetery. These soils are deep, somewhat excessively drained soils with sandy loam surface soil and subsoil over sand and gravel. Their major limitations are related to slope. *Merrimac* soils with slopes up to 8% have only slight limitations for septic systems, dwellings and small commercial buildings; from 8% to 15% slope these soils have moderate limitations; and over 15% slope the limitations are severe. *Merrimac* soils with slopes of less than 8% (which is the case for most of these soils in the Town) are classified as "prime" farmland; areas with slopes up to 15% are considered "important" farmland.

These five series represent nearly three-fourths of the Town's land area.

Soils limitations for septic systems are indicated on Map 2, Soils Limitations. In this map, soils that are rated as having "low" or "very low" soil potential indices for septic disposal are grouped together, and those with "medium", "high" or "very high" indices are combined (Gravel pits and urbanized areas with high coverages are not rated.)³³. As this map indicates, much of the Town is covered by soils that have severe limitations for development. The areas with least limitations for development are concentrated along the North Brook corridor from West Berlin to the Assabet River, including most of the Town center; along the Assabet River; along an unnamed brook in East Berlin; and along Central Street (Route 62) from the Hudson line to Sawyer Hill Road.

These areas with the best soils for septic systems and building site development also tend to contain open space and recreational areas that are important elements of the Town's character: among such areas are South Commons, the South Berlin area (including Indian Head Farm and the flats south of the rotary), the Suasco flood control area between Linden Street and West Street, and the northern slope of Sawyer Hill. As noted above, these areas include the best farmland in the Town.

It should be noted that poor potential for septic systems or building development does not mean that such development will not occur. The Town has recently seen examples of development in areas with soils that are rated as having low potential. These areas include the residential developments on Barnes Hill (Ball Hill Road); on Coburn Hill on Cobrun Road; on Sawyer Hill on Sawyer Hill Road, and the development of several homes on Boylston Road. As the demand for land in and around Berlin increases, and changes in Title 5 expand the options for private wastewater disposal, more "undevelopable" land will be converted to residential use.

³³ These ratings are from the 1985 report for Middlesex and Essex County. The rating system in the 1982 report for Northeastern Massachusetts focuses on soil limitations rather than potential; however, the grouping of soils is essentially the same.

Landscape Character

Lying within the Boston-Worcester area, Berlin has nonetheless retained a great degree of its rural character. Several important farm landscapes and vistas contribute to this character. Probably the most important of these are the orchards and fields along Central Street (Route 62), including Berlin Farms, Orchard Hill Equestrian Center and Berlin Orchards. These farms provide a gateway into the Town from Interstate 495; and the view back to Berlin Orchards and Sawyer Hill from the intersection of Central and Pleasant Streets is frequently cited as one of the most important vistas to Berlin residents. Equally beautiful, although seen by fewer people, are the views from the top of Sawyer Hill. Other farm landscapes include Balance Rock Farm on Highland Street just north of the center of Town, Rainville Farm on Barnes Hill Road, and Indian Head Farm on Pleasant Street in South Berlin.

A number of other special landscapes in Berlin also help to define the Town's character. The "flats" along River Road south of the South Berlin rotary—where the floodplains of North Brook and the Assabet River merge together—create a broad vista that demarcates this southern gateway to the Town. Meadows like the Devine property on Linden Street create vistas from local roadways.



South Berlin Flats

Water Resources

WATERSHEDS

Except for a tiny section in the northwest corner of the Town, Berlin lies entirely within the Suasco (Sudbury-Assabet-Concord) Watershed. The Town is divided into a number of smaller sub-basins based on the stream systems that drain into the Assabet River. The upper North Brook sub-basin encompasses most of the western third of the Town, between Rattlesnake Hill on the west, Barnes Hill on the south, and Wheeler and Powderhouse Hills on the east. A second sub-basin includes Brewer Brook and the middle stretch of North Brook, as well as Cooledge Brook in Northborough, and extends easterly to Sawyer Hill. The third large sub-basin includes

the eastern third of the Town, including Hog Swamp, Gates Pond and the mouth of North Brook, and extends northerly and easterly, encompassing much of Hudson.

The Suasco Watershed Initiative works to protect and enhance the watershed, and has set five top priority goals for the region:

- Gather sufficient water quality data to help determine the areas most affected by point & non-point source pollution
- Work to understand Watershed hydrology to aid in decisions concerning Inter-Basin Transfer Act and Water Management Act permit requests
- Work to maintain a healthy, seasonal variability of stream flow to sustain aquatic and terrestrial biodiversity
- Decrease impervious surface area and local water consumption
- Support the Suasco Watershed Community Council in providing outreach & education to the Community

In addition the Organization for the Assabet River (OAR) is a non-profit organization that works to promote improved water quality in the Assabet. OAR pursues this goal through a variety of educational, recreational, clean up, and water quality monitoring programs.

SURFACE WATER

The Town has four major ponds, all of them created or enlarged by dams. In the eastern part of Town, Gates Pond is a water supply source for the Town of Hudson, and is classified as Class A under Massachusetts Surface Water Quality Standards. More than three-fourths of the shoreline is owned by Hudson.



Dammed Pond of North Brook (Lester Ross Suasco Area)

The Town has two main stream systems—the Assabet River and North Brook. The Assabet River crosses the southeast corner of the Town from Marlborough to Hudson. Land in Berlin on the south side of the river is accessible only from Solomon Pond Mall Road in Marlborough. The Assabet is classified as Class B in Berlin, which is described as “a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.”³⁴

The North Brook system is Berlin’s major river system, encompassing the south and west portions of the Town. North Brook enters the northwest corner of the Town from Bolton and flows southerly to West Berlin, then turning southeasterly to its outflow into the Assabet River. There are two important water bodies along the brook: the ten-acre pool in the Lester Ross Suasco flood control project (between West Street on the north and Linden Street on the south), and the eighteen-acre Wheeler Pond (Old Mill Pond) off Pleasant Street in South Berlin.

Several smaller streams feed into North Brook. Brewer Brook flows from Wheeler Hill south between Powderhouse Hill and Sawyer Hill, joining North Brook between South Street and Pleasant Street.

³⁴ 314 CMR 4.05



North Brook

AQUIFERS AND AQUIFER RECHARGE AREAS

The Town of Berlin relies on groundwater for all private water supplies within the town. The town does not have a public water supply system, and residents and businesses use individual wells to provide their water, with few exceptions³⁵

A geologic formation that can easily yield a significant amount of groundwater is called an “aquifer”. As water is withdrawn from an aquifer or discharged to surface waters, it is replenished by water that moves down from the surface through permeable materials. The aquifer’s “recharge area” is an area on the land surface below which groundwater moves down to replenish the aquifer. Such areas must be protected from actions that might reduce the downward flow of water, or that might contaminate groundwater supplies.

DEM has identified four aquifer areas with potential for medium (100-300 gallons per minute (gpm)) to high (300+ gpm) yield. The largest of these follows the course of the Assabet River from Muddy Pond in Marlborough through the southeast corner of Berlin and into the southwest corner of Hudson. Most of this area is estimated to have potential for medium yield; however, a small area off River Road at the Hudson town line may have high yield potential.

The second potential aquifer area extends from Gates Pond to the former Hudson landfill and Crystal Spring in northeast Berlin. The potential high yield portion of this aquifer is crossed by Interstate 495.

³⁵ The Solomon Pond Mall receives water from an extension to the city of Marlborough’s public water supply system. The wells serving the Northbrook Village senior citizen apartment development are classified as a “public water supply” based on the number of residences that they supply. In addition, about five wells in Berlin are classified as “non community public water supplies” based on use: these include wells serving the Berlin Memorial School, the Berlin Country Club, two restaurants and an office building.

A third potential aquifer runs along North Brook from the Suasco flood control project area to Wheeler Pond in South Berlin. The former Berlin landfill sits at the edge of this aquifer, and the Fitchburg railroad line runs through the portion with highest potential yield.

The fourth and smallest aquifer identified by DEM is in the northwest corner of Berlin, in the area where Lancaster Road crosses into Bolton. The Fitchburg railroad line runs along the edge of this area.

FLOOD HAZARD AREAS

When a water body, such as a stream or lake, can no longer accommodate increased discharge from heavy rains or snow melts, the excess water flows onto the land adjacent to these surface water areas. "Floodplains" are those land areas that are likely to flood during a storm event, and are classified according to the average frequency of flooding. Thus, the "100-year floodplain" is that area of land that will be flooded, on average, once in every 100 years; that is, it has a one percent chance of being flooded in any year.

Development in floodplains is regulated in order to reduce threats to health and safety and damage to property. Unregulated development in floodplains can increase flooding, resulting in potential property damage. In addition, water contamination from flood-damaged sewage or septic systems and debris swept downstream from flooded properties can result in hazards to persons and property downstream. Berlin has very few flood-prone structures, major damage in the 1955 flood having been largely confined to roads and bridges.

Floodplains are delineated on the basis of topographical, hydrological and development characteristics of the particular area. The Federal Emergency Management Agency (FEMA) mapped Berlin's 100-year and 500-year floodplains in 1979, and published a Floodway Map and Flood Insurance Rate Map (FIRM) in 1980. Section VIII of the town's zoning by-laws establishes a Flood Plain overlay district based on the Floodway Map, FIRM and accompanying Flood Insurance Study.

A small watershed and flood protection plan was developed for the Suasco (Sudbury–Assabet–Concord) watershed by the U.S. Soil Conservation Service, the Massachusetts Water Resources Commission, and the Soil Conservation District. As part of this plan, two flood control projects were constructed in Berlin in the 1970s: the Lester Ross Project on North Brook, and the Brewer Brook Project. These dams were designed to store 20 acres of flood flows to protect downstream areas in Hudson from flooding.

WETLANDS

Wetlands, including marshes, swamps and bogs, serve a number of vital roles in both the natural and built environments. First, wetlands are highly productive systems, and provide important habitat for many species of wildlife. They also act as "sponges" absorbing and detaining surface waters. In this latter role, wetlands are critical to maintaining the quantity of water supplies by maintaining relatively stable groundwater levels and preventing downstream damage from flooding. They also protect water quality by filtering out pollutants and thereby reducing the contamination of streams, lakes and groundwater.

Because of the important roles played by wetlands, it is essential that they be protected. Activities which replace wetlands with impervious surfaces result in increased runoff rates, reduced flood storage, and elevated peak flows, leading to greater damage from storms. Filling of wetlands also reduces wildlife habitat and plant diversity, and can increase contamination of streams, rivers and ponds due to reduced filtration of pollutants.



Cattails along the Waters Edge³⁶

Under the Wetlands Protection Act (M.G.L., Ch. 131, sec. 40) wetlands are defined in terms of vegetative cover (rather than on the basis of soil characteristics), and the Act regulates dredging, filling or altering areas within 100 feet of such wetlands. The Conservation Commission proposed and the 2003 Town Meeting passed a local wetlands bylaw that would enhance the group's review authority.

Vegetation

The vegetation of Berlin consists of a wide variety of plant communities ranging from maintained agricultural lands (hayfields, pastures, orchards, etc.) to advanced succession forests. Some recently abandoned agricultural lands are beginning to grow up to shrub and immature hardwoods. Springs, intermittent streams, wetlands and tributaries comprising the North Brook drainage system have wetland communities comprising mostly forested and shrub swamps. Alien species such as purple loosestrife are becoming increasingly dominant in unmowed wet meadows.

³⁶ Photo by Martin Miller



Garfield Woods Conservation Area

The upland forests have grown up from previous pastures and small woodlots and have mostly mixed hardwoods and local isolated stands of conifers. Oak and maple are the predominant hardwood species. White pine and some mature hemlocks are the predominant conifers. New dwarf varieties of apples and Asiatic pears are replacing long established orchards in the Sawyer Hill area. The majority of hayfields are being maintained by a few remaining farmers in town; however, every year some are lost to residential development.

Fisheries and Wildlife

INVENTORY

In 2000 Secretary of Environmental Affairs, Robert Durand initiated *Biodiversity Days*. Its two main purposes were: first, to elevate awareness, understanding, appreciation and thereby gain a commitment from the general public for the conservation of our wild flora and fauna and, more importantly, the habitat on which they depend. The second goal was to document the wide diversity and location of wild flora and fauna of Massachusetts.

The strategy for accomplishing these goals was to encourage each of the 351 cities and towns in Massachusetts to engage local citizens to scour their communities and identify wild flora and fauna. Each volunteer was provided with a ten page list of all the fungi, plants, invertebrates, vertebrates and insects found in Massachusetts to carry into the field and check off what species s/he found. Berlin citizens identified 427 species, more than any other town in Worcester County and one of the top in the state.



Eastern Box Turtle

Berlin citizens are accustomed to seeing wildlife. Deer are abundant and commonly seen are furbearers such as mink, muskrat, fisher, coyote, bobcat, beaver, weasel, opossum and raccoon. Moose are sighted several times a year. There are indications that a moose (or two) dallied in Wrack Meadow for what appeared to be several weeks. Black bear sightings are increasing; in 2010 there were several sightings across town of what appeared to be a 350+ pound black bear. A developing problem is that as other towns in the region become more developed, deer hunters increasingly flock to Berlin. This may result in an effort to implement a 'land-owner-permission-only' right to hunt.

North Brook is stocked with trout, and there is also an active brook trout population in the Forty Caves area. Panfish, bass and pickerel are abundant in all ponds. In the 1950s, old timers and kids fished late at night for pout and eel. Rampant pollution now makes bottom dwelling fish from the Assabet inedible. Today, though pout and eels are plentiful, electronic toys increasingly preclude fishing as an interest of youth.

Virtually every bird that has been sighted in Massachusetts has been identified in Berlin. Wood ducks and mergansers nest in cavity trees. Canadian geese are overabundant on agriculture fields and the school playground. A large heronry exists in a beaver flowage on North Brook. Glossy ibises and egrets have been documented. There are several flocks of turkeys, a couple possessing 30+ birds. An interior-nesting Goshawk nests on top of Mt. Pisgah. Indigo buntings and scarlet tanagers are occasionally seen in the large Gates Pond watershed. Red tailed, red shouldered, sharp-shinned, coopers and other hawks are common. Ospreys and bald eagles are often seen. In 2009 an immature bald eagle fed for two weeks on remnants from a butchered cow off South Street. The Conservation Commission recently negotiated a conservation restriction on a large area of wet meadow to protect a large colony of bobolinks. Meadow larks are common in the fields near the junction of North Brook with the Assabet in South Berlin.

HABITAT

The old (but scientifically valid) cliché amongst wildlife managers is “If you want to protect wildlife, protect habitat.” Berlin’s easily identifiable abundance and variety of indigenous flora and fauna is due to a diverse range of habitats and some of the largest relatively undisturbed tracts of woodland in the region. Berlin has marshes, streams, rivers, and ponds, forests that include coniferous, hardwood, and mixed woodlands ranging from red maple swamps to chestnut-oak on high ridges with shallow soils over bedrock. Open lands include wet meadows, active farmland, and parks and playfields. Its diverse vegetation provides food and cover. There seems always to be good mast crop in the fall and plenty of browse throughout the year. The ‘lay of the land’, i.e., its topography, of low lying river and stream riparian corridors, wooded swamps, open meadows, to steep, ledge slopes and high ridgelines provide diverse habitat and for wildlife diversity and all modes of quiet recreation. Developed lots can also provide habitat for some species which thrive near man.

CORRIDORS FOR WILDLIFE MIGRATION

Most non-bird wildlife move to eat, breed and find new territories under the cover of darkness. However, daytime cover is also important. Berlin’s riparian corridors under the protection of the Rivers Protect Act³⁷ plus conservation lands serve as excellent greenway corridors linking conservation lands. The Berlin Conservation Commission, adhering to the concepts of ‘landscape ecology’ also strives to enlarge, round out to reduce the edge-effect, and link protected areas with protected upland corridors.

INVASIVE SPECIES

Berlin is plagued with invasive plants. Abandoned fields are taken over by multiflora rose and buckthorn before native shrubs and trees can take hold. There are ten acre fields that are impenetrable due to dense growths of multiflora rose. In the late spring, hedgerows look like snow banks from the rose blossoms. Buckthorn is thick along fence lines and throughout fields. Bittersweet chokes out acres of woods on Ball Hill and other areas. Loosetrife and phragmites are found along most streams and wet meadows. (For more information on invasive species see page 58.)

RARE, THREATENED AND ENDANGERED SPECIES

As part of its BioMap biodiversity mapping project, the Massachusetts Natural Heritage and Endangered Species Program (NHESP) has identified two areas in Berlin as estimated habitat for rare wildlife: one is a corridor along North Brook and Brewer Brook from Jones Road to Wheeler’s Pond (see Map 5). Much of this corridor is protected by conservation land, the Rivers Protection Act, or a combination of both. The NHESP has also recognized a large area in the north Berlin area extending from Route 62 to the Bolton town line (Hog Swamp and Wheeler Hill) as part of the State’s most viable habitat for rare species and natural communities. While much of this land is in agricultural use and participates in the Chapter 61 programs, very little is permanently protected. As seen in Map 5 and in the Action Plan, much of this area has been

³⁷ The Rivers Protection Act, Chapter 258 of the Acts of 1996, protects nearly 9,000 miles of Massachusetts riverbanks - helping keep water clean, preserving wildlife habitat, and controlling flooding. The law creates a 200-foot riverfront area that extends on both sides of rivers and streams. In certain urban areas, the riverfront area is 25 feet.

targeted for protection by the Conservation Commission. There are numerous vernal pools scattered throughout Berlin. A more aggressive effort is needed to document these.

Table 10: Berlin's Rare Species

Taxonomic Group	Scientific Name	Common Name	State Rank*	Federal Rank	Most Recent Observation
Amphibian	<i>Ambystoma laterale</i>	Blue-Spotted Salamander	SC		18--
Amphibian	<i>Ambystoma opacum</i>	Marbled Salamander	T		2000
Reptile	<i>Clemmys guttata</i>	Spotted Turtle	SC		1900
Reptile	<i>Clemmys insculpta</i>	Wood Turtle	SC		1993
Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC		1991
Bird	<i>Accipiter striatus</i>	Sharp-Shinned Hawk	SC	(PS)	1936
Bird	<i>Ammodramus henslowii</i>	Henslow's Sparrow	E		1867
Mussel	<i>Alasmidonta varicosa</i>	Brook Floater (Swollen Wedgemussel)	E		1859
Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E		1915
Vascular Plant	<i>Panicum philadelphicum</i>	Philadelphia Panic-Grass	SC		1944

- * E = Endangered
T = Threatened
SC = Special Concern

Scenic Resources and Unique Environments

SCENIC LANDSCAPES

A number of landscapes in Berlin have been evaluated as being scenic under the Massachusetts Landscape Inventory.³⁸ The Inventory divided the state into six physiographic regions, developed a list of scenic landscape features for each region, identified landscape “units” of one square mile or larger, and rated each of these units as “distinctive”, “noteworthy” or “common”. Within Berlin, 1,075 acres (13 percent of the town’s area) were rated as “distinctive”; by comparison only 4 percent of land statewide is rated as “distinctive”. In addition 2,118 acres (25% of the town’s area) were rated as “noteworthy” compared to 5% of land statewide.³⁹ These scenic areas are located in two broad areas of the town. (see Map 5)

- The first area consists of a corridor extending from Bolton to Marlborough that includes Highland Street, Wheeler Hill, Sawyer Hill, Gates Pond and the Assabet River east of River Road.⁴⁰ Within this area, two subareas were designated as “distinctive”: an area extending from the Brewer Brook Dam north across Sawyer Hill and Central Street to the rail line north of Walnut Street; and outer Highland Street between Randall Road and the Bolton town line. Much of this area is protected by CR or Gates Pond Reservoir watershed protection.
- The second area is in the south and west of town, extending from the Barnes Hill/Mt. Pisgah area in the town’s southwest corner to the Rattlesnake Hill/Reubens Hill area along Boylston Road in West Berlin. The “distinctive” portion of this area encompasses the Devine property on Linden Street. Virtually all of this land is protected ‘in fee’ as conservation land or by CR. As this is being written, the Conservation Commission is in the process of purchasing the remaining 57-acre property on the very south east corner of Berlin. The eastern ridgeline and slope of Mt. Pisgah is a high priority for protection. Development could conceivably build a road houses in this high profile area.

The most important threats to scenic roads and landscapes are from haphazard and inappropriate residential and commercial development along roadsides or in open areas such as farm fields. There are several areas where farmland has been recently converted to residential use with a significant resulting impact on the scenic quality of the landscape: examples include groups of houses on the easterly side of Derby Road and the southerly side of Boylston. These are instances where no real alternative existed for development of the site, because of the town’s zoning regulations regarding minimum lot area, frontage and setback, and the lack of a flexible alternative such as cluster or open space zoning.

³⁸Massachusetts Department of Environmental Management, *Massachusetts Landscape Inventory: A Survey of the Commonwealth’s Scenic Areas* (1982). The Massachusetts Landscape Inventory and the identified scenic landscapes in Berlin are discussed in *Shrewsbury Ridge: Guiding Change* (Charles Bosson and David Jacke, Conway School of Landscape Design, 1984), which also proposes priorities for protection and conservation within the towns of Berlin, Bolton and Northborough.

³⁹It is worth noting that a total of 38 percent of the town’s area was included in the two categories representing the top 9 percent of scenic landscapes in Massachusetts: Berlin residents are not alone in appreciating the town’s scenic qualities.

⁴⁰The new Solomon Pond Mall is within the area designated as “noteworthy” by the Landscape Inventory.



Ball Hill Road

There is a prevalent idea among laypeople that long driveways to private homes, deep in the woods, hidden away from view, is smart growth. This is a serious mistake; though somewhat aesthetically pleasing to drivers, it is ecologically devastating. Ecology scientists have determined that, on the average, the typical residential home will emit adverse impacts (from pets, off-road-vehicles, noise, and other intrusions) 500' in all directions. This amounts to 17+ acres of land that is no longer 'natural'. A key challenge for the town is to devise regulatory and non-regulatory strategies for preserving important scenic landscapes so that the town's rural character can be preserved.

Berlin has designated every road in the town (except the numbered routes) as "scenic roads" under the Scenic Road Law (Mass. G.L. ch. 40, s. 15C).⁴¹ This designation gives the Planning Board the authority to review any "repair, maintenance, reconstruction, or paving work" that includes the cutting of trees or the alteration of stone walls.

MAJOR CHARACTERISTIC OR UNUSUAL GEOLOGIC FEATURES

The area between Allen Road and Lancaster Road, including the so called Forty Caves site, is interesting because of the varied geologic features to be found there. The Forty Caves area is a talus slope formed of large bedrock fragments broken from a steep bedrock cliff. A small tributary stream to the nearby North Brook flows at the base of the Talus slope. The large boulders piled at the base of the cliff form a number of tunnels and caves. The southern end of

⁴¹The statute does not permit a town to designate a state numbered route or highway as a scenic road except when a numbered route is entirely within one municipality and no part is owned or maintained by the state. Thus, Route 62 cannot technically be designated as a scenic road.

the bedrock cliff is cut by a large fault that is part of the Clinton-Newbury fault system that traverses eastern New England. A large quartz vein is also found near the top of the cliff, with numerous fragments spread on the slope below. A similar talus slope and cliff is found in another small intermittent stream valley to the northeast of Forty Caves.

The area is also characterized by numerous glacial erratics, large boulders that were deposited by the retreating ice sheet. The largest erratics are up to 20-30 feet in diameter. While these are found locally throughout the town, this area has the greatest number. These were likely plucked from bedrock outcrops scattered throughout the area to the north into Clinton. One particularly large boulder, located just west of Lancaster Road, is used by rock climbers to gain experience and train. Another boulder spans North Brook creating a scenic natural bridge, a wonderful site for picnics.

CULTURAL, ARCHEOLOGICAL AND HISTORIC AREAS

Forty Caves and the area to the north of Boylston Road include significant archeological sites. Signs of pre-Columbian activity have also been found around Gates Pond and near the Assabet River. A former farm house site, unoccupied for over a century, remains on the west side of Ball Hill road about 600 feet north of the Northborough town line, and has potential as an archeological site. Both of these areas are protected as conservation land.

Berlin's 2004 Open Space Plan reported the following: "Historically, most of Berlin's economy has been based on agriculture. Thus the areas noted under Scenic Landscapes and those remaining in agricultural use are important targets for preservation. The latter include the Balance Rock farm on Highland Street (104); the Indian Head Farm on Pleasant Street (232) and South Street; and the former ChEdCo Farm along Sawyer Hill Road, Central Street, Brewer Road, and Walnut Street. The Devine farm on Linden Street (218), the Nutting Farm on Derby Road (102), and two other nearby historic farm sites along Linden Street (264 & 282) form a notable historical agricultural area, bordered to the west by the still active Rainville Farm at Linden Street and Barnes Road (115)."

In 2005 the Devine farm was purchased partially in fee and partially by CR. Berlin hired Sudbury Valley Trustees to manage the sale and also gave SVT a CR on all the property as a second layer of protection. The former ChEdCo farm mentioned in the 2004 report is mostly protected (350 acres) by a CR donated by Mr. Charles Edward Cotting in 1980. The Conservation Commission is in discussion with both the Rainvilles and Mr. Bentzen on Highland Street regarding the possible purchase of a CR by the APR program.

Former mill sites also require consideration. The most important is the South Berlin mill and Mill Pond on Pleasant Street. There are also two sites on the North Brook in West Berlin between West Street and Randall Road. A former mill dam is included in the Brewer Brook flood control reservation off Pleasant Street, and another is located on South Street at the northernmost crossing of the North Brook. Remains of the site of a shingle mill can be found on Gates Pond Brook off Summer Road.

The most important historical resources of the town are its major villages. The *Center Village* around the Meeting House Common has four open spaces nearby which contribute to its setting. These are Powder House Hill west of the Common, the Hartshorn's Pond area north of

Central Street, the Town-owned area at the corner of Pleasant and Central Streets, and the Town-owned South Commons to the south of the village. *Carterville* is located along Carter and Highland Streets north of the Center Village. It is bordered by Powder House Hill on the west and an area of rocky and swampy woodland to the east. *South Berlin*, along Pleasant and South Streets, is bordered by fields of the Indian Head farm to the east and a field at South Street and Crosby Road to the west. *West Berlin* has an undeveloped area of woodland to the east of the Conrail line between Randall Road and West Street. All of these buffer areas are important to the preservation of the village landscapes



Old Burying Ground

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

There is no Area of Critical Environmental Concern (ACEC) designated or proposed within the town.

Environmental Challenges

A number of environmental challenges exist within Berlin as a result of past and current activities.

HAZARDOUS WASTE SITES⁴²

The Department of Environmental Protection (DEP), Division of Hazardous Waste, classifies oil or hazardous material disposal sites (or Chapter 21E sites) using a tier system. Tier 1 sites are considered to be high priority but vary in ranking from 1A to 1C. Tier 1A is assigned to those sites which pose the most serious environmental risk by impacting receptors such as air and water. These sites are closely monitored by DEP as they are the most environmentally critical. Tier 1B sites are also a concern to the DEP but do not require direct oversight by the DEP and are examined on a yearly basis. Tier 1C sites require an initial permit but ongoing response actions can be undertaken without DEP's oversight. A site is classified Tier 1D if the responsible party fails to provide a required submittal to DEP by a specified deadline. There are three Tier 1D sites in Berlin – a roadway release (by Ultrasigns Co) site at 275 Central Street, 185 Lyman Street, a residential property, and 65 Walnut Street, Tolman Greenhouses.

Tier 2 sites are considered to be non-priority sites by the DEP and generally include gasoline filling stations and other types of service or disposal uses which may pose environmental problems. There are no Tier 2 sites identified by DEP in Berlin.

LANDFILLS

The town's landfill on Jones Road is closed but has not yet been capped. The site is under the jurisdiction of the Board of Health, and serves as the site of the town's transfer station. The landfill must be capped.

Another closed landfill is the Town of Hudson's former landfill off Gates Pond Road in the northeastern part of Berlin. This landfill is capped.

WASTE SERVICES

Berlin residents are responsible for legally disposing of private waste. The Health Department estimates that 60 to 70 percent of the town's residents use the town's transfer station at 35 Jones Road and the balance contract with private disposal companies. Residents pay an annual fee for general waste disposal at the transfer station and additional fees for large or harder to dispose of targeted items. Recycling is mandatory and is available for scrap metal, paper, cardboard, plastics, glass and metals, styrafoam, batteries and electronics. A trading shade exists to allow residents an opportunity to leave reusable, non perishable and non-fee items for others to take. Items not accepted at the Transfer Station include paint in liquid form, brake fluid, anti-freeze, building or demolition materials, hazardous waste, oil, solvents and gasoline. Hazardous waste days are held periodically to allow disposal of these items.

EROSION AND SEDIMENTATION

Erosion is the wearing away of the land surface by running water, wind, ice, or other causes. Sedimentation is the deposition of soil particles that have been transported by water and wind. Unchecked, erosion and sedimentation can contribute to on and offsite damages including increased stormwater runoff and decreased water recharge, unstable stream banks, air and water pollution and others.

⁴² This and further information can be found at <http://www.mass.gov/dep/cleanup/and> at <http://www.mass.gov/dep/cleanup/laws/bhfs.pdf>

Massachusetts DEP and the federal EPA have adopted rules (Stormwater Standards) to prevent erosion, control sediment movement and stabilize exposed soils to prevent pollutants from moving offsite or entering wetlands or waters and to require plans that document how pollution is managed at construction and land disturbance sites. All construction and land disturbance sites in Berlin must meet state and federal stormwater standards.

No problems areas relating to erosion and sedimentation have been identified in Berlin.

CHRONIC FLOODING

There are no developed areas in Berlin that are subject to chronic flooding. The town's stream systems have narrow floodplains, except in the lower portion of North Brook in the "flats" along River Road. Two flood control areas were constructed in the 1970s as part of the Suasco project, but these were designed to protect the developed areas further downstream along the Assabet rather than to address any specific flooding problems within Berlin.

NEW DEVELOPMENT

Most new development has some impact on the environment although many of these impacts can be minimized by strict enforcement of federal, State and local environmental regulations. However while most individual development projects have limited environmental impact, the accumulated impact can be significant and should not be overlooked. Impacts occur during construction as vegetation is altered and topsoils are disrupted allowing wind, rainfall and snowmelt to increase erosion and sedimentation. Other impacts include an increase in impervious areas which can contribute to flooding, reduced groundwater recharge, and increased stormwater runoff and can also include loss of open space, tree canopy, and wetlands which contribute to a changes in wildlife habitat and behaviors.

Berlin's largest development project since 1996 has been Highland Commons a retail shopping center that occupies 88 acres along Route 495 and the Hudson town line. Similar to the development of the Solomon Pond Mall in the 1990s, the Town of Berlin analyzed potential impacts and crafted zoning regulations and a comprehensive development agreement that minimized and mitigated impacts of construction and use. None-the-less a large wooded and geologically interesting site has been lost to this development.



Highland Commons Entrance Drive

Residential development since 1996 in Berlin has incrementally consumed about 550 acres of previously undeveloped land.⁴³ New development will undoubtedly continue to impact Berlin's natural resources through consumption and changes in use. Every effort should be made to protect and preserve the most valuable resources and minimize and mitigate impacts whenever possible through zoning regulations, tax incentive programs, environmental self-help programs, conservation restrictions, and acquisition.

GROUND AND SURFACE WATER POLLUTION

Water pollution can generally be described in terms of nonpoint source pollution and point source pollution. Point source pollution refers to pollution that is attributable to a single identifiable, localized source such as a discharge pipe. Nonpoint source (NPS) pollution comes from many diffuse sources and is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it accumulates natural and manmade pollutants that are ultimately deposited into water bodies such as wetlands, lakes, rivers and coastal waters, or find their way into underground water sources. Pollutants can include sediment from construction or other unprotected sites, fertilizers, oils, and other toxic chemicals, and bacteria and nutrients from pet and livestock waste, as well as failed septic systems.

Nonpoint source pollution is a major cause of water quality problems both in Massachusetts and nationwide. The most effective means of controlling nonpoint source pollution is through thoughtful land management and includes tools such as Low Impact Development and Smart Growth strategies and bylaws, protective zoning, and best management practices such as for stormwater management, construction, septic operations and road maintenance.

The Assabet River, one of two main stream systems in Berlin, is highly impacted by the point source pollution discharged from the four major wastewater treatment plants along its banks. Wastewater treatment plants in Westborough (also serves Shrewsbury), and Marlborough (also serves Northborough), are upstream of Berlin and therefore contribute to the pollution in the Assabet in Berlin. Downstream treatment plant discharges come from Hudson, and Maynard.

Stormwater runoff (non-point source pollution) and the recycling of nutrients trapped in river sediments also contribute to the river's pollution level. The excess of nutrients and the effects of eutrophication⁴⁴ have impaired the river to the point that it does not meet the state's water quality standards for a "fishable and swimmable" river.⁴⁵

Based on the results of a 2005 study of the Assabet, the EPA and DEP issued new permits for the four wastewater treatment plants requiring phased reductions in phosphorus discharge (the primary nutrient) and major investments in up-grades to plant equipment and state-of-the-art removal technologies. In addition to reducing new input of phosphorus, the study notes phosphorus recycling from the sediment must be reduced by 90%. Measures suggested to

⁴³ Information provided by Town Assessor's Office, 2011.

⁴⁴ Eutrophication can be defined as the process by which a body of water acquires a high concentration of [nutrients](#), especially phosphates and nitrates. These typically promote excessive growth of algae. As the algae die and decompose, high levels of organic matter and the decomposing organisms deplete the water of available oxygen, causing the death of other organisms, such as fish. Eutrophication is a natural, slow-aging process for a water body, but human activity greatly speeds up the process." - Art, 1993. Source: <http://toxics.usgs.gov/definitions/eutrophication.html>

⁴⁵ <http://www.assabetriver.org/threats/water-pollution>

achieve the 90 percent reduction included dam removal and dredging. It is hoped that the combination of all these strategies will in time return water quality in the Assabet River to “fishable and swimmable” level.⁴⁶

Farming is an industry that is routinely associated with ground and surface water pollution, though no threats from this source have been identified in Berlin. Natural Resources Conservation Service (NRCS) is a federal agency that works with private landowners in Massachusetts (and throughout the country) to improve and protect their water, soil and other natural resources. A number of farmers in Berlin participate in NRCS programs⁴⁷ which require farmers to develop conservation plans that document their resources and operations and identify strategies for minimizing the environmental impacts of farming.

While there is potential for ground and surface water pollution with any development, and many activities, including transportation, farming and excavation, no serious ground or surface water pollution threats have been identified within the town.

INVASIVE SPECIES

Invasive plants, those that grow rapidly and are difficult to remove or control once established, are often threats to forests and wetland areas. When invasive species take over large areas of habitat, ecological processes are changed. Often they force out the native species that provide food and habitat for local species. Plants that have been identified as being a threat to Massachusetts forests include Japanese Barberry (*Berberis thunbergii*), Multiflora Rose (*Rosa multiflora*), Garlic Mustard (*Alliaria petiolata*), and Common Buckthorn (*Rhamnus cathartica*).⁴⁸ Multiflora Rose and Common Buckthorn have both been identified as current threats in Berlin.

Additional species threaten natural wetland, flood plain and streambank communities in Massachusetts.⁴⁹ Within wetlands invasive species include **Purple Loosestrife** (*Lythrum salicaria*), **Phragmites or Common Reed** (*Phragmites australis*), Shining Buckthorn (*Rhamnus frangula*) and **Yellow Iris** (*Iris pseudacorus*). Other invasive species threatening floodplains and stream banks include Morrow’s Honeysuckle (*Lonicera morrowii*), Japanese Knotweed or Bamboo (*Polygonum cuspidatum*), Goutweed or Bishop’s Weed (*Aegopodi um podagraria*) and **Garlic Mustard** (*Alliaria petiolata*). Purple Loosestrife and Phragmites have been documented as threats to Berlin’s wetland and water resource areas. Identifying and monitoring invasive species is an important first step in controlling or eradicating them.

⁴⁶ For more information on threats to the Assabet River visit: [http:// www.assabriver.org](http://www.assabriver.org)

⁴⁷ One important program of the NRCS is the The Agricultural Environmental Enhancement Program (AEEP) that provides funding to agricultural operations in Massachusetts for the mitigation and/or prevention of impacts on natural resources that may result from agricultural practices. While primarily a water quality program, AEEP will also fund practices that promote water conservation and/or reduce greenhouse gas emissions. For more information see: <http://www.mass.gov/agr/programs/aEEP/index.htm>

⁴⁸ These species were selected from a list published by the Massachusetts Invasive Plant Working Group (2003) and found on the website: <http://www.deerfieldriver.org/invasives.html>.

⁴⁹ These species were selected from a list published by the Massachusetts Invasive Plant Working Group (2003) and found on the website: <http://www.deerfieldriver.org/invasives.html>.

Invasive Species Photo Gallery⁵⁰



Common Buckthorn
(© Jean Baxter, NEWFS)



Goutweed or Bishop's Weed
(© Christopher Mattrick, NEWFS)



Shining Buckthorn
(© Christopher Mattrick, NEWFS)



Garlic Mustard (© Albert Bussewitz, NEWFS)



Japanese Knotweed (© John Lynch, NEWFS)

⁵⁰ New England Wildflower Society: <http://www.newfs.org/protect/invasive-plants/photo-gallery>.

Purple Loosestrife (© NEWFS)



Yellow Iris (© Dorothy Long, NEWFS)



Multiflora Rose (© John Lynch, NEWFS)



**Phragmites
(© Jean Baxter, NEWFS)**



**Morrow's Honeysuckle
(© Christopher Mattrick, NEWFS)**



**Japanese Barberry
(© Leslie Mehrhoff, NEWFS)**

FORESTRY ISSUES

Forests are important as they provide wildlife habitat and support biodiversity, help to regulate climate and assimilate pollution, protect water supply and quality, retain soil, and mitigate flooding. They also have important recreation and aesthetic value.

Managing Forests

Berlin's forests (both publicly and privately owned) cover more than half its land mass and are of critical importance in protecting wildlife and the ecology of the area. In addition to outright removal of trees to make room for development, trees are susceptible to air pollution, climate change, and pests, as well as natural disasters. Limiting development within forested areas and monitoring and managing the tree stands within these areas is important to ensure the long-term sustainability of Berlin's forests.

The Conservation Commission has undertaken two forest management programs to date. A Forest Stewardship Program initiated in 2009 on the 71-acre Clark Property (north of Route 62 and west of Coburn Rd) reclaimed a secessional field for improved wildlife habitat. Next steps for this pilot project are to seek bids by commercial harvesters to harvest those trees identified as suitable for firewood and timber and continue monitoring the site to identify strategies for improving wildlife habitat and sustaining harvesting activities. Additional conservation lands will be considered for inclusion in the Forest Stewardship Program.⁵¹

The Conservation Committee also engaged State of Massachusetts wildlife biologist to improve wildlife habitat by selective clearing of non-wetland areas in the 13 acre conservation land at the corner of Pleasant St and Route 62.

For private properties, the Massachusetts Service Forestry Program (run by the Department of Conservation and Recreation) provides technical assistance to private landowners in forest resource planning, forest management, and forest protection.⁵² There are also tax incentives to keep private land in active forestry through the State's Chapter 61 program. Over one hundred parcels covering 2,240 acres in Berlin are temporarily protected by the Chapter 61 program. (see Land Inventory table in Appendix A) Educational outreach along with land use regulations should also be considered to minimize the loss of mature tree stands to the extent possible when forested properties are developed.

Public Shade Trees

Berlin's public shade trees include those at municipal facilities including South Commons, the town offices, library and historic sites, and within the town's cemeteries. Trees within the rights-of-way along town roads are also considered public resources. Public shade trees are recognized as valuable to the town's visual character and to residents' physical comfort and the town looks to preserve them whenever feasible. The Town has an active Tree Warden that oversees protection and when necessary the removal of public trees.

⁵¹ The Massachusetts Forest Stewardship Program For more information visit:
<http://www.mass.gov/dcr/stewardship/forestry/service/steward.htm>

⁵² <http://www.mass.gov/dcr/stewardship/forestry/service/index.htm>

In 1974 Town Meeting voted to adopt a Scenic Roads ordinance that provides some protections to trees (and stone walls) within the rights-of-way of designated roads. For maximum protection Berlin voters chose to designate all roads in Berlin as scenic.

Invasive Pests



The Asian longhorned beetle (ALB) is an invasive pest of hardwood trees, including maple, birch and elm. It was discovered in Worcester, MA in August 2008 and, more recently, has been discovered in West Boylston. The spread of this pest would be devastating to forests and street trees. The State and US Department of Agriculture have established regulated areas including one covering portions of Holden, and Shrewsbury and all of Boylston, West Boylston, and Worcester to continually monitor for potential spread of the beetle infestation. Berlin is just outside the regulated area and should actively monitor for signs of infestation by this and other potentially destructive pests.⁵³

Winter moths feed on many deciduous trees and shrubs found in Massachusetts, including oak, apple, elm, maple, ash, crabapple, cherry, and blueberry. Unfortunately, effective biological control is many years away. For recently defoliated trees, an application of a registered pesticide may be warranted.⁵⁴

Other potential pests that could affect forested areas are listed below⁵⁵:

- Emerald Ash Borer (*Agrilus planipennis*)
- European Woodwasp (*Sirex noctilio*)
- Giant Woodwasp (*Urocerus gigas*)
- Mile-a-minute Weed (*Polygonum perfoliatum*)
- Pine Shoot Beetle (*Tomicus piniperda*)
- Sudden Oak Death (*Phytophthora ramorum*)

ENVIRONMENTAL EQUITY

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

⁵³ The Division of Crop and Pest Services, through the Cooperative Agricultural Pest Survey (CAPS) Program, provides public outreach and screening of potential Asian longhorned beetle sightings in order to prevent the further spread of this invasive pest. More information can be found at <http://massnrc.org/pests/alb/>.

⁵⁴ www.umassgreeninfo.org/fact_sheets

⁵⁵ More information about these pests can be found at <http://massnrc.org/pests/factsheets.htm>.

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

Section 5: Inventory of Lands of Conservation and Recreation Interest

The Open space and recreation areas in the Town of Berlin include a variety of landscapes and land types with various owners, managers and degrees of protection. The purpose of this inventory is to identify areas of conservation and recreation interest in the town in order to evaluate current and future open space planning needs. Areas of interest include open spaces that are valued for recreation opportunities, protection of natural resources, historic resources and scenic character.

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

Why Open Space Protection is Important

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

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

How Open Space is Protected

PUBLIC LAND

Public open space and park lands can be acquired by a number of means including outright purchase, donation of land, or taking. In Massachusetts, these lands are generally referred to as Article 97 lands.

In 1972, Massachusetts voters approved an amendment to the State Constitution (Article 97) requiring that any state-owned or municipally owned land taken or acquired for conservation or recreation purposes shall not be used for other purposes unless the Massachusetts legislature approves the change by a two thirds vote. Article 97 was intended to ensure that lands acquired for these purposes were not converted to other inconsistent uses.

PRIVATE LAND

Chapter 61, 61A and 61B of the General Laws of Massachusetts are tax laws that allow for significant reduction of property taxes for landowners willing to maintain their land as managed forest, outdoor recreation, or agriculture. If a landowner chooses to withdraw land from this classification, the owner must pay a penalty tax to the municipality equal to the number of years a reduced tax has been paid on the land. When the land is put up for sale, the municipality has a right of first refusal to consider whether or not to buy the land outright.

Conservation restrictions, also called conservation easements, are voluntary, yet binding legal agreements between a landowner and a municipality or land trust. The landowner is offered incentives (through estate tax and federal income tax deductions and property tax relief) to keep parcels in an undeveloped state either in perpetuity or for a specified number of years. The owner keeps control over the land, while the holder of the restriction promises to enforce the terms of protection. The unique features of conservation restrictions are that they leave land on the tax rolls, preserve land without public ownership, and allow, in many instances, for public access. In Massachusetts, all conservation restrictions must be submitted according to the written procedures of and approved by the Secretary of Environmental Affairs.⁵⁶

Other restrictions governed by Massachusetts General Laws are preservation restrictions, agricultural preservation restrictions, and watershed preservation restrictions. Preservation restrictions are legal agreements to preserve a structure or site for historical significance and have to be approved by the Massachusetts Historical Commission. An agricultural preservation restriction (APR) applies to lands in active farming or forest use and must be approved by Commissioner of Food and Agriculture. Watershed preservation restrictions are used for the purpose of protecting public water supplies and are approved by the Department of Conservation and Recreation.

⁵⁶ A conservation restriction, formerly known as a conservation easement, is authorized by Sections 31-33 of Chapter 184 of the General Laws of the Commonwealth of Massachusetts. For more information about conservation restriction approval in Massachusetts, refer to the Massachusetts Conservation Restrictions Handbook, MA Division of Conservation Services, 2008.

Protected Open Space

Appendix A lists public open space and recreational facilities, and privately owned parcels that are permanently protected for open space or conservation purposes through regulation or covenant. Since the writing of the 2004 OSRP, the Town has been able to increase its inventory of protected open space by 19% (from 1,639 to 2,234 acres).

TOWN-OWNED LAND

The Town of Berlin owns 928 acres of land which it uses for a variety of uses from municipal and school facilities to conservation/flood control purposes. Most of this land is open, with only about 4% used as sites on which buildings are located. South Commons, the location of the Berlin Elementary School, is near the center of town and functions as the town's prime recreational complex. An inventory of Town-owned land, taken from the Assessor's database, is contained in Appendix A.

Since 2004, the Town has added 216 acres to its protected open space through the acquisition of land and another 279 acres by conservation restrictions. By using effective negotiation and partnership strategies, the Conservation Commission has maximized the use of funding received from New England Development, developer of Solomon Pond Mall.

STATE-OWNED LAND

The Commonwealth of Massachusetts owns 296 acres in Berlin. Most of this acreage consists of two flood control project areas—Brewer Brook on Pleasant Street and the SUASCO area between Linden Street and West Street. The aqueduct right-of-way that traverses the town from Wachusett Reservoir in Clinton to Marlborough makes up the balance. All three of these holdings have excellent recreational potential, and are important elements in the existing open space network.



Lester Ross Suasco Area

LAND OWNED BY PRIVATE CONSERVATION ORGANIZATIONS

The Sudbury Valley Trustees (SVT) own approximately 80 acres of land in the northwest quadrant of the town, adjacent to the Forty Caves area (this land is shown in the *Trail Guide* in

Appendix E). Referred to as Garfield Woods, this area is adjacent to North Brook, and is used for hiking.

Since 2004, SVT facilitated the purchase of open space in Berlin. SVT was involved in the purchase of two areas in southwest Berlin: a 25-acre parcel adjacent to the town's Mt. Pisgah conservation land on the Northborough town line, and a 140-acre parcel in Berlin and Boylston on the west side of Ball Hill Road. Both of these parcels were acquired in cooperation with the Berlin Conservation Commission, and both address the Commission's goal of extending and connecting existing conservation areas. The Conservation Commission has acquired the 25-acre site and a portion of the 140-acre site. Sudbury Valley Trustees purchased these parcels in order to give the Town an opportunity to raise funds for purchase.

PRIVATE LAND WITH CONSERVATION RESTRICTIONS

Assessor's records indicate that Conservation and Agricultural Restrictions protect 723 acres of privately held land in Berlin. This protection covers areas important to the town's rural character and ecology including over 200 acres off Sawyer Hill Road, over 100 acres off Central Street, 86 acres off River Road West, and 75 acres off Boylston Road among others.

All lands with conservation restrictions should have a CR Stewardship Plan that includes documentation of baseline conservation values, methodology for annual monitoring of the site, and written policies for enforcement of the CR.⁵⁷

COMMUNITY GARDEN

In 2010, the Agricultural Commission met on several occasions with representatives of Riverbridge North, LLC. This company is in the process of developing a large commercial complex in south Berlin which is addressed in more detail in other sections of this plan. Approximately 86 acres of this privately held land has a conservation restriction which allows for, among other things, agricultural activity. During the above-mentioned meetings, the Agricultural Commission and Riverbridge representatives identified approximately one acre of conservation land that can be used as a community garden for the residents of Berlin. Riverbridge management has been very cooperative and is eager to assist the Agricultural Commission in making the Community Garden a reality. The Agricultural Commission's goal is to start site preparation of the Community Garden by the Fall of 2011 with the objective of having town residents farm the property starting in the Spring of 2012.

In April of 2011, the Agricultural Commission met with representatives of Growing Places Garden Project whose mission is to improve the food security and nutrition education of people with limited economic means. The Agricultural Commission and Growing Places are looking forward to working together to put a Community Garden to greater use by helping people grow their own food, improve their health and economic status.

Unprotected Open Space

Appendix A lists privately owned parcels that provide open space and recreation benefits to the Town of Berlin, but which are not permanently protected from development unless the parcels

⁵⁷ *Massachusetts Conservation Restriction Stewardship Manual, A Handbook for Land Trusts and Conservation Commissions*, Mass Audubon, 2006

have a conservation or agricultural preservation restriction as well. The town has 2,192 acres of land in the Chapter 61 program, representing 30 percent of the town's land. Twenty-one of those parcels totaling 564 acres presently have conservation or agricultural preservation restrictions.

Existing Recreational Facilities

Berlin has one central public recreation facility at South Commons. On South Street near the town center, this 37-acre complex contains soccer fields, baseball/softball fields, tennis and basketball courts, a playground; and a gazebo. The site also includes a fishing pond, a nature trail and provides opportunities for equestrian events. Additional recreational facilities for 7th to 12th grade students, including playfields, are provided at Tahanto Regional High School in Boylston.

Prioritizing Land for Acquisition and/or Preservation

The Conservation Commission has developed a list of priority parcels for acquisition, and uses this list as part of a comprehensive resource protection strategy that monitors available land, maintains contact with owners, and continually assesses the relative importance of various parcels for acquisition and preservation.

The primary goals used to establish this parcels list includes: (1) preservation of the town's rural and scenic character, (2) protection of natural resources and wildlife, and (3) provision of recreational opportunities. Under these goals, five potential criteria for prioritizing open space protection may be identified: scenic landscapes, village definition, water resource corridors, wildlife habitat, and outdoor recreation potential.

1. Scenic landscapes. A starting point for this prioritization is provided by the 1982 Massachusetts Landscape Inventory, as refined in the 1984 Shrewsbury Ridge study. Based on scenic quality, these studies defined two north-south corridors that include significant areas of "distinctive" and "noteworthy" landscapes. The Town and private individuals have already taken action to protect some significant parcels within these corridors, including the summit of Mt. Pisgah, Gates Pond and the Berlin Orchards properties on Sawyer Hill. Other parcels within this corridor should be reviewed in detail for their development potential and their potential for visual access from public ways.
2. Village character. Open space preservation efforts should also focus on parcels which contribute to the sense of differentiation between compact village centers and open areas. Important parcels in this respect include the meadow at the southeast corner of Central and Pleasant Streets which the Town recently acquired, the open areas adjacent to South Commons, and the fields surrounding South Berlin village and the rotary. It is important to note that in all these cases, open space "preservation" does not necessarily imply acquisition: a strategy for these areas can include some combination of continued current-use taxation (Chapters 61, 61A and 61B), creative zoning, limited development and acquisition.
3. Water resource corridors. Stream and river corridors provide an easily-defined framework on which to base an open space protection strategy. Conservation in such corridors is important for a variety of reasons, including prevention of flooding, erosion

and pollution; provision of recreational access to waterways for boating and fishing; and protection of wildlife habitats. Much of the land along these corridors may also have some sort of regulatory protection, whether through the state Wetlands Protection Act, Rivers Act, the Section 404 process administered by the U.S. Army Corps of Engineers, or local floodplain regulations.

In Berlin, several key conservation areas are located along the North Brook and Brewer Brook corridors. The Town, in cooperation with state and federal agencies and the Sudbury Valley Trustees, has gone a long way toward developing a network of open spaces along the North Brook corridor. In addition, several key privately-owned parcels along North Brook currently have reduced valuations under the Chapter 61 and 61A programs, encouraging their continued use for forestry and agriculture. These parcels represent logical priorities for acquisition, exercising the Town's right of first refusal if their current owners decide to remove them from the Chapter 61/61A programs.

4. Wildlife habitat. Defining important habitat areas for wildlife is another reason to protect open space. The Massachusetts Natural Heritage and Endangered Species Program identifies one Estimated Habitat area in Berlin—a corridor along North Brook and Brewer Brook from Jones Road to Wheeler's Pond. A portion of this area is already protected as town conservation land, with the remainder in residential use (including some lots that may have potential for further subdivision).

Planning for habitat preservation can and should extend beyond the consideration of rare and endangered species. It is also important to preserve native diversity of wildlife species. One approach is to combine preservation of important areas with creation of a system of linkages among these areas:

... natural resources are not distributed randomly throughout a landscape. Every landscape, whether pristine or developed, has "nodes" of unusually high conservation value that span the entire range of biological hierarchy as well as particular physical habitats. Examples include a "champion" tree, a red-cockaded woodpecker colony, an undrained swamp, a county park, or a national forest. These nodes should receive top priority for protection, but to function in perpetuity, sites must be buffered, interconnected by corridors, and permitted to interact with surrounding natural habitats. Existing patterns of high-quality nodes should be examined relative to potential travel corridors and dispersal barriers, and a scheme should be devised to utilize and develop the existing pattern into a landscape conservation scheme. The effort should strive to minimize artificial barriers and to maximize connectivity with corridors.⁵⁸

At the community scale, an open space plan designed around this concept will complement a circulation plan based on human activity centers and travel patterns. This concept is also applicable at the site design scale, and can therefore be incorporated in

⁵⁸Lowell W. Adams and Louise E. Dove, *Wildlife Reserves and Corridors in the Urban Environment: A Guide to Ecological Landscape Planning and Resource Conservation* (Columbia, MD: National Institute for Urban Wildlife, 1989), page 38.

local zoning regulations. Cluster development provides increased flexibility for preserving open space and wildlife habitat, but even changing the configuration of conventional lots from rectangular to triangular has the potential of creating larger masses of habitat area.⁵⁹

5. Outdoor recreation potential. A fifth criterion for evaluating open space protection priorities is the potential of a parcel to provide public outdoor recreation opportunities. In part, this is related to the concept of corridors, because of the value of providing trails for hiking, walking, running, skiing and biking. Other recreation values include swimming areas, playfields, and boating and fishing access points. The use of this criterion for open space planning presupposes that priorities for new and expanded recreational facilities have been identified.

The above criteria have been adopted as an initial framework for establishing open space protection priorities in Berlin. They serve as the basis for the open space network shown in the Open Space Action Plan (Map 8).

⁵⁹*Ibid.*, page 40.

Section 6: Community Vision

Description of Process

In order to determine what the residents of Berlin value about open space and recreation, a community survey was distributed and two public meetings were held as part of this planning process. In March, a public meeting was hosted by the Conservation Commission and the Planning Board to obtain input and feedback from community members on a Community Vision. In May, public meeting participants were invited to review the plans goals and objectives and set priorities for implementation. On-going review of drafts of the plan by the Commission and other town boards was useful for refining the goals.

Summary of Community Input for Vision

SURVEY

The community survey was mailed to all post office box-holders in the town and was available on line. A total of 180 residents responded, representing about 18% of Berlin's households.⁶⁰ Survey questions focused on defining and preserving community character and quality of life as well as determining community opinions about desired uses for open space and conservation lands, the need for additional lands, and identifying the appropriate strategies for preservation, acquisition and management. A copy of the survey, the tabulated results and a survey report are included in Appendix B.

PUBLIC MEETINGS

A public meeting was hosted by the Conservation Commission and the Planning Board on March 1, 2011 to seek input both for the development of the town's community vision as well as to gather specific ideas related to the town's open spaces, natural areas, and recreation activities. A summary of the ideas generated from the public meetings is included in Appendix F.

Participants in the community discussion shared what they most valued about the quality of life in Berlin, including thoughtful neighbors and active civic organizations and churches, small town character and relative peace and quiet, and views of open spaces. They also raised challenges that have potential to threaten this quality of life that would either require action on the part of the town and/or its residents. These included managing new residential development, protecting historic areas and properties, securing funding to preserve and manage open space and conservation lands, increasing public awareness and use of public conservation properties.

A second public meeting was hosted by the Conservation Commission on May 24, 2011 to present key findings, goals and objectives of the Open Space and Recreation Plan. Meeting participants discussed priority goals and objectives, and identified features and lands in Berlin they felt were most important to preserve.

⁶⁰ It is possible that more than one person in a household completed the survey, therefore the percent of households represented may be lower.

Vision Statement and Goals

The residents of Berlin wish to protect the small town and rural atmosphere that defines the character of the town and ensure that the town's natural, scenic, and historic resources are preserved for future generations.

In order to support this vision, the goals of this Open Space and Recreation Plan include:

- preserving and managing open spaces;
- creating open space networks;
- providing opportunities for formal and informal recreation;⁶¹
- improving outreach and access,
- controlling and guiding development to be consistent with the existing town land uses and character;
- supporting active farming.

⁶¹ Sometimes called "active" (formal) and "passive" (informal) recreation.

Section 7: Analysis of Needs

Summary of Resource Protection Needs

The principle resource protection needs in Berlin have remained constant for several decades. Residents overwhelmingly wish to preserve the town's natural open spaces as well as its working landscapes in order to protect natural resources, community character and quality of life. Open space and resource protection is at the core of the Conservation Commission's mission. Since 2004 alone the Conservation Commission, supported by the actions of the Planning Board, the Housing Partnership, and Board of Selectmen has preserved an additional 445 acres through land acquisition and conservation restrictions, increasing protected open space by nearly 20%. As a result of the Town's on-going efforts nearly 2000 acres or roughly 19% of land within Berlin has some level of protection. Protecting existing open spaces and natural areas is seen as the most important strategy for maintaining Berlin's rural character, preserving the health and diversity of its flora and fauna, and maintaining water quality. Key parcels to protect include intact patches of woodlands and wetlands that provide habitat and movement corridors for wildlife, improve water quality, and provide scenic views. Parcels that provide connectivity to other preserved open spaces, conservation lands, or water resources are also high priorities.



Lester Ross Suasco Area

Working agricultural or farm lands are recognized as an important component of Berlin's open space system, and a cornerstone of its community identity. While these lands are privately held, the Town is committed to working with farmers to preserve these landscapes and the activities they support.

The Town should continue to support temporary protection of lands through the State's Chapter 61 program, as well as permanent protection through conservation and agricultural restrictions, the purchase of development rights, or acquisition. The Town should also focus on developing partnerships with local land trusts, and other preservation organizations to help build local capacity for planning, responding to unexpected opportunities, and developing creative funding strategies.

Summary of Community's Needs

Assessment of population trends in Berlin shows a significant decrease in the number of children aged 14 and under and a moderate increase in those age 15 to 19. While the percent of the population made up of children is decreasing, still nearly one third of all households in Berlin include children under the age of 18. The most rapidly growing segment of Berlin's population is residents aged 55 and over. However, residents aged 35 to 54 account for a full one third of Berlin's population. Providing a range of recreational options for all age groups should continue to be a priority for Berlin.

The 2006 Statewide Comprehensive Outdoor Recreation plan provides an inventory of open space and outdoor recreation facilities in Massachusetts and assesses recreation needs on a region by region basis. Berlin lies along the edge of the Central Region, made up entirely of Worcester County. Based on SCORP survey results, swimming (61.4%) is the activity most widely engaged in by Central Massachusetts residents, followed by walking (58.6%) and sightseeing, tours and events (55.9%). When asked what new facilities would most benefit them, residents of the Central Region showed the highest interest in facilities for swimming (17.0%) walking (16.4%), hiking (14.4%, the strongest interest in the state), road biking (12.1%), and playground activity (10.2%). It should be noted that the Central Region includes Worcester, the state's second largest city, as well as the urban areas of Leominster, Fitchburg and Gardner. This urban population may account for the interest in playground activity, typically more popular in densely populated areas where residents have limited private space for play.

The 2011 Community Planning Survey asked residents to rate how important it was to increase open space and recreation lands for active recreation, passive recreation and conservation. Increasing open space and recreation lands for conservation purposes was seen as most important with 79% of respondents rating it as important or very important. Passive recreation was rated as important or very important by 67% of respondents and active recreation was rated as important or very important by only 35% of respondents.

EXISTING LEVELS OF SERVICE

In Berlin currently:

- There are 2,261 acres of permanently protected open space equating to roughly three quarters of an acre per person.
- There is access to 17 public open space and recreation areas offering formal and informal trails, water access, and hunting and fishing opportunities.
- There are over 29 acres of trails within Berlin's natural areas.
- There is a 37-acre recreational complex equating to roughly 13 acres per 1000 people. Historically, the park standard set by the National Recreation and Park Association ranged from four to 17 acres for every 1,000 people⁶².
- Formal recreational offerings include youth baseball, softball, soccer, and football.
- Around 250 Berlin youth are served annually by formal recreation programs in Berlin⁶³.

⁶² Mary Eysenbach, When Standards Fall Short

⁶³ Estimation by Rob MacKay, Recreation Committee, Chair

	Ages Served	Season
Baseball / Softball	5-12	April –June
Soccer	4-14	April – June Aug - Oct
Football	5-14	Aug - Oct

RECREATIONAL FACILITIES

South Commons is Berlin’s only formal recreation area. The 37-acre site abuts the Berlin Elementary School on South Street near Town Center and supports a variety of recreational uses. South Commons is also the site of town-wide events and celebrations including Olde Home Day and the Annual Fishing Derby.

South Commons includes:

- Soccer fields: There are currently three soccer fields at South Commons, including two full sized fields (for 11-by-11 play) and one smaller field (for 8-by-8 play). The 11-by-11 field at the back of South Commons has recently been substantially improved, and the Town leases it to private clubs when it is not used for town recreation. In addition, smaller playing areas are created as needed within the open field area to support under-6 and under-8 teams.
- Baseball/Softball fields: There are three playing fields at South Commons, including two 60-foot base path baseball fields and one softball field. Berlin’s “Major” baseball field has a fenced-in outfield, while the “Minor” baseball field has a fenced backstop and benches. The softball field has a skinned in-field and fenced backstop. Bleachers are available for spectators. There are no equipment sheds to hold team equipment.
- Playground: The playground at South Commons was designed to appeal to multiple age groups. It includes two swing sets, climbing structures, slides, see-saw, spring riders, and a playhouse.
- Access to the Berlin Memorial School Gymnasium: Public access to the Berlin Memorial School gymnasium is available for public recreational activities when approved by the school or sponsored by the town Recreation Committee. Currently, both youth and adult basketball programs take place in this facility. Other programs, such as track and baseball also take advantage of this access.
- Nature path and blue bird trail: This area is used for elementary school education and casual visits.



South Commons

These facilities were supported by the following actions taken by the Recreation Committee since the last Open Space and Recreation Plan.

- Designed and installed a multi age children's playground in a central area of South Commons.
- Entered into a five year lease with a local sports club which overhauled the back full size soccer / athletic field area.
- Implemented a fertilization and weed control program for most of the South Common athletic field area which has resulted in a better playing surface.
- Made minor repairs to baseball and soccer field areas to reduce the undulations that existed from the hayfield days of the Commons area.
- Constructed a softball field with a full skinned in-field and fenced backstop to allow softball teams to be fielded for the first time in many years.

As noted, South Commons is used by a number of organizations including the Elementary School physical education program, Berlin Baseball Association which provides youth baseball and softball, Berlin Youth Soccer, and New England Football Club. Together these programs serve approximately 250 Berlin youth ages 4 – 14. There are no outside formal programs for older youth or adults, though the fields are used occasionally for pick-up softball games and the Recreation Committee receives random inquiries for field use by sports organizations outside of Berlin. Use is granted on a fee basis. Youth and adult basketball is offered in the school gymnasium.

Overall South Commons has excess capacity for formal recreation and sports activities and offers its facilities to organizations outside of Berlin. For example New England Football Club has a five year contract with the Town of Berlin to use a multipurpose field. The terms of the contract required the Club to make field improvements early in the contract and continue an

aggressive preventative maintenance schedule throughout its term. In addition, the Club pays an annual fee for use. The Recreation Committee anticipates that the contract with New England Football Club will be renewed. The Recreation Committee is seeking additional programs for its baseball/softball fields which are generally unused after mid-June.

Several areas of need are noted by the Recreation Committee, survey respondents and community meeting participants.

- There is a desire to see the town's system of trails maintained, enlarged, marketed and utilized for both summer and winter recreational activities.
- The existing tennis court and basketball facilities should be improved or replaced.
- Parking and circulation should be improved further at South Commons to create a safer environment, particularly as people move from their cars to the fields.
- A picnic/ gathering pavilion on South Commons which can also be used for equipment storage and a snack shack should be considered.
- Installation of a water source on South Commons, separate from the school's supply would provide for drinking water and future irrigation of athletic field space.
- Regionally there is a shortage of regulation size fields suitable for High School and Babe Ruth league baseball (14 and older). Further study should be made to determine if a regulation field would be feasible and appropriate at South Commons.
- Consideration should be given to developing a walking trail to connect South commons to Main Street.

INFORMAL RECREATION



Trail in Mt. Pisgah Conservation Area

Natural resource areas provide an abundance and variety of opportunities for recreation in Berlin and the Town should continue to both increase land holdings as well as consider ways to increase pedestrian access where appropriate. Over 70% of Berlin residents responding to the Community Planning Survey supported acquiring land to provide land for informal recreation including walking, hiking, riding and skiing. In addition participants in the public meeting expressed need for improvements in the following areas:

- Better promotion of trails and education about access to town lands
- More signage at trails
- Increased and improved parking areas at public lands
- Opportunities for guided nature walks
- Increased programming for youth using the town's open space and conservation lands

A number of respondents to the 2011 Community Planning Survey noted the need for a swimming area for Berlin residents. Several sites including Brewer Brook and Ross Flood Control area have been considered in the past. Survey respondents also suggested that agreements with neighboring communities to share swimming sites could be considered as an alternative to creating a town beach.

Increasing the number of sidewalks and trails in town was also described as a need by survey respondents. In particular, a number of residents cited the desire for more sidewalks in Berlin Center and connecting to the Elementary School.

ACCESSIBILITY IMPROVEMENTS

The Town of Berlin Conservation Commission and Recreation Committee have control over a number of properties in the town. The majority of these properties consist of open space land that is maintained for passive recreational activities including hiking, fishing and hunting, horseback riding and in some instances bicycling and snowmobiling. Only South Commons has been developed with specific recreational facilities including sports courts and fields and playground equipment.

In an effort to better accommodate the needs of the disabled, the Commission on Disability was asked to comment on the improvements that are necessary at the town's open space and recreation sites as well as identify needs for new or additional facilities, programs or accommodations. The identified needs generally involve improving access to existing facilities through eliminating barriers at access points, improving parking arrangements, and making use of surfaces that can accommodate wheelchairs (see Appendix D ADA Access Self-Assessment for specific needs).

Several sites have been identified as appropriate for structural changes to improve access for people with disabilities in the near future.

- 40 Caves: improve parking as needed
- Rattlesnake Hill: improve parking; develop accessible trails along rail bed
- O'Brien Meadow: study feasibility for wheelchair accessible trails
- Clark: develop accessible trails in coordination with Mass Rail Trail development
- South Commons: improve parking and circulation; improve transition to playground surface

Gates Pond, though not owned by Berlin would benefit from improved access and trail surfaces. The Town would like to work with the Town of Hudson to determine the feasibility of such improvements.



Gates Pond Trail

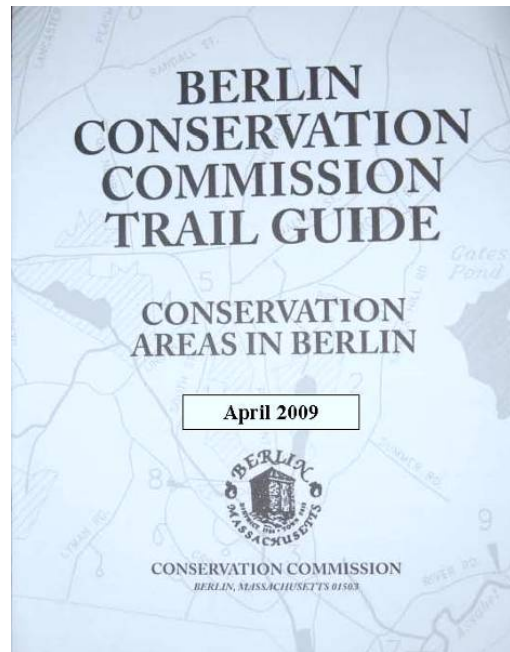
Management Needs, Potential Change of Use

LAND MANAGEMENT

While preservation of additional land is the primary need expressed by Berlin's residents, land management is also vitally important to the long term sustainability of Berlin's network of open spaces and natural areas. Access, information and resource management represent expanding areas of focus for the Conservation Commission.

Since the 2004 Open Space and Recreation Plan the Conservation Commission has completed the following land management initiatives:

- Developed trail maps for conservation lands
- Updated the Open Space Master Map
- Developed a Conservation Commission web site
- Initiated Forest Stewardship Program on 71 acre Clark Property
- Engaged MWRA/MDC/DCR to install barriers and gates at Susasco and MDC/MWRA corridors to prevent illegal motorized vehicle access and destruction
- Identified tax title properties suitable as Conservation Lands
- Improved trails and signage and provided clean ups at Forty Caves, Meusche Woods and Suasco
- Established "blue bird trail" and installed educational signs at vernal pool near South Commons (used by school)
- Engaged State of Massachusetts wildlife biologist to improve wildlife habitat by selective clearing of non-wetland areas in the 13 acre conservation land at the corner of Pleasant St and Route 62. Bluebird boxes were also installed in the meadow periphery.
- Researched 'best practices' from Conservation Commissions in other communities, consulted MACC and legal advisors, and as a result in April, 2008 established a 'Berlin Wetland Policy' protecting the immediate 25 feet adjacent to flagged/determined wetlands



A new initiative for the Berlin Conservation Commission focuses on increasing use and knowledge of Berlin's open spaces and natural resources. The Conservation Commission has started laying the groundwork for a "Berlin Outdoors" program to get Berlin residents interested and participating in healthy, non-motorized outdoor activities, especially including nature observation and understanding. The initiative is planned for inclusion in the town's 2012

bicentennial celebration. Activities will include "geocaching"⁶⁴, trail marking, guided nature walks, and nature based contests.

Clearly the Conservation Commission is making substantial progress with issues of land management and a continued attention to these issues is warranted. As noted above, residents at the public meeting desire improved access to and information about the town's open space and conservation lands.

Another continuing area of concern is trail use by unauthorized vehicles. Motorized vehicles have recently caused damage of over \$40,000 at the Lester Ross/Suasco site as well as to other conservation lands and private property abutting conservation lands. In addition trails have been cut illegally in the Ball Hill and Wrack Meadow Conservation Area impacting resources and opening these sensitive environments to further unauthorized use.

Survey results indicate that there are differences in opinions on how trails should be managed for vehicle use. The majority of survey respondents felt that mountain bikes and snowmobiles should be allowed on some trails (60.2% and 49.7%), but that all-terrain vehicles should not be allowed on any trails (59.8%). However, nearly one third of respondents felt that all-terrain vehicles should be allowed on some trails. Compared to previous years, this is a slightly higher percent of respondents indicating that vehicles be allowed on some public trails, and a lower percent indicating support for total restriction or total access.

In addition to community support or opposition in determining whether to allow or restrict trail use by vehicles, the Town must consider the lands carrying capacity based on the sensitivity of resources and probability of impacts. It must also take into account the Town's capacity to manage and maintain the trails and resources to assure that both the quality of the recreational experience and the integrity of the resource are sustainable.

IMPACTS OF DEVELOPMENT

About 11% of land in Berlin is classified as developable or potentially developable. In addition, about 16% of the land in town is in agricultural and forestry use, most of which is only under partial protection (via Chapter 61). This amount of available and potentially developable land in Berlin is a magnet that will continue to attract new residential and commercial development.

Available land coupled with Berlin's rapid population growth within recent years presents a real threat to the quality of community's landscape, identity, and its way of life. Based on town assessor records 145 housing units have been built in Berlin since 2000. Nearly half of the homes built were created in conventional subdivisions with each unit being apportioned a substantial personal space and along existing roads following suburban development patterns. These 67 homes consumed a total of 245 acres of previously undeveloped land, over 3.5 acres per unit. The other 78 homes were built on 27 acres within flexible subdivisions where units were built closer together and some open space was preserved. The land consumption rate for these homes was just over one third acre per unit.

⁶⁴ Geocaching is a game in which the object is to identify and find items deposited by other players, using GPS navigation.

This comparison indicates that conventional rural development in Berlin consumed land at a rate ten times faster than flexible clustered development. Still there is some discomfort among Berlin residents with residential density that exceeds historical norms.

In the Community Planning Survey residents were asked to consider single-family and other types of residential development. As in 2003, the majority of respondents (89%) supported single family residential development. In contrast to 2003, no other type of residential development received support by a majority of respondents.⁶⁵

The survey also asked respondents to identify appropriate locations for new residential development. There was little consensus on this question, although the choice selected by the highest percent of respondents was along existing roads and the locations supported by the fewest respondents were close to other homes in Town Center, West Berlin, East Berlin and South Berlin.

No location was viewed to be appropriate by more than 50% of respondents, and all choices for building close to other homes, regardless of location, were rated as not appropriate by more than 60% of respondents.

The support or non-support for residential growth in subdivisions is less clear as approximately the same percent of respondents indicated that it was not appropriate as indicated that it was appropriate. This is in stark contrast to a similarly phrased question in the 2003 survey which showed 84% of respondents favored flexible development of subdivisions, while only 47% favored open space conservation development, and only 29% supported conventional subdivisions. It may be surmised that there is some confusion about the terms used to describe different forms of subdivisions.

In spite of the differences cited above, there is clear consensus that residential growth can not continue unchecked if Berlin is to retain its rural character and quality of life. Residents at the public meeting and those that responded to the Community Planning Survey indicated that regulating residential growth was seen as a top priority.

ACQUISITION AND FUNDING

Berlin has been fortunate to have acquired a conservation trust that was established as mitigation for the development of Solomon Pond Mall in 1996. Funds from the trust (an initial deposit of \$1,500,000 and yearly deposits of \$50,000) have enabled the Conservation Commission to protect numerous open spaces over the past decade and a half with little to no dependence on town funds. The Conservation Trust will continue to be funded at a rate of (\$50,000 a year) until 2026. While Conservation Trust funds have accomplished a great deal to date, the Conservation Commission will not be able to continue preserving substantial land tracts with only the \$50,000 yearly deposits. Additional funding sources are needed.

Along with securing new funding sources, the Conservation Commission should broaden its web of partnerships to include multiple land protection and management organizations (land trusts), state, and federal agencies. Land trust organizations provide communities with the legal entity

⁶⁵ In the 2003 survey, respondents also supported guest homes/bed and breakfasts, accessory apartments, over 55 housing, affordable housing and congregate care facilities.

they need to buy and hold land and conservation restrictions and may provide the greatest flexibility in acquiring, developing and disposing of land.

Town Funds

The Town should consider allocating funds annually to the Conservation Trust to allow the Conservation Commission to move quickly on acquisitions and other protection opportunities. It will be necessary to petition Town Meeting to commit funding to the Conservation Trust each year. Funding for the Conservation Trust can be obtained through a determined amount dedicated each year by Town Meeting, issuance of a bond, or by passing the Community Preservation Act (see below).

Community Preservation Act

The CPA allows communities to create a local Community Preservation Fund through a surcharge of up to 3% of the real estate tax levy on real property. The Act also creates a State matching fund which serves as an incentive to communities to take advantage of the provisions of this legislation. Local municipalities must adopt the Act by ballot referendum. Once locally adopted, the Act would require at least 10% of the monies raised to be distributed to each of three categories: open space (excluding recreational purposes), historic preservation, and community housing. The remaining 70% of funds may be allocated to any one or a combination of the three main uses (including public recreational purposes) at the discretion of the local Community Preservation Committee and subject to the approval of Town Meeting.⁶⁶ Up to 5% can also be spent on administrative needs of the local community preservation committee.

Massachusetts Grants for Conservation and Restoration

An overview of some of the State grants available for open space acquisition or management is provided below..

Upon completion of this Open Space and Recreation Plan and subsequent approval by EEA, the Town would be eligible to apply for the following grants:

- *Local Acquisitions for Natural Diversity (LAND)*: Grants to city and town conservation commissions for the acquisition of open space for conservation and informal recreation purposes (formerly the Self-Help Program).
- *Parkland Acquisitions and Renovations for Communities (PARC)*: Funds for acquiring and/or developing park and recreation land (formerly the Urban Self-Help Program).
- *Land and Water Conservation Fund*: Federal funds (administered by EEA) for up to 50% of the costs of acquiring, developing or renovating park, recreation, or conservation land.

The *Rivers and Harbors Grant Program* is a statewide program of matching grants from DCR to towns and municipalities for design and construction to address problems on coastal and inland waterways, lakes, and great ponds. The Department of Fish and Game (DFG) provides grants to public agencies and non-profits through its *Riverways Program* to help to restore the ecological integrity of rivers and streams.

⁶⁶ Community Preservation Coalition.

DCR's *Recreational Trails Grants* fund 80% of the project costs for a variety of trail protection, construction, and stewardship projects.

DCR's *Urban and Community Forestry Challenger Grants* assist in building support for the long term protection and management of community trees and forests. Municipalities and non-profits are eligible to apply.

The Executive Office of Energy and the Environment (EEA) offers grants through the *Conservation Partnership Program* to non-public, non-profits for acquiring land and interests in lands suitable for conservation or recreation.

The Department of Environmental Protection (DEP) provides grants through the *Drinking Water Supply Protection Grant Program* to assist in acquiring land to protect the quality of public drinking water supplies.

The *Landowner Incentive Program* through the Department of Fish and Game (DFG) provides grants to private landowners, sportsmen's clubs, land trusts, and non-profit groups to restore or create wildlife habitats for the benefit of species-at-risk.

Chapter 61/61A/61B lands

If land classified under Chapter 61 is sold for residential, commercial or industrial purposes, the town has the right of first refusal due to the legal interest in the property that grants the town the right to match a bona fide offer for conversion of the property from its forest, agricultural, or recreational use. The Chapter 61 laws were amended in 1986 and 1987 to allow towns to assign their options to nonprofit conservation organizations, increasing opportunities for protection. Nonprofits may have the resources to assemble a collection of groups to assist in funding purchase of the properties or it may be able to borrow money on shorter notice than a town and can borrow from a greater variety of sources.

There are six basic steps in exercising a Chapter 61 conversion option:

1. *Notification from Landowner.* A landowner who has property classified under one of the Chapter 61 laws must notify the town that all or a portion of the land is being withdrawn from this classification for development purposes. Subsequent to the notification, the town has 120 days to exercise the right of first refusal. Town counsel should review the offer to make sure that it is a bona fide offer. In addition, a community should not waive the right to an option without notifying town boards and initiating the evaluation process.
2. *Information Gathering.* As soon as the notice of intent is received from the landowner, a project coordinator should oversee the review of the proposal. The Conservation Commission could serve in this capacity. Background information about the landowner, abutters and the perspective buyer should be gathered. Each of these parties may be able to provide valuable insight to the property or possibly assist in protecting the conservation value of the site.
3. *Town Board Coordination.* It is critical to coordinate activities of each municipal board involved in the decision making. Once again, the Conservation Commission would facilitate

this process. An important part of coordination is a public meeting to identify town support concerning the property.

4. *Conservation Planning & Project Funding.* As the information gathering continues, realistic project plans for the property will emerge. The project plans may include purchase of the entire property for conservation by a state or federal agency; purchase of the property by a conservation organization or land trust with the intent of allowing “limited development” (see below); town purchase or a combination of any of the above.
5. *Option Acceptance or Assignment.* If the town decides to purchase the property, it must notify the seller of its intent and comply with the terms of the purchase and sale agreement within the 120 day option period. If a town is considering granting its option to a non-profit conservation organization, prompt cooperation is needed to develop a plan for the property. A public hearing is required with a 48-hour public notice period.
6. *Purchase.* Once the option has been assigned, the assignee must fulfill the terms of the original purchase and sale according to the schedule identified in that document.

Conservation Restrictions

In Massachusetts, a conservation restriction (also called a conservation easement) is a way to legally limit the use of private land in order to protect specified conservation values. All conservation restrictions must be approved by the Secretary of Environmental Affairs. There are different types of conservation restrictions:

- 1) A charitable deduction for federal income tax, gift and estate tax purposes;
- 2) A perpetual conservation restriction required by a government agency in the permitting process;
- 3) Development rights restrictions which are purchased by a governmental agency or private, non-profit organization;
- 4) Other restrictions (such as for a term of years).⁶⁷

Limited Development

A *limited development* project is a land protection strategy that provides for the development of a portion of a property in order to generate the funding that will enable the landowner to conserve the remainder for a lower cost. For example limited development can allow development of that portion of a property with road frontage and retain the balance of the site for conservation. Or limited development can be used to preserve the most environmentally sensitive area of a site and allow development elsewhere. Limited development allows towns to target the most critical areas for preservation while still allowing development in non-critical areas.

⁶⁷ *Massachusetts Conservation Restriction Handbook*, Division of Conservation Services, Executive Office of Energy and Environmental Affairs

Section 8: Goals and Objectives

Goal 1: Preserve and manage open space to maintain the town's rural character, protect natural and historic resources, and enhance quality of life.

Objectives:

- A. Use the most cost-effective level of protection necessary.
- B. Prioritize and protect lands that have high value for preservation of biodiversity, water quality protection, and open space linkages.
- C. Create a funding strategy for open space acquisition and management.
- D. Work together with regional land trusts and others to maximize responsiveness to particular opportunities.
- E. Establish cooperative relationships with owners of agricultural land and keep abreast of land availability.
- F. Develop a Conservation Restriction Monitoring Plan for all CR properties
- G. Identify land management needs for individual town conservation properties including, as appropriate, habitat restoration, sustainable forestry, education and recreation, .
- H. Integrate historic resource protection into open space protection and management.

Goal 2: Create open space networks throughout the town.

Objectives:

- A. Establish greenways that follow natural corridors such as brooks and streams, ponds, hills and ridgelines, and unique or special features.
- B. Link existing protected parcels through acquisition of adjoining parcels or easements.
- C. Develop safe pedestrian and bicycle trails along roads where it is not practical to purchase properties or easements to link trails.
- D. Continue to maintain trail networks including identifying new opportunities for creation of trails.

Goal 3: Provide opportunities for formal and informal recreation activities that serve the needs of Berlin's population.

Objectives:

- A. Maintain the South Commons complex as the town's primary multi-use recreation area because of its central location and convenience to the elementary school.
- B. Increase income generated from field and facility use to support maintenance and management.
- C. Identify locations for additional fields to meet any increased demands from population growth.
- D. Increase the diversity of recreation opportunities to meet the needs of youth and adults.

GOAL 4: Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.

Objectives:

- A. As facilities are improved, remove barriers to access to ensure universal accessibility to all individuals.
- B. Develop an effective outreach and communications program to better inform residents and visitors about open space and recreation resources and volunteer and support opportunities.
- C. Institute a conservation land stewardship program.
- D. Improve trails with trailhead signs, trail markers, cleared paths and expanded parking areas where needed.

- E. Cooperate and coordinate with State recreation planning efforts.

Goal 5: Regulate and guide development to be consistent with town character and land uses, and to protect open space systems, natural resources, and scenic vistas.

Objectives:

- A. Discourage development in areas of high visual impact.
- B. Ensure that development regulations create development that has the least impact on the environment.
- C. Work with private developers to maximize the preservation of open areas and protection of environmentally sensitive areas.

Goal 6: Support working farms and sustainable farming practices.

Objectives

- A. Establish a Community Garden.
- B. Create opportunities to highlight the benefit of working farms and sustainable farming practices.
- C. Raise awareness of the benefits of Agricultural Preservation Restriction agreements to farmers and the community.
- D. Establish or join a buy local program.

Section 9: Seven-Year Action Plan

The following table outlines an action plan for Berlin for the next seven years. Implementation of these actions and initiatives will help assure that Berlin is protecting the small town and rural atmosphere that defines the character of the town and ensuring that the town's natural, scenic, and historic resources are preserved for future generations. The underlying strategy for accomplishing this is based on the principles of Landscape Ecology which calls for protecting core, critical areas, enlarging and rounding them out and interconnecting them with greenway travel corridors. Riparian corridors are a priority.

The table is organized by goals. Following each goal are supporting objectives further outlined by action items, along with a listing of responsible town entities, anticipated time frame for completion, and possible partners and funding sources. Funding sources are indicated by italicized font.

DCR – Department of Conservation and Recreation

DFG – Department of Fish and Game

EEA – Executive Office of Energy and Environmental Affairs

Goal 1: Preserve and manage open space to maintain the town’s rural character, protect natural and historic resources, and enhance quality of life.

Objective:	Action	Responsible Party	Time Frame	Potential Partners and <i>Funding Sources</i>
Use the most cost-effective level of protection necessary.	Develop/Document list of protection strategies and analyze cost and benefits of each when considering each parcel.	Conservation Commission	1-3 years	Land Trusts
Prioritize and protect lands that have high value for preservation of biodiversity, water quality protection, and open space linkages.	<ul style="list-style-type: none"> • Develop appraisal standards to evaluate potential sites for purchase or protection. • Prioritize parcels that possess the following critical natural resources values: <ul style="list-style-type: none"> • Endangered species • Diversity of native species • Water quality • Wilderness values • Agriculture • Passive recreation • Scenic • Inventory CR properties and work with land owner to make protection status permanent. 	Conservation Commission	1-3 years	Mass Wildlife Mass Audubon Land Trusts <i>EEA Grants:</i> <ul style="list-style-type: none"> • <i>Conservation Partnership</i> • <i>Local Acquisitions for Natural Diversity</i> • <i>Land and Water Conservation Fund</i> <i>DCR Grants:</i> <ul style="list-style-type: none"> • Recreational Trails Urban and Community Forests Grants Challenge
Create a funding strategy for open space acquisition and management.	<ul style="list-style-type: none"> • Identify Town, state, and federal funds available for acquisition, improvements and management. • Identify partnership opportunities with nonprofit organizations and private entities. • Create a process for leveraging grants with partnerships, in-kind services, and town funding 	Conservation Commission	1-3 years	Trustees of Trust Funds Finance Committee Planning Board Board of Selectmen Berlin Housing Partnership Land Trusts

	<ul style="list-style-type: none"> • Develop guidelines for each funding strategy: <ul style="list-style-type: none"> • Fee purchase • Conservation Restriction/Easement • Tax reduction/ deferment programs • Development Rights • Limited Development • Educate landowners of tax benefits of various protection programs, gifting lands and restrictions. 			
Work together with regional land trusts and others to maximize responsiveness to particular opportunities.	<ul style="list-style-type: none"> • Establish working relationships with land trusts, developers and other potential partners. • Meet with potential partners • Share goals and understandings 	Conservation Commission	1-3 years	Planning Board Land Trusts
Establish cooperative relationships with owners of agricultural land and keep abreast of land availability.	<ul style="list-style-type: none"> • Continue to meet with owners of agricultural land to assess interest in land protection. • Develop a brochure/guide that outlines opportunities and benefits of the various land protection options. • Monitor the status of land in current use assessment programs (Chapter 61/61A/61B). 	Conservation Commission	On-going	Agricultural Commission
Develop a Conservation Restriction Monitoring Plan for all CR properties.	<ul style="list-style-type: none"> • Document conservation values at time of CR approval. • Monitor site and document annually with consistent methodology • Address any violations or changes 	Conservation Commission	3-5 years	Land Trusts
Identify land management needs for individual town conservation	<ul style="list-style-type: none"> • *Identify and prioritize properties that would benefit the most from increased 	Conservation	*1-3 years	Mass Wildlife

<p>properties including, as appropriate, habitat restoration, sustainable forestry, education and recreation.</p>	<p>management.</p> <ul style="list-style-type: none"> • **Create a phased work plan for developing management plans for those properties. 	<p>Commission</p>	<p>**3-5 years</p>	<p>DCR Bureau of Forestry ADA Coordinator <i>DCR Grants</i></p> <ul style="list-style-type: none"> • <i>Urban and Community Forestry Challenger Grants</i> • <i>Forest Stewardship Program</i> • <i>Forest Viability Program</i> <p><i>EEA Grants</i></p> <ul style="list-style-type: none"> • Mass Environmental Trust
<p>Integrate historic resource protection into open space protection and management.</p>	<p>Identify historic resources that need protection.</p>	<p>Historical Commission</p>	<p>1-3 years</p>	<p>Cultural Council</p>

Goal 2: Create open space networks throughout the town.

Objective:	Action	Responsible Party	Time Frame	Potential Funding Source/ Partner
Establish greenways that follow natural corridors such as brooks and streams, ponds, hills and ridgelines, and unique or special features.	<ul style="list-style-type: none"> Continue to identify and map potential greenway properties. Share results of mapping with PB, BHP and others involved in land management, acquisition and disposition. 	Conservation Commission	On-going	<i>DCR Grants</i> <ul style="list-style-type: none"> Recreational Trails Grant Rivers Harbors Grant Program <i>EEA Conservation Partnership Program DEP Drinking Water Supply Protection Grant Program</i>
Link existing protected parcels through acquisition of adjoining parcels or easements.	Partner with neighboring towns to protect inter-town critical areas and greenways.	Conservation Commission	On-going	<i>DCR Recreational Trails Grants</i> <i>EEA Conservation Partnership Program</i>
Develop safe pedestrian and bicycle trails along roads where it is not practical to purchase properties or easements to link trails.	<ul style="list-style-type: none"> Identify on-road connections that can link trail systems. Update trail maps to include on-road connections. 		5-7 years	
Continue to maintain trail networks including identifying new opportunities for creation of trails.		Conservation Commission	On-going	Recreation Committee <i>DCR Recreational Trails Grants</i> <i>EEA Grants</i> <ul style="list-style-type: none"> Land and Water Conservation Fund Parkland Acquisitions and Renovations for Communities

Goal 3: Provide opportunities for formal and informal recreation activities that serve the needs of Berlin's population.

Objective:	Action	Responsible Party	Time Frame	Potential Funding Source/ Partner
<p>Maintain the South Commons complex as the town's primary multi-use recreation area, because of its central location and convenience to the elementary school.</p>	<ul style="list-style-type: none"> • *Improve tennis and basketball courts with repairs or resurfacing. • *Create a safer pedestrian environment by improving parking and circulation. • **Construct a multi-use pavilion with a secure area for storage and a concessions booth. • **Install a potable water source. • ***Evaluate the costs and benefits of constructing a regulation size baseball field for ages 14 and over. 	<p>Recreation Committee</p>	<p>* 1-3 years ** 3-5 years *** 5-7 years</p>	<p><i>DCR Grants</i></p> <ul style="list-style-type: none"> • <i>Parkland Acquisitions and Renovations for Communities</i> • <i>Land and Water Conservation Fund</i>
<p>Increase income generated from field and facility use to support maintenance and management.</p>	<ul style="list-style-type: none"> • Advertise field and facility availability on town's web site. • Send information about field and facility availability to neighboring towns, and athletic organizations. 	<p>Recreation Committee</p>	<p>On-going</p>	
<p>Identify locations for additional fields to meet any increased demands from population growth.</p>		<p>Recreation Committee</p>	<p>3-5 years</p>	<p><i>EEA Grants:</i></p> <ul style="list-style-type: none"> • <i>Parkland Acquisition and Renovations for Communities</i> • <i>Land and Water Conservation Fund</i>
<p>Increase the diversity of recreation opportunities to meet the needs of youth and adults.</p>	<ul style="list-style-type: none"> • Evaluate interest in adult and youth basketball leagues. • Evaluate interest in adult and youth golf leagues at nearby courses. • Work with nearby golf courses to establish discounts for Berlin residents. 	<p>Recreation Committee</p>	<p>1-3 years</p>	

GOAL 4: Increase public knowledge about and access, as appropriate, to conservation areas and recreation properties and programs.

Objective:	Action	Responsible Party	Time Frame	Potential Partners and Funding Sources
<p>As facilities are improved, remove barriers to access to ensure universal accessibility to all individuals.</p>	<ul style="list-style-type: none"> • 40 Caves: improve parking as needed • Rattlesnake Hill: improve parking; develop accessible trails along rail bed • O’Brien Meadow: study feasibility for wheelchair accessible trails • Clark: develop accessible trails in coordination with Mass Rail Trail development • South Commons: improve parking and circulation; determine feasibility for greater access to playground 	<p>Conservation Commission Recreation Committee</p>	<p>On-going</p>	<p>ADA Committee <i>EEA Parkland Acquisitions and Renovations for Communities</i></p>
<p>Develop an effective outreach and communications program to better inform residents and visitors about open space and recreation resources as well as volunteer and support opportunities.</p>	<ul style="list-style-type: none"> • Continue biodiversity days and consider other nature awareness activities including: <ul style="list-style-type: none"> • Geo-caching • Letterboxing • Champion Tree contest • Audubon Society’s annual Christmas Bird Count • Naturalist program • Photography contest • Interpretive walks • Continue to develop downloadable field guides (bird, plants, wildlife) • Develop a quarterly “What’s new in Conservation” program to air on Berlin cable 	<p>Conservation Commission</p>	<p>1-3 years</p>	<p>Bi-Centennial Committee Elementary School Mass Audubon Garden Club Mass Wildlife <i>DFG Landowner Incentive Program</i> <i>EEA Mass Environmental Trust</i></p>

	<p>channel.</p> <ul style="list-style-type: none"> Engage the Berlin Garden Club to assist with beautification and ecological enhancement efforts at school, town offices and road intersections. Partner with Mass Wildlife to make Berlin a model community for wildlife habitat and protection. Develop an information brochure for Berlin land owners on benefits of conservation efforts and what they can do. 			
Institute a conservation land stewardship program	<ul style="list-style-type: none"> Recruit volunteers to help identify and evaluate existing land stewardship programs to define a model for Berlin. Meet with administrators and volunteers from existing programs to give first hand feedback of the programs strengths and weaknesses. 	Conservation Commission	3-5 years	Land Trusts <i>DCR Recreational Trails Grants</i>
Improve trails with trailhead signs, trail markers, cleared paths and expanded parking areas where needed.	<ul style="list-style-type: none"> *Work with scouts, school and other groups to help clear and maintain paths. *Install trailhead signs at all open space and conservation lands where passive use is encouraged. **Mark areas along trails to note significant areas of biodiversity. **Place small identification tags on or near trees and wildflowers along popular trails. ***Establish parking at key trail heads as feasible. 	Conservation Commission	*1-3 years **3-5 years ***5-7 years	Scouts Elementary School Garden Club <i>DCR Recreational Trails Grants</i> <i>EEA Land and Water Conservation Fund</i>
Cooperate and coordinate with State recreation planning efforts.	<ul style="list-style-type: none"> Work with DCR to advance development of the Mass Central Rail Trail. 	Conservation Commission	On-going	Massachusetts DCR

	<ul style="list-style-type: none">Identify potential sites that would provide access to or connect with the proposed Mass Central Rail Trail.			<i>DCR's Recreational Trails Grants</i>
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Goal 5: Regulate and guide development to be consistent with town character and land uses, and to protect open space systems, natural resources, and scenic vistas.

Objective:	Action	Responsible Party	Time Frame	Potential Partners and <i>Funding Sources</i>
Discourage development in areas of high visual impact.		Planning Board	On-going	
Ensure that development regulations create development that has the least impact on the environment.	Evaluate land use regulations including: <ul style="list-style-type: none"> • Open Space Residential Development • Site Plan Review Regulations • Major Residential Development • Stormwater Bylaw • Erosion Control Standards 	Planning Board	On-going	
Work with private developers to maximize the preservation of open areas and protection of environmentally sensitive areas.	<ul style="list-style-type: none"> • Work with developers to construct housing and shape developments that provide permanent open space protection. • Create a process for evaluating the option of Limited Development for suitable sites. • Study the suitability of Transfer of Development rights 	Planning Board	On-going	Berlin Housing Partnership Finance Committee Conservation Commission

Goal 6: Support working farms and sustainable farming practices.

Objective:	Action	Responsible Party	Time Frame	Potential Partners and Funding Sources
Establish a Community Garden.	<ul style="list-style-type: none"> • Determine number of potential gardeners to determine size of garden needed. (allow room for growth). • Identify and evaluate potential garden sites. • Develop use guidelines. • Work with local farmers to develop site. 	Agricultural Commission	1-3 years	<i>EEA Parkland Acquisitions and Renovations for Communities</i>
Create opportunities to highlight the benefit of working farms and sustainable farming practices	<ul style="list-style-type: none"> • Develop an Agricultural Commission web site as a resource for farmers and an education and outreach tool for the Commission. • Work with local farmers to create trails or tours through farmlands. • Institute home vegetable garden tour and instruction program. • Engage local farmers to help create vegetable and flower gardens at BMS. 	Agricultural Commission	1-3 years	Garden Club Massachusetts Farmland Trust
Raise awareness of the benefits of Agricultural Preservation Restriction agreements to farmers and the community.	<ul style="list-style-type: none"> • Include information on Agricultural Commission web site. • Develop information brochure/handout that can be distributed. • Host informational sessions/tables at public events. 	Agricultural Commission	1-3 years	Conservation Commission Massachusetts Farmland Trust
Establish or join a buy local program.	Research existing programs to determine the most appropriate program to join or model to emulate. For example see: http://www.pvlocalfirst.org/businesses/community-	Agricultural Commission	1-3 years	Cultural Council Massachusetts Farmland Trust

	involved-sustaining-agriculture-cisa http://www.northeastharvest.com/aboutus http://semaponline.org/			
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Section 10: Public Comments

The draft Open Space and Recreation Plan was submitted to the following departments, boards, committees, and agencies on June 1, 2010.

- Berlin Board of Selectmen
- Berlin Planning Board
- Berlin Agricultural Commission
- Berlin Recreation Committee
- South Common Park Committee
- Berlin Housing Partnership
- Berlin Cultural Council
- ADA Committee
- Central Massachusetts Regional Planning Commission

Suggested plan improvements were incorporated into the final plan.

Letters of support follow.



BOARD OF SELECTMEN

BERLIN, MASSACHUSETTS 01503

Phone: (978) 838-2442

Fax: (978) 838-0014

June 13, 2011

Clayton Duggan, Chair
Berlin Conservation Commission
Town Offices
23 Linden Street
Berlin, MA 01503

Dear Mr. Duggan:

The Board of Selectmen has reviewed the Open Space and Recreation Plan prepared by the Conservation Commission with the assistance of the consulting firm Brown Walker Planners. We find the plan to be thoughtful and thorough with a balance of recommendations that address the open space and recreation needs of the community. On behalf of residents of the Town of Berlin, we wish to commend the town's boards, committees and citizens for the time and efforts involved in developing the Plan.

The Board of Selectmen supports the recommendations contained in the plan and is anxious to work with the Conservation Commission and others, as appropriate, to meet the Plan's stated goals and objectives.

Very truly yours,
BOARD OF SELECTMEN

Thomas Andrew
Chairman

Valary J. Bradley
Vice Chairman

Judith Booman
Clerk

June 13, 2011

Clayton Duggan, Chair
Berlin Conservation Commission
Town Offices
23 Linden Street
Berlin, MA 01503

Dear Mr. Duggan:

I, as the Planning Board Chairman, have reviewed the Open Space and Recreation Plan prepared by the Conservation Commission with the assistance of the consulting firm Brown Walker Planners. I wish to commend the town's boards, committees and citizens for the time and efforts involved in developing the Plan.

I support the recommendations contained in the plan and am anxious to lead the Planning Board in working with the Conservation Commission and others as appropriate to meet the Plan's stated goals and objectives.

Very truly yours,



Ronald L. Vavruska
Chairman, Berlin Planning Board

TOWN OF BERLIN



June 20, 2011

Clayton Duggan, Chair
Berlin Conservation Commission
Town Offices
23 Linden Street
Berlin, MA 01503

Dear Mr. Duggan:

The Town of Berlin, in compliance with Title II of the ADA, focuses on program accessibility, but also seeks to improve physical access to the Town's facilities and resources whenever feasible. As ADA coordinator, I have reviewed the ADA self evaluation prepared by the Conservation Commission with the assistance of the consulting firm Brown Walker Planners and find the assessment of the Town's parks and open spaces to be complete and accurate.

I thank the Conservation Commission for its continued attention to making conservation and recreation programs and lands accessible to the broadest range of participants.

Very truly yours,

Thomas Andrew
MS.

Thomas Andrew
ADA Coordinator

June 9, 2011

Clayton Duggan, Chair
Berlin Conservation Commission
Town Offices
23 Linden Street
Berlin, MA 01503

Dear Mr. Duggan:

The Agricultural Commission has reviewed the Open Space and Recreation Plan prepared by the Conservation Commission with the assistance of the consulting firm Brown Walker Planners. On behalf of Agricultural Commission, I wish to commend the town's boards, committees and citizens for the time and efforts involved in developing the Plan.

The Agricultural Commission supports the recommendations contained in the plan and is anxious to work with the Conservation Commission and others as appropriate to meet the Plan's stated goals and objectives.

Very truly yours,



Carl R. Wickstrom, Chairman
Berlin Agricultural Commission

June 20, 2011

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge St., Suite 900
Boston, MA 02114

Dear Ms. Cryan;

RE: Town of Berlin Open Space and Recreation Plan (June 2011)

The Central Massachusetts Regional Planning Commission (CMRPC) is writing this letter in support of the Town of Berlin and its recently completed Open Space and Recreation Plan 2011. The Town and its Conservation Commission and Planning Board are to be commended for their hard work putting this Plan together as well as the efforts taken in implementing many actions indicated in its previous plans -1996 and 2004.

The Conservation Commission and the Planning Board along with its consultant Walker/Brown Planners have done a very thorough job and the final document appears compliant with the standards for such plans as established by your office. Berlin has recognized the need to intelligently plan for development pressures. It also calls for protecting core, critical areas, enlarging and rounding them out and interconnecting them with greenway travel corridors. While, a key goal is to preserve and manage its resources and special places, the town knows that education and outreach efforts are important to implementation at many levels.

Berlin's Open Space and Recreation Plan 2011 provides the Town with the specific guidance and action steps needed to accomplish its goals and objectives. It is very exciting that Berlin plans to encourage the coordination of open space and recreational efforts among neighboring towns. The Town of Berlin will be well served by having a State-approved up-to-date Plan in order to plan for its recreation facilities and programs, as well as to preserve and protect its valuable open spaces and natural resources.

We find Berlin's Plan to be fully consistent with Massachusetts Outdoors: Statewide Comprehensive Outdoor Recreation Plan (SCORP), CMRPC's Regional Open Space and Recreation Plan as well as the conservation priorities outlined in our 2020 Growth Strategy for Central Massachusetts and its 2004 Update. Please consider this letter to be a demonstration of CMRPC's support for the Plan and the process used to develop it.

Sincerely,



Trish Settles, AICP
Principal Planner

Cc: Berlin Conservation Commission and
Berlin Planning Board
Brown/Walker Planners

Section 11: References and Resources

- American Communities Survey data: www.factfinder.census.gov
- Community Preservation Coalition at <http://www.communitypreservation.org/>
- Eysenbach, Mary. When Standards Fall Short
- Lowell W. Adams and Louise E. Dove, Wildlife Reserves and Corridors in the Urban Environment: A Guide to Ecological Landscape Planning and Resource Conservation (Columbia, MD: National Institute for Urban Wildlife, 1989), page 38.
- Massachusetts Conservation Restriction Handbook*, Executive Office of Energy and Environmental Affairs, Division of Conservation Services, 2008
- Massachusetts Department of Environmental Management, *Massachusetts Landscape Inventory: A Survey of the Commonwealth's Scenic Areas* (1982).
- Massachusetts Department of Revenue on line at www.mass.gov/dor
- Massachusetts Department of Revenue, Division of Local Services, At a Glance Report for Municipalities 2010
- Massachusetts Department of Transportation on line at www.mass.gov/dot
- Massachusetts Executive Office of Energy and Environmental Affairs on line at www.mass.gov/envir.
- Department of Conservation and Recreation: www.mass.gov/dcr
 - Department of Fish and Game: www.mass.gov/dfwele
 - Department of Environmental Protection: www.mass.gov/dep
 - Department of Agricultural Resources: www.mass.gov/agr
- Massachusetts Executive Office of Housing and Economic Development on line at www.mass.gov/eohed
- Department of Housing and Community Development: www.mass.gov/dhcd
- Massachusetts Natural Resources Collaborative on line at www.massnrc.org
- Mass Central Rail Trail Coalition on line at www.masscentralrailtrail.org
- New England Wildflower Society on line at www.newfs.org
- The Open Space Planner's Workbook*, March 2008 available on line at www.mass.gov/envir/dcs.
- Organization for the Assabet River on line at www.assabriver.org
- Town of Berlin
- Office of the Assessor
 - Planning Board
 - Agricultural Commission
 - Recreation Committee
 - Housing Partnership
 - Board of Selectmen
 - Berlin Zoning By-law, 2010
 - Berlin Community Development Plan Summary of Community Survey Findings, 2003
 - 2011 Community Development Planning Survey
- United States Census data available on line at www.census.gov
- U.S. Department of Agriculture, Soil Conservation Service, Soils and Their Interpretation for Various Land Uses – Town of Berlin, Massachusetts (March 1973).
- U.S. Department of Agriculture, Soil Conservation Service, Northeastern Massachusetts Interim Soil Survey Report (February 1982).

U.S. Department of Agriculture, Soil Conservation Service, Soil Potential Ratings for Septic Absorption Fields – Middlesex and Essex Counties, Massachusetts (March 1985).

Appendices

- Appendix A: Existing Parcel Summary by Land Use
- Appendix B: 2011 Summary of Community Survey Findings
- Appendix C: ADA Access Self Assessment
- Appendix D: Maps
- Appendix E: Berlin Conservation Commission Trail Guide
- Appendix F: Public Meetings Summaries

Appendix A: Existing Parcel Summary by Land Use

Table 11: Town-Owned Land

Map / Lot	Name	Address	Acres	Zoning	Current Use	Condition	Managing Agency	Grant Funding	Recreation Potential	Public Access
Permanently Protected										
020-002-001	Rosemarin	Crosby Rd	3.47	RA	Town Conservation	wetland	Conservation Commission	no	no	no
050-016-000	Mt. Pisgah Conservation Area	Lyman Rd	27.02	ARC	Town Conservation	pine forest	Conservation Commission	no	passive	yes
050-044-000	Guerard	Lyman Rd	16.51	ARC	Town Conservation	upland, wetland	Conservation Commission	no	passive	no
050-045-000		Lyman Rd	5.00	ARC	Town Conservation	upland, wetland	Conservation Commission	no	passive	no
050-046-000		Lyman Rd	3.19	ARC	Town Conservation	upland, wetland	Conservation Commission	no	passive	no
060-003-014	No'bro Assoc RE Trust	Morse Rd	5.80	ARC	Town Conservation	field, brook, wetland	Conservation Commission	no	passive	no
060-004-000	Guerard	Crosby Rd	10.13	ARC	Town Conservation	upland	Conservation Commission	no	passive	no
090-008-005	Cowell	Richard Dr	4.30	ARC	Town Conservation	upland	Conservation Commission	no	passive	no
090-043-000	Touchette	Linden St	1.88	ARC	Town Conservation	brook	Conservation Commission	no	passive	yes
090-050-002	Divine	Linden St	48.40	RA	Town Conservation	upland	Conservation Commission	no	passive	yes
110-014-001		Summer Rd	7.74	RA	Town Conservation	wetland	Conservation Commission	no	no	no
143-025-000		Boylston Rd	1.47	RA	Town Conservation	rail bed	Conservation Commission	no	active and passive	no
190-044-000	North Brook	Randall Rd	1.54	RA	Town Conservation	brook	Conservation Commission	no	no	no

190-050-000	North Brook	Lancaster Rd	2.50	RA	Town Conservation	brook	Conservation Commission	no	no	no
210-022-000	Hog Swamp	Sawyer Hill Rd	7.18	RA	Town Conservation	wetland	Conservation Commission	no	no	no
210-027-000	Hog Swamp	Sawyer Hill Rd	9.09	RA	Town Conservation	wetland	Conservation Commission	no	no	no
230-008-000	Musche	Lancaster Rd	5.41	ARC	Town Conservation	wetland	Conservation Commission	no	no	yes
230-010-000	Musche	Lancaster Rd	40.98	ARC	Town Conservation	wooded upland and wetland	Conservation Commission	no	passive	yes
230-023-008	Collins Road Conservation Area (Rhodes)	Collins Rd	19.66	ARC	Town Conservation	upland, brook	Conservation Commission	no	passive	yes
230-037-000	Musche	Lancaster Rd	4.16	ARC	Town Conservation	upland, brook	Conservation Commission	no	passive	yes
230-039-000	Pendergras	Lancaster Rd	17.25	ARC	Town Conservation	upland	Conservation Commission	no	passive	yes
230-006-001	40 Caves	Allen Rd	15.42	ARC	Town Conservation	mostly forested upland	Conservation Commission	no	passive	yes
080-001-000	Ball Hill/Wrack Meadow	Linden St	79.21	ARC	Town Conservation	forested and open meadow	Conservation Commission	no	passive	yes
060-062-000	Cadogan	Jones Rd	7.20	ARC	Town Conservation	open field	Conservation Commission	no	passive and active	yes
150-002-000	Clark Property	Coburn Rd	71.24	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
090-050-001	Devine Property	Linden St	0.21	RA	Town Conservation	mostly forested upland	Conservation Commission	no	passive	yes
030-015-000	Dingley	River Rd West	3.25	ARC	Town Conservation	wetland and brook	Conservation Commission	no	passive	yes
060-050-000	Douglas Conservation Area	Jones Rd	27.03	ARC	Town Conservation	mostly wetland	Conservation Commission	no	passive	yes

030-005-000	Kelsey/McAllistir	River Rd West	4.79	ARC	Town Conservation	brushy field	Conservation Commission	no	passive	yes
110-016-000	Larkin Property	Dudley Rd	39.88	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
120-003-000	Linzee Property	495 Near	23.50	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
050-015-000	Mt. Pisgah Conservation Area	Ball Hill Rd	135.47	ARC	Town Conservation	forested upland, brook	Conservation Commission	no	passive	yes
104-029-000	O'Brien Property	Pleasant St	15.00	ARC	Town Conservation	open meadow, forested wetland	Conservation Commission	State Self Help Grant	passive	yes
130-008-000	Rattlesnake Hill	Boylston Rd	8.11	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
130-010-000	Rattlesnake Hill	Boylston Rd	41.62	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
130-011-000	Rattlesnake Hill	Larkin Rd	2.64	ARC	Town Conservation	forested upland	Zoning Board of Appeals	no	passive	yes
140-002-000	Rattlesnake Hill	Boylston Rd	2.42	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
140-003-000	Rattlesnake Hill	Boylston Rd	17.40	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
140-004-000	Rattlesnake Hill	Boylston Rd	2.30	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
140-005-000	Rattlesnake Hill	Boylston Rd	37.78	ARC	Town Conservation	forested upland	Conservation Commission	no	passive	yes
100-043-000	Tyler Conservation Area	Pleasant St	11.79	ARC	Town Conservation	upland	Conservation Commission	no	passive	yes
100-045-000	Tyler Conservation Area	Pleasant St	9.46	ARC	Town Conservation	upland	Conservation Commission	no	passive	yes
Partially Protected										
103-022-000	Center Cemetery	Linden St	0.94	RA	Town Cemetery	cemetery	Cemetery Commission	no	no	yes

210-003-000	North Cemetery	Highland St	5.13	Ra	Town Cemetery	cemetery	Cemetery Commission	no	no	yes
060-034-000	South Cemetery	Pleasant St	7.37	RA	Town Cemetery	cemetery	Cemetery Commission	no	no	yes
100-017-000	Berlin Memorial School / South Common	34 South St	36.81	RA	Town Park	athletic fields and school	Selectmen/ School Committee	no	active	yes
103-012-000	Powderhouse Hill	West St	1.00	RA	Town Park	open hillside	Selectmen	no	passive	Yes
Unprotected Public Land										
103-015-000		4 Woodward Ave	0.37	RA	Town Management	mostly developed	Selectmen	no	no	unknown
130-007-000		Boylston Rd	0.69	RA	Town Management	needs review	Selectmen	no	unknown	unknown
160-042-000		Central St	0.06	RA	Town Management	needs review	Selectmen	no	unknown	unknown
190-027-000		Allen Rd	3.63	RA	Town Management	needs review	Selectmen	no	unknown	unknown
200-015-000		Baker Rd	0.95	RA	Town Management	needs review	Selectmen	no	unknown	unknown
200-016-000		Baker Rd	0.87	RA	Town Management	needs review	Selectmen	no	unknown	unknown
200-017-000		Baker Rd	0.74	RA	Town Management	needs review	Selectmen	no	unknown	unknown
210-026-000		Sawyer Hill Rd	2.92	RA	Town Management	needs review	Selectmen	no	unknown	unknown
210-029-000		Sawyer Hill Rd	2.45	RA	Town Management	needs review	Selectmen	no	unknown	unknown
230-004-000		Lancaster Rd	20.00	RA	Town Management	needs review	Selectmen	no	unknown	unknown
230-005-000		Lancaster Rd	8.18	RA	Town Management	needs review	Selectmen	no	unknown	unknown

100-024-000	Booth	South St	11.74	RA	Town Management	wood lot	Selectman	no	no	no
103-008-000	Fire Station	West St	0.36	RA	Town Management	mostly developed	Selectmen	no	no	no
143-003-000	Legion Hall	Lincoln Rd	0.46	RA	Town Management	mostly developed	Selectmen	no	no	no
152-031-000	Library	23 Carter St	0.50	RA	Town Management	mostly developed	Library Trustees	no	no	no
151-010-000	Town Barn	105 Carter St	0.21		Town Management	mostly developed	Selectmen	no	no	no
103-016-000	Town Hall	12 Woodward Ave	0.16	RA	Town Management	mostly developed	Selectmen	no	no	no
103-004-000	Town Offices	23 Linden St	12.57	RA	Town Management	mostly developed	Selectmen	no	no	no
060-015-000	Transfer Station	35 Jones Rd	11.93	RA	Town Management	mostly developed	Selectmen	no	no	no
		Total	928.39							

Table 12: Properties Owned by Town of Hudson

Map/Lot	Name	Address	Acres	Zoning	Land Use	Condition	Recreation Potential	Public Access
170-030-000	Crystal Spring	172 Gates Pond Rd	48.95	ARC	Water supply protection	wetland, some upland, pond, brook	passive	yes
110-015-000	Gates Pond	Taylor Rd	230.00	ARC	Water supply protection	wetland, some upland, pond, brook	passive	yes
160-031-000	Gates Pond	Taylor Rd	33.00	RA	Water supply protection	wetland, some upland, pond, brook	passive	yes
110-018-000	Town Forest	Taylor Rd	10.25	ARC	Water supply protection	wetland, some upland, pond, brook	passive	Yes
	TOTAL		322.20					

Table 13: State Park, Flood Control Properties, and MDC

Map/Lot	Name	Address	Acres	Zoning	Land Use	Condition	Recreation Potential	Public Access
030-021-000	Aquaduct	River Rd West	0.08	RA	Water Resource	aquaduct	no	no
130-003-000	Aquaduct	Boylston Rd	1.40	RA	Water Resource	aquaduct	no	no
141-006-000	Aquaduct	Barnes Rd	1.05	RA	Water Resource	aquaduct	no	no
141-024-000	Aquaduct	Derby Rd	1.04	RA	Water Resource	aquaduct	no	no
060-023-000	Brewer Brook	Pleasant St	9.21	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
060-024-000	Brewer Brook	Pleasant St	8.73	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-039-000	Brewer Brook	Pleasant St	7.36	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-040-000	Brewer Brook	Pleasant St	3.64	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-041-000	Brewer Brook	Pleasant St	2.81	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-044-000	Brewer Brook	Pleasant St	16.20	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-052-000	Brewer Brook	Pleasant St	1.91	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-053-000	Brewer Brook	Pleasant St	2.91	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
104-031-000	Brewer Brook	Pleasant St	1.61	RA	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
104-034-000	Brewer Brook	Pleasant St	2.28	RA	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
090-039-000	Lester Ross Suasco Project	Linden St	10.97	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes

Map/Lot	Name	Address	Acres	Zoning	Land Use	Condition	Recreation Potential	Public Access
090-040-000	Lester Ross Suasco Project	Linden St	10.11	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
100-001-000	Lester Ross Suasco Project	Linden St	74.83	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
140-016-000	Lester Ross Suasco Project	Coburn Rd	23.32	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
140-017-000	Lester Ross Suasco Project	West St	28.73	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
140-018-000	Lester Ross Suasco Project	West St	6.18	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
140-019-000	Lester Ross Suasco Project	West St	4.76	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
141-017-000	Lester Ross Suasco Project	West St	28.73	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-008-000	Lester Ross Suasco Project	West St	1.40	RA	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-009-000	Lester Ross Suasco Project	West St	0.19	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-010-000	Lester Ross Suasco Project	West St	0.27	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-011-000	Lester Ross Suasco Project	West St	0.20	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-017-000	Lester Ross Suasco Project	West St	2.70	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-018-000	Lester Ross Suasco Project	West St	2.40	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-019-000	Lester Ross Suasco Project	West St	16.63	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-021-000	Lester Ross Suasco Project	West St	5.61	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-022-000	Lester Ross Suasco Project	West St	3.37	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes

Map/Lot	Name	Address	Acres	Zoning	Land Use	Condition	Recreation Potential	Public Access
142-023-000	Lester Ross Suasco Project	West St	1.33	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
142-024-000	Lester Ross Suasco Project	West St	0.85	ARC	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
143-020-000	Lester Ross Suasco Project	West St	0.78	RA	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
143-021-000	Lester Ross Suasco Project	West St	0.39	RA	Flood Control	wetland, some upland, flood control pond, brook	passive	yes
130-009-000	Rattlesnake Hill	Boylston Rd	12.48	ARC	Flood Control	forested upland	passive	yes
		Total	296.46					

Table 14: Private Properties with Current Use Tax Status (Chapter 61)

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
020-031-000	Chandler, Emerson & Karen L	189 Crosby Rd	3.33	RA	Residence with ag component	61A	current use tax	needs review	passive	no
030-012-001	Risi Family Trust	River Rd West	12.40	CVRA	Field Crops	61A	current use tax	needs review	passive	no
040-001-000	Eager, Barry W	Ball Hill Rd	57.38	RA	Nature study land	61B	CR	needs review	passive	yes
050-017-000	Webjo Co Inc - C/O Bruce O'berg	Lyman Rd	107.93	RA	Nature study land	61B	current use tax	needs review	passive	yes
050-030-000	Manning, Mark & Karen	28 Priest Rd	9.79	RA	Residence with rec component	61B	current use tax	needs review	passive	yes
060-007-000	Mathews, Max V & Majorie M	Crosby Rd	24.18	RA	Forest	61	current use tax	needs review	passive	no
060-032-000	Kraszeski, Kevin & Mary Jane	31 Sawyer Hill Rd	16.00	RA	Residence with ag component	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
060-035-000	Wheeler, Joanne	232 Pleasant St	64.14	CV		61A	current use tax	needs review	passive	unknown
060-070-000	Mikoloski, Henry S Jr	244 South St	13.99	RA	Residence with rec component	61B	current use tax	needs review	passive	yes
070-007-000	Christensen, Judith	Summer Rd	4.21	RA	Field Crops	61A	current use tax	needs review	passive	no
070-008-000	Christensen, Judith	Summer Rd	6.43	RA	Productive woodland	61A	current use tax	needs review	passive	no
070-009-000	Christensen, Judith	68 Summer Rd	12.01	RA	Residence with ag component	61A	current use tax	needs review	passive	no
070-023-000	The Henry A Wheeler Revoc Trust 1997	39 Sawyer Hill Rd	19.21	RA	Residence with ag component	61A	current use tax	needs review	passive	no
070-027-000	Wheeler, Joanne	South St	50.50	CV/RA	Productive woodland	61A	current use tax	needs review	passive	no
070-035-000	Wheeler, Willard H	River Rd West	72.75	LB	Productive woodland	61A	current use tax	needs review	passive	no
070-035-001	Wheeler, Willard H	River Rd West	0.35	LB	Productive woodland	61A	current use tax	needs review	passive	no
070-036-000	Wheeler, Willard	River Rd West	1.07	LB	Productive woodland	61A	current use tax	needs review	passive	no
090-002-000	Rainville, Conrad T, Leonard A	115 Barnes Hill Rd	59.28	RA	Residence with ag component	61A	current use tax	needs review	passive	no
090-018-000	Rainville, Conrad T, Leonard A	Barnes Hill Rd	15.00	RA	Pasture	61A	current use tax	needs review	passive	no
090-031-000	Ford, Maria N - Trustee	Linden St	31.24	RA	Productive woodland	61A	current use tax	needs review	passive	no
090-031-002	Ford, Maria N - Trustee	Linden St	1.05	RA	Productive woodland	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
090-038-000	Ford, Maria N - Trustee	Linden St	6.53	RA	Productive woodland	61A	current use tax	needs review	passive	no
090-041-000	Lohrer, George H - Trustee	19 Lyman Rd	59.54	RA	Nature study land	61B	current use tax	needs review	passive	yes
090-042-000	Lohrer, George H - Trustee	Linden St	38.57	RA	Nature study land	61B	current use tax	needs review	passive	yes
090-044-000	Ford, Kenneth C - Trustee	192 Linden St	15.06	RA	Residence with ag component	61A	current use tax	needs review	passive	no
090-049-001	Ford, Maria N - Trustee	Linden St	0.69	RA	Nonproductive ag land	61A	current use tax	needs review	passive	no
090-050-000	Therrien, David & Susan	218 Linden St	34.50	RA	Residence with ag component	61A	CR	needs review	passive	no
090-055-000	Wickstrom, Carl R & Elaine C, Trustees	264 Linden St	6.21	RA	Residence with ag component	61A	current use tax	needs review	passive	no
090-056-000	Kelsey, Nancy M & Beckstrom, Carolyn	Ball Hill Rd	23.19	RA	Productive woodland	61A	current use tax	needs review	passive	no
090-056-001	Kelsey, Nancy M	Linden St	3.86	RA	Productive woodland	61A	current use tax	needs review	passive	no
100-002-000	Sawyer, Lawrence B Jr, Michael L & Linda	48 Linden St	23.07	RA	Residence with ag component	61A	current use tax	needs review	passive	no
100-004-000	Sawyer, Lawrence B	76 Linden St	7.50	RA	Residence with rec component	61B	current use tax	needs review	passive	no
100-004-001	Sawyer, Lawrence B	Linden St	15.00	RA	Nature study land	61B	current use tax	needs review	passive	yes
100-006-000	Lohrer, George H - Trustee	Lyman Rd	7.67	RA	Nature study land	61B	current use tax	needs review	passive	yes
103-003-000	Sawyer, Lawrence B Jr	Linden St	23.13	RA	Necessary Ag related land	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
110-003-000	Bergen, John R & Margaret V	Sawyer Hill Rd	11.09	RA	Forest	61	current use tax	needs review	passive	no
110-004-000	Kamataris, Thomas T - Trustee	11 Brewer Rd	52.14	RA	Orchards (overgrown)	61A	CR	needs review	passive	no
110-007-000	Busconi, Lewis J & Michelle T - Trustees	231 Sawyer Hill Rd	63.66	RA	Field Crops	61A	CR	needs review	passive	no
110-007-002	Lookout Farm, Llc	Sawyer Hill Rd	50.02	RA	Orchards	61A	CR	needs review	passive	no
110-007-003	Lookout Farm Llc	Sawyer Hill Rd	28.70	RA	Orchards	61A	CR	needs review	passive	no
110-011-000	Plastridge, Daniel C & Eleanor - Trustee	119 Sawyer Hill Rd	34.07	RA	Residence with rec component	61B	current use tax	needs review	passive	yes
110-014-000	Curtis, Andrew	Summer Rd	9.80	RA	Productive woodland	61A	current use tax	needs review	passive	no
130-004-000	Wachusett Woodlands Llc	Boylston Rd	48.09	ARC	Forest	61	CR	needs review	passive	no
140-006-000	Matthew, Carl J & Mary A	97 Boylston Rd	7.69	RA	Residence with ag component	61A	CR	needs review	passive	no
140-008-002	Matthew, Carl J & Mary A	Boylston Rd	4.01	RA	Pasture	61A	CR	needs review	passive	no
140-011-000	Potas, Donald P & Marcia A	344 Randall Rd	50.00	RA	Residence with ag component	61A	current use tax	needs review	passive	no
140-013-000	Ayers, Lucille M	West St	12.62	RA	Nature study land	61B	current use tax	needs review	passive	yes
150-018-000	Wheeler, Frederick R,Sr & Frederick R,Jr	Coburn Rd	49.84	RA	Field Crops	61A	current use tax	needs review	passive	no
150-020-000	Brennion, Joseph A & Faye A	23 Coburn Rd	7.70	RA	Residence with ag component	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
150-021-000	Wheeler, Frederick R & Frederick R. Jr	Coburn Rd	3.00	RA	Field Crops	61A	current use tax	needs review	passive	no
150-027-000	Slade, Christopher S - Trustee	Highland St	78.52	RA	Forest	61	current use tax	needs review	passive	no
150-040-000	The Trivium School, Inc	Central St	29.54	RA	Orchards	61A	CR	needs review	passive	no
150-040-001	Roberts, Patricia & Joseph S	102 Central St	14.16	RA	Residence with ag component	61A	CR	needs review	passive	no
150-040-002	Brafman, Jason W & Omann, Andrea L	96 Central St	1.93	RA		61A	CR	needs review	passive	no
150-041-001	Teich, Jay	Central St	2.66	RA	Orchards	61A	CR	needs review	passive	no
150-041-002	Teich, Jay	Central St	2.89	RA	Orchards	61A	CR	needs review	passive	no
160-003-000	The Trivium School, Inc	31sawyer Hill Rd	52.71	RA	Orchards	61A	CR	needs review	passive	no
160-011-000	Cermak, Jennifer	Central St	21.67	RA	Pasture	61A	CR	needs review	passive	no
160-030-000	Lookout Farm Llc	43 Taylor Rd	28.92	RA	Orchards	61A	current use tax	needs review	passive	no
160-044-001	Orchard Hill Properties Llc	200 Sawyer Hill Rd	26.17	RA	Pasture	61A	CR	needs review	passive	no
160-044-002	Orchard Hill Properties Llc	224 Sawyer Hill Rd	7.35	RA		61A	CR	needs review	passive	no
160-047-000	Busconi, Lewis J & Michelle T - Trustees	Sawyer Hill Rd	16.10	RA	Field Crops	61A	CR	needs review	passive	no
160-048-000	Orchard Hill Properties Llc	Central St	27.20	RA	Pasture	61A	CR	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
170-001-000	Wright, Donald & Alice - Trustees	39 Fosgate Rd	4.16	RA	Residence with ag component	61A	current use tax	needs review	passive	no
170-003-000	Wright, Donald & Alice	Fosgate Rd	30.02	RA	Productive woodland	61A	current use tax	needs review	passive	no
170-003-001	Wright, Donald & Alice - Trustees	Gates Pond	3.28	RA	Productive woodland	61A	current use tax	needs review	passive	no
170-007-000	Wright, Donald & Alice	Gates Pond Rd	4.10	RA	Productive woodland	61A	current use tax	needs review	passive	no
170-028-000	Murphy, Augustine D & Alice E - Trustees	156 Gates Pond Rd	6.80	RA	Residence with ag component	61A	current use tax	needs review	passive	no
170-103-000	Wright, Donald & Alice, Trustees	89 Gates Pond Rd	3.90	RA	Pasture	61A	current use tax	needs review	passive	no
170-104-000	Wright, Donald & Alice, Trustees	Fosgate Rd	26.53	RA	Productive woodland	61A	current use tax	needs review	passive	no
170-105-000	Wright, Donald & Alice	Fosgate Rd	11.69	RA	Productive woodland	61A	current use tax	needs review	passive	no
190-110-000	Herrington, Candy - Trustee	Lancaster Rd	4.52	RA	Forest	61	CR	needs review	passive	no
200-035-001	Stoddard, Jeffrey & Gretchen	69 Randall Rd	20.98	RA	Residence with ag component	61A	current use tax	needs review	passive	no
200-041-000	Guild, Jean	35 Randall Rd	24.50	RA	Residence with ag component	61A	current use tax	needs review	passive	no
200-047-000	Bentzen, Steen	Highland St	4.43	RA	Field Crops	61A	current use tax	needs review	passive	no
200-048-000	Bentzen, Steen	Highland St	2.00	RA	Field Crops	61A	current use tax	needs review	passive	no
200-049-000	Wheeler, Frederick R Jr	Highland St	43.20	RA	Pasture	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
200-054-000	Wheeler, Frederick R,Sr & Frederick R,Jr	Highland St	92.00	RA	Field Crops	61A	current use tax	needs review	passive	no
200-056-000	Mitchell, Michael & Sally	116 Highland St	9.05	RA	Residence with ag component	61A	current use tax	needs review	passive	no
200-057-000	Baum, Duncan R - Trustee	120 Highland St	58.68	RA	Pasture	61A	current use tax	needs review	passive	no
200-063-000	Dionis, Steven P & Andree B	16 Randall Rd	7.23	RA	Residence with ag component	61A	current use tax	needs review	passive	no
200-064-000	Dionis, Steven P & Andree B	Randall Rd	0.41	RA	Necessary Ag related land	61A	current use tax	needs review	passive	no
200-066-000	Dionis, Steven P & Andree B	Randall Rd	3.28	RA	Field Crops	61A	current use tax	needs review	passive	no
200-067-000	Kennedy, Holly M	48 Randall Rd	12.40	RA	Residence with ag component	61A	current use tax	needs review	passive	no
210-001-000	Bentzen, Steen	Highland St	4.01	RA	Field Crops	61A	current use tax	needs review	passive	no
210-002-000	Bentzen, Steen	Highland St	12.73	RA	Field Crops	61A	current use tax	needs review	passive	no
210-010-000	Bentzen, Steen	Highland St	13.50	RA	Field Crops	61A	current use tax	needs review	passive	no
210-010-001	Bentzen, Steen	227 Highland St	2.48	RA	Residence with ag component	61A	current use tax	needs review	passive	no
210-012-000	Halfpenny, Gregory O & Virginia A	187 Highland St	12.88	RA	Commercial with ag component	61A	current use tax	needs review	passive	no
210-013-000	Bit In Balance Llc	171 Highland St	2.29	RA	Residence with ag component	61A	current use tax	needs review	passive	no
210-017-000	Bentzen, Steen	Sawyer Hill Rd	7.00	RA	Productive woodland	61A	current use tax	needs review	passive	no
210-031-000	Linzee, Grace E - Trustee	Sawyer Hill Rd	18.69	RA	Field Crops	61A	current use tax	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Tax Status	Protection Status	Condition	Recreation Potential	Public Access
230-022-000	Clinton Fish & Game Protective Assoc	185 Lancaster Rd	6.77	RA	Fish and Game	61B	current use tax	needs review	passive	yes
230-040-000	Herrington, Candy - Trustee	Lancaster Rd	16.65	RA	Forest	61	CR	needs review	passive	no
240-015-000	Schartner Farm Llc	Peach Hill Rd	6.41	RA	Orchards	61A	APR	needs review	passive	no
240-016-000	Schartner Farm Llc	Peach Hill Rd	1.43	RA	Field Crops	61A	APR	needs review	passive	no
240-017-000	Finn, John Francis & Catherine	147 Peach Hill Rd	29.13	RA	Residence with ag component	61A	current use tax	needs review	passive	no
240-022-000	Mansfield, John M & Bethann B	85 Peach Hill Rd	10.46	RA	Residence with rec component	61B	current use tax	needs review	passive	yes
240-035-000	Finn, John	Carr Rd	32.73	RA	Field Crops	61A	current use tax	needs review	passive	no
240-037-000	Petrillo, Calderwood & Silk, Trustees	25 Carr Rd	39.14	RA		61B	current use tax	needs review	passive	no
250-001-000	Bemis, Albert F Jr	Highland St	14.14	RA	Pasture	61A	current use tax	needs review	passive	no
		Total	2,192.52							

Table 15: Private Properties with Conservation Restriction or Agricultural Preservation Restriction

Map/Lot	Name	Address	Acres	Zoning	Current Use	Protection Status	Condition	Recreation Potential	Public Access
030-001-001	Riverbridge North, Llc	River Rd West	86.21	RSC	Vacant	CR	open, forest & river	passive	yes
060-031-000	Sawyer Hill Llc	Sawyer Hill Rd			Exempt land, Open Space	CR	needs review	passive	yes
090-050-000	Therrien, David &	218 Linden St	34.50	RA		CR	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Protection Status	Condition	Recreation Potential	Public Access
	Susan								
110-004-000	Kamataris, Thomas T - Trustee	11 Brewer Rd	52.14	RA		CR	needs review	passive	no
110-007-000	Busconi, Lewis J & Michelle T - Trustees	231 Sawyer Hill Rd	63.66	RA	Field Crops	CR	needs review	passive	no
110-007-001	Busconi, Lewis J & Michelle T - Trustees	189 Sawyer Hill Rd	1.84	RA	Residential	CR	needs review	passive	no
110-007-002	Lookout Farm, Llc	Sawyer Hill Rd	50.02	RA	Orchards	CR	needs review	passive	no
110-007-003	Lookout Farm Llc	Sawyer Hill Rd	28.70	RA	Orchards	CR	needs review	passive	no
130-001-000	Wachusett Woodlands Llc	Boylston Rd	15.09	ARC	Forest	CR	needs review	passive	no
130-004-000	Wachusett Woodlands Llc	Boylston Rd	48.09	ARC	Forest	CR	needs review	passive	no
140-006-000	Matthew, Carl J & Mary A	97 Boylston Rd	7.69	RA		CR	needs review	passive	no
140-008-002	Matthew, Carl J & Mary A	Boylston Rd	4.01	RA	Pasture	CR	needs review	passive	no
150-040-000	The Trivium School, Inc	Central St	29.54	RA	Orchards	CR	needs review	passive	no
150-040-001	Roberts, Patricia & Joseph S	102 Central St	14.16	RA		CR	needs review	passive	no
150-040-002	Brafman, Jason W & Omann, Andrea L	96 Central St	1.93	RA	Residential	CR	needs review	passive	no
160-003-000	The Trivium School, Inc	31 Sawyer Hill Rd	52.71	RA	Orchards	CR	needs review	passive	no
160-003-001	Donnarumma, Wesley M	144 Central St	1.84	RA	Residential	CR	needs review	passive	no
160-011-000	Cermak, Jennifer	Central St	21.67	RA	Pasture	CR	needs review	passive	no
160-017-000	Tarves, Marvin C. & Mary L & John F	256 Central St	5.50	RA	Commercial with ag component	CR	needs review	passive	no
160-018-000	Busconi, Lewis J & Michelle T - Trustees	Central St	9.88	ARC	Vacant	CR	needs review	passive	no

Map/Lot	Name	Address	Acres	Zoning	Current Use	Protection Status	Condition	Recreation Potential	Public Access
160-044-000	Teich, Jay & Chadwick Cort, Cynthia	220 Sawyer Hill Rd	1.84	RA	Residential	CR	needs review	passive	no
160-044-001	Orchard Hill Properties Llc	200 Sawyer Hill Rd	26.17	RA	Pasture	CR	open	passive	no
160-044-002	Orchard Hill Properties Llc	224 Sawyer Hill Rd	7.35	RA		CR	open	passive	no
160-047-000	Busconi, Lewis J & Michelle T - Trustees	Sawyer Hill Rd	16.10	RA	Field Crops	CR	open	passive	no
160-048-000	Orchard Hill Properties Llc	Central St	27.20	RA	Pasture	CR	open	passive	no
190-110-000	Herrington, Candy - Trustee	Lancaster Rd	4.52	RA	Forest	CR	forested	passive	no
230-040-000	Herrington, Candy - Trustee	Lancaster Rd	16.65	RA	Forest	CR	forested	passive	no
240-015-000	Schartner Farm Llc	Peach Hill Rd	6.41	RA	Orchards	APR	orchards	passive	no
240-016-000	Schartner Farm Llc	Peach Hill Rd	1.43	RA	Field Crops	APR	open	passive	no
070-028-004	Barrett, Keith A & Jennifer L	160 River Rd West	1.84	RA		CR	needs review	passive	no
070-034-###	Meadowbrook	Brook Ln	?	SRD		CR	needs review	passive	no
110-010-000	Chedco	Sawyer Hill Rd	1.95	RA	Chedco	CR	Vacant	passive	no
090-001-001	Larkin, Richard W - Trustee	Ball Hill Rd	1.84	CR		CR	Vacant	passive	no
090-001-002	Larkin, Richard W - Trustee	Linden St	4.11	CR		CR	Vacant	passive	no
090-001-003	Larkin, Richard W - Trustee	Linden St	4.34	CR		CR	Vacant	passive	no
130-012-000	Coldwell, Douglas J - Trustee	4 Larkin Rd	14.81	RA		CR	needs review		no
040-001-000	Eager, Barry W	Ball Hill Rd	57.38	RA	Nature study land	CR	needs review	passive	yes
		Total	723.08						

Table 16: Private Properties with Right of Way access

Map/Lot	Name	Address	Acres	Zoning	Current Use	Protections Status	Condition	Recreation Potential	Public Access
130-001-000	Wachusett Woodlands Llc	Boylston Rd	15.09	ARC		CR	needs review	passive	yes
050-010-000	Poulos, Nicholas C W	100 Ball Hill Rd	4.82	RA			needs review	passive	yes
110-013-008	Curtis, Andrew J & Ellen C	31 Estabrook Rd	5.15	RA			needs review	passive	yes

Table 17: Non-Profit Land

Map/Lot	Name	Address	Acres	Zoning	Current Use	Protection Status	Condition	Recreation Potential	Public Access
190-058-000	Sudbury Valley Trustees, Inc -- 40 Caves	Lancaster Rd	38.34	ARC	Vacant, conservation org	Permanent	Upland	Passive	yes
230-007-000	Sudbury Valley Trustees Inc -- 40 Caves	Lancaster Rd	41.70	ARC	Vacant, conservation org	Permanent	upland	passive	Yes
		Total	80.03						

Appendix B:

Summary of Community Survey Findings

Berlin Open Space and Recreation Plan
&
Master Plan
Summary of Community Survey Findings

Brown Walker Planners, Inc.

March 2011

CONTENTS

Introduction.....	1
Respondents.....	1
Resident Location.....	1
Length of Residency.....	2
Income.....	3
Children at Home.....	4
Community Character and Quality of Life.....	4
Worthy of Preservation.....	4
Growth Rates.....	7
Challenges and Threats.....	8
Housing.....	9
Appropriate Locations.....	9
Types of Residential Development.....	10
Residential Growth Management Measures.....	11
Personal Needs for Affordable Housing.....	11
Economy.....	13
Commercial and Industrial Development.....	13
Open Space and Recreation.....	14
Town Land Acquisition Purposes.....	14
Improving Open Space.....	16
Personal Contributions to Open Space Preservation.....	17
Open Space Priorities.....	17
Public Trail Use.....	17
Areas to be Protected.....	18
Other Comments.....	18
Attachment A: Survey Summary	
Figures and Tables	
Figure 1: Location where respondent lives.....	2
Figure 2: Length of Respondent’s Residency in Berlin.....	3
Figure 3: Qualities or Features of Importance.....	5
Figure 4: Policies or Strategies of Importance.....	6
Figure 5: Growth Rate.....	7

Figure 6: Challenges or Threats Important to Address.....	9
Figure 7: Appropriate Types of Residential Development.....	11
Figure 8: Affordable Housing Needs Today	12
Figure 9: Anticipated Affordable Housing Needs.....	13
Figure 10: Commercial and Industrial Development.....	14
Figure 11: Reasons for Acquiring Land.....	15
Figure 12: Policies or Actions to Preserve and Manage Open Spaces.....	16
Figure 13: Trail Users	18
Table 1: Comparison of Income Profiles	4
Table 2: Residential Growth Rate: Comparison by Years of residency	8
Table 3: Commercial Growth Rate: Comparison by Years of Residency	8
Table 4: Industrial Growth Rate: Comparison by Years of Residency.....	8
Table 5: Personal Contributions to Preservation.....	17

Introduction

In March 2011, the Town of Berlin conducted a survey of residents on a variety of topics relating to community character, land use, housing, economic development, resource protection and open space and recreation. This was the fourth survey of land use and growth issues conducted by the town in the past 25 years. The first survey was taken in 1988 as part of an affordable housing study, the second in 1995 in connection with the preparation of the Town's Master Plan, and the third as part of the process of developing a Community Development Plan. The 2011 survey included a number of questions that had been asked in one or more of the previous surveys, in order to gauge changes in opinions over the 25-year period.

The survey results are appended to this report as Attachment A.

Respondents

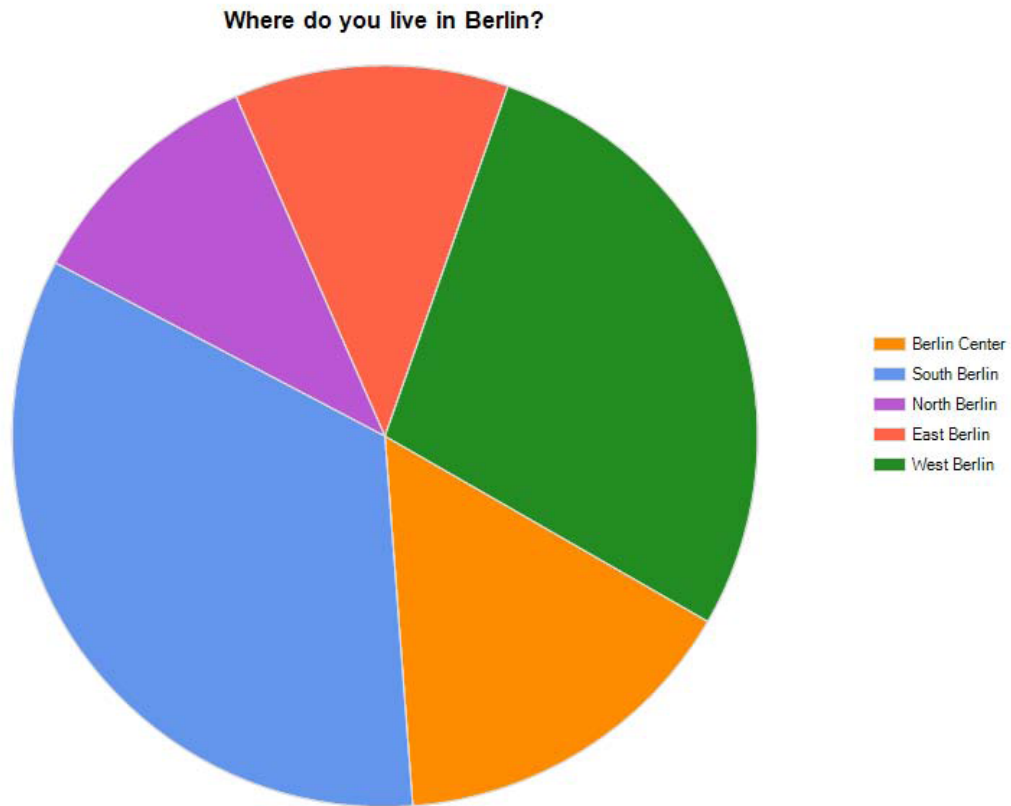
The survey was mailed to all box-holders in the town and was also available on line. Approximately one month was given for response by returning the survey to Town Hall or completing the on-line survey. A total of 180 responses were received and are included in this analysis, representing about 17% of households in Berlin, however, it is possible, that more than one household member may have responded. The return rate for the 2011 survey represents a considerable drop compared to the 31 percent return rate in 2003.

The survey form included four questions about the respondents themselves: general area where respondent lives, length of residency in Berlin, annual income, and children at home. These questions were asked in order to compare the sample of respondents to Berlin's total population, as well as to offer the ability to analyze responses to particular opinion questions in relation to length of residency, income or having children at home.

Resident Location

Survey responses were collected from residents within all geographic areas of Berlin, with the majority coming from South and West Berlin and the fewest responses from North Berlin. Given that these geographic regions are not strictly defined, this question is only intended to generally indicate areas of greater or lesser representation.

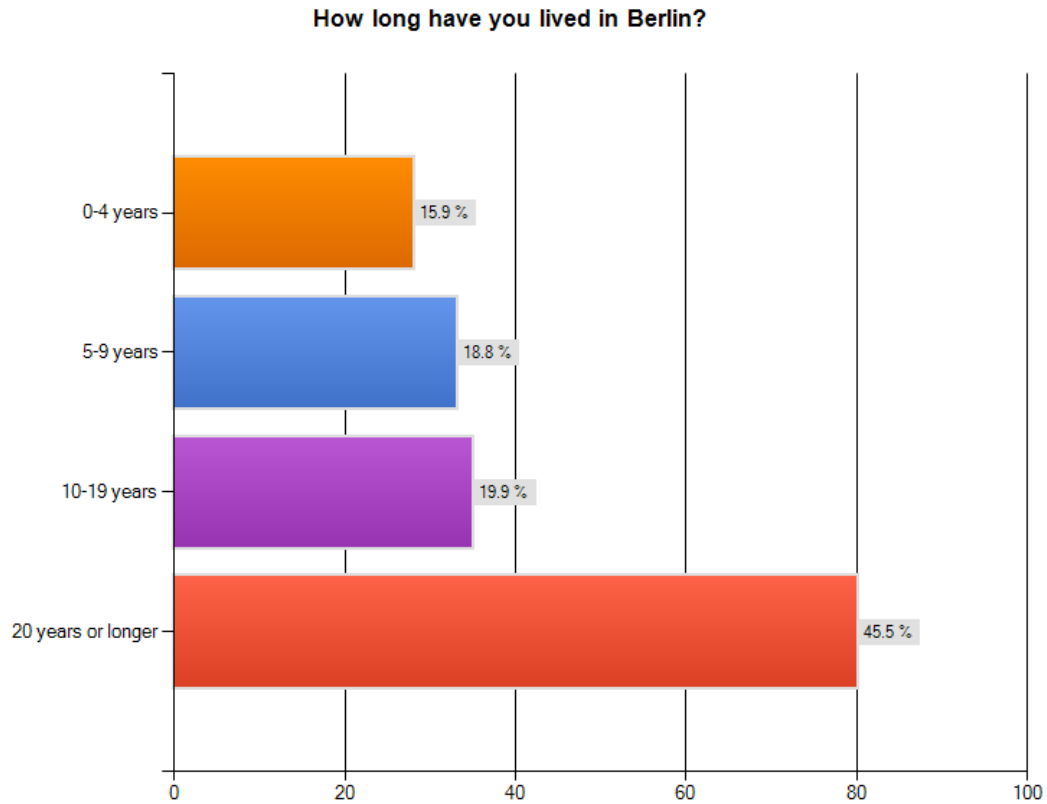
Figure 1: Location where respondent lives



Length of Residency

The data on length of residency of respondents are presented in Figure 1, showing that those with greater length of residency are more represented by the survey. Residents that have lived in Berlin for 20 or more years are represented at two times the rate of any other group. These results are also generally consistent with previous survey results though with significantly fewer new residents (0-4 years) represented in 2011 (15.9%) than in 2003 (20.1%).

Figure 2: Length of Respondent's Residency in Berlin



The residency profile of respondents in 2003 is comparable to the profiles of respondents to the 1988 and 1995 surveys, although the Master Plan survey in 1995 represented fewer recent arrivals and more long-term residents.

Income

The income profile of respondents differed somewhat from the profile of the Town as documented in the census figures calculated for 2009 when all income categories are analyzed. However if grouped into three income categories: low (under \$50,000), medium (\$50,000 to \$100,000) and high (over \$100,000), representation is nearly identical to that of the Town.

Table 1: Comparison of Income Profiles

Income	Survey Respondents	Town Residents
Under \$35,000	11%	16%
\$35,000- \$50,000	15%	10%
\$50,000- \$75,000	13%	11%
\$75,000- \$100,000	17%	21%
\$100,000- \$150,000	21%	22%
Over \$150,000	23%	20%

Children at Home

The percent of households with children at home that responded to the survey (27%) very closely corresponds to the percent of households with children at home town- wide (29%).

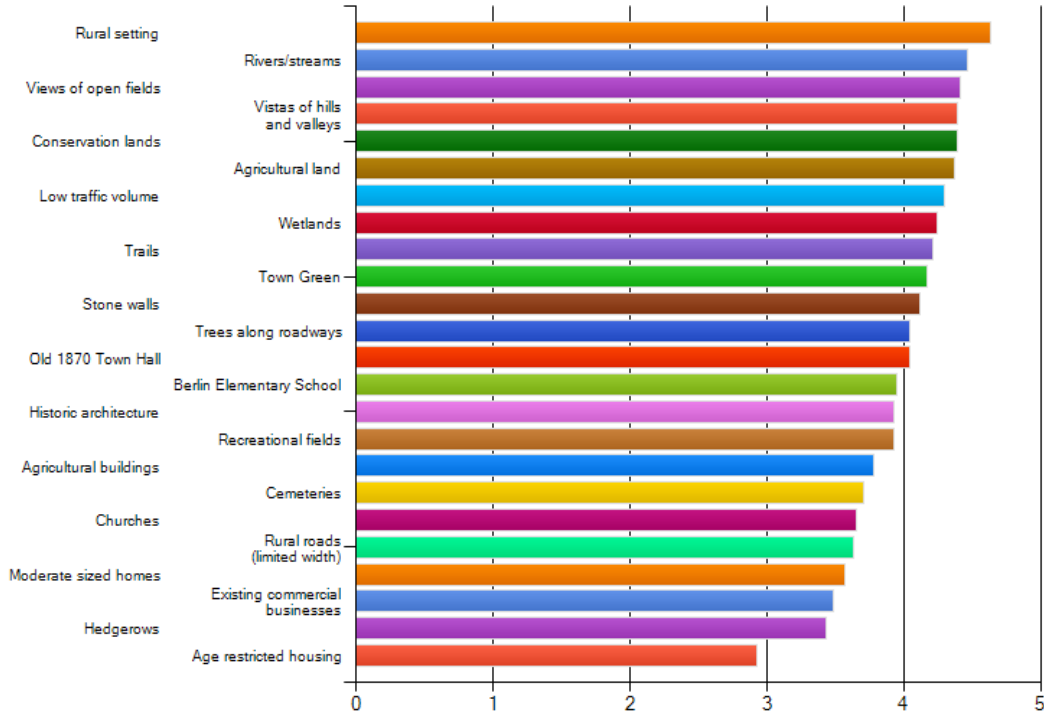
Community Character and Quality of Life

Worthy of Preservation

Question 1 asked respondents to indicate what qualities or features are important to preserve. The following chart indicates responses, organized in descending order of perceived importance.

Figure 3: Qualities or Features of Importance

What qualities or features are important to preserve for Berlin's future? Please indicate on a scale of 1 to 5 (1 being not important, 5 being very important).

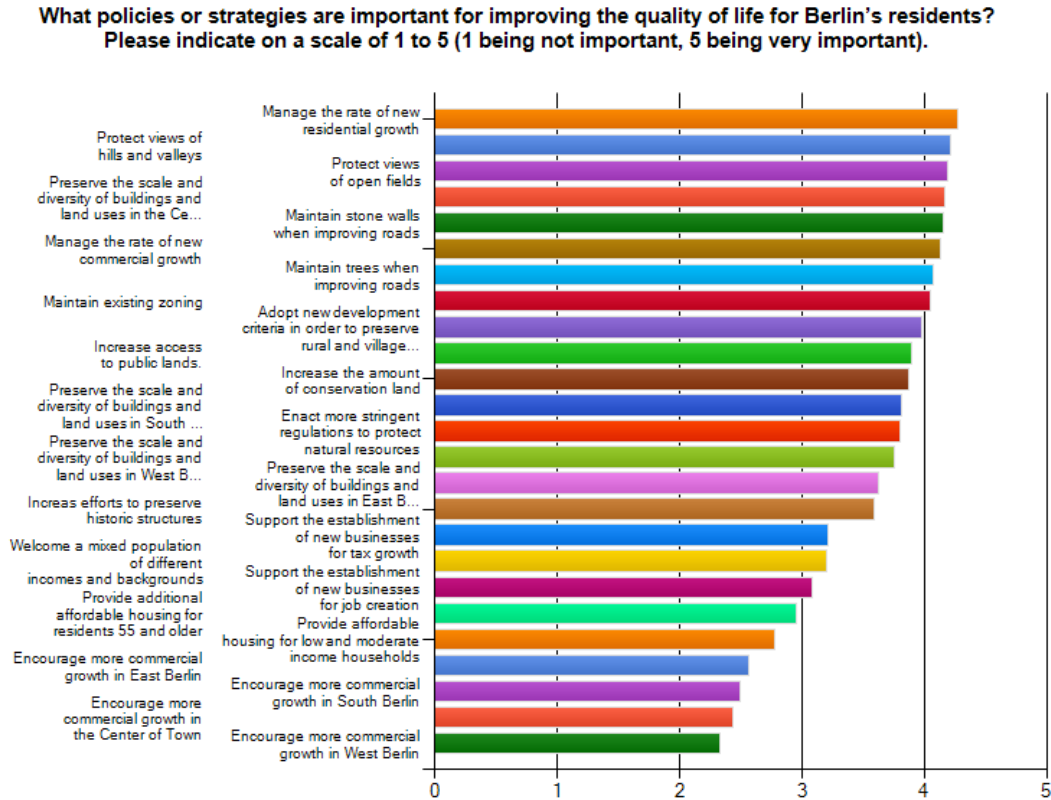


Generally, those qualities and features indicated as most important to preserve focused on the natural and historic resources and landscapes of the Town. Still rated as important, but with an average rating of less than 4.0 are buildings including historic architecture, churches, agriculture buildings, moderate size homes and commercial businesses as well as recreational fields, cemeteries, rural roads, and hedgerows. Age restricted housing was the only feature listed with an average rating less than 3.0

Less than half of all respondents indicated that hedgerows, age restricted housing and existing commercial businesses were important to preserve.

Question 2 asked respondents to indicate what policies or strategies are important for improving the quality of life for residents.

Figure 4: Policies or Strategies of Importance



Survey responses may be generalized as follows:

- Respondents are most concerned about preserving the rural and scenic qualities of Berlin.
- There is strong support for land use strategies to manage growth and improve development through design and performance standards.
- Residents are split on support for new businesses for tax growth and job creation and didn't support additional commercial growth in West, South, or East Berlin or in Berlin Center.

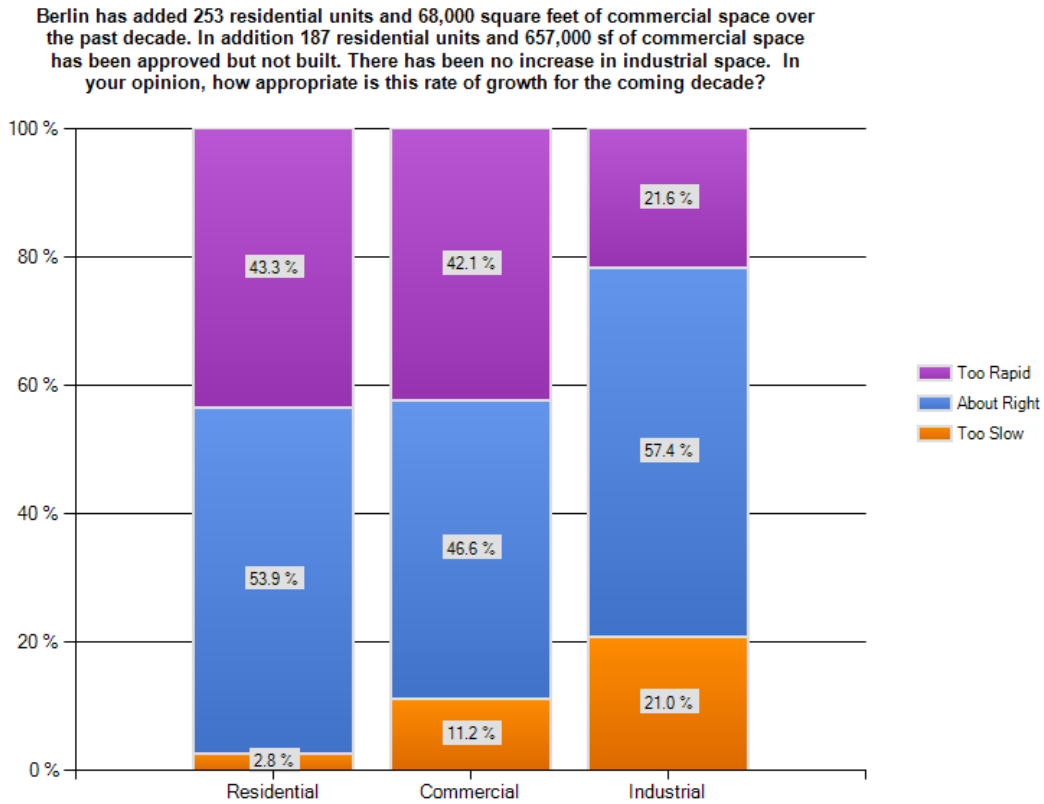
The principal differences when comparing results of the 2011 survey to the 2003 survey are the declining support for affordable housing for both elderly and non elderly residents and the declining support for commercial development.

Growth Rates

Question 3 asked how appropriate the current rates of growth are for the coming decade. While a higher percent of respondents felt that the growth rate was about right for all categories, a substantial number of respondents (over 40%) felt that residential and commercial growth rates were too rapid.

In 2003, nearly the same responses were given regarding residential growth, while a significantly smaller percent (15%) felt that commercial growth was too rapid.

Figure 5: Growth Rate



Residential Growth Rate

Concern about residential growth increased with an increase in respondents' years of residency.

Table 2: Residential Growth Rate: Comparison by Years of residency

	Too Rapid	About Right	Too Slow
0-4 years	21%	71%	7%
5-9 years	33%	61%	6%
10-19 years	46%	54%	0%
20 years +	54%	45%	1%

Commercial Growth Rate

There was little difference of opinion regarding commercial growth based on length of residency, with the exception that respondents who have lived in Berlin for more than 20 years were the most likely to state that the commercial growth rate is too rapid.

Table 3: Commercial Growth Rate: Comparison by Years of Residency

	Too Rapid	About Right	Too Slow
0-4 years	39%	46%	14%
5-9 years	39%	46%	15%
10-19 years	40%	49%	11%
20 years +	56%	45%	9%

Industrial Growth Rate

While there are differing opinions regarding industrial growth rate by length of residency, they do not appear to follow a pattern.

Table 4: Industrial Growth Rate: Comparison by Years of Residency

	Too Rapid	About Right	Too Slow
0-4 years	22%	52%	26%
5-9 years	27%	58%	15%
10-19 years	14%	63%	23%
20 years +	21%	57%	22%

Challenges and Threats

In **question 4** residents were asked to rate a series of challenges or threats to quality of life that the Town should address in the coming decade.

More than four out of five respondents rated the following threats as most important to address:

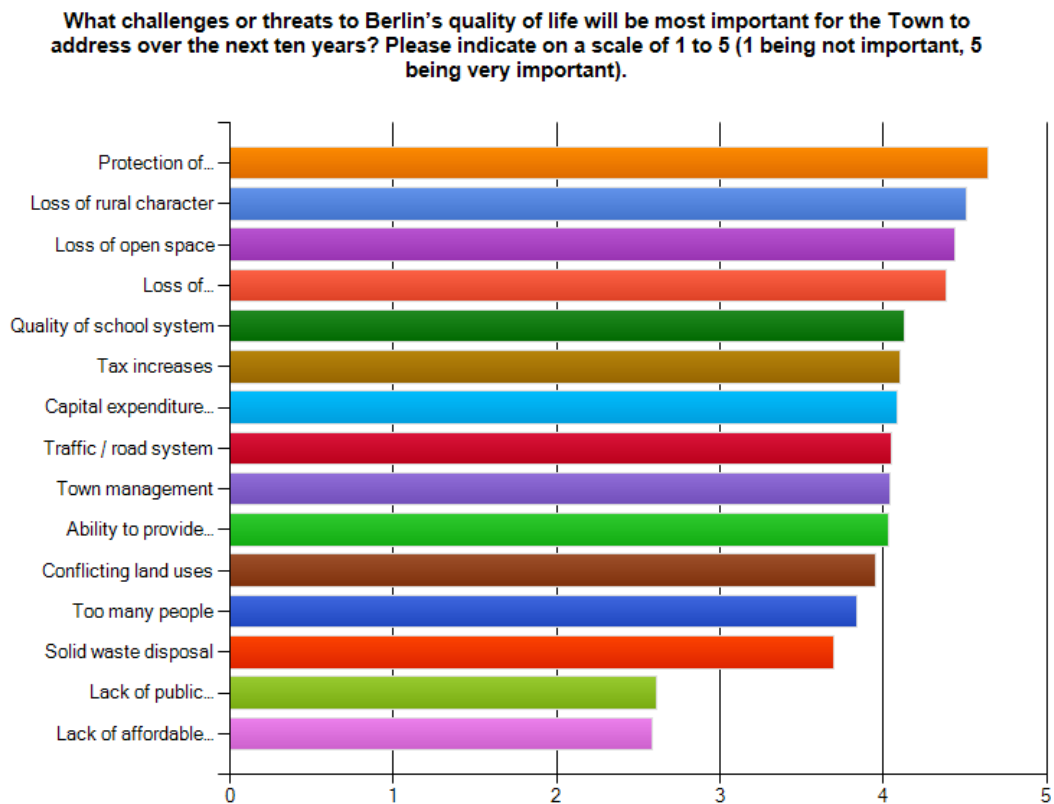
- loss of rural character
- loss of open space
- loss of agricultural lands

- protection of groundwater supplies

These responses represent some shifts from 2003 when in addition to rural character and loss of open space tax increases and traffic/road system were also rated as among the highest concerns. In 2011 respondents indicated less concerned with taxes and Berlin’s traffic/road system, although both still rated as important or very important to around 70% of the population.

Issues that were of the least concern however were consistent and included affordable housing, and lack of public transportation.

Figure 6: Challenges or Threats Important to Address



Housing

Appropriate Locations

Question 5 asked respondents to identify appropriate locations for new residential development. There is little consensus on this question, although the choice selected by the highest percent of respondents was along existing roads and the locations supported by the fewest respondents were close to other homes in Town Center, West Berlin, East Berlin and South Berlin.

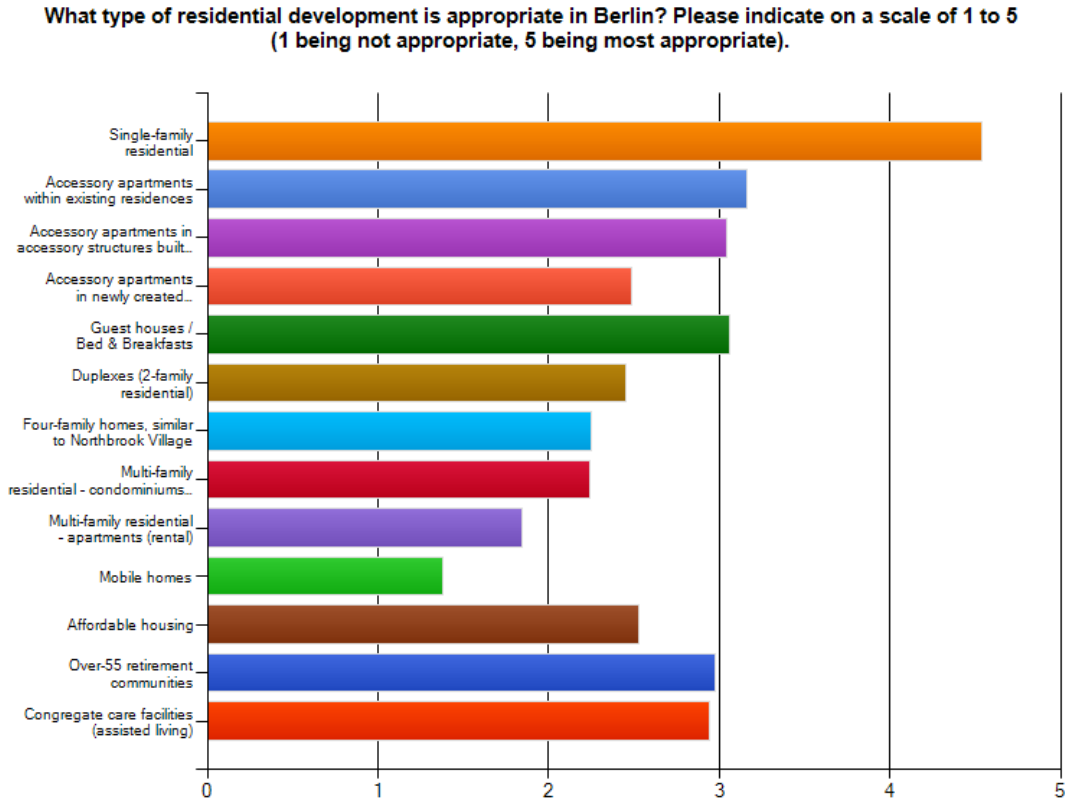
No location was viewed to be appropriate by more than 50% of respondents, and all choices for building close to other homes, regardless of location, were rated as not appropriate by more than 60% of respondents.

The support or non-support for residential growth in subdivisions is less clear as approximately the same percent of respondents indicated that it was not appropriate as indicated that it was appropriate. This is in stark contrast to a similarly phrased question in the 2003 survey which showed 84% of respondents favored flexible development of subdivisions, while only 47% favored open space conservation development, and only 29% supported conventional subdivisions. It may be surmised that there is some confusion about the terms used to describe different forms of subdivisions.

Types of Residential Development

Question 6 asked residents to consider single-family and other types of residential development. As in 2003, the majority (89%) supported single family residential development. In contrast to 2003, no other type of residential development received support by a majority of respondents.

Figure 7: Appropriate Types of Residential Development



Residential Growth Management Measures

Question 7 asked residents to consider measures to manage residential growth. 48 respondents offered a diversity of suggestions. Strategies recommended by multiple residents included:

- strong and more consistent enforcement of zoning and land use regulations
- preserving open space through clustering units, smaller lots, and set aside requirements
- limiting building permits
- limit to single family development

Personal Needs for Affordable Housing

Questions 8, 9 and 10 looked to assess the extent of affordable housing needs among Berlin residents. Only 8% of respondents indicated that someone in their household was actively seeking a place to live in Berlin. The following charts indicate anticipated needs for affordable housing for both the respondent household and neighbors and friends.

Figure 8: Affordable Housing Needs Today

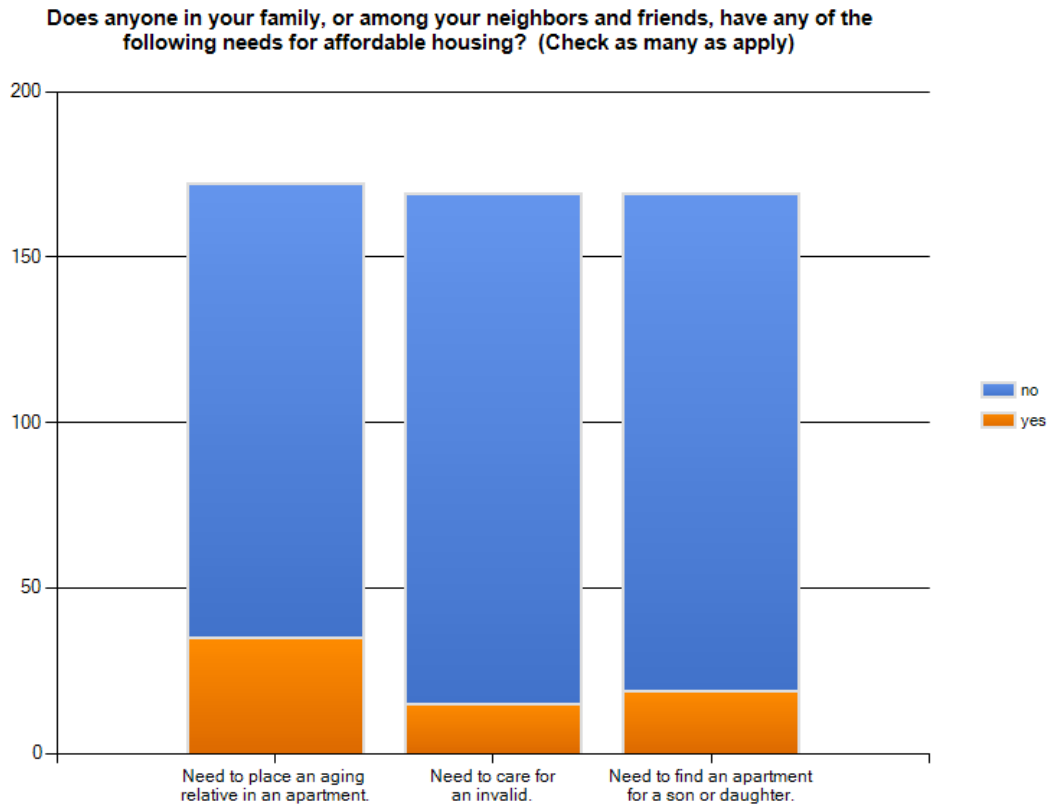
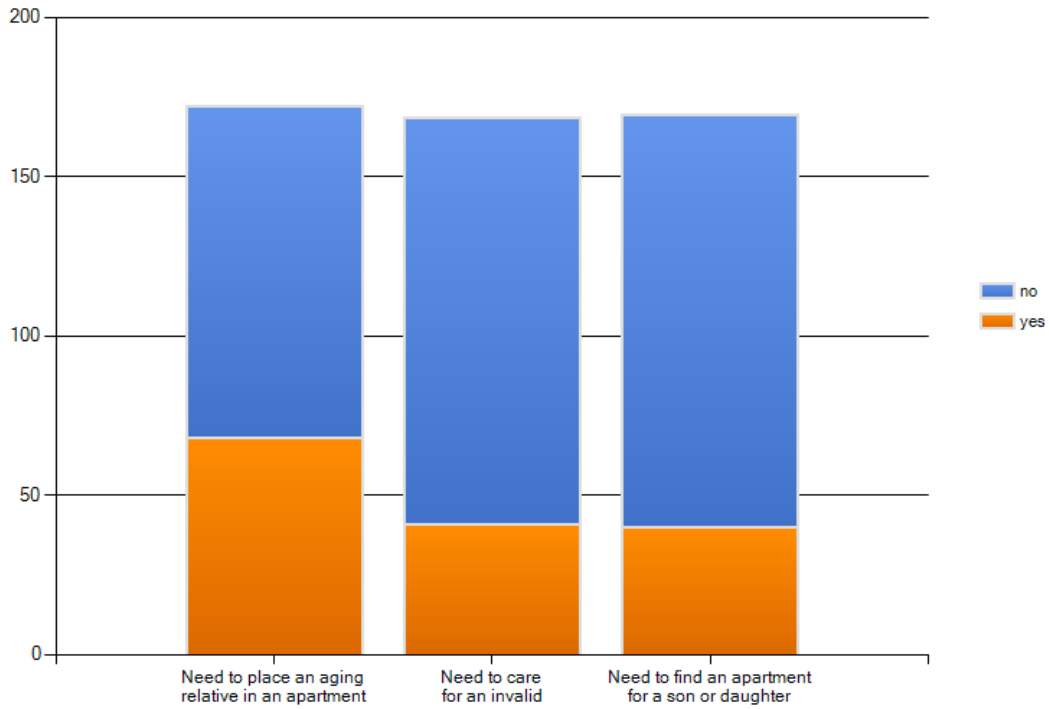


Figure 9: Anticipated Affordable Housing Needs

In the next ten years, do you anticipate that anyone in your family, or among your neighbors and friends, will have any of the following needs for affordable housing?
(Check as many as apply)



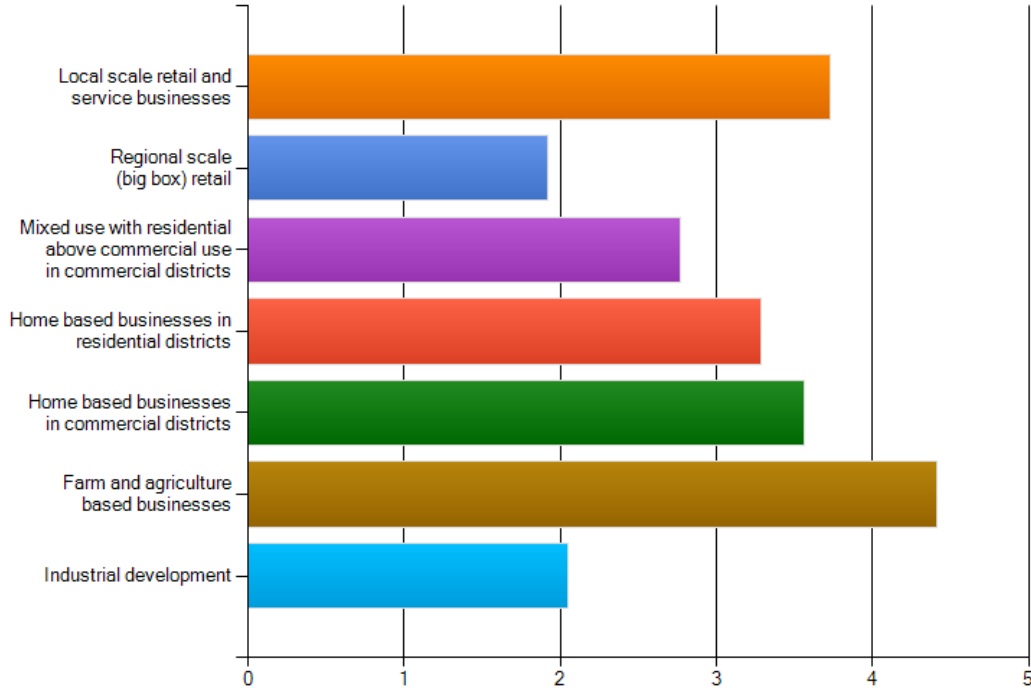
Economy

Commercial and Industrial Development

Question 11 asked residents to rate types of commercial and industrial development as appropriate for Berlin. The strongest support was shown for farm and agriculture based businesses with over 86% of respondents rating it as very or most important. In addition local scale retail and service businesses and home based businesses in commercial districts both received support from a majority of respondents. Regional scale retail and industrial development were determined to be not appropriate by roughly 7 out of 10 survey respondents.

Figure 10: Commercial and Industrial Development

What kinds of new commercial and industrial development are appropriate in designated zoning districts in Berlin? Please indicate on a scale of 1 to 5 (1 being not appropriate, 5 being most appropriate).



Question 12 solicited ideas for additional measures to consider for managing commercial and industrial growth. Forty five responses indicated there are many concerns regarding commercial and industrial growth, as well as a desire for more and improved commercial development. Some issues noted include:

- design considerations and visual impacts
- traffic impacts
- infrastructure needs to support development
- performance criteria
- growth restrictions
- local services

Open Space and Recreation

Town Land Acquisition Purposes

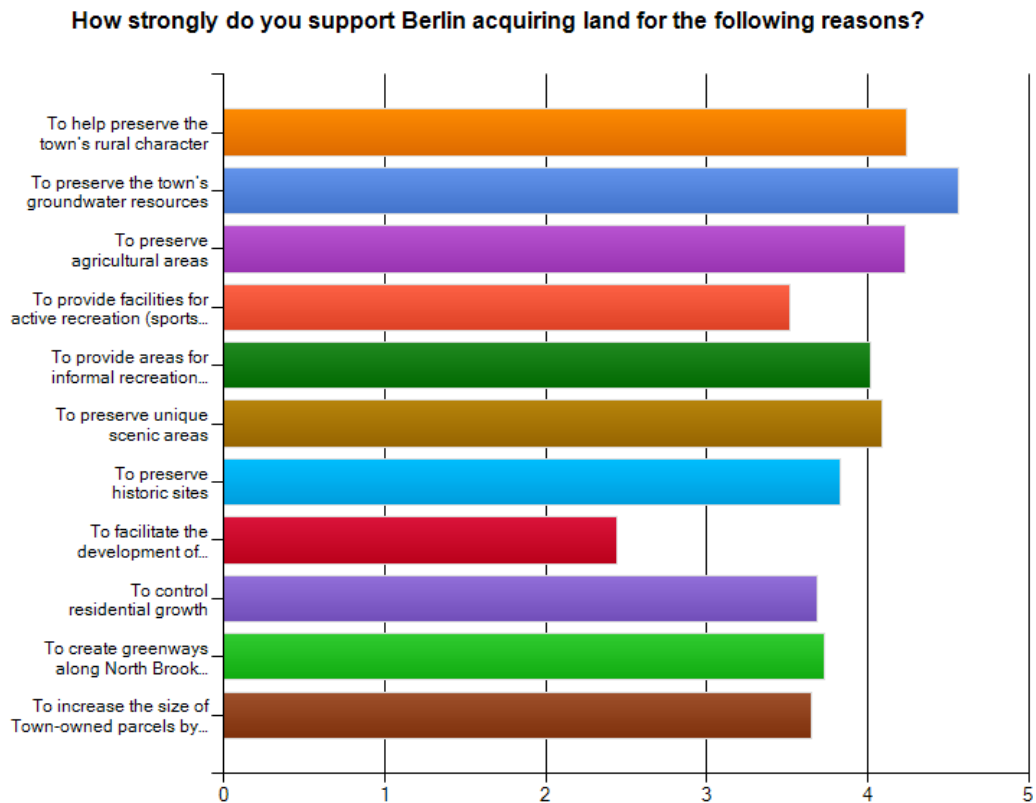
Question 13 asked residents to rate their level of support for land acquisition based on use. The greatest level of support (90%) was for protection of ground water resources. More than 70% of all respondents also supported acquiring land to:

- preserve the town's rural character

- preserve agricultural lands
- provide areas for informal recreation
- preserve unique scenic areas.

While the rating system changed from a yes and no answer in 2003 to a rating system in 2011 and some changes were made to the list of reasons, overall the reasons for supporting open space acquisition was similar.

Figure 11: Reasons for Acquiring Land

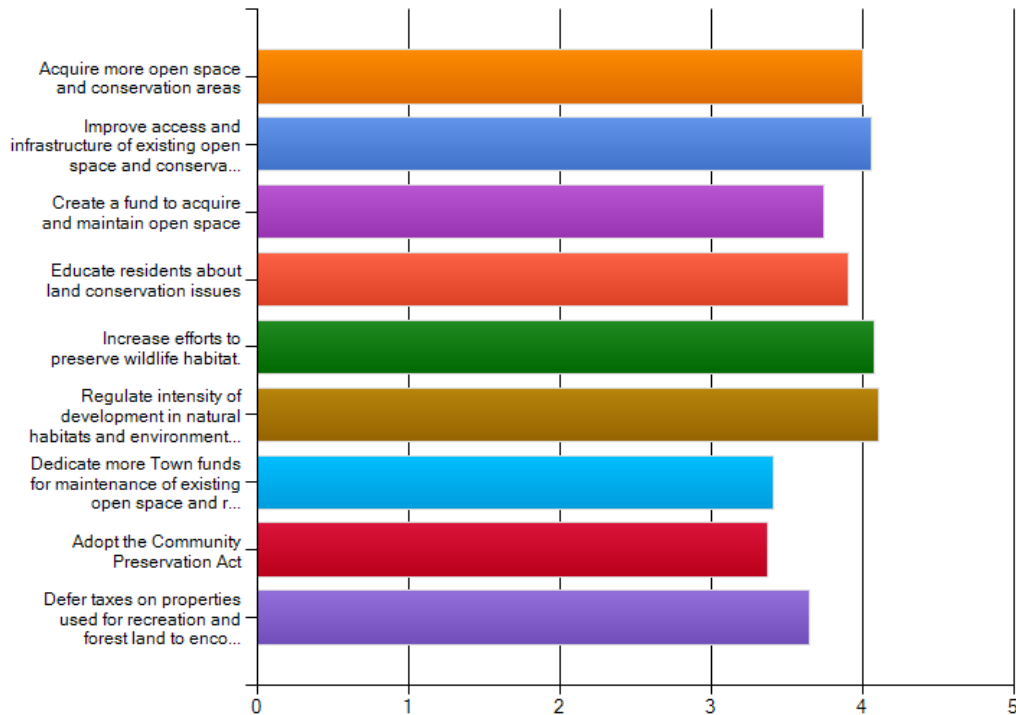


Question 14 asked residents to rate their support for policies and actions to preserve and manage open spaces. All strategies were supported by at least half of all respondents, with the greatest support for:

- Increasing efforts to preserve wildlife habitat (74%)
- Regulating intensity of development in natural habitats and environmentally sensitive areas (74%)
- Improving access and infrastructure of existing open space and conservation areas (73%)
- Acquiring more open space and conservation areas

Figure 12: Policies or Actions to Preserve and Manage Open Spaces

What policies or actions do you support to preserve and manage open spaces? Please indicate on a scale of 1 to 5 (1 being do not support, 5 being strongly support).



Improving Open Space

Question 15 asked for suggestions for improving open space in Berlin. Suggested indicate there are a diversity of opinions regarding how aggressive the Town should be on preserving open space, where funding should come from and what the Community Preservation Act is. Suggestions for physically improving open space in Berlin including:

- creating maps
- improving trails
- increasing awareness
- posting trail markers

Personal Contributions to Open Space Preservation

Question 16 asked about ways in which residents might personally contribute to the preservation of open space in Berlin. The responses to this question reveal a broad base of potential personal involvement in land preservation efforts. Numbers indicate percent of respondents answering yes to the questions.

Table 5: Personal Contributions to Preservation

To preserve open space in Berlin, would you ...

• contribute some of your land to the Town	25%
• donate money to buy land	47%
• rewrite your deed to limit future use of your land	36%
• sell some of your land to the Town at a “bargain price” (less than market value)	23%
• sell or contribute a conservation restriction to protect your land from future development	50%
• sell some of your land to the Town at fair market value	41%
• vote for a Town-supported land acquisition	77%

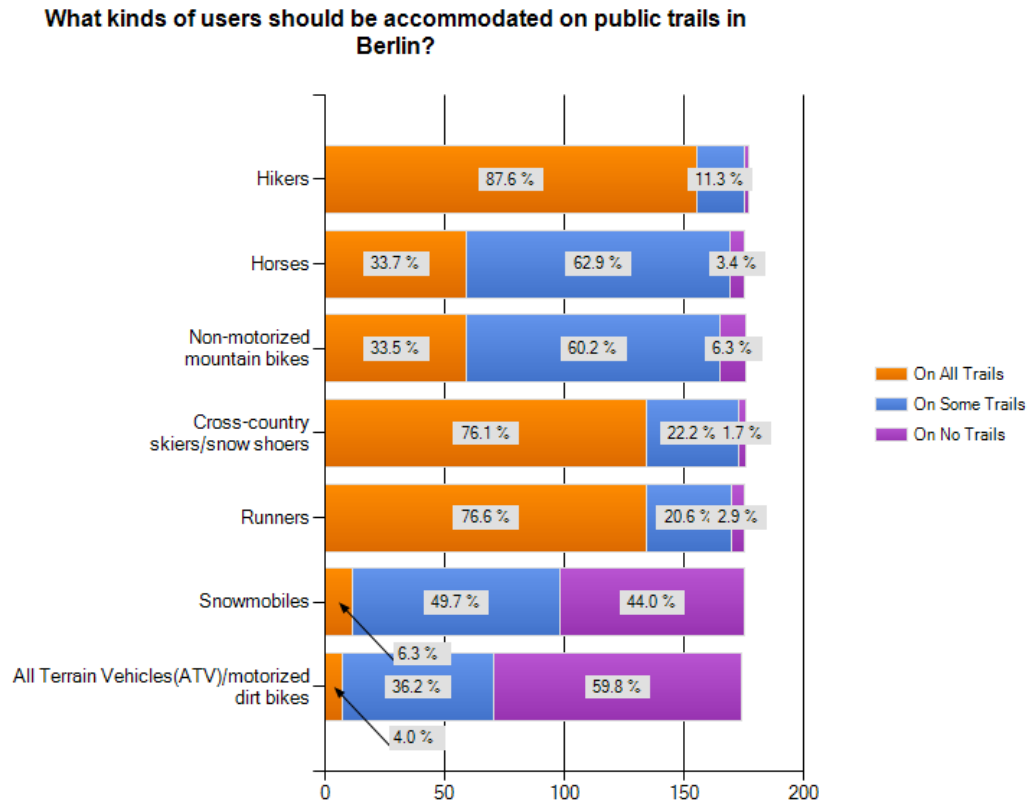
Open Space Priorities

Question 17 asked residents to rate how important it was to increase open space and recreation lands active recreation, passive recreation and conservation. Increasing open space and recreation lands for conservation purposes was seen as most important with 79% of respondents rating it as important or very important. Passive recreation was rated as important or very important by 67% of respondents and active recreation was rated as important or very important by only 35% of respondents.

Public Trail Use

Question 18 asked residents to assess what kinds of users should be allowed on Berlin’s public trails. The following chart indicates the level of support for each user group. Answers were similar to those provided in response to the 2003 survey with a slightly higher percent of respondents indicating that snowmobiles and ATVs should be allowed on some public trails, and a lower percent indicating they should be allowed on all trails.

Figure 13: Trail Users



Areas to be Protected

Question 19 asked residents to identify specific parcels worthy of preservation or acquisition. The most frequently sited parcels included:

- Sawyer Hill
- Gates Pond
- Rainville’s farm
- Balance Rock Farm
- Indian Head Farm

Also mentioned by multiple respondents:

- Rail Road beds
- Ball Hill

Other Comments

Question 20 provided an opportunity to share other opinions and ideas.

Thirty four respondents shared comments. Ideas noted by multiple respondents focused on a variety of themes. They include:

- growth management
- town character and quality of life
- fiscal management
- roads and traffic
- sidewalks and trails
- community beach
- commercial activities
- Town Center
- affordable housing

Attachment A: Survey Summary

Berlin Master Planning Survey



1. What qualities or features are important to preserve for Berlin's future? Please indicate on a scale of 1 to 5 (1 being not important, 5 being very important).

	Not Important				Very Important	Rating Average	Response Count
Rural setting	0.0% (0)	2.3% (4)	8.5% (15)	11.9% (21)	77.4% (137)	4.64	177
Views of open fields	1.7% (3)	1.7% (3)	15.6% (28)	16.1% (29)	65.0% (117)	4.41	180
Vistas of hills and valleys	1.7% (3)	1.1% (2)	15.6% (28)	19.6% (35)	62.0% (111)	4.39	179
Agricultural land	1.1% (2)	5.0% (9)	11.1% (20)	21.7% (39)	61.1% (110)	4.37	180
Agricultural buildings	5.1% (9)	9.6% (17)	24.7% (44)	23.6% (42)	37.1% (66)	3.78	178
Historic architecture	1.1% (2)	10.0% (18)	23.9% (43)	24.4% (44)	40.6% (73)	3.93	180
Old 1870 Town Hall	2.8% (5)	6.1% (11)	21.2% (38)	23.5% (42)	46.4% (83)	4.04	179
Rural roads (limited width)	7.8% (14)	12.3% (22)	24.0% (43)	20.7% (37)	35.2% (63)	3.63	179
Trees along roadways	3.9% (7)	7.3% (13)	15.2% (27)	27.0% (48)	46.6% (83)	4.05	178
Stone walls	2.2% (4)	6.7% (12)	16.2% (29)	26.3% (47)	48.6% (87)	4.12	179
Hedgerows	6.9% (12)	15.4% (27)	31.4% (55)	20.6% (36)	25.7% (45)	3.43	175
Age restricted housing	15.9% (28)	21.0% (37)	31.3% (55)	18.2% (32)	13.6% (24)	2.93	176
Moderate sized homes	8.0% (14)	9.7% (17)	28.6% (50)	25.1% (44)	28.6% (50)	3.57	175
Town Green	0.6% (1)	5.6% (10)	19.2% (34)	25.4% (45)	49.2% (87)	4.17	177

Conservation lands	0.6% (1)	4.5% (8)	13.4% (24)	19.0% (34)	62.6% (112)	4.39	179
Wetlands	3.3% (6)	5.0% (9)	12.8% (23)	21.7% (39)	57.2% (103)	4.24	180
Rivers/streams	0.0% (0)	3.4% (6)	10.9% (19)	20.6% (36)	65.1% (114)	4.47	175
Existing commercial businesses	5.1% (9)	10.9% (19)	35.4% (62)	27.4% (48)	21.1% (37)	3.49	175
Berlin Elementary School	6.8% (12)	5.1% (9)	19.8% (35)	22.6% (40)	45.8% (81)	3.95	177
Recreational fields	5.1% (9)	6.8% (12)	19.2% (34)	28.2% (50)	40.7% (72)	3.93	177
Trails	1.7% (3)	5.0% (9)	11.7% (21)	33.9% (61)	47.8% (86)	4.21	180
Cemeteries	5.6% (10)	12.4% (22)	23.2% (41)	22.6% (40)	36.2% (64)	3.71	177
Churches	8.0% (14)	12.0% (21)	21.1% (37)	25.1% (44)	33.7% (59)	3.65	175
Low traffic volume	1.2% (2)	3.5% (6)	15.1% (26)	25.0% (43)	55.2% (95)	4.30	172
					Other (please specify)		22
					answered question		180
					skipped question		0

2. What policies or strategies are important for improving the quality of life for Berlin's residents? Please indicate on a scale of 1 to 5 (1 being not important, 5 being very important).

	Not Important				Very Important	Rating Average	Response Count
Maintain existing zoning	3.5% (6)	6.4% (11)	18.0% (31)	25.6% (44)	46.5% (80)	4.05	172
Preserve the scale and diversity of buildings and land uses in the Center of Town	2.8% (5)	4.0% (7)	15.9% (28)	27.8% (49)	49.4% (87)	4.17	176
Preserve the scale and diversity of buildings and land uses in South Berlin	4.0% (7)	12.0% (21)	22.3% (39)	22.9% (40)	38.9% (68)	3.81	175
Preserve the scale and diversity of buildings and land uses in West Berlin	4.7% (8)	10.1% (17)	24.9% (42)	26.6% (45)	33.7% (57)	3.75	169
Preserve the scale and diversity of buildings and land uses in East Berlin	6.0% (10)	9.6% (16)	30.5% (51)	23.4% (39)	30.5% (51)	3.63	167
Enact more stringent regulations to protect natural resources	5.9% (10)	10.6% (18)	17.1% (29)	30.6% (52)	35.9% (61)	3.80	170
Adopt new development criteria in order to preserve rural and village character	4.6% (8)	5.1% (9)	20.6% (36)	27.4% (48)	42.3% (74)	3.98	175
Protect views of open fields	2.3% (4)	7.4% (13)	14.3% (25)	20.6% (36)	55.4% (97)	4.19	175
Protect views of hills and valleys	2.9% (5)	5.2% (9)	14.9% (26)	21.8% (38)	55.2% (96)	4.21	174
Maintain trees when improving roads	1.7% (3)	8.6% (15)	16.0% (28)	28.0% (49)	45.7% (80)	4.07	175
Maintain stone walls when improving roads	2.3% (4)	4.0% (7)	17.2% (30)	28.7% (50)	47.7% (83)	4.16	174
Increase the amount of conservation land	3.4% (6)	10.9% (19)	21.1% (37)	24.6% (43)	40.0% (70)	3.87	175
Increase efforts to preserve historic structures	4.0% (7)	16.7% (29)	26.4% (46)	21.8% (38)	31.0% (54)	3.59	174

Increase access to public lands.	0.6% (1)	6.9% (12)	27.2% (47)	32.9% (57)	32.4% (56)	3.90	173
Support the establishment of new businesses for tax growth	12.6% (22)	14.3% (25)	31.4% (55)	22.9% (40)	18.9% (33)	3.21	175
Support the establishment of new businesses for job creation	17.1% (30)	14.9% (26)	28.0% (49)	22.9% (40)	17.1% (30)	3.08	175
Encourage more commercial growth in the Center of Town	33.9% (60)	18.6% (33)	24.3% (43)	16.4% (29)	6.8% (12)	2.44	177
Encourage more commercial growth in West Berlin	34.7% (60)	22.5% (39)	24.3% (42)	12.1% (21)	6.4% (11)	2.33	173
Encourage more commercial growth in South Berlin	33.9% (59)	17.8% (31)	23.6% (41)	14.4% (25)	10.3% (18)	2.49	174
Encourage more commercial growth in East Berlin	29.9% (52)	19.0% (33)	25.3% (44)	15.5% (27)	10.3% (18)	2.57	174
Manage the rate of new commercial growth	2.3% (4)	5.1% (9)	19.9% (35)	22.7% (40)	50.0% (88)	4.13	176
Manage the rate of new residential growth	1.7% (3)	1.1% (2)	20.5% (36)	21.6% (38)	55.1% (97)	4.27	176
Provide affordable housing for low and moderate income households	24.0% (42)	16.0% (28)	30.9% (54)	16.0% (28)	13.1% (23)	2.78	175
Provide additional affordable housing for residents 55 and older	19.1% (33)	16.2% (28)	29.5% (51)	21.4% (37)	13.9% (24)	2.95	173
Welcome a mixed population of different incomes and backgrounds	18.5% (32)	9.2% (16)	27.2% (47)	23.7% (41)	21.4% (37)	3.20	173
					Other (please specify)		19
answered question							177
skipped question							3

3. Berlin has added 253 residential units and 68,000 square feet of commercial space over the past decade. In addition 187 residential units and 657,000 sf of commercial space has been approved but not built. There has been no increase in industrial space. In your opinion, how appropriate is this rate of growth for the coming decade?

	Too Slow	About Right	Too Rapid	Response Count
Residential	2.8% (5)	53.9% (97)	43.3% (78)	180
Commercial	11.2% (20)	46.6% (83)	42.1% (75)	178
Industrial	21.0% (37)	57.4% (101)	21.6% (38)	176
answered question				180
skipped question				0

4. What challenges or threats to Berlin's quality of life will be most important for the Town to address over the next ten years? Please indicate on a scale of 1 to 5 (1 being not important, 5 being very important).

	Not Important				Very Important	Rating Average	Response Count
Loss of rural character	1.1% (2)	5.6% (10)	6.2% (11)	15.7% (28)	71.3% (127)	4.51	178
Loss of open space	0.6% (1)	6.1% (11)	7.8% (14)	20.1% (36)	65.4% (117)	4.44	179
Loss of agricultural lands	2.2% (4)	5.0% (9)	8.9% (16)	19.6% (35)	64.2% (115)	4.39	179
Protection of groundwater supplies	1.1% (2)	0.0% (0)	8.4% (15)	14.6% (26)	75.8% (135)	4.64	178
Conflicting land uses	2.4% (4)	3.7% (6)	25.6% (42)	33.5% (55)	34.8% (57)	3.95	164
Traffic / road system	0.6% (1)	6.3% (11)	24.4% (43)	25.0% (44)	43.8% (77)	4.05	176
Ability to provide quality town services	2.3% (4)	3.4% (6)	23.9% (42)	30.1% (53)	40.3% (71)	4.03	176
Town management	2.2% (4)	4.5% (8)	24.7% (44)	24.2% (43)	44.4% (79)	4.04	178
Capital expenditure planning	1.1% (2)	6.9% (12)	19.0% (33)	27.6% (48)	45.4% (79)	4.09	174
Quality of school system	3.9% (7)	2.8% (5)	20.2% (36)	21.9% (39)	51.1% (91)	4.13	178
Tax increases	2.8% (5)	3.9% (7)	21.3% (38)	24.7% (44)	47.2% (84)	4.10	178
Solid waste disposal	4.5% (8)	8.0% (14)	30.7% (54)	26.1% (46)	30.7% (54)	3.70	176
Too many people	6.3% (11)	6.3% (11)	25.6% (45)	21.0% (37)	40.9% (72)	3.84	176
Lack of public transportation	36.0% (64)	16.9% (30)	15.2% (27)	14.0% (25)	18.0% (32)	2.61	178
Lack of affordable housing	29.5% (52)	18.2% (32)	26.1% (46)	15.9% (28)	10.2% (18)	2.59	176

answered question 180

skipped question 0

5. What locations are appropriate for new residential development in Berlin? Please indicate on a scale of 1 to 5 (1 being not appropriate, 5 being most appropriate).

	Not Appropriate				Most Appropriate	Rating Average	Response Count
Along existing roads	13.3% (22)	10.8% (18)	25.3% (42)	17.5% (29)	33.1% (55)	3.46	166
Within new subdivisions where all land is privately owned	22.1% (36)	17.8% (29)	22.7% (37)	17.8% (29)	19.6% (32)	2.95	163
Within new subdivisions that would preserve public open space by allowing houses to be built closer together and on smaller lots	30.0% (51)	11.8% (20)	13.5% (23)	16.5% (28)	28.2% (48)	3.01	170
Close to other homes in the Town Center	45.2% (76)	20.2% (34)	17.9% (30)	8.3% (14)	8.3% (14)	2.14	168
Close to other homes in South Berlin	45.1% (74)	22.6% (37)	20.7% (34)	8.5% (14)	3.0% (5)	2.02	164
Close to other homes in East Berlin	40.2% (66)	22.6% (37)	25.0% (41)	9.1% (15)	3.0% (5)	2.12	164
Close to other homes in West Berlin	39.5% (64)	23.5% (38)	21.6% (35)	11.1% (18)	4.3% (7)	2.17	162

Other (please specify) 23

answered question 173

skipped question 7

6. What type of residential development is appropriate in Berlin? Please indicate on a scale of 1 to 5 (1 being not appropriate, 5 being most appropriate).

	Not Appropriate				Most Appropriate	Rating Average	Response Count
Single-family residential	1.2% (2)	1.2% (2)	8.7% (15)	20.3% (35)	68.6% (118)	4.54	172
Accessory apartments within existing residences	18.1% (30)	13.3% (22)	25.9% (43)	20.5% (34)	22.3% (37)	3.16	166
Accessory apartments in accessory structures built prior to 1991. (barns, garages, etc.)	20.1% (34)	13.0% (22)	27.8% (47)	21.3% (36)	17.8% (30)	3.04	169
Accessory apartments in newly created accessory structures	35.5% (59)	14.5% (24)	24.7% (41)	16.3% (27)	9.0% (15)	2.49	166
Guest houses / Bed & Breakfasts	14.6% (25)	15.8% (27)	31.0% (53)	26.3% (45)	12.3% (21)	3.06	171
Duplexes (2-family residential)	30.8% (52)	20.1% (34)	27.2% (46)	17.2% (29)	4.7% (8)	2.45	169
Four-family homes, similar to Northbrook Village	37.1% (62)	21.0% (35)	25.1% (42)	13.8% (23)	3.0% (5)	2.25	167
Multi-family residential – condominiums (owner occupied)	39.1% (66)	20.1% (34)	24.3% (41)	11.2% (19)	5.3% (9)	2.24	169
Multi-family residential – apartments (rental)	55.6% (95)	18.7% (32)	14.6% (25)	8.8% (15)	2.3% (4)	1.84	171
Mobile homes	78.2% (133)	11.2% (19)	5.3% (9)	4.7% (8)	0.6% (1)	1.38	170
Affordable housing	31.7% (53)	19.2% (32)	25.7% (43)	10.8% (18)	12.6% (21)	2.53	167
Over-55 retirement communities	16.2% (27)	18.6% (31)	30.5% (51)	21.0% (35)	13.8% (23)	2.98	167
Congregate care facilities (assisted living)	17.5% (29)	19.3% (32)	27.7% (46)	22.9% (38)	12.7% (21)	2.94	166
					Other (please specify)		16
answered question							175

skipped question 5

7. What measures, if any should Berlin consider or adopt to manage residential growth?

Response Count

48

answered question 48

skipped question 132

8. Is anyone in your household actively seeking a place to live in Berlin?

Response Percent Response Count

yes 8.2% 14

no 91.8% 157

answered question 171

skipped question 9

9. Does anyone in your family, or among your neighbors and friends, have any of the following needs for affordable housing? (Check as many as apply)

yes no Response Count

Need to place an aging relative in an apartment. 20.3% (35) 79.7% (137) 172

Need to care for an invalid. 8.9% (15) 91.1% (154) 169

Need to find an apartment for a son or daughter. 11.2% (19) 88.8% (150) 169

Other (please specify) 5

answered question 172

skipped question 8

10. In the next ten years, do you anticipate that anyone in your family, or among your neighbors and friends, will have any of the following needs for affordable housing? (Check as many as apply)

	yes	no	Response Count
Need to place an aging relative in an apartment	39.5% (68)	60.5% (104)	172
Need to care for an invalid	24.4% (41)	75.6% (127)	168
Need to find an apartment for a son or daughter	23.7% (40)	76.3% (129)	169
		Other (please specify)	6
		answered question	172
		skipped question	8

11. What kinds of new commercial and industrial development are appropriate in designated zoning districts in Berlin? Please indicate on a scale of 1 to 5 (1 being not appropriate, 5 being most appropriate).

	Not Appropriate				Most Appropriate	Rating Average	Response Count
Local scale retail and service businesses	7.8% (13)	8.4% (14)	25.3% (42)	19.9% (33)	38.6% (64)	3.73	166
Regional scale (big box) retail	52.4% (88)	19.6% (33)	17.9% (30)	4.2% (7)	6.0% (10)	1.92	168
Mixed use with residential above commercial use in commercial districts	22.6% (38)	17.3% (29)	33.9% (57)	13.1% (22)	13.1% (22)	2.77	168
Home based businesses in residential districts	15.8% (27)	11.7% (20)	22.8% (39)	26.9% (46)	22.8% (39)	3.29	171
Home based businesses in commercial districts	8.3% (14)	9.5% (16)	29.6% (50)	23.7% (40)	29.0% (49)	3.56	169
Farm and agriculture based businesses	2.3% (4)	3.5% (6)	8.1% (14)	23.3% (40)	62.8% (108)	4.41	172
Industrial development	44.2% (76)	25.0% (43)	18.0% (31)	7.0% (12)	5.8% (10)	2.05	172
					Other (please specify)		13
					answered question		172
					skipped question		8

12. What measures over and above existing special requirements for water, sewer and parking, if any should Berlin consider or adopt to manage commercial and/or industrial growth?

	Response Count
	45
	answered question
	45
	skipped question
	135

13. How strongly do you support Berlin acquiring land for the following reasons?

	Do Not Support				Strongly Support	Rating Average	Response Count
To help preserve the town's rural character	2.9% (5)	8.6% (15)	12.6% (22)	13.8% (24)	62.1% (108)	4.24	174
To preserve the town's groundwater resources	1.7% (3)	1.1% (2)	6.9% (12)	19.5% (34)	70.7% (123)	4.56	174
To preserve agricultural areas	4.1% (7)	5.8% (10)	13.5% (23)	16.4% (28)	60.2% (103)	4.23	171
To provide facilities for active recreation (sports fields, courts, etc.)	8.6% (15)	11.4% (20)	28.6% (50)	22.3% (39)	29.1% (51)	3.52	175
To provide areas for informal recreation (walking/hiking/riding/skiing trails, etc.)	2.3% (4)	5.8% (10)	20.8% (36)	30.1% (52)	41.0% (71)	4.02	173
To preserve unique scenic areas	5.1% (9)	5.1% (9)	16.6% (29)	22.3% (39)	50.9% (89)	4.09	175
To preserve historic sites	3.5% (6)	8.1% (14)	30.1% (52)	19.1% (33)	39.3% (68)	3.83	173
To facilitate the development of affordable housing	32.2% (55)	20.5% (35)	26.9% (46)	11.7% (20)	8.8% (15)	2.44	171
To control residential growth	8.1% (14)	9.8% (17)	25.4% (44)	17.9% (31)	38.7% (67)	3.69	173
To create greenways along North Brook and other areas	6.5% (11)	11.8% (20)	18.9% (32)	27.8% (47)	34.9% (59)	3.73	169
To increase the size of Town-owned parcels by adding adjoining lands	5.8% (10)	11.7% (20)	22.2% (38)	32.2% (55)	28.1% (48)	3.65	171
					Other (please specify)		14
answered question							176
skipped question							4

14. What policies or actions do you support to preserve and manage open spaces? Please indicate on a scale of 1 to 5 (1 being do not support, 5 being strongly support).

	Do Not Support				Strongly Support	Rating Average	Response Count
Acquire more open space and conservation areas	4.7% (8)	8.8% (15)	15.8% (27)	23.4% (40)	47.4% (81)	4.00	171
Improve access and infrastructure of existing open space and conservation areas	4.1% (7)	4.1% (7)	18.7% (32)	28.1% (48)	45.0% (77)	4.06	171
Create a fund to acquire and maintain open space	7.0% (12)	12.9% (22)	15.8% (27)	26.9% (46)	37.4% (64)	3.75	171
Educate residents about land conservation issues	6.4% (11)	5.8% (10)	20.5% (35)	24.6% (42)	42.7% (73)	3.91	171
Increase efforts to preserve wildlife habitat.	2.9% (5)	4.7% (8)	17.6% (30)	31.2% (53)	43.5% (74)	4.08	170
Regulate intensity of development in natural habitats and environmentally sensitive areas	4.1% (7)	4.7% (8)	16.5% (28)	25.3% (43)	49.4% (84)	4.11	170
Dedicate more Town funds for maintenance of existing open space and recreation areas	8.1% (14)	15.6% (27)	24.3% (42)	31.2% (54)	20.8% (36)	3.41	173
Adopt the Community Preservation Act	15.2% (24)	10.8% (17)	24.1% (38)	21.5% (34)	28.5% (45)	3.37	158
Defer taxes on properties used for recreation and forest land to encourage existing uses	11.5% (19)	6.1% (10)	20.0% (33)	30.9% (51)	31.5% (52)	3.65	165
answered question							174
skipped question							6

15. Do you have any suggestions for improving open space in Berlin?

	Response Count
	26
answered question	26
skipped question	154

16. To preserve open space in Berlin, would you: (Check as many as apply) *Charitable actions may result in a tax benefit.

	yes	no	Response Count
Contribute some of your land to the Town*	25.9% (38)	74.1% (109)	147
Donate money to buy land*	46.5% (73)	53.5% (84)	157
Rewrite your deed to limit future use of your land*	35.5% (55)	64.5% (100)	155
Sell some of your land to the Town at a "bargain price" (less than market value)*	23.2% (35)	76.8% (116)	151
Sell or contribute a conservation restriction to protect your land from future development*	50.0% (75)	50.0% (75)	150
Sell some of your land to the Town at fair market value	41.1% (58)	58.9% (83)	141
Vote to acquire land with Town funds	77.0% (124)	23.0% (37)	161
		Other (please specify)	20
		answered question	167
		skipped question	13

17. How important is it to increase the following types of open space and recreation lands? Please indicate on a scale of 1 to 5 (1 being not important, 5 being most important).

	Not Important		Very Important		Rating Average	Response Count
Active recreation (sports fields, courts, etc.)	23.0% (40)	12.1% (21)	29.9% (52)	17.2% (30)	17.8% (31)	2.95 174
Passive recreation (trails, gardens, parks without play elements or facilities)	4.7% (8)	5.2% (9)	22.7% (39)	36.0% (62)	31.4% (54)	3.84 172
Conservation (walking trails, wildlife habitat, wetland preservation, e.g. Forty Caves, Mt. Pisgah)	3.5% (6)	4.6% (8)	13.9% (24)	26.6% (46)	51.4% (89)	4.18 173
Other (please specify)						15
answered question						175
skipped question						5

18. What kinds of users should be accommodated on public trails in Berlin?

	On All Trails	On Some Trails	On No Trails	Response Count
Hikers	87.6% (155)	11.3% (20)	1.1% (2)	177
Horses	33.7% (59)	62.9% (110)	3.4% (6)	175
Non-motorized mountain bikes	33.5% (59)	60.2% (106)	6.3% (11)	176
Cross-country skiers/snow shoers	76.1% (134)	22.2% (39)	1.7% (3)	176
Runners	76.6% (134)	20.6% (36)	2.9% (5)	175
Snowmobiles	6.3% (11)	49.7% (87)	44.0% (77)	175
All Terrain Vehicles(ATV)/motorized dirt bikes	4.0% (7)	36.2% (63)	59.8% (104)	174

Other (please specify) 15

answered question 177

skipped question 3

19. Are there any specific parcels of land in town that you consider special and worth protecting or acquiring for conservation, recreation, scenic views, or wildlife protection?

	Response Count
	41

answered question 41

skipped question 139

20. What other opinions or ideas would you like to share?

	Response Count
	34
answered question	34
skipped question	146







21. Where do you live in Berlin?

		Response Percent	Response Count
Berlin Center		15.5%	26
South Berlin		33.9%	57
North Berlin		10.7%	18
East Berlin		11.9%	20
West Berlin		28.0%	47
	answered question		168
	skipped question		12

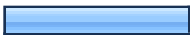

22. How long have you lived in Berlin?

		Response Percent	Response Count
0-4 years		15.9%	28
5-9 years		18.8%	33
10-19 years		19.9%	35
20 years or longer		45.5%	80
	answered question		176
	skipped question		4

23. What is your total household income?

		Response Percent	Response Count
Under \$35,000		11.0%	17
\$35,001 – \$50,000		14.8%	23
\$50,001 – \$75,000		12.9%	20
\$75,001 – \$100,000		17.4%	27
\$100,001 – \$150,000		20.6%	32
Over \$150,000		23.2%	36
		answered question	155
		skipped question	25

24. Do you have children under the age of 18 living with you?

		Response Percent	Response Count
yes		27.3%	47
no		72.7%	125
		answered question	172
		skipped question	8

Appendix C:

ADA Access Self

Section 504 Accessibility Report

Part 1: Administrative Requirements

Following is a letter of appointment for the Town of Berlin ADA Coordinator, the Town's Grievance Procedures and public notification of the American's with Disabilities Act.



BOARD OF SELECTMEN

BERLIN, MASSACHUSETTS 01503

Phone: (978) 838-2442

Fax: (978) 838-0014

May 24, 2004

TO: Town Clerk
FROM: Board of Selectmen
RE: Annual Appointments

The Board of Selectmen, at our meeting on May 24, 2004, voted to approve the appointments as per the attached list. Please note the following changes from last year's appointments:

Not Re-appointed

Christopher Hodges – Regular Police
Mary Petkauskas – Council on Aging
Robert Morgan – Cable Advisory Comm.
Janet Lamy – Rescue Squad

New Appointments

John Pitro – Regular Police
Thomas Andrew – ADA Coordinator
Mike Clement- Rescue Squad

Sincerely,
BOARD OF SELECTMEN

Valary J. Bradley
Valary J. Bradley
Clerk

Procedures for Grievances under the Americans With Disabilities Act

The following Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act. It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in employment practices and policies, or the provision of services, activities, programs, and benefits by the Town of Berlin, Massachusetts.

The complaint should be in writing and contain information about the alleged discrimination such as name, address, phone number of complainant and location, date, and description of the problem. Reasonable accommodations, such as personal interviews or a tape recording of the complaint, will be made available for persons with disabilities who are unable to submit a written complaint.

The complaint should be submitted by the grievant or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to the town's Americans with Disabilities Act Coordinator (ADA Coordinator), as given below.

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

If the response by the ADA Coordinator does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision of the ADA Coordinator within 15 calendar days after receipt of the response to the Berlin Board of Selectmen or their designee.

Within 15 calendar days after receipt of the appeal, the Board or Selectmen or their designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting the Board of Selectmen or their designee will respond in writing, and where appropriate in a format accessible to the complainant such as audiotape, with a final resolution of the complaint.

All complaints received by the ADA Coordinator, appeals to the Board of Selectmen or their designee and responses from the ADA Coordinator and the Board of Selectmen or their designee will be kept by the Town of Berlin for at least three years.

Adopted by the Selectmen 20 February 1996

Name of ADA Coordinator: Thomas Andrew

Phone Number: 978 838-2442

Address: Berlin Town Offices P O Box 274 Berlin MA 01503-0274

AMERICANS WITH DISABILITIES ACT

TOWN OF BERLIN

The Town of Berlin does not discriminate on the basis of disability in access to or operation of its programs, services and activities. The Town of Berlin does not discriminate on the basis of disability in application, hiring and employment practices.

The Town of Berlin has designated the following person to coordinate efforts to comply with these requirements. Questions, requests for auxiliary aids and services or modifications of policies and practices, and complaints should be directed to:

Thomas Andrew, ADA Coordinator

Address: Box 274, Berlin MA 01503 **Phone:** (978) 838-2442

Part 2: Program Accessibility

Facility Inventory and Transition Plan

A general inventory *to review for accessibility and ADA accommodations* has been completed for each open space and recreation facility under the jurisdiction of the Town. The inventory determined that certain structural changes are necessary to ensure that facilities comply with ADA standards. Needed structural changes are identified below. Recommended improvements, time frames, and responsible parties are included in the Seven-Year Action Plan.

Town Conservation Properties

Tyler Conservation Area and Brewer Brook



Description: This site located between Pleasant Street and Sawyer Hill Road consists of three properties totaling 140 acres. The land is generally narrow valley lowland flanked by upland terrain and includes a significant wetland, brook and flood control pond that supports migratory birds. A natural surface trail surrounds the wetland perimeter. The majority of the site including and surrounding the flood control pond is State-owned, while the balance is Town-owned. The primary purpose of the property is flood control, though the area is also used for informal recreation.

Access: The site can be accessed on the east side of Pleasant Street north of Jones Road at the green metal gates. Parking for around six vehicles is provided in a gravel lot. The trail entrance is marked by a gate opening. An alternate entrance is through the O'Brien meadow property on Route 62. There is parking for several vehicles on a half acre mowed parcel within 60 yards of the site entrance.

Needed Structural Changes: Improved signage is being developed to more conspicuously mark the entrance and trails.

Douglas Conservation Area

Description: This 27-acre site within the triangle between Jones Road, South Street and Pleasant Street consists of lowland in the area around North Brook and Brewer Brook.

An informal trail makes a loop from Pleasant Street to North Brook and back. The primary purpose of the site is resource conservation.

Access: Pleasant Street near Brewer Brook crossing.

Needed Structural Changes: The parcel is largely wet and virtually land-locked. In addition the only potential access point is on a dangerous curve of a busy road. Parking, formal access and trail improvements are not recommended.

Powderhouse Hill

Description: This one-acre hillside site overlooks Town Center. A concrete stairway and a trail lead to the Powderhouse, constructed in 1814.

Access: Access is via the stairway at the end of the sidewalk on the north side of Route 62. There is no parking at this site, however, parking exists on Woodward Street across from the Old Town Hall.

Needed Structural Changes: There is no viable parking at this site.

Mt. Pisgah Conservation Area

Description: This wooded site in Berlin's southeast corner is over 240 acres and includes the highest elevation in town near 640 feet, along with varied terrain including broad wooded uplands, dramatic rock ledges, brooks and glacial swales. Special features include Azalea wetlands, stone walls and a well maintained trail system that connects with Northborough conservation land.

Access: Entrance to the site is from Ball Hill Road via a right-of-way where roadside parking is available. Access and parking for about ten vehicles is also available via Linden Street through a Conservation Restriction property and a 61B property.

Needed Structural Changes: Access at Linden Street is through a typically smooth hayfield, however steep relief and wetlands would make further development extremely costly. In addition the right-of-way over private land also does not allow for trail development. However the existing access does provide for a beautiful view and bird watching at the entrance area perimeter. This information will be available in the new trail guide.

Codogen

Description: This 7.4 acre property at the junction of South Street and Jones Road is primarily an open field with North Brook to the east and woodlands to the south. Three decades ago this site was an improved ball field, today it is used occasionally by picnickers. There is a large vernal pool at this site and wildlife abounds. The site connects to the Douglas Conservation Area. There are no formal trails, but the generally smooth field is mowed regularly and provides for ample parking and access by wheelchair.

Access: There is an obvious break in the stone wall off Jones Road for parking and wheelchair access.

Needed Structural Changes: There is no structured parking at this site.

Forty Caves (Lenkiewicz/Garfield Area)

Description: This site includes properties owned by the Sudbury Valley Trustees (42 acres) and the Town (15 acres). It is located in the northeast corner of Berlin and is characterized by variable topography, wooded uplands marked by dramatic rocky cliffs and interesting glacial features. It is traversed by North Brook and includes a small wetland. An active railroad bisects the site and forest trails are distributed throughout the area's three parcels. While this is a conservation property it is also very popular hiking area. The newly acquired Meuche property abuts these properties but is for conservation and forest management without formal recreational use.

Access: The entrance to the site is at a small parking area on the west side of Lancaster Road.

Needed Structural Changes: Parking at this site is limited, particularly for the amount of visitors seeking access.

O'Brien Meadow



Description: This nine-acre site near Town Center includes a small park at the road and a meadow surrounded by wetlands and wooded uplands. The site abuts the Tyler Conservation Area, however, there are no formal trails that connect the properties.

Access: Parking and access is at the small park at the corner of Pleasant Street and Route 62.

Needed Structural Changes: Formal trail access and marking is underway. The site offers potential for improvements including accessible trails.

Devine Property

Description: This 48-acre upland abuts the Mount Pisgah Conservation Area and includes a stream and a trail that connects to the system in Mount Pisgah.

Access: The entrance is through an opening in the rock wall off of Linden Street. There is field parking for ten vehicles on a half-acre town-owned parcel.

Needed Structural Changes: There is no structured parking at this site. The right-of-way over private land prohibits formal trail development. The steep, rocky terrain makes paved wheelchair access prohibitive.

Rattlesnake Hill

Description: The primary purpose of this 105-acre site on Berlin's western border is resource conservation. It features wooded upland and varied topography including some extremely steep terrain as well as a few bordering fields.

Access: Access with potential parking for several vehicles is in a hayfield on the south side of Route 62. There is also an old railroad bed easily accessible from the field and circumventing the east side of the Hill.

Needed Structural Changes: More formal parking and trail development across the field to the railroad bed adequate for wheelchair use is possible. Trailhead marking is in progress.

Larkin/Linzee

Description: Combined these two parcels east of Gates Pond Road and west of Route 495 create an 88-acre conservation land abutting Gates Pond Reservoir property owned by the Town of Hudson. It is an upland wooded site with exposed ledge acquired primarily for resource conservation. A rough, rocky, and often wet trail is used by extreme hikers only.

Access: The properties can be accessed from the parking lot for Gates Pond at the end of Taylor Road

Needed Structural Changes: Access to this site is not on property owned by the Town of Hudson.

Ball Hill and Wrack Meadow Conservation Area

Description: These 80 acres of remote woodland and meadow in Berlin's southwestern corner were acquired for conservation of sensitive resources and habitat that accommodates certain deep woods bird and animal life. Recently, a long rogue trail was cut through very sensitive areas. The Conservation will undertake efforts to remove the trail to eliminate further impacts to these areas.

Access: While the property fronts on both Linden Street and Ball Hill Road, there is no formal access.

Needed Structural Changes: There is no access or parking as the priority use is for conservation.

Clark

Description: This 71-acre conservation area near Town Center abuts the Lester Ross Suasco Project on the north side of Route 62. The property hosts a system of recreational trails and borders the abandoned east-west rail bed just north of Route 62 that is anticipated to be the site of the Mass Central Rail Trail. The Conservation

Commission developed a forest stewardship plan for this primarily wooded property in 2010.

Access: The Clark Property is landlocked, but access is available through the Lester Ross Suasco Project on Route 62.

Needed Structural Changes: The town is looking to improve access at this site due to the potential for wheelchair access along the Mass Central Rail Trail.

Other Town Conservation Lands

Description: There are 21 additional areas ranging from less than one to 41 acres that are owned by the town for the purpose of resource conservation. They include a 17-acre parcel between Lancaster and Peach Hill Roads with no access; and a seven-acre land-locked cranberry bog and wetlands abutting Gates Pond. Most have been acquired as gifts or tax title takings and are landlocked. Some were 'targets of opportunity': i.e., the Conservation Commission bought them at a substantially reduced price with the idea that they may serve as links in a future chain that connects existing conservation areas together. None lend themselves to ADA access specifications. Sites include:

<u>Acres</u>	<u>Location</u>
4.8	Corner of River Rd and Bridge St
3.9	Landlocked (Assabet River / North Brook)
3.47	Crosby Rd. / North Brook
27.02	Lyman Road
24.7	Lyman Rd
5.8	Morse Rd
10.13	Off Crosby Rd
4.3	Off Richard Drive
1.88	Linden St. / Mt. Pisgah Brook
7.74	Gates Pond Brook
1.14	Boylston Road
1.54	Randall Road
2.5	North Brook near Lancaster Rd
7.18	Hog Swamp
9.09	Hog Swamp
5.41	Fire hole, Lance Rd
40.98	Lancaster Rd
19.66	Off Collins Rd
4.16	Lancaster Road
17.25	Off Lancaster Rd

Needed Structural Changes: Portions of some of these lands are accessible to the public on the periphery, but there are no formalized trails or other access areas as the priority use is for conservation.

State Flood Control Properties

Lester Ross Suasco Project

Description: This property is a mix of lowland, upland and rocky outcroppings. A section of North Brook and a flood control area with dam are within the site. The site supports a Heron rookery at the north end of the pond and a significant population of migratory birds. Deer, beaver, furbearers, bluebirds and other song birds abound. Informal trails run along the top of the dam and through the large field between the pond and Route 62.

Access: Three parking and trail access sites exists in pullouts near the green steel gates along Route 62 and one at a small brick building on Linden Street.

Needed Structural Changes: This is state-owned land and could easily be improved for wheelchair accessibility.

Tyler Conservation Area & Beaver Brook

This site includes a combination of Town and state-owned properties (see description above)

Recreational Properties (maintained by Recreation Committee)

South Commons

Description: Located on South Street, the 37 acre complex includes three soccer or multi-purpose fields, three baseball/softball fields, two tennis courts, one basketball court, a playground and a nature path and blue bird trail, as well as access to the Berlin Elementary School gymnasium.

Access: Site access is a paved drive from South Street.





Needed Structural Changes: There are not clear circulation routes and parking locations at South Commons outside of those routes and parking spaces provided at the abutting school site. A formalized and signed system for circulation (both for vehicles and pedestrians) and parking should be developed to minimize potential pedestrian vehicle conflicts.

The playground area is enclosed by a hard edge that creates a four inch drop from the pathway to the play area. The play surface is wood chips.



Portable toilets are provided at the site spring through fall. Accessible restroom facilities are available only when the adjacent school is open by coincidence.

Other Conservation Lands of Note

Gates Pond Drinking Water Supply

Description: This 230 acre parcel including and surrounding the Gates Pond Reservoir was leased to the town of Hudson around 1900 as a water supply. It has the scenery and ambiance of a northern Maine pond with plenty of bird and other wildlife. There is a two mile, partially paved, loop road circumventing the site.

Access: The site entrance and ample parking are at the end of Taylor Road. The loop road and parking area are wheelchair accessible.

Needed Structural Changes: No changes are necessary.

Part 3: Employment Practices

The Town of Berlin is an Affirmative Action / Equal Opportunity Employer. A sample job announcement follows.

The Town's Affirmative Action Director is appointed by the Board of Selectman and is charged with the responsibility of insuring that the Town complies with the Directives and Policies of the "Massachusetts Commission Against Discrimination" (MCAD). The statement submitted is to ensure the state that the Town of Berlin is complying with their requirements for employment and minority/women contracts.

The Town's Commission on Disability's mission is to promote the full integration and participation of people with disabilities in all activities, services and employment opportunities of the community. The Commission advises and assists municipal officials in ensuring compliance with Federal and State disability laws and provides information, referrals, guidance and technical assistance in all disability related matters.

VACANCY

CUSTODIAN – TOWN OF BERLIN

Full Time position, 40 hrs weekly/benefits. Duties to include general custodial services for both interior and exterior of the Municipal Office & Public Safety building. Applicant must possess knowledge of mechanical systems (elevator, heating, sprinkler). Certification as a Public Water Supply DEP Operator a plus. Applications are available at the Selectmen's office, 23 Linden St. Applications will be accepted until April 16, 2001. EOE


Appendix D:

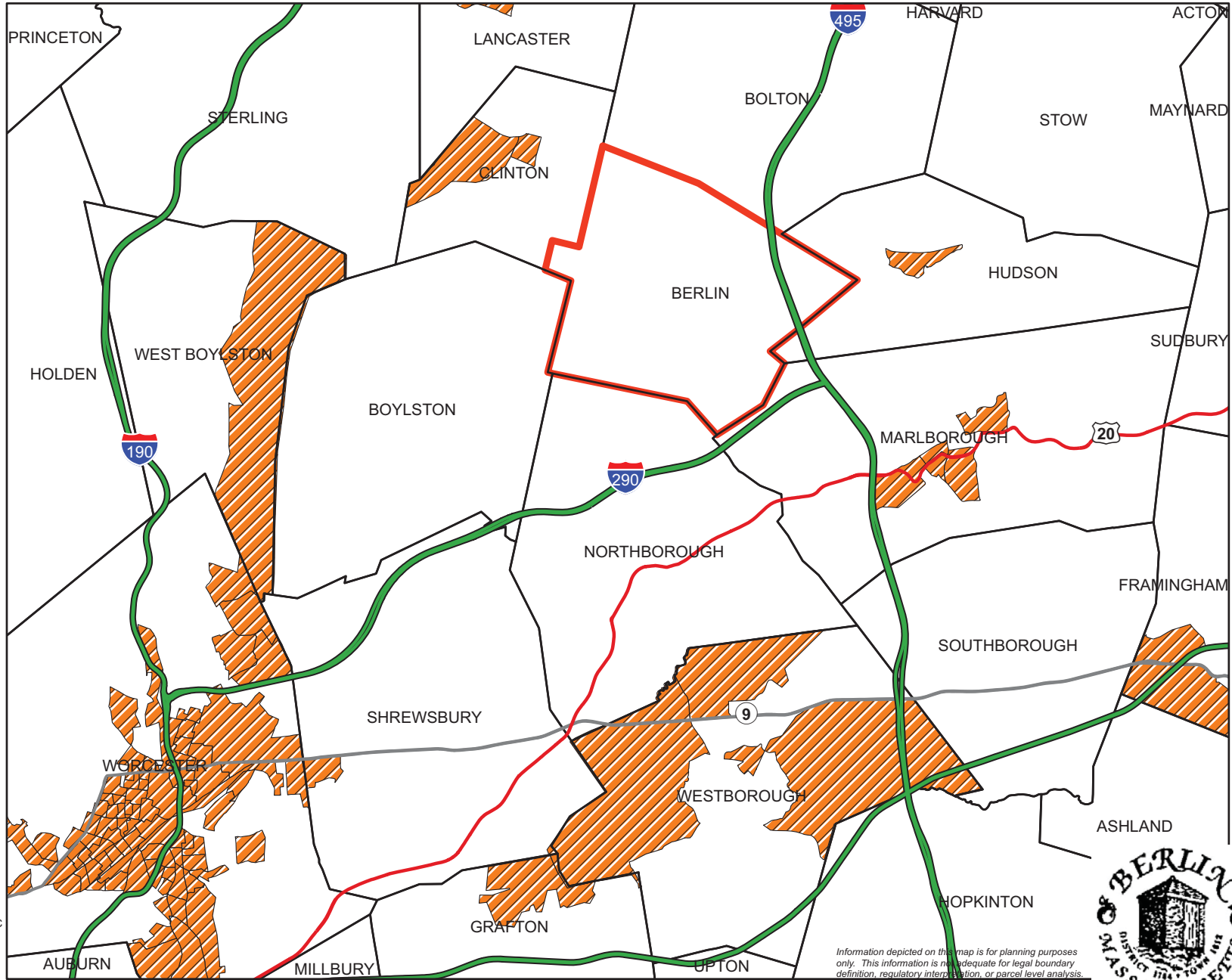
Maps

Town of Berlin Massachusetts

Map 1 - Regional Context and Environmental Justice Populations

Legend

 Environmental Justice Populations



0 0.5 1 2 Miles

Data sources: Town of Berlin, Sewall, MassGIS, CMRPC

This document is intended for Town of Berlin planning purposes only.

Information depicted on this map is for planning purposes only. This information is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis.





CLINTON

Zoning Map

Berlin

WORCESTER COUNTY, MASSACHUSETTS

0 800 1,600 2,400 Feet

BOLTON



HUDSON

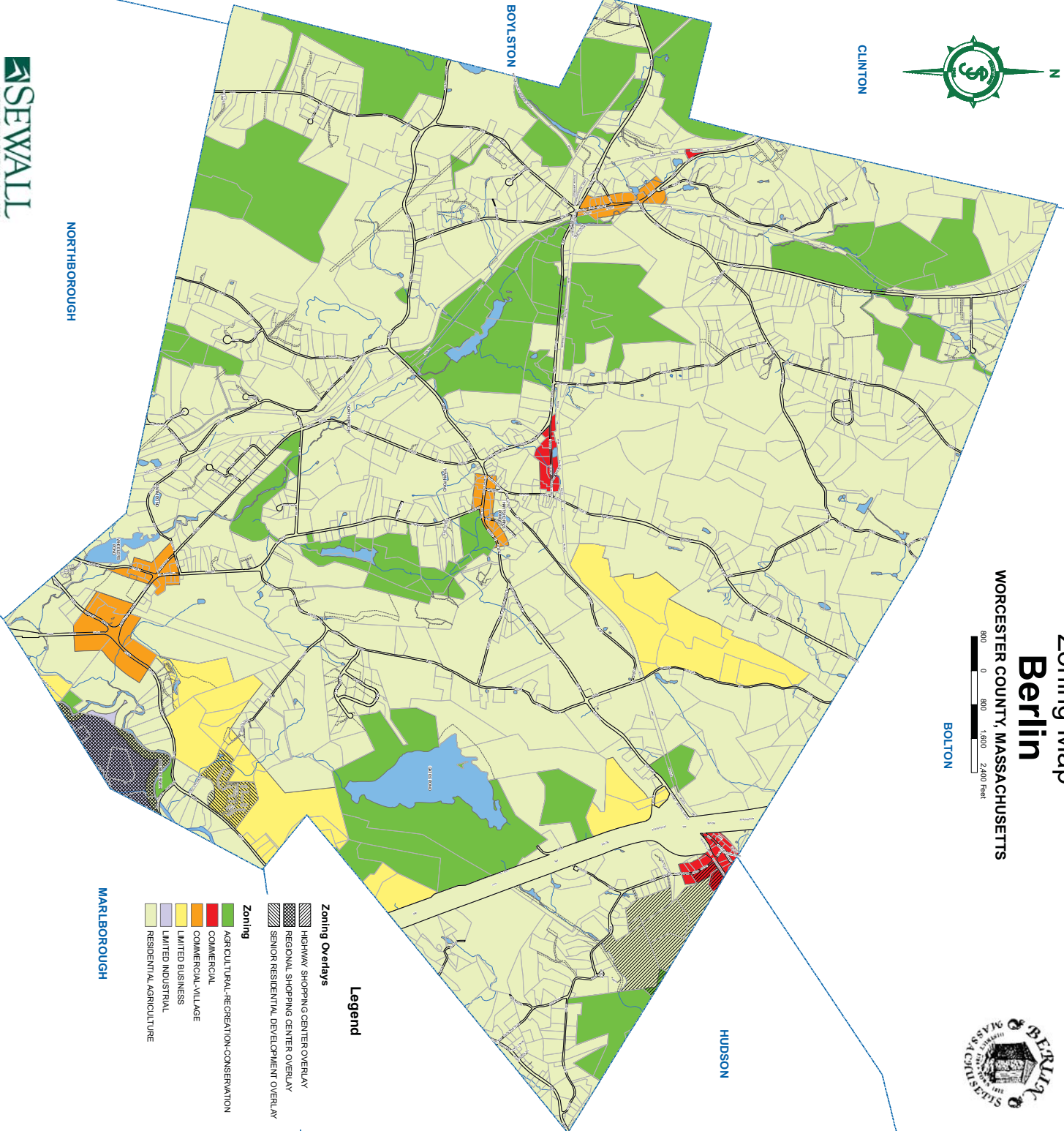
BOYLSTON

NORTHBOROUGH

MARLBOROUGH

- Zoning**
- AGRICULTURAL-RECREATION CONSERVATION
 - COMMERCIAL
 - COMMERCIAL-VILLAGE
 - LIMITED BUSINESS
 - LIMITED INDUSTRIAL
 - RESIDENTIAL AGRICULTURE
- Zoning Overlays**
- HIGHWAY SHOPPING CENTER OVERLAY
 - REGIONAL SHOPPING CENTER OVERLAY
 - SENIOR RESIDENTIAL DEVELOPMENT OVERLAY

Legend



SAVING THE SEWALL COMPANY / SINCE 1988
Office: 508-648-4202 sewall.com info@sewall.com

Town of Berlin Massachusetts

Map 3 - Soils

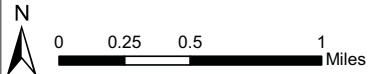
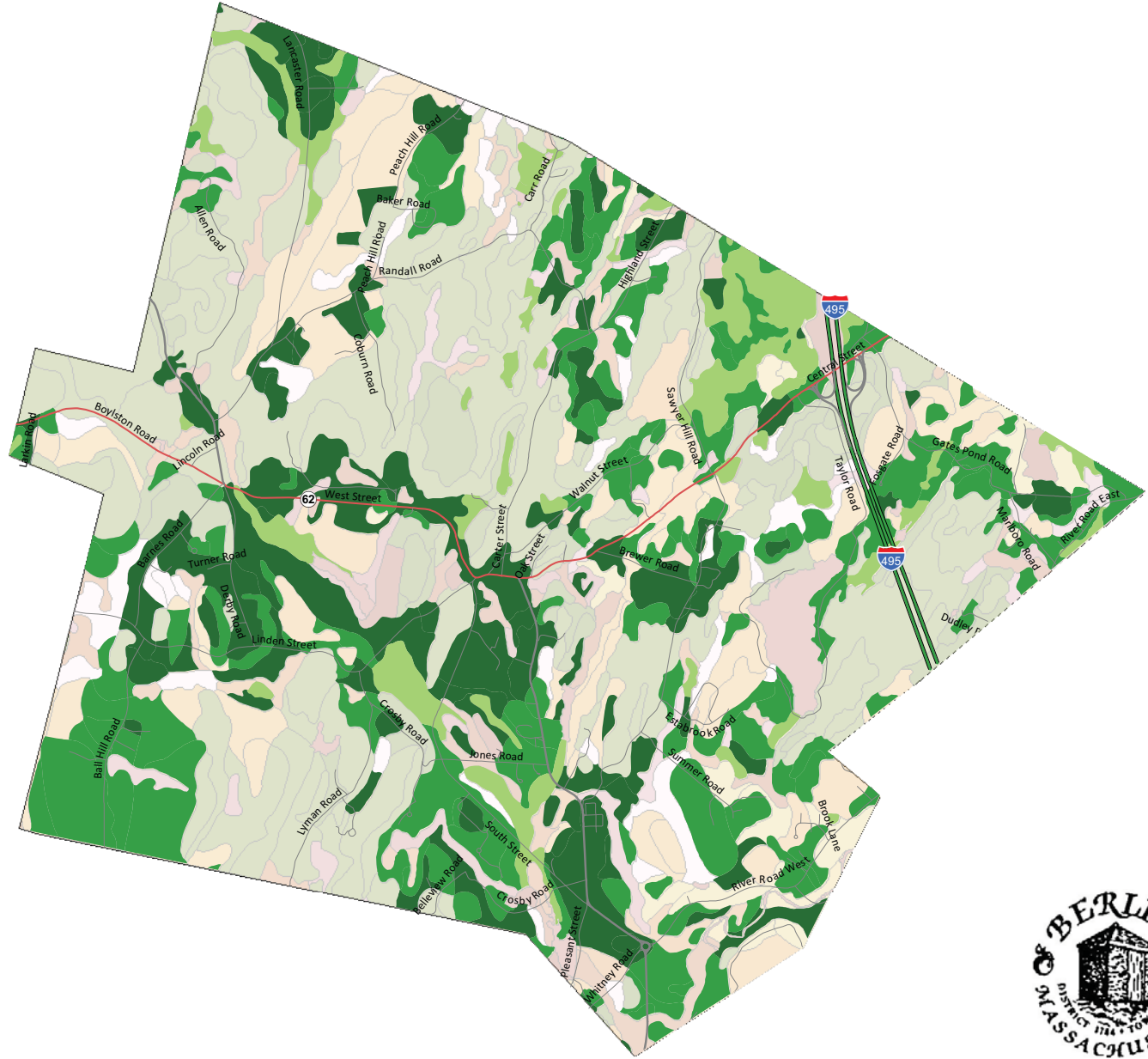
Legend

Prime Farmland Soils

- All areas are prime farmland
- Farmland of statewide importance
- Farmland of unique importance

NRCS Soil Series Description

 Am	 Pm
 Ca	 Ra
 Cb	 Rd
 Cc	 Rs
 Ch	 Sa
 De	 Sc
 Fm	 Sd
 Fp	 Sw
 Hg	 Ud
 Hk	 W
 Hw	 Wa
 Lm	 Wg
 Me	 Wh
 Pa	 Wn
 Pb	 Wr
 Pc	 Ws
 Pg	 Wt



Data sources: Town of Berlin, Sewall, MassGIS









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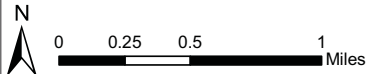
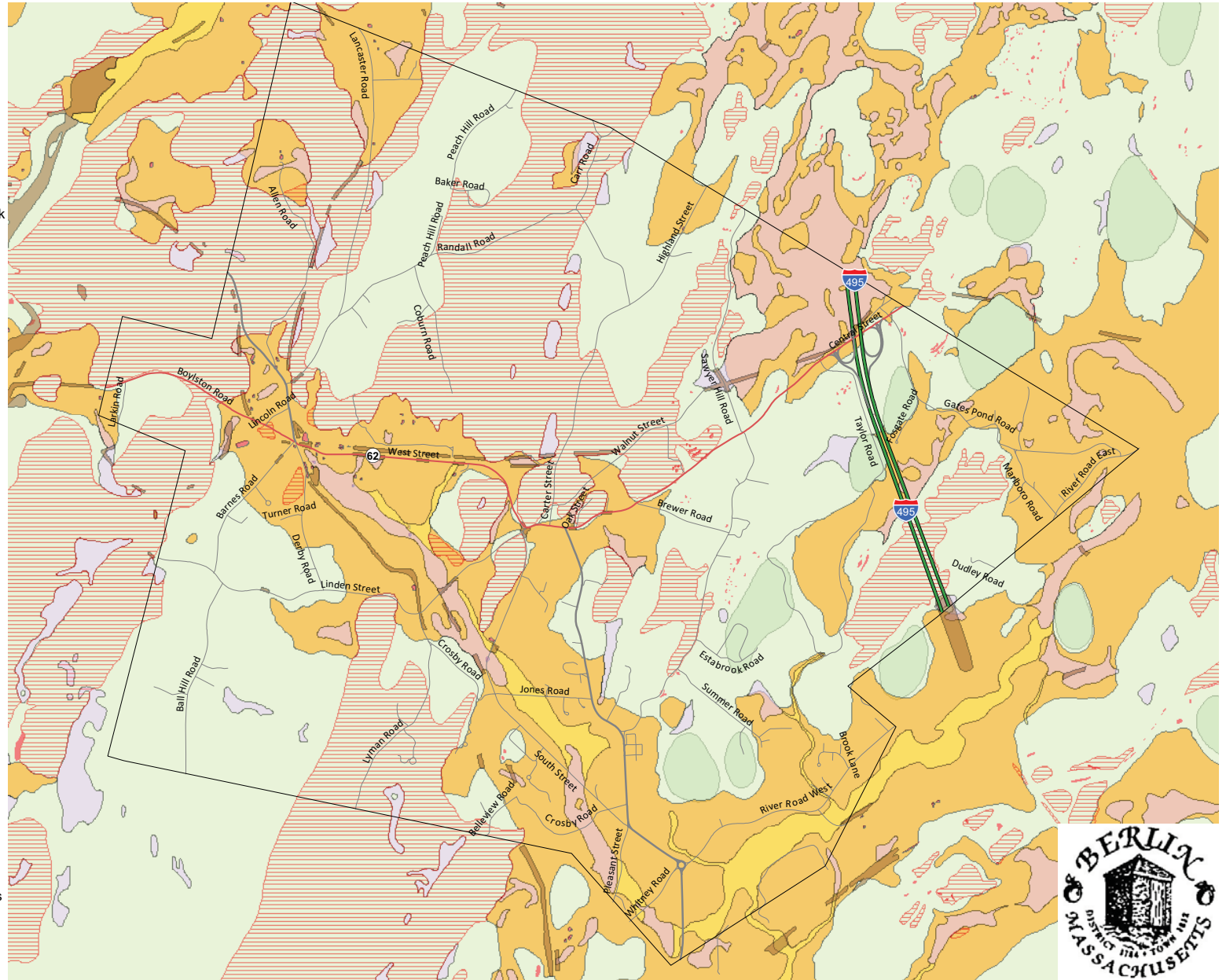


Town of Berlin Massachusetts

Map 4 - Surficial Geologic Features

Legend

-  Abundant Outcrop and Shallow Bedrock
-  Artificial Fill
-  Floodplain Alluvium
-  Swamp Deposits
-  Coarse
-  Bedrock Outcrop
-  Thin Till
-  Thick Till











Data sources: Town of Berlin, Sewall, MassGIS

This document is intended for
Town of Berlin planning
purposes only.



Town of Berlin Massachusetts

Map 5 Unique Features

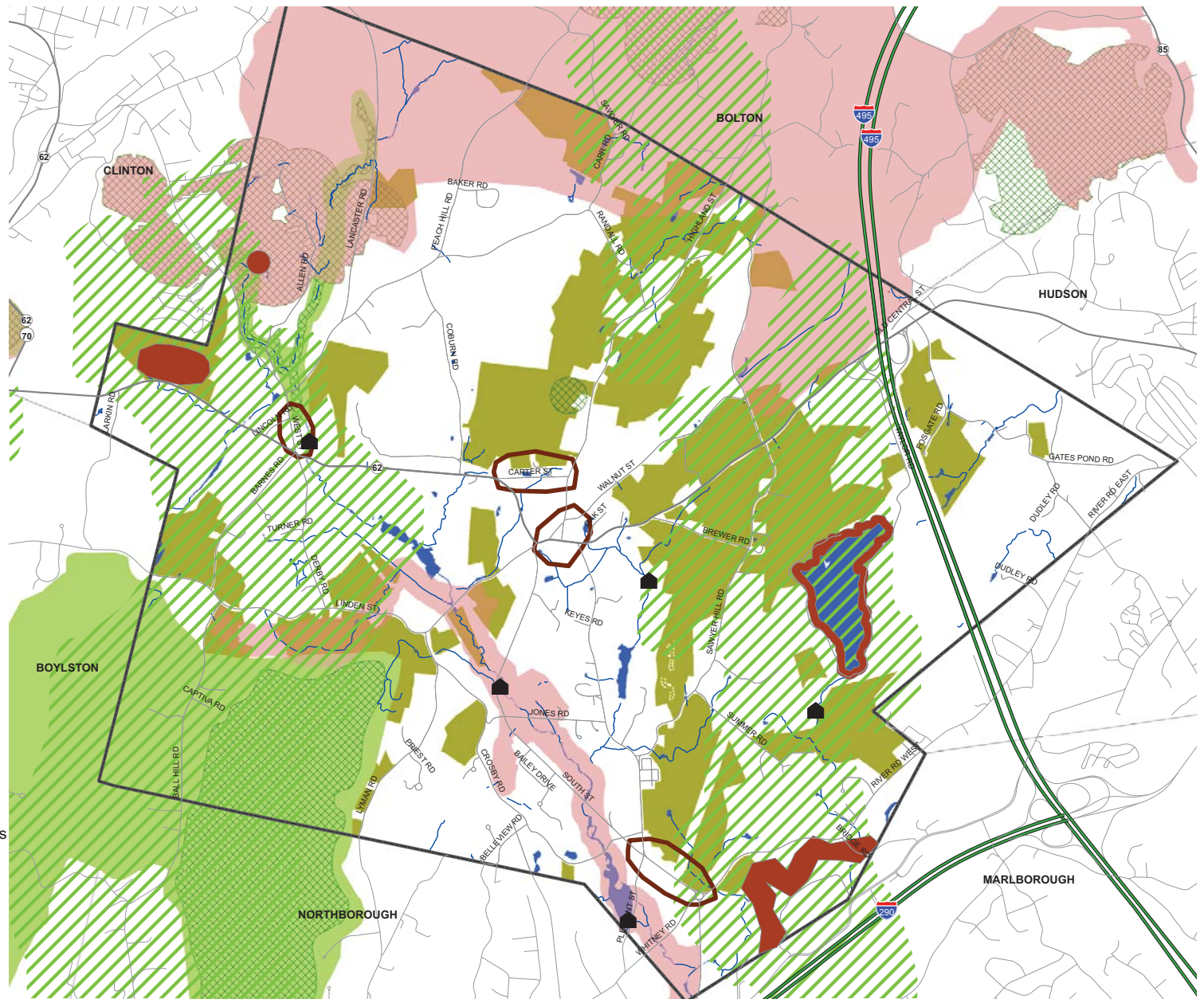
-  Agricultural Land
- MA Scenic Landscapes Inventory**
-  Scenic Landscapes
- Historic Locations**
-  Former Mill Sites
-  Village Centers
-  Archaeologically Significant
- Critical Habitats**
-  Estimated / Priority Habitats
- Natural Heritage & Endangered Species Program (NHESP) identified habitats for rare wildlife and species*
-  Core Habitat
- Areas identified by NHESP and The Nature Conservancy (TNC) that support Species of Conservation Concern, exemplary natural communities, and intactecosystems*
-  Critical Natural Landscape
- Intact landscapes identified by NHESP/TNC that support ecological processes and disturbance regimes, and a wide array of species and habitats*



Data sources: Town of Berlin, Sewall, MassGIS, NHESP/TNC BioMap2

This document is intended for Town of Berlin conservation and planning purposes only. Property information is current as of July 2010.

Produced by:
Brown Walker Planners, Inc. March 2011



Town of Berlin Massachusetts

Map 6 - Watershed and Hydrologic Features

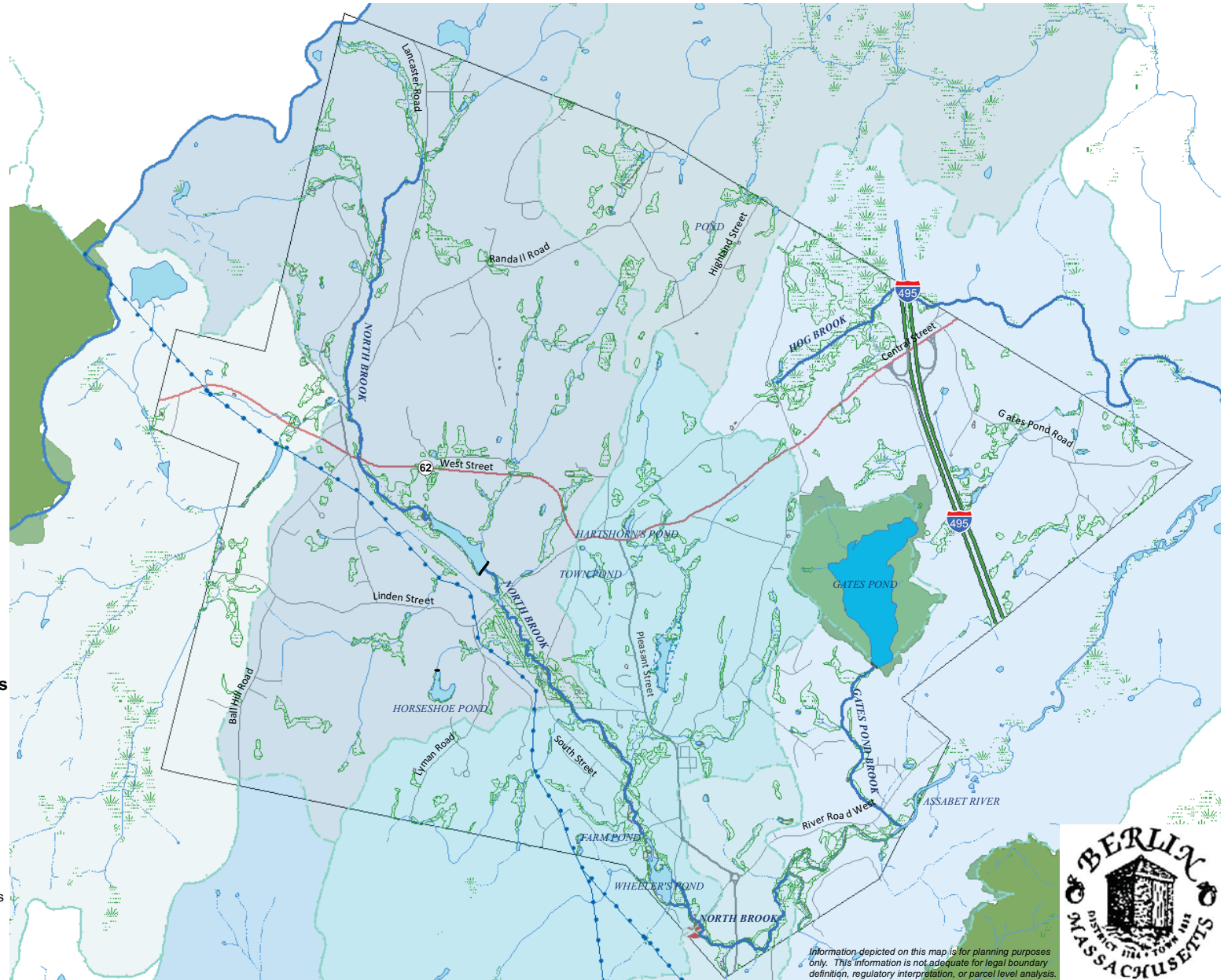
Legend

- Perennial Stream
 - Intermittent Stream
 - Shoreline
 - Intermittent Shoreline
 - Manmade Shoreline
 - Ditch/Canal
 - Aqueduct
 - Dam
 - Channel in Water
 - Pond, Lake, Ocean
 - Reservoir
 - Wetland
 - Submerged Wetland
 - Cranberry Bog
 - Inundated Area
 - DEP Wetlands
 - Surface Water
 - Assabet Major Watershed Basin
 - Assabet Drainage Subbasin
- Surface Water Supply Watersheds**
- Surface Water (Active or Inactive)
 - Emergency Surface Water
 - USGS Gauging Station

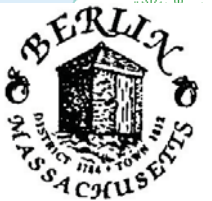


Data sources: Town of Berlin, Sewall, MassGIS

This document is intended for
Town of Berlin planning
purposes only.










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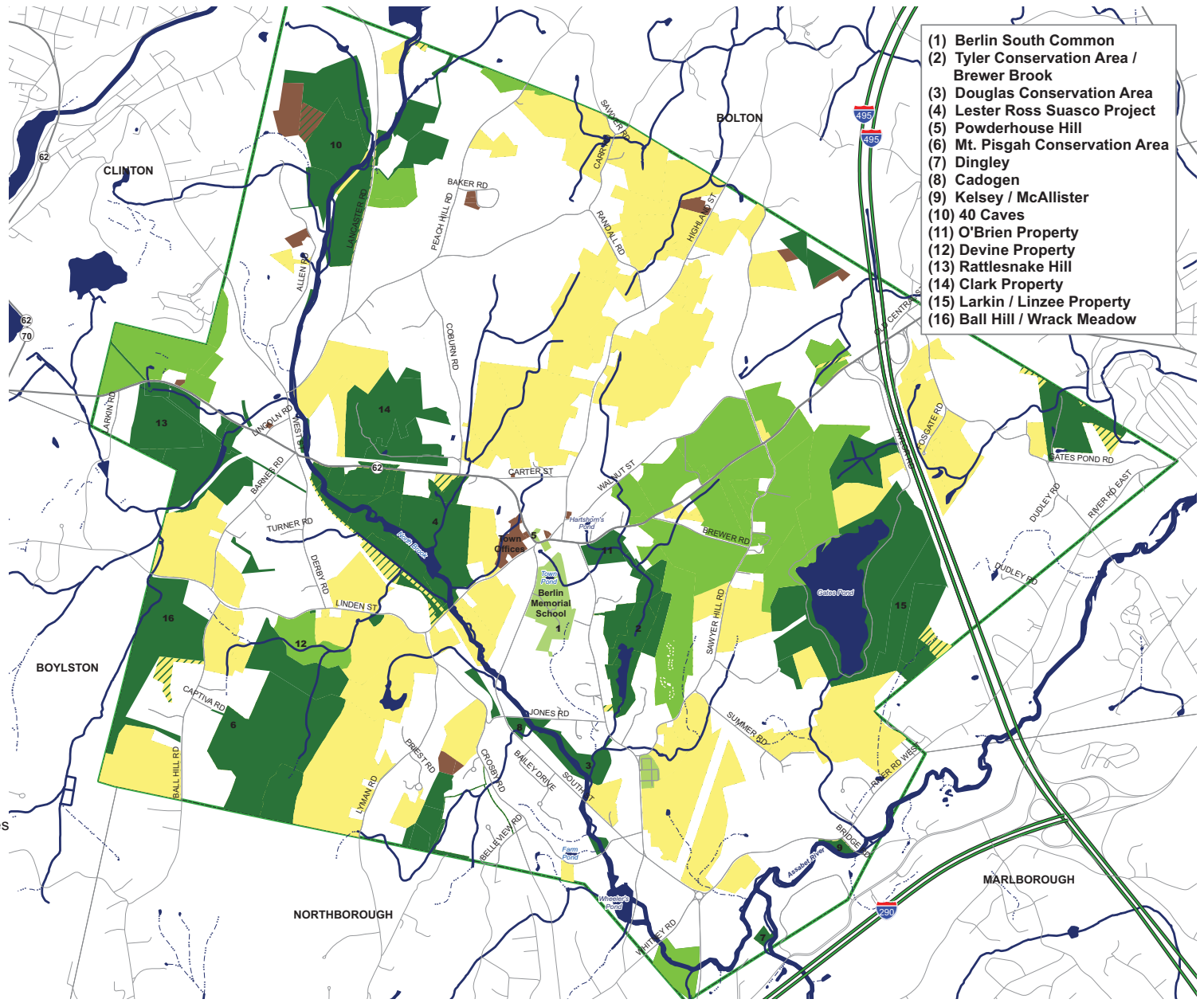


Town of Berlin Massachusetts

Map 7 Open Space Inventory

-  Town Property
- Protected Land**
 -  **Public Conservation:** State, Town, or Non-Profit owned for conservation and resource protection.
 -  **Public Park:** Town park or cemetery.
 -  **Private Land:** Land under conservation restriction or agricultural preservation restriction.
- Partially Protected Open Space**
 -  **Current Use:** Chapter 61, 61A, 61B tax exempt status.
 -  **Town Land:** Other town-owned vacant land.
- Unprotected Open Space**
 -  **Private Open Space:** Private land in the ARC zoning district.

- (1) Berlin South Common
- (2) Tyler Conservation Area / Brewer Brook
- (3) Douglas Conservation Area
- (4) Lester Ross Suasco Project
- (5) Powderhouse Hill
- (6) Mt. Pisgah Conservation Area
- (7) Dingley
- (8) Cadogen
- (9) Kelsey / McAllister
- (10) 40 Caves
- (11) O'Brien Property
- (12) Devine Property
- (13) Rattlesnake Hill
- (14) Clark Property
- (15) Larkin / Linzee Property
- (16) Ball Hill / Wrack Meadow



Data sources: Town of Berlin, Sewall, MassGIS

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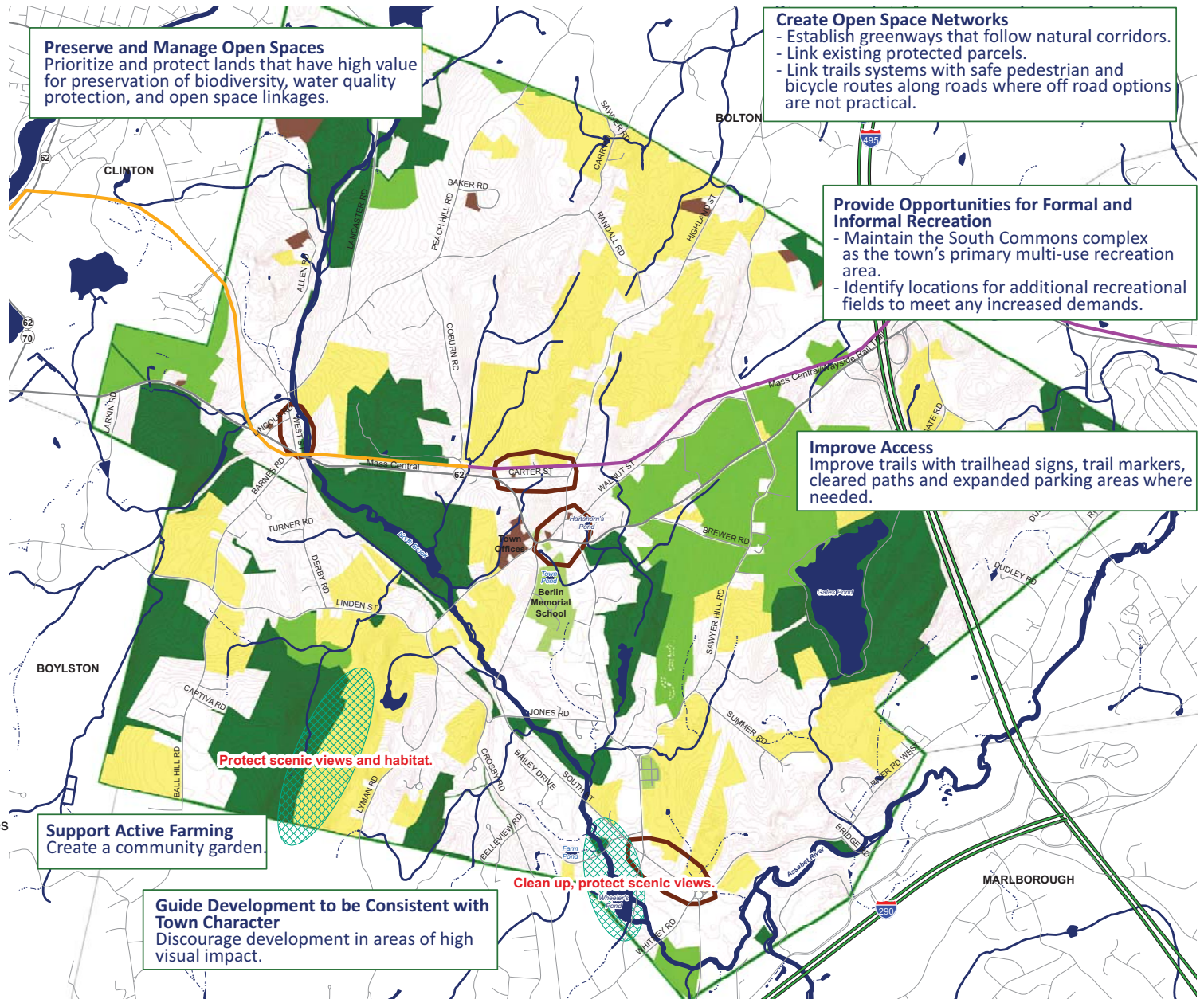
Produced by:

Brown Walker Planners, Inc. August 2011

**Town of Berlin
Massachusetts**

**Map 8
Action Plan Map**

- Protected Land**
- Areas of Interest**
- Historic Village Centers:**
Prioritize land preservation in and around historic centers to protect heritage landscapes.
- Conservation Restrictions (CR):**
Add Chapter 61 and CR land to ARC zoning district.
- Private Farms and Forestry:**
Prioritize for permanent protection.
- Town Owned Land:**
Review vacant Town land for designation to conservation.
- Planned Bicycle Trails**
- Considered**
- Potential**



Preserve and Manage Open Spaces
Prioritize and protect lands that have high value for preservation of biodiversity, water quality protection, and open space linkages.

Create Open Space Networks
- Establish greenways that follow natural corridors.
- Link existing protected parcels.
- Link trails systems with safe pedestrian and bicycle routes along roads where off road options are not practical.

Provide Opportunities for Formal and Informal Recreation
- Maintain the South Commons complex as the town's primary multi-use recreation area.
- Identify locations for additional recreational fields to meet any increased demands.

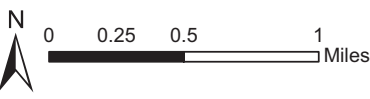
Improve Access
Improve trails with trailhead signs, trail markers, cleared paths and expanded parking areas where needed.

Protect scenic views and habitat.

Support Active Farming
Create a community garden.

Clean up; protect scenic views.

Guide Development to be Consistent with Town Character
Discourage development in areas of high visual impact.



Data sources: Town of Berlin, Sewall, MassGIS
This document is intended for Town of Berlin planning purposes only. Property information is current as of July 2010.
Produced by:
Brown Walker Planners, Inc. August 2011

Appendix E:

Berlin Conservation Commission Trail
Guide

Conservation Commission
Berlin Trail Maps

BERLIN CONSERVATION COMMISSION TRAIL GUIDE

CONSERVATION AREAS IN BERLIN

April 2010



CONSERVATION COMMISSION
BERLIN, MASSACHUSETTS 01503

Conservation Commission Berlin Trail Maps

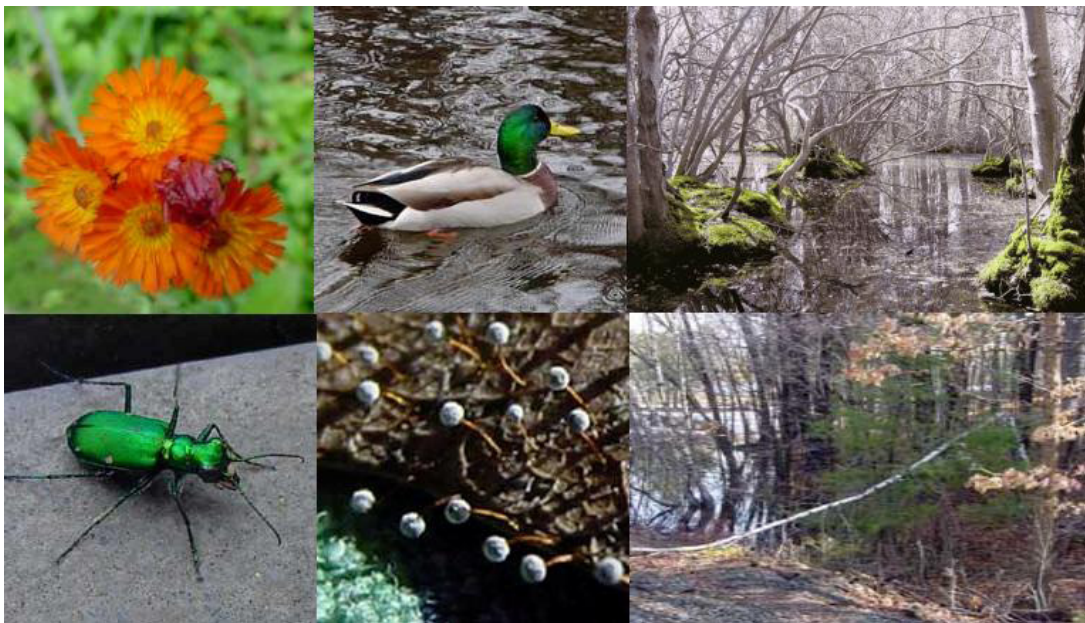
This booklet describes the hiking trails on Berlin Conservation Areas. These trails are maintained for the enjoyment of Berlin citizens. There is a wide diversity of furbearers, birds, upland game; and fields, wooded upland, many species of trees and wild flowers; perennial streams, vernal pools, wetlands and rocky formations.

Please treat the environment with care and respect.

“Leave only footprints, Take only pictures.”

Conservation Commission Members

Steve Beard
Walter Bickford
Jerry Freed
Louise Janda
Karen Scheffer
Lee Tabor
Skip Duggan, Chairman



Berlin Conservation Commission

Conservation Commission Berlin Trail Maps



	<u>ACRES</u>	<u>OWNERSHIP</u>	<u>ACTIVITIES</u>
1 Berlin South Commons	37.9	Town	Tennis, softball, baseball, basketball, fishing, equestrian events, skating, hiking, nature observation/study and bird watching
2 Berlin Meadows, Tyler Conservation Area and Brewer Brook	86	Town & Private	Hiking, nature observation/study and bird watching, fishing, horseback riding, cross country skiing, snowshoeing
3 Lester Ross Suasco Project and Clark Conservation Area	273	State & Town	Hiking, nature observation/study and bird watching, fishing, horseback riding, cross country skiing, snowshoeing, skating,
4 Powderhouse	1	Town	Historical site
5 Mt. Pisgah Conservation Area	205	Town & Private	Hiking, nature observation/study and bird watching, horseback riding, cross county skiing, snowshoeing
6 Forty Caves, Musche Woods and Garfield Woods	99	Town & SVT	Hiking, nature observation/study and bird watching, cave study, geologic study, cross county skiing, snowshoeing
7 Gates Pond Reservoir, Hudson Town Forest and Berlin Conservation Land	311.4	Hudson & Town	Hiking, nature observation/study and bird watching, cross county skiing, snowshoeing

#1 South Commons

GENERAL CHARACTERISTICS:

Fishing pond for the annual kids Lester Ross trout derby, recreational fields, tennis courts; and a certified vernal pool, a bluebird path, and National Wildlife Federation recognized wildlife habitat.

SPECIAL FEATURES:

The Berlin Memorial school students and teachers registered the vernal pool on the east side of the school parking lot with the State of Massachusetts. The vernal pool is included in the environmental curriculum and a sign designates the vernal pool area.

The Berlin Memorial School teachers and students worked to get federal certification for the National Wildlife Federation recognized wildlife habitat. There is a bluebird path along the east woods line.

TRAILS OR PATHWAYS:

Pathways run around the perimeter of the property, and it's an easy walk to the South Commons from the center of Berlin by heading west on Route 62, and then turning left at the light to head south on South St.

ENTRANCE:

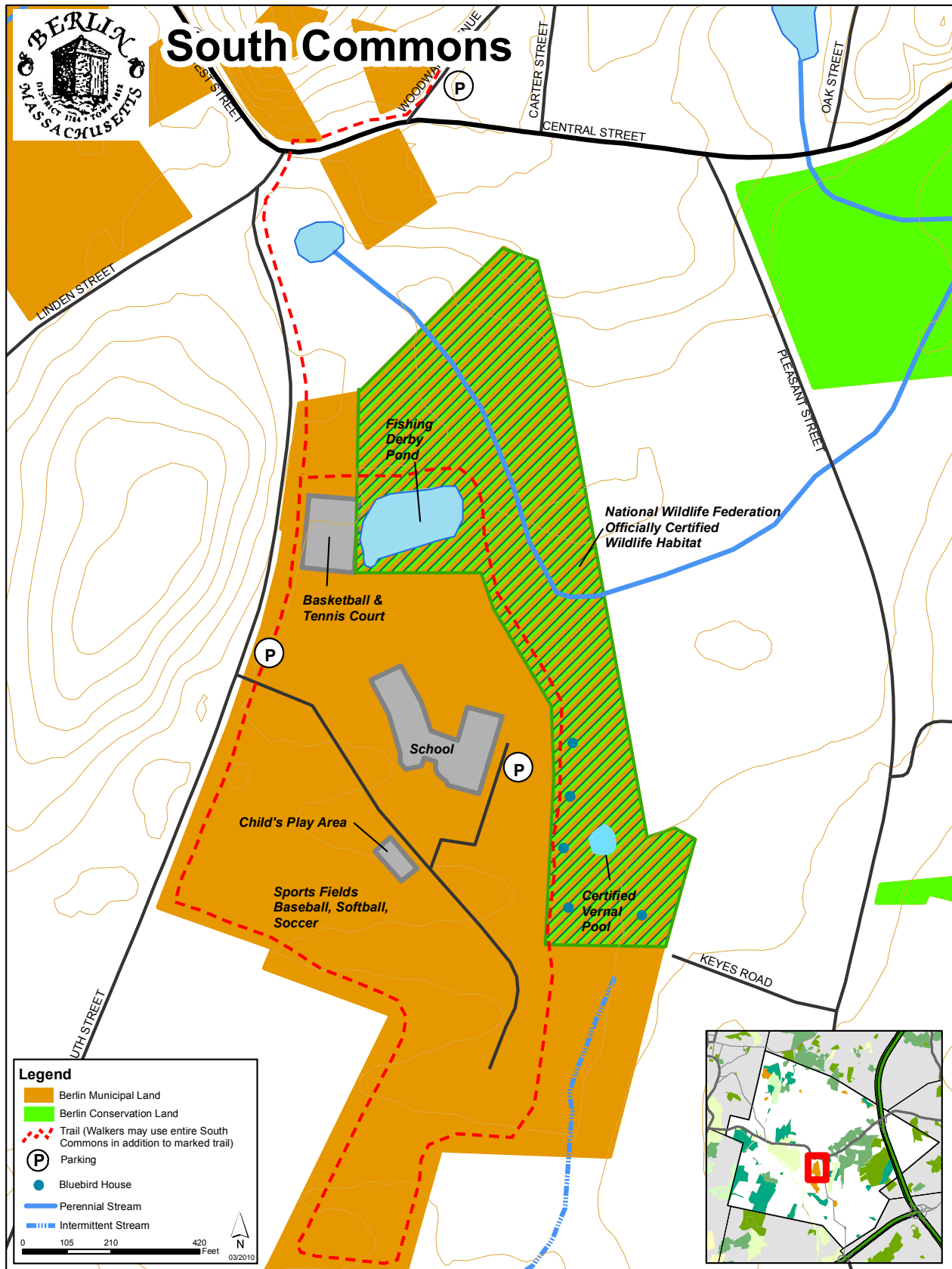
Parking exists at the Berlin Memorial School off of South Street.



National Wildlife Federation
Nationally Certified
Wildlife Habitat

KEYES

Conservation Commission Berlin Trail Maps



#2 Berlin Meadows, Tyler Conservation Area & Brewer Brook

GENERAL CHARACTERISTICS:

The Tyler Conservation Area and Brewer Brook are narrow valley lowland with a flood control area, general lowland and a flood control pond, significant wetland, surrounded by woodlands. Berlin Meadows is primarily open field surrounded by early successional growth.

SPECIAL FEATURES:

The Tyler Conservation Area and Brewer Brook is a large wetland and pond with migratory bird population. The west side of the Tyler Conservation Area toward Pleasant St is primarily a stand of black locust, and the east side is primarily an oak forest. There is a wonderful stand of white of pine at North end of Brewer Brook flood control site.

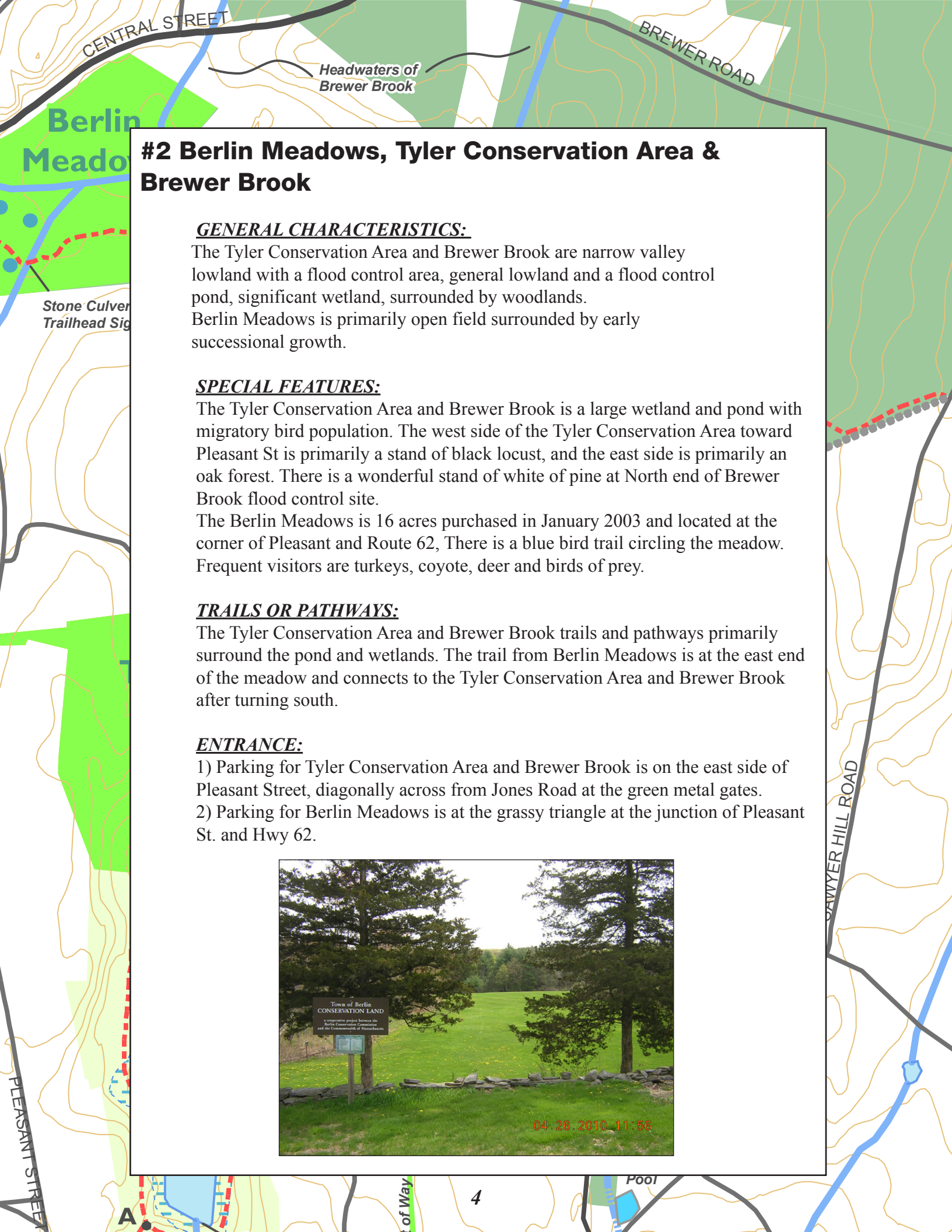
The Berlin Meadows is 16 acres purchased in January 2003 and located at the corner of Pleasant and Route 62, There is a blue bird trail circling the meadow. Frequent visitors are turkeys, coyote, deer and birds of prey.

TRAILS OR PATHWAYS:

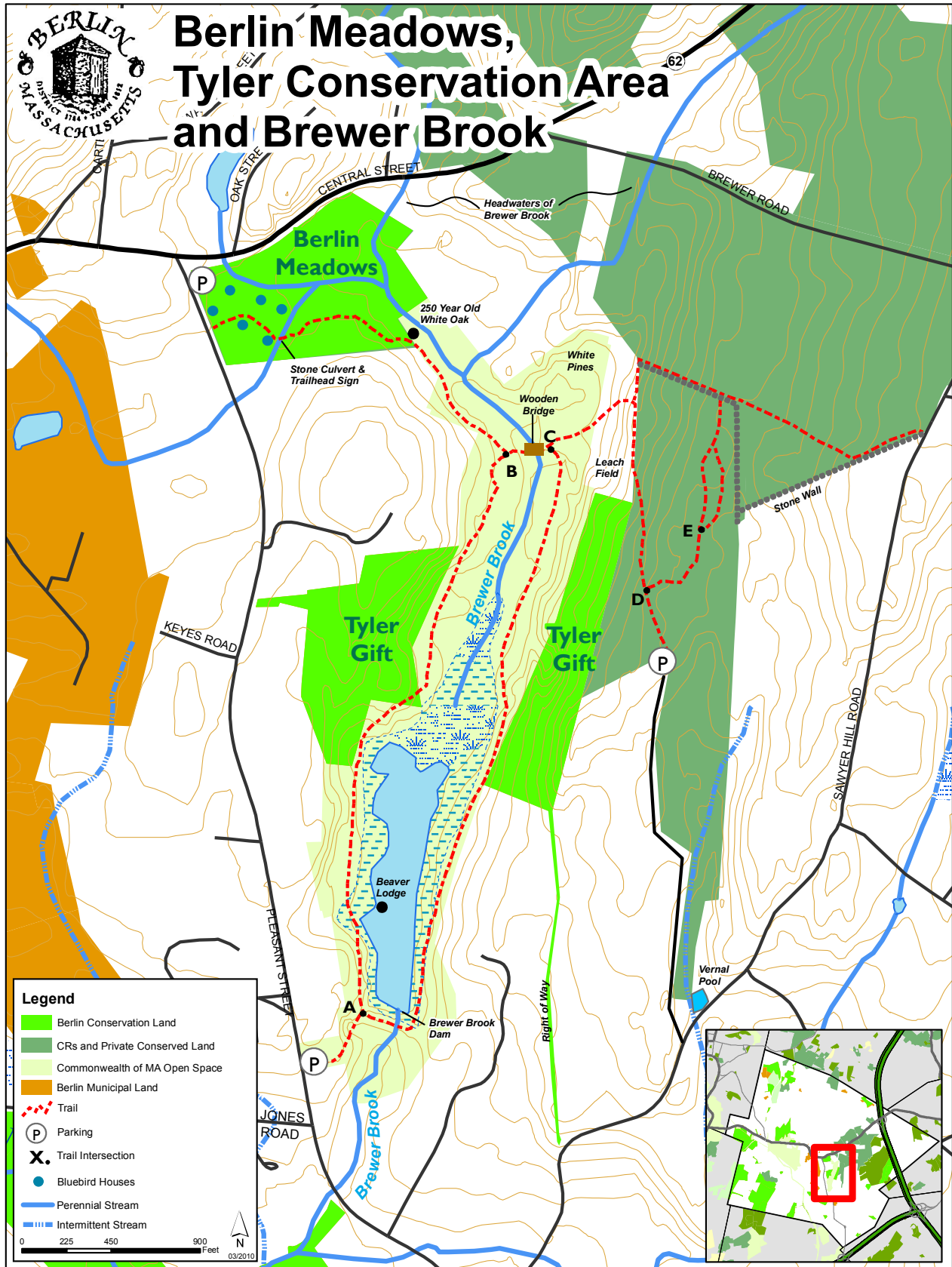
The Tyler Conservation Area and Brewer Brook trails and pathways primarily surround the pond and wetlands. The trail from Berlin Meadows is at the east end of the meadow and connects to the Tyler Conservation Area and Brewer Brook after turning south.

ENTRANCE:

- 1) Parking for Tyler Conservation Area and Brewer Brook is on the east side of Pleasant Street, diagonally across from Jones Road at the green metal gates.
- 2) Parking for Berlin Meadows is at the grassy triangle at the junction of Pleasant St. and Hwy 62.



Conservation Commission
Berlin Trail Maps



#3 Lester Ross Suasco Project and Clark Conservation Area

GENERAL CHARACTERISTICS:

Flood control area with dam, mixed lowland and upland, rocky outcroppings, North Brook and a flood control pond.

SPECIAL FEATURES:

Heron nesting area (1) at north end of pond, (2) beaver dam at the middle of the pond, and (3) a turtle nesting area in the sandy soils just north of the woodland adjacent to the pond. Bass, perch and pickerel exist in the pond, trout in stream. There is a significant population of migratory birds such as Canada geese, mallards, wood ducks and occasionally hooded mergansers. Vernal pool and large erratic boulder supported on 3 points on the property north of Route 62.

TRAILS OR PATHWAYS:

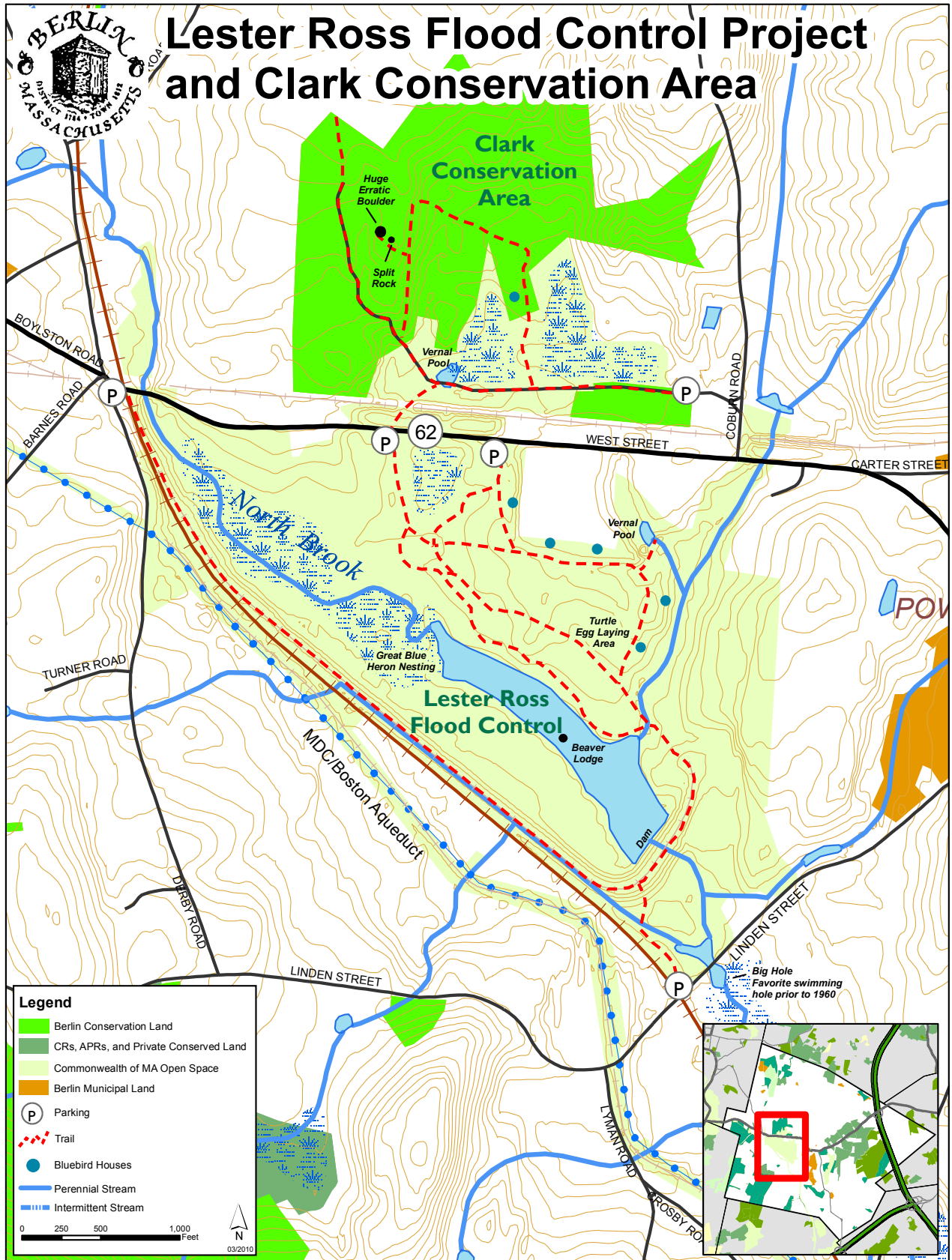
The trails are shown along the top of the dam and in the large field between the pond and Route 62.

ENTRANCE:

Parking exists in multiple locations at the green steel gates along Route 62 and at the small brick building on Linden St at the train tracks crossing.



Conservation Commission
Berlin Trail Maps



#4 Powderhouse Hill

GENERAL CHARACTERISTICS:

The Powderhouse was constructed in 1814 on a hill on the ledge outcropping overlooking the town and is on the town seal.

TRAILS OR PATHWAYS:

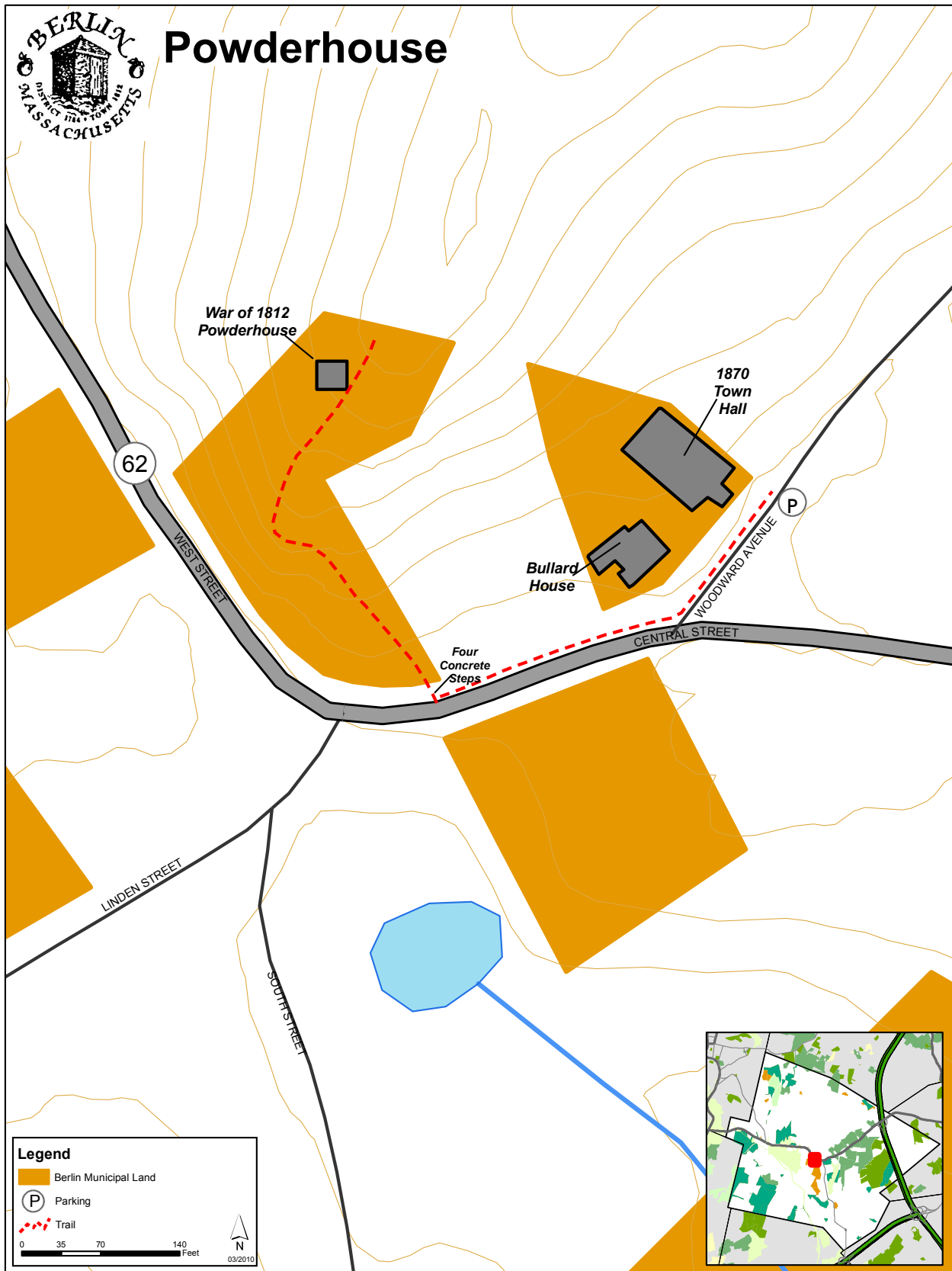
Head east on Route 62 from the center of town. A stairway to Powderhouse Hill exists from the end of the sidewalk on the north side of Route 62.

ENTRANCE:

Parking exists on Woodward Street across from the 1870 Old Town Hall.



Conservation Commission Berlin Trail Maps



#5 Forty Caves and Musche Woods and Garfield Woods

GENERAL CHARACTERISTICS:

Variable topography, mostly wooded upland, traversed by North Brook, interesting glacial features.

SPECIAL FEATURES:

An active railroad track bisects property, Forty Caves area includes numerous rocky outcroppings, glacial boulders and quartz deposits; small wetland in narrow tributary feeding North Brook, glacial boulders and quartz deposits. The remaining stone walls remind us that Garfield Woods in particular was not always wooded upland.

TRAILS OR PATHWAYS:

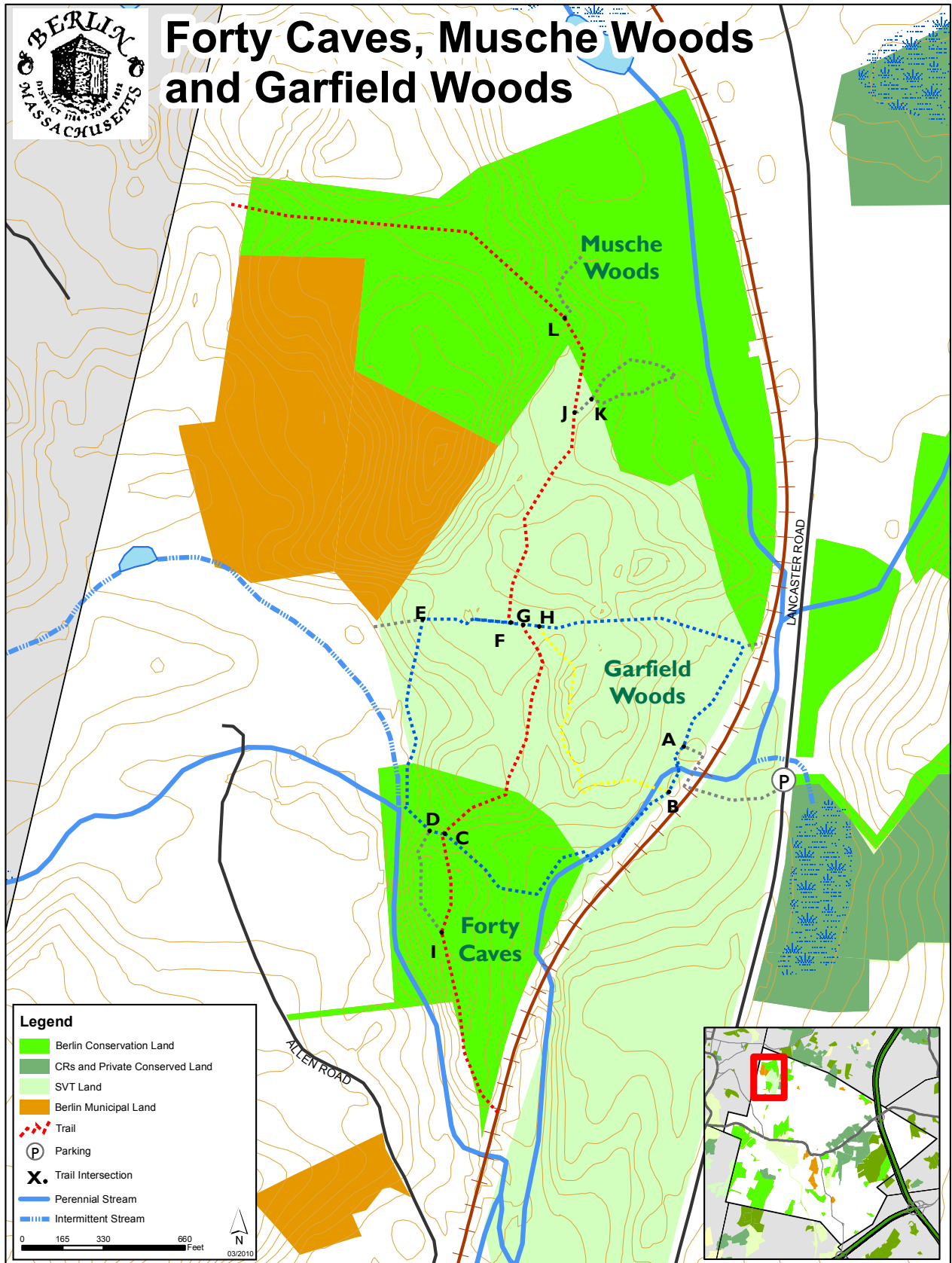
The trails are distributed throughout the area, crossing creeks and hilly areas with rocky outcroppings and forests of white pine and hemlock.

ENTRANCE:

Parking exists in two locations on the west side of Lancaster road at the pull off areas.



Conservation Commission
Berlin Trail Maps



Parking Lot is accessed through break in stone wall.

#6 Mt. Pisgah Conservation Area

GENERAL CHARACTERISTICS:

Mount Pisgah is mostly upland with isolated wetlands and streams, generally wooded with variable topography. The parking area from Linden St provides access to 48.4 acres purchased from the Devine family in 2006 and also includes a conservation restriction on the remainder of the original farmland. The north end of this property is meadows and fields, becoming uplands of pine and oak as you head upland/south past the Mt Pisgah Trailhead sign.

SPECIAL FEATURES:

This is the highest elevation in Berlin approaching 640 feet in some places, upland is mostly deciduous trees and shrubs with dramatic rock ledges and a glacial swale. There is an upland azalea wetland and a spring fed brook that feed intermittent streams that often parallel the trails. A spring at the top of Mt. Pisgah was once considered as adequate for a municipal water supply for the town of Berlin.

Be sure to check the map for the lookout at trails end on a rocky ledge that provides a view of the Boston skyline on a clear day.

TRAILS OR PATHWAYS:

The trail starts at the parking area off Linden St and proceeds south along a 20' wide easement on private property along the rock wall on the east side of the field. The trail crosses the stream at the bottom of the hill and continues due south uphill to the Mt Pisgah Trailhead sign to connect to a well maintained trail system that connects to the Northboro trail system on Mt Pisgah.

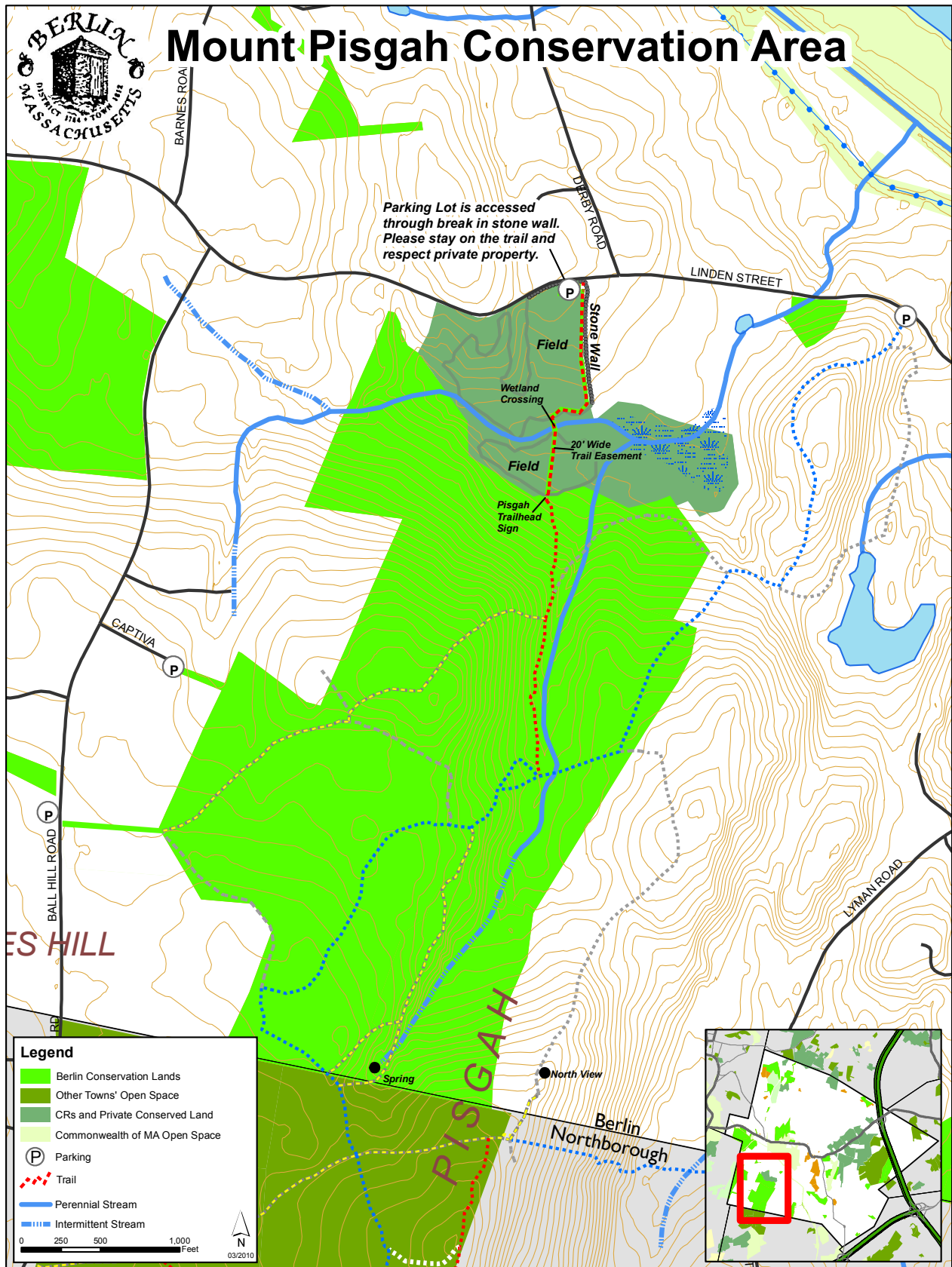
There are also 2 access points on Ball Hill Rd: from the east end of the cul-de-sac on Captiva Rd, and via an access along a stone wall that marks private property (brown barn and horse corrals).

ENTRANCE:

Parking area exists at the sign in the field off Linden Street just west of Derby Road, access the parking area via the break in the rock wall. Access to Berlin's Mt Pisgah trails is also possible from the parking lot on Smith Rd in Northboro via the Northboro trail system.



Conservation Commission Berlin Trail Maps



#7 Gates Pond Reservoir, Hudson Town Forest and Berlin Conservation Lands

GENERAL CHARACTERISTICS:

The trails system is located on the Gates Pond reservoir watershed owned by the town of Hudson, Hudson Town Forest, Berlin conservation land, and land formerly known as CHEDCO Farms that is protected by a conservation restriction. While hiking these trails one could observe virtually any species of mammal, bird, amphibian, reptile, insect and wildflower native to eastern Massachusetts. See how many you can find.

HISTORIC FEATURES:

Once a summer vacation spot with cottages, a hotel and a dance hall around the pond, Grace Tyler wrote in her diary in 1891 of going by horse and buggy to a dance there. A terrible 1890s cholera epidemic hit Hudson, and the MA legislature gave Hudson eminent domain to take Gates Pond for a clean public water supply. Hudson raised all buildings but now relies on wells for public water supply. Gates Pond is an auxiliary supply -- and a wonderful, protected natural area. Another fascinating historic spot is King Philip Rock, a huge, erratic boulder 14' high and 25' long. Danford Tyler, a Princeton archeology graduate, called the rock ke-kaus-a-ganset (place by the Big Rock) and it was a landmark meeting place for Native Americans where he claimed in 1674 King Philip rallied his warriors there between attacks on Marlborough and then Lancaster.

TRAILS OR PATHWAYS:

The main trail is a gated, partially paved road beginning at the parking lot at the end of Taylor Road, heading southerly and closely following the perimeter of the pond in a two mile loop. A yellow dot trail leaves the pond loop trail to the left and heads southeasterly, parallel to route I495 onto Berlin conservation land, then turns southwesterly and meets the pond loop road at junction "D" just east of the dam at the south end of the pond.

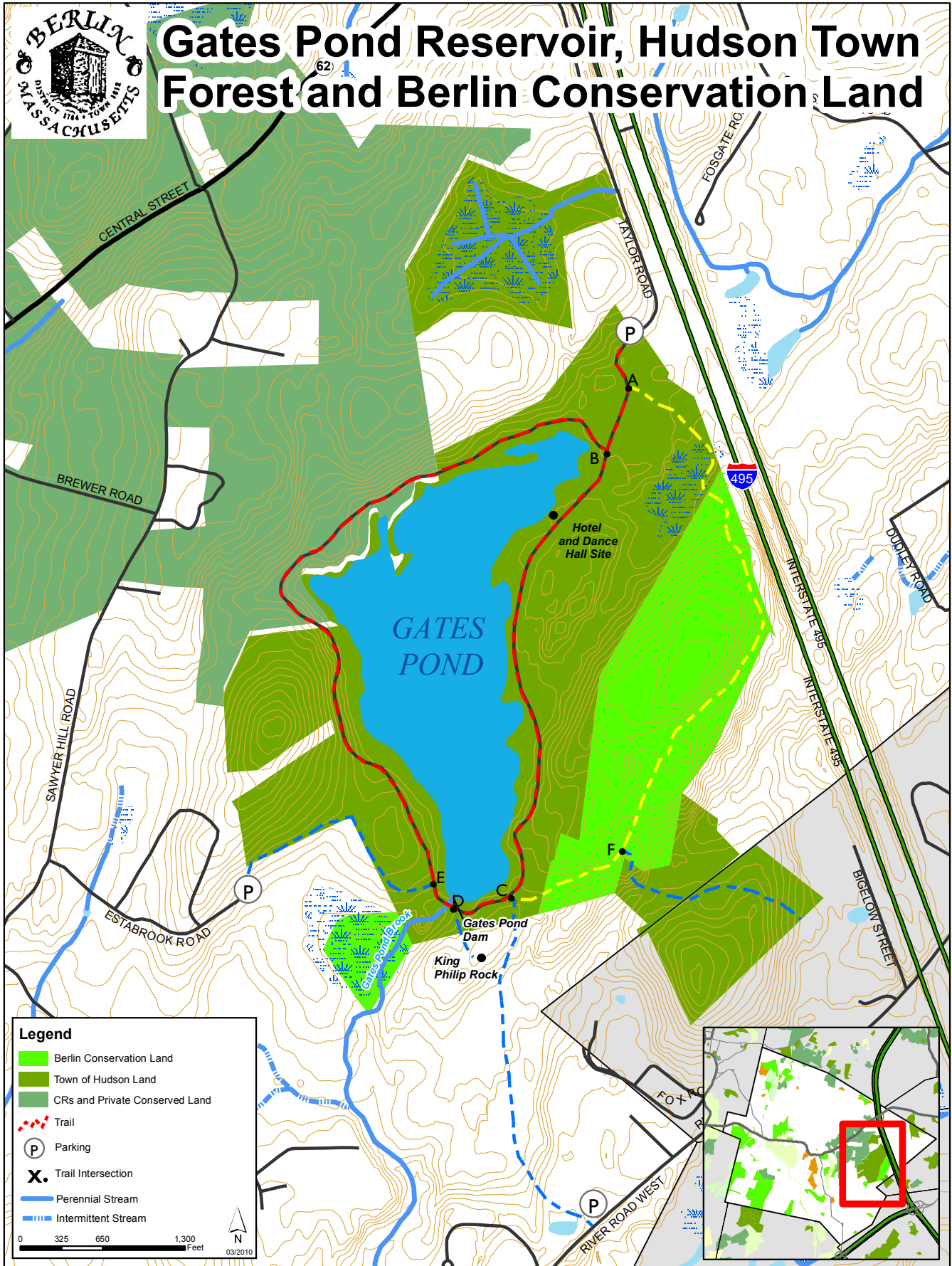
Shorter trails marked with blue dots connect to the main pond loop trail: one connects a cul-de-sac at the end of Estabrook Lane to the pond loop road at junction "F"; another connects a parking area on River Road West just east of Meadow Brook development to the loop road at junction "D" (this is private land owned by Indian Head Farms, access permission from Willard Wheeler -- please respect his property, leave only footprints, DON'T block the gated entrance when parking as trucks use it daily, park off pavement on River Rd); a dead-end blue dot trail leaves the yellow dot trail at junction "H" heading east across the Hudson Town Forest; two trails lead to historic sites, one connects junction "C" on the loop road to junction "G" on the yellow dot trail passing by the former hotel/dance hall site, and another short trail connects the loop trail at the east end of the dam at junction "E" to historic King Philip Rock.

ENTRANCE:

Parking is at the end of Taylor Road (runs south from Route 62 just west of I495). There is also access and parking at the cul-de-sac at the end of Estabrook Lane and on River Rd.



Conservation Commission
Berlin Trail Maps



**Conservation Commission
Berlin Trail Maps**

These maps are available
on the web at
www.townofberlin.com.

Click on the Conservation Commission link
on the home page on the left.

Conservation Commission Berlin Trail Maps

The sign below is found at trailheads on Berlin Conservation Lands.

Berlin Conservation Lands

Enjoy these lands responsibly

<u>Prohibited</u>	<u>Permitted</u>
<ul style="list-style-type: none">- No motorized vehicles (no motorcycles, 4-wheelers, cars, trucks, or snowmobiles – police take notice and the vehicles will be towed)- No parking 10PM to 5AM (police take notice and the vehicles will be towed)- No littering- No fires- No cutting of trees or brush- No harassment of wildlife- No overnight camping without written permission	<ul style="list-style-type: none">- Hiking- Cross country skiing- Snowshoeing- Bird watching- Picnicking- Mountain biking- Dog walking- Dog training- Fishing and Hunting (during regular seasons in accordance with the latest Massachusetts Fish & Wildlife regulations)

Please help patrol this property-- report violations to the Berlin Police (978-838-7356)
Thank you! Berlin Conservation Commission

Note: Motorized recreational vehicles have recently caused damage of over \$40,000 at the Lester Ross/Suasco site as well as to other conservation lands and private property abutting conservation lands. Your help is needed to help police the property and report violations to the police department.



Berlin Conservation Commission

Appendix F:

Public Meetings Summaries

Introduction and Presentation

The community planning consulting firm of Brown Walker Planners is providing assistance to the Town to assist the Conservation Commission with the completion of the Open Space and Recreation Plan update. In addition, the firm is working with the Planning Board to complete an update to the Town's Master Plan. Relevant sections of the Open Space and Recreation Plan will be incorporated into the Town's Master Plan. This meeting was held to seek input both for the development of the Town's Community Vision (a key component of the Master Plan) as well as to gather specific ideas related to the Town's open spaces, natural areas, and recreation activities.

Juliet Walker of Brown Walker Planners presented a powerpoint presentation providing an overview of the planning process as well as a summary of the preliminary community survey results.

Community Visioning Discussion

Audience members were asked to brainstorm collectively in response to the questions:

- What do you love about Berlin? (LIKES)
- What would you like to change? (CHALLENGES)

LIKES

- thoughtful neighbors
- active churches
- smallness of the Town – population size
- relative quiet
- open spaces / views
- friendliness
- lack of municipal water / sewer

CHALLENGES

- how to deal with unwanted residential development (either via Chapter 40B or otherwise), how to make sure new development is located where the Town wants it to be
- historic preservation, protecting historic areas and historic properties
- increasing knowledge about access and use of Town conservation lands
- building local support for funding of open space and conservation land acquisitions
- managing conservation lands (for wildlife and for human use)
- how to sustain the desired community character of the Town

During these discussions, a few participants raised potential solutions or criteria to consider to help the Town balance new development with the desire to protect the Town's rural community character.

SOLUTIONS / CONSIDERATIONS

- Open Space Residential Design bylaw (Cluster Zoning)
- Minimize impact on Town infrastructure and public services
- Minimize impact on environmental and water resources
- Protect roadside scenic views and open areas

Open Space and Recreation Assessment Discussion

Participants were asked to think about the state of open space and recreation resources in Berlin and to respond to the following questions:

- What is Berlin doing well? (DOING WELL)
- What would you like to change? (NEEDS)

DOING WELL

- Conservation Commission does a good job related to open space protection and management
- Trails

NEEDS – IDEAS FOR IMPROVEMENT

- Better promotion of trails, education to residents about access to Town lands
- Consider future Town uses of tax title lands – identify which should be protected for conservation purposes
- Management of conservation lands – understand where Town conservation lands should be managed to allow sustainable forestry (where appropriate), improve or restore wildlife habitat
- Prepare guidelines/criteria for the Town to use to prioritize lands for protection (e.g. environmental sensitivity, water resource protection, proximity to other Town lands)
- Create buffer areas around historic villages to maintain historic integrity and protect from impacts of new development
- Create more signage at trails and parking
- Increase parking areas at public lands, particularly Mt. Pisgah
- Programs -- create opportunities for small groups to go hiking with knowledgeable local experts (e.g. ConCom members)
- Programs – work collaboratively with Schools and ConCom to get kids out to the Town’s open space lands (consider a Geocaching event)
- Keep out and enforce restrictions on ATVs accessing public lands

Finally, each participant was asked to identify one accomplishment he/she would like to see achieved as an outcome of the Open Space and Recreation Plan 2011.

Priorities

- Picnic area
- Maintain what we have now
- Community education about ConCom activities
- Maintain village centers as communities / neighborhood centers
- Preserve roadside trees
- Minimize visual impacts of new housing
- Increase public use of trails
- Adopt Community Preservation Act (CPA) – educate the community about it
- Continue eligibility for state grants

- Develop criteria for land protection
- Increase collaboration / communication between Town leaders / boards / committees
- Keep up the ConCom's good work with Sudbury Valley Trustees and other conservation organizations
- Build a concert shell / location for summer concerts
- Community outreach

Introduction and Presentation

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Sue Brown of Brown Walker Planners presented a powerpoint presentation providing an overview of the planning process, a summary of the community survey results and the goals and strategies of the Open Space and Recreation Plan.

Priority Goals

Participants were asked to consider the six goals of the Open Space and Recreation Plan and choose their top three priorities.

- Preserving community character and environmental resources
- Creating open space and trail networks
- Increasing recreational opportunities
- Increasing public knowledge and access
- Guiding and controlling development
- Supporting and preserving farms

While all goals were seen as vitally important most participants felt that preserving community character and environmental resources, increasing public knowledge and access and guiding and controlling development were the goals that could have the most impact on the community.

Discussions centered on how the goals were interrelated, and the need to be vigilant on all points.

Preservation Opportunities

Participants were asked to identify features or landscapes within the Town that were potentially at risk and in need of protection. Participants identified the following:

- Town Center
- Wooded uplands and ledge above the junction of Crosby and Jones Rd.
- Rainville Farm
- East side of Mt. Pisgah for views and habitat
- North Brook Corridor – as much as possible
- Mill Pond
- South Commons
- Potas Farm
- Tax title lands
- Open space network
- South Commons
- All farm land