

2015 Open Space and Recreation Plan Concord, Massachusetts



"Concord River in Spring." By Edgar Grabhorn: "One sunny day I went out on crusty snow beside the river to sketch the early signs of the forthcoming Spring. By the time I packed my kit to go home the ice underneath me had softened. I sank thru the snow and up to my knees in cold water and had to slog my way to firm ground!"



Open Space and Recreation Plan Committee

Jeffrey Adams, Natural Resources Commission
Dean Banfield, Natural Resources Commission
Peter Baty, West Concord Advisory Committee
Katherine Edwards, Citizen at Large
Pam Higgins, Recreation Department
Ellie Horwitz, Concord Land Conservation Trust
Lynn Huggins, Concord Land Conservation Trust
Gary Kleiman, West Concord Advisory Committee
Laura Lunig, Recreation Department
Steven Ng, Board of Selectmen
Susan Rask, Health Division
Gordon Shaw, Concord Land Conservation Trust
Julie Vaughan, Division of Planning and Land Management
Dr. Bryan Windmiller

Delia Kaye, Natural Resources Director
Lori Capone, Assistant Natural Resources Director

Board of Selectmen

Steven Ng, Chair
Alice Kaufman
Michael Lawson
Carmin C. Reiss
Elise F. Woodward

Natural Resources Commission

Jeffrey Adams, Chair
Elissa Brown
Gregory Higgins
Lynn Huggins
Stephen Verrill

Recreation Commission

Susanne Jarnryd, Chair
Larry Gordon
Peter Hunter
Jim Richardson
Peter Ward

Town Manager, Christopher Whelan

Acknowledgements

The Open Space and Recreation Plan Committee is grateful to the following individuals for their valued support in the preparation of this document: Agricultural Committee, Board of Selectmen, Community Preservation Committee, Concord Land Conservation Trust, Concord Public Works, Concord Water and Sewer Division, Historical Commission, Planning Division, Recreation Department, West Concord Advisory Committee, and citizens at large including Harry Beyer, Cherrie Corey, Richard Forman, Murray Nicolson, Simon Perkins, David Swain, Ryan Schain, and Dick Walton.

Thanks to Kate Cairoli, Judith Doll-Foley, and Jon Kelly of the Conway School for their assistance with preparation of this Plan.

Thanks to the 2004 Open Space and Recreation Committee for their thorough analysis of Concord's open space.

Finally, we thank the citizens of Concord, both past and present, whose legacy of conservation and recreation stewardship affords for the enjoyment of future Concordians.



American Lotus after the Rain by Cherrie Corey

Table of Contents

Section 1: Plan Summary	1
Section 2: Introduction	3
A) Statement of Purpose	3
B) Planning Process and Public Participation	3
C) Enhanced Outreach and Public Participation	4
D) The Open Space Framework	4
Section 3: Community Setting	9
A) Regional Context	9
B) History of the Community	12
C) Population Characteristics	12
D) Infrastructure	13
E) Development	20
Section 4: Environmental Inventory and Analysis	29
A) Geology, Topography, and Soils	29
B) Landscape Character	30
C) Water Resources	34
D) Vegetation	40
E) Fisheries and Wildlife	44
F) Scenic Resources and Unique Environments	55
G) Environmental Challenges	56
Section 5: Inventory of Lands of Conservation and Recreation Interest	59
A) Open Space in Concord	59
B) Special Sites in Town	71
Section 6: Community Vision	79
Section 7: Analysis of Needs	81
A) Summary of Resource Protection Needs	82
B) Summary of Community's Needs	83
C) Management Needs, Potential Change of Use	89
D) Land Policies, Regulations, Protection Mechanisms and Planning	93
E) Climate Change	95
Section 8: Goals and Objectives	97
Section 9: Seven-Year Action Plan	99

Section 10: Public Comments	113
Section 11: Works Cited	131
Appendix A: Map Data Attribution	135
Appendix B: Transfer of Development Rights	151
Appendix C: Priority Open Space Resources: Status Concerns	159
Appendix D: Concord's Region	181
Appendix E: Proposed Trails To Be Made Accessible for Wheelchair Users	183
Appendix F: Concord's ADA Self-Evaluation Information for Handicap Accessibility	185
Appendix G: Open Space Inventory	195
Appendix H: Open Space the Last Twenty Years	231
Appendix I: Status of the 2004 Open Space Plan Recommendations	239
Appendix J: 2004 Properties of Conservation Interest	234
Maps:	
Section 2: 2014 Open Space Framework	7
Section 3: Regional Context	11
Existing Infrastructure	15
Zoning	23
Current Land Use	26
Current Land Cover	27
Section 4: Bedrock Geology	31
Soils	33
Agricultural Soils	35
SuAsCo Watershed	36
Water Resources	39
Public Water Supply	41
Flood Zones	43
Plant and Wildlife Habitat	45
Unique Features	51
Environmental Challenges	58
Section 5: Publicly Owned Open Space	61
Privately Owned Open Space	66
Open Space Framework	69
Special Sites	72
Lands of Conservation and Recreation Interest	77
Existing Trails	78
Section 9: Seven-Year Action Map	101
Conservation and Recreation Accomplishments Since 2004	109
Appendix C: Estabrook Woods Natural Area	161
Great Meadows-Ball's Hill Natural Area	163
Walden Woods Natural Area	164

Appendix C: Second Division Brook Natural Area	166
Virginia Road Woods Natural Area	167
Annursnac Hill/Strawberry Hill Road	168
Jennie Dugan Kames Natural Area	170
Hanscom Natural Area	171
White Pond Natural Area	172
Nine Acre Corner Agricultural Area	174
Lexington Road Agricultural Area	175
Monument Street Agricultural Area	177
Williams/Sudbury Roads Agricultural Area	178
Reformatory/Barrett's Mill Road Agricultural Area	179
Appendix J: Properties of Conservation Interest	246

Page intentionally left blank



Sunset by Cherrie Corey

Plan Summary

Concord is located at the confluence of the Sudbury, Assabet, and Concord Rivers, in rolling terrain of glacial deposits. A suburb of Boston, the town is roughly 26 square miles and hosts a population of approximately 19,000 people. Rivers, railroads, and road systems link Concord to surrounding towns and beyond, and have stimulated agricultural, residential, and recreational development over time. Extensive wetlands and strong efforts to preserve the historic, rural character of the town have limited development in certain areas, thereby protecting many of today’s open space and recreation resources. But today, development threatens to spread. Continued awareness and planning to protect the highly sought and much-valued open space and recreation resources in Town is needed.

Concord has a long history of conservation planning that has led to permanent protection of a significant portion of its forests, farmland, and wetlands. Of the 15,936 acres of land in Concord, approximately 6,119.84 acres, (about 38%) are permanently protected open space. Since the 2004 Open Space and Recreation Plan, approximately 335 acres have been protected through direct acquisition by the Town or land trusts or by Conservation Restriction, while 105 acres were developed. During this same time period, of the 10 parcels taken out of the 61A program, five were purchased by the Town and/or land trusts (at approximately \$200,000/acre), thus maintaining almost 58 acres in active agricultural production that would have otherwise been lost. Concord citizens show great interest in town planning and desire continued stewardship of open space resources to preserve the town’s unique character and meet the challenges of the future, including climate change, food and water security, and habitat conservation.

Through two community meetings, a town-wide survey, and ongoing interactions, four overarch-

ing goals were identified for this plan.

- 1) Protect water resources and biodiversity.
- 2) Improve connectivity and access to recreational resources.
- 3) Protect agricultural land including fields, meadows, and orchards.
- 4) Improve collaboration and land management.

This plan builds upon previous plans in determining actions to address the goals above. Specifically, the 1992 and 2004 *Open Space and Recreation Plans* delineate an Open Space Framework, which identifies three areas of significant conservation interest: large natural areas, large agricultural areas, and wildlife and water protection corridors (see Section 2 for full discussion). The current plan utilizes this scope of interests in identifying critical parcels of farmland, important habitat, and water resources to be conserved within the areas identified by the Open Space Framework.

Areas where overlapping conservation interests

can be achieved by protecting a specific area are highlighted as especially important to the Open Space Framework. These goals should be carried out in a manner consistent with the Town's Sustainable Management Principles identified as: 1) reduce dependence upon fossil fuels, underground metals, and minerals; 2) reduce dependence upon synthetic chemicals and other manufactured substances; 3) reduce encroachment upon nature; and, 4) meet human needs fairly and efficiently.

Additionally, this plan suggests mechanisms for protecting farmland, including transfer of development rights and agricultural overlay districts. The plan encourages the formation of

stronger regional partnerships through increased contact, communication, and collaborative planning. Finally, public education and outreach regarding environmental and conservation issues are suggested to engender a sense of civic responsibility and increased awareness of the significance of individual contributions.

Concord has made great strides in conservation planning. This report seeks to continue this strong tradition by providing a resource for town planners and concerned citizens to make informed decisions related to open space and recreation planning over the course of the next seven years.



Punkatasset Hill From Great Meadows by Cherrie Corey



Canada geese swimming through ice floes on the Concord River by Cherrie Corey

Introduction

Open space and recreation are priority issues for Concord residents. This plan integrates community input, research, and the work in the previous *Open Space and Recreation Plans*, to identify current priority issues in town affecting open space and recreation planning. The plan highlights specific achievable goals and action items that can be carried out in the coming seven years to enhance Concord's natural and recreational resources.

A) Statement of Purpose

The purpose of this document is to establish priorities and recommend future actions that will help with the cultivation and management of open space and recreation resources. Development pressure, high land costs, the need for low-income housing, and the various consequences of climate change all underscore the need to carefully plan for the future and protect resources to ensure the continued health and vitality of Concord's natural resources and recreational opportunities. This report contains a detailed inventory of Concord's natural, cultural, and recreational resources. It analyzes the major patterns of those resources within the Town and the region, and suggests ways to enhance their preservation and management. Understanding both the detail and the larger patterns is critical to creating a plan for the future. This plan concludes with specific actions to achieve these goals.

The report builds on the foundation of plans drafted in 1977, 1985, 1992, and especially, the 2004 Open Space and Recreation Plan. Challenges identified in these earlier documents, as well as more recent initiatives such as sustainability principles adopted by the Town in 2011, helped inform the current analysis process, which determined that careful planning for the future of the Town's resources must also include: food and water security (e.g., supply of water and food for Concord residents), and climate adaptation (both mitigation of and adaptation to through implementation of sustainable land

management practices). While the full effects of these new challenges may not be directly felt by residents within the next seven years, beginning to plan now for future changes will help to ensure that the Town is better prepared to meet them. This report sets specific, achievable goals, including prioritized areas to protect, improved trail connectivity of recreational resources, and enhanced watershed protection.

B) Planning Process and Public Participation

The current planning process was begun in January 2013. Under the guidance of the Division of Natural Resources staff, a committee was formed to support the work of a Conway School graduate student team, the consultants on the project. The Open Space and Recreation Plan (OSRP) Committee included members from the Board of Selectmen, Planning Division, Natural Resources Commission, Recreation Department, Public Health Division, Community Preservation Committee, West Concord Advisory Committee, and community organizations such as the Concord Land Conservation Trust, as well as citizens at large. The committee held several working meetings, two community meetings, and several informal discussions. The Conway team developed a draft that drew heavily from the 2004 OSRP and sent it to committee members for review. The team completed GIS mapping and analysis. The team met with personnel from Concord's Department of Public Works, Planning Division, Division of Natural Resources, Recreation Department, His-

torical Commission members, Concord Climate Action Network leadership, Concord Land Conservation Trust members, and various experts, including Richard T.T. Forman, co-chair of the 2004 OSRP committee. Town records and additional reports were used extensively.

All community meetings were public meetings held in universally accessible locations, with advance town notices appropriately posted, including newspaper articles and website postings. Members of the public were invited to attend. An online survey was distributed to town members, with hard copies available at all town offices. Public notification of the survey included newspaper articles in various papers widely distributed in town, website postings, and multiple mass emails. There were 453 responses. Sections 6, 7, and 10 of this report summarize comments received at the community meetings, public hearings, and from the survey.

gional patterns and processes, providing an important perspective and a framework for town-wide patterns. This 2015 plan builds on and updates the previously established Open Space Framework.

The framework clearly identifies the large natural and agricultural areas as the highest priority for open space protection in Concord because they protect biodiversity, increase food security, and conserve the character of the town. Also of high priority are the major water-protection and wildlife corridors that connect the large patches of open space. Several core parcels within large natural and agricultural areas, as well as in major water-protection and wildlife corridors, remain unprotected.

The town's network of large open space areas and major corridors are part of a larger structure of regional landscape patterns. This highlights

“Every committee in town and every action approved should follow the OSRP; the question should be asked in every approval process.” – Concord Resident

This plan was prepared following the guidelines established by the Massachusetts Division of Conservation Services for the preparation of state-approved open space and recreation master plans.

C) Enhanced Outreach and Public Participation

A wealthy suburban community, Concord is not currently home to any environmental justice populations. However, the town continues to make every effort to maintain and expand affordable housing stock, above the requirements set forth by the State.

D) The Open Space Framework

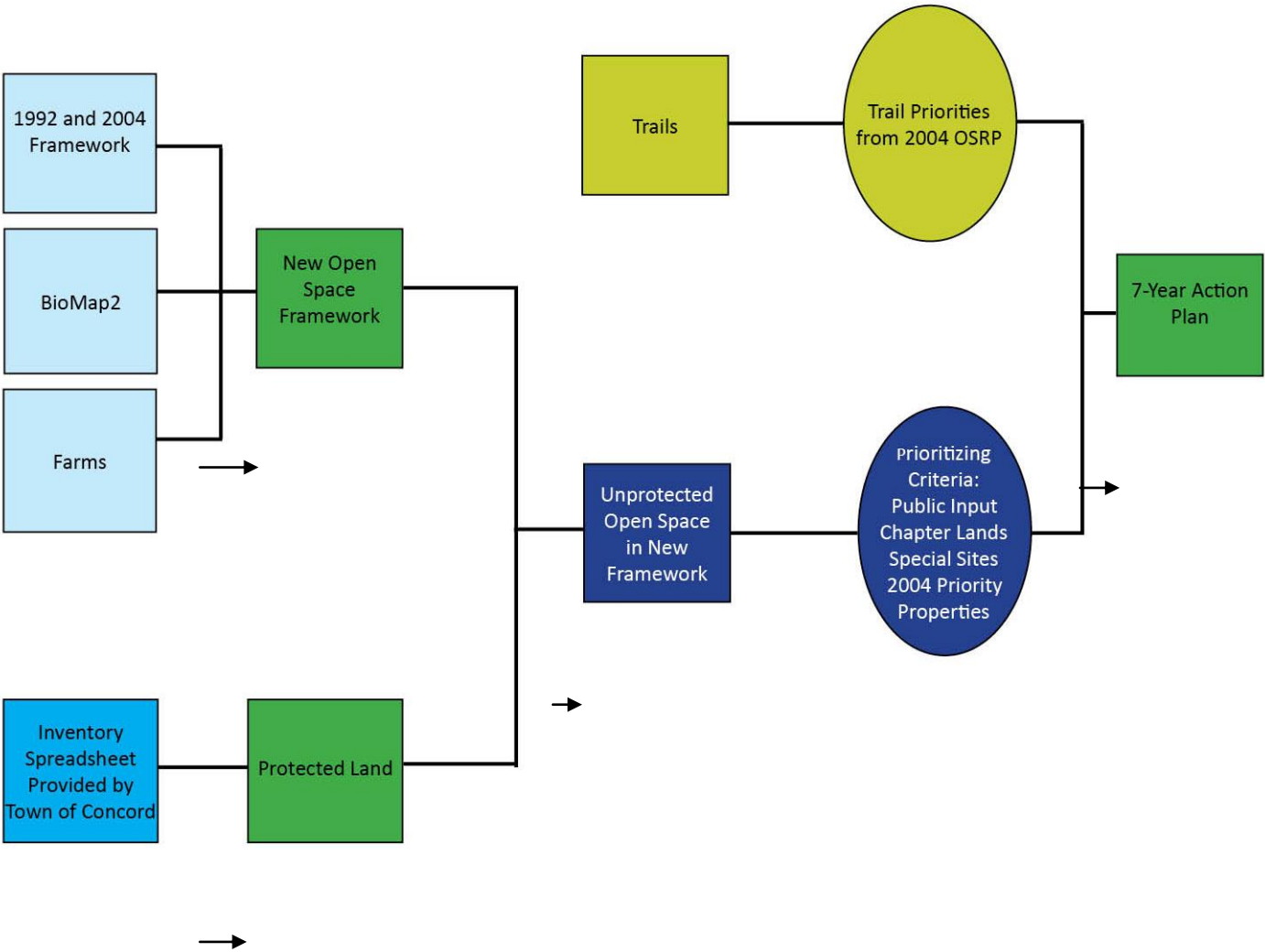
The Open Space Framework (see Open Space Framework Map), developed as the backbone of Concord's 1992 and 2004 *Open Space and Recreation Plans*, emphasizes the importance of seeing the big picture while also taking into account the finer details of the landscape. The 2004 *Open Space and Recreation Plan* added to the understanding of both scales. Examining the region around Concord identified broader re-

the significance of several of these patches and corridors due to their size, integrity, and potential as species migration routes. In addition to protection, these priority resources should be managed based on planning goals for the network as a whole. Farming, for example, may be difficult in suburbs, yet the town is well served by maintaining large agricultural areas and facilitating farming. A similar process needs to be formalized to accelerate stewardship of their resources in neighborhoods across the entire town.

In short, the Open Space Framework is a particularly effective tool for analyzing, understanding, and setting land protection priorities for open space resources. Through this lens, the recommendations in Section 9 address challenges and opportunities in the town today. By keeping up-to-date on changing land use and open space patterns and processes across the region, this approach can continue to inform decision-making well into the future.

Logic Model Showing Analysis Steps for 7-Year Action Plan

The 7-year action plan presented in Section 9 is based on the analyses presented in the following sections and follows the logic model shown below.



2015 Open Space Framework

The 1992 and 2004 *Open Space and Recreation Plans* established an objective and ecologically-based approach called the Open Space Framework (OSRP 1992, 2004). The town as a whole was examined to identify both overall land use patterns and specific sites of special interest. Two major town-wide landscape types, which are further broken down into constituent parts, combine to create an overall pattern: **Large Intact Areas** (“patches”) and **Major Corridors**. In addition, **Special Sites** are scattered across the town. These are small, but uncommon or important open spaces, such as rare species habitat or scenic views. The 2015 Open Space framework expands the natural areas to include Biomap2 core habitat, expands the agricultural areas to include adjacent Chapter 61A land, and adds an additional built area.

Three types of **Large Areas** with similar characteristics and function are present in Concord:

- Natural-vegetation areas
- Agricultural areas
- Built areas

Also three types of **Major Corridors** are present, namely those for:

- Wildlife movement
- Water protection
- Human use

For more information on the framework, see *Section 5*.

Large Agricultural Areas:

- A1. Nine Acre Corner
- A2. Lexington Road
- A3. Monument Street
- A4. Williams Road / Sudbury Road / Route 2
- A5. Reformatory Farms / Barrett’s Mill Road

Large Natural Areas:

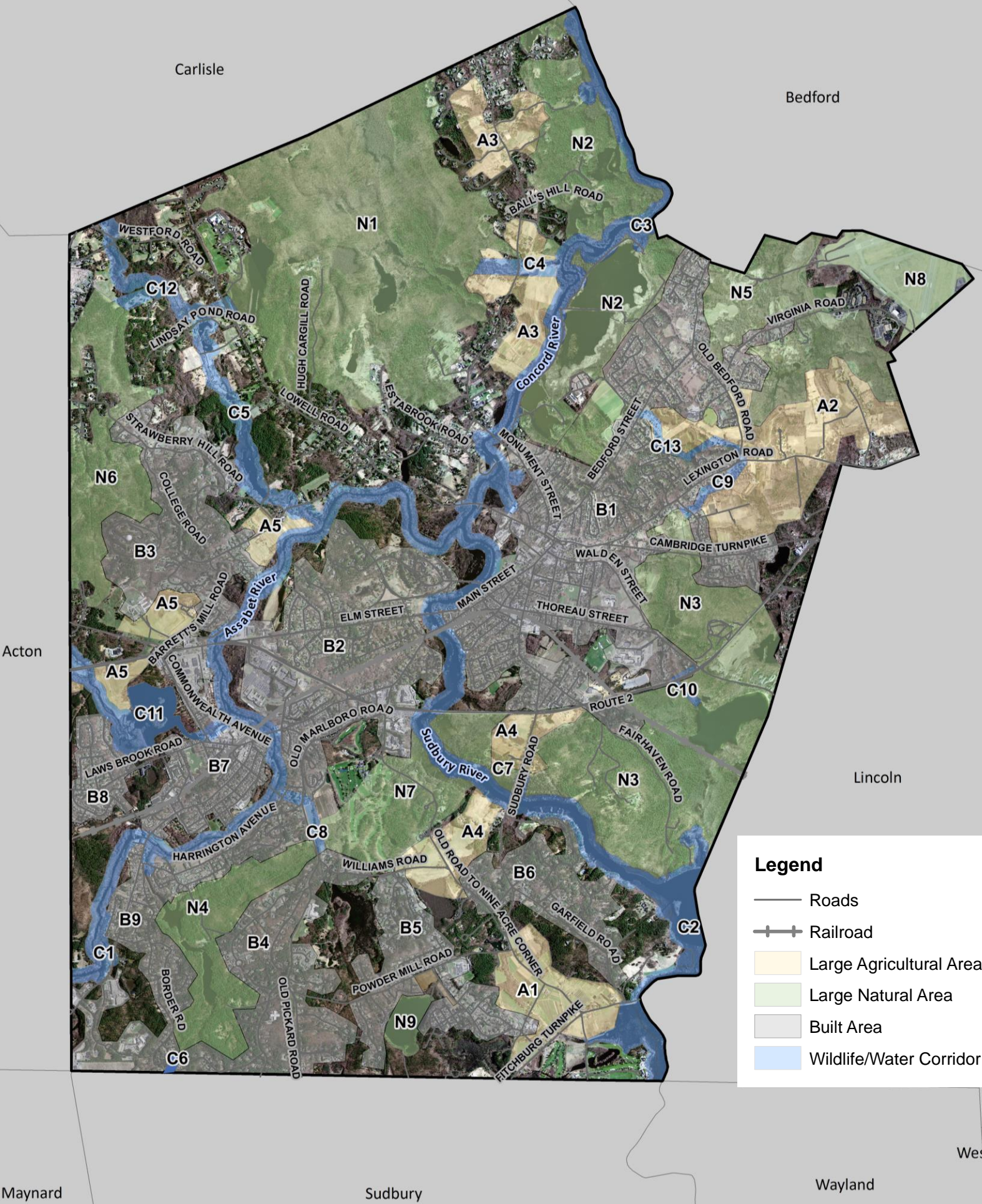
- N1. Estabrook Woods Area
- N2. Great Meadows / Ball’s Hill Area
- N3. Walden Woods / Town Forest
- N4. Second Division Brook Area
- N5. Virginia Road Woods
- N6. Annursnac Hill / Strawberry Hill Road
- N7. Jennie Dugan Kames
- N8. Hanscom
- N9. White Pond

Large Built Areas:

- B1. Concord Center / Bedford Street
- B2. West Concord / Elm Street
- B3. Annursnac Hill / Barrett’s Mill Road
- B4. Peabody / Sanborn Schools
- B5. White Pond Area
- B6. Garfield Road
- B7. Thoreau School
- B8. Hillside Ave / Sorrel Road
- B9. Second Division Brook







Major Wildlife and Water-protection Corridors:

- C1. Assabet River
- C2. Sudbury River
- C3. Concord River
- C4. Saw Mill Brook
- C5. Spencer Brook
- C6. Second Division Brook
- C7. Jennie Dugan Brook
- C8. Second Division Brook / Jennie Dugan Kames to Assabet River
- C9. Virginia Road Woods Area to Walden Woods / Town Forest
- C10. Town Forest to Walden Reservation via railroad underpass and school land
- C11. Nashoba Brook / Warner’s Pond
- C12. Annursnac Hill / Strawberry Hill Road Area to Estabrook Woods Area
- C13. Virginia Road Woods to Great Meadows / Ball’s Hill Area



2015 Open Space Framework

Legend

-  Roads
-  Railroad
-  Large Agricultural Area
-  Large Natural Area
-  Built Area
-  Wildlife/Water Corridor



Page intentionally left blank



West Concord Village

Community Setting

This section examines the regional context, history, and culture of Concord. It also looks at how Concord may need to adjust its conservation and recreation priorities to address the community's needs in the future.

A) Regional Context

Concord, the oldest inland town in New England, is located at the confluence of the Sudbury, Assabet, and Concord Rivers in a rolling terrain of glacial deposits. An outer Boston suburb with a rural feel, Concord's abundance of water resources have stimulated diverse development over time. Rivers, railroads, and road systems link Concord to surrounding towns and beyond, and have contributed to this agricultural, residential, and recreational development. However, extensive wetlands and strong efforts to preserve the rural, historic character of the town have limited development in certain areas, thereby protecting many of today's open space and recreation resources. Protection of the town's large natural areas is strengthened by conservation land in the adjoining towns of Carlisle and Lincoln. But, due in part to an affluent population and strong local economy, development continues to expand.

Because many, perhaps most, issues facing a town are strongly influenced by conditions in other towns, a broad perspective is essential for effecting planning, management, and policymaking. Nearby towns tend to have a greater effect than distant ones. Although working with nearby towns is relatively common, it tends to be on an issue-by-issue basis. In contrast, an ongoing regional perspective that addresses diverse issues without detracting from local control should greatly enhance problem solving and decision making.

Planning regions are normally delimited in one of two ways: either a state is subdivided into a set of familiar or historic regions, or planning regions are

delineated based on distinctive common physical characteristics, such as a core area, a drainage basin, or certain boundaries. Assuming there are many towns in a region, many will lie near the border of another region and be affected by it. That is to say, the effects of one regional conglomeration of towns on neighboring towns outside of that planning region should not be discounted and must be included in planning discussions. For example, the "MAGIC subregion" (a multi-town issues-discussion forum created by the Metropolitan Area Planning Council) is a narrow slice of twelve towns including Concord and towns as far away as Bolton and Hudson, but not nearby Sudbury, Westford, Wayland, and several other towns with which Concord regularly interacts. A rounded region centered on Concord is quite useful for planning and provided an important perspective for the 2004 plan. Nineteen towns, including Concord, were identified as having some form of relationship that indicated a need for regional collaboration in that plan. For this 2015 Plan, the town-centered region was expanded to include Ashland, Hopkinton, Hudson, Marlborough, Northborough, Southborough, and Westborough. This expansion takes into account the fact that the headwaters of the two major rivers, the Sudbury and Assabet, that flow into and through the southern half of Concord both originate in Westborough and flow through at least a portion of the other towns.

Another familiar problem with a regional approach to planning is conflicting political and economic agendas. Land use issues are routinely handled at the state and local levels, and states and communi-

ties normally have strong governments and set taxes and budgets. Although regional planning authorities often play valuable roles, many have limited budgets, are sometimes seen as threats, and have finite lives. Therefore, this plan promotes a regional approach which: (1) retains “home rule” in the town; (2) recognizes a “town-centered region” composed of surrounding towns that have natural interactions with one another; and (3) recognizes the state planning process as a promising way to mesh the open space plans of surrounding towns.

Within Concord’s town-centered region, ten major land uses significantly affect the town’s open space, natural resources, and recreation:²

- Large natural vegetation areas, including wetlands;
- Major water-protection corridors along streams and rivers;
- Major wildlife corridors (away from water bodies);
- Special sites (small places) of open space importance;
- Walking/bicycling trails;
- Agricultural land;
- Residential land;
- Shopping, commercial, and industrial areas;
- Main roads; and,
- Air and rail transportation facilities.

Mapping of these land uses (many are mapped in this report) reveals spatial patterns of water, wildlife, and people movement across the region. The mapped patterns also provide clues to Concord’s effects on its neighbors, and vice versa. Major positive or negative effects that each of these patterns has or could have on Concord’s open space, natural resources, and recreation are listed in *Section 5*.

Mapping these patterns across the Concord region leads to insights unavailable from a town-only perspective. For example, Concord is a major part of two very large areas of natural vegetation bisected by Route 2, one extending into Carlisle and northward, and the other southward into Lincoln, Wayland, and Sudbury. The southern area of abundant natural vegetation is mainly linked to the Sudbury River Valley.^{1, 50, 20}

As climate change impacts (such as the northward migration of wildlife and plant species) begin to take hold, vegetation areas to the northwest in Carlisle, northern Acton, and southern Westford appear to have the only remaining south to north corridor

Regional Context

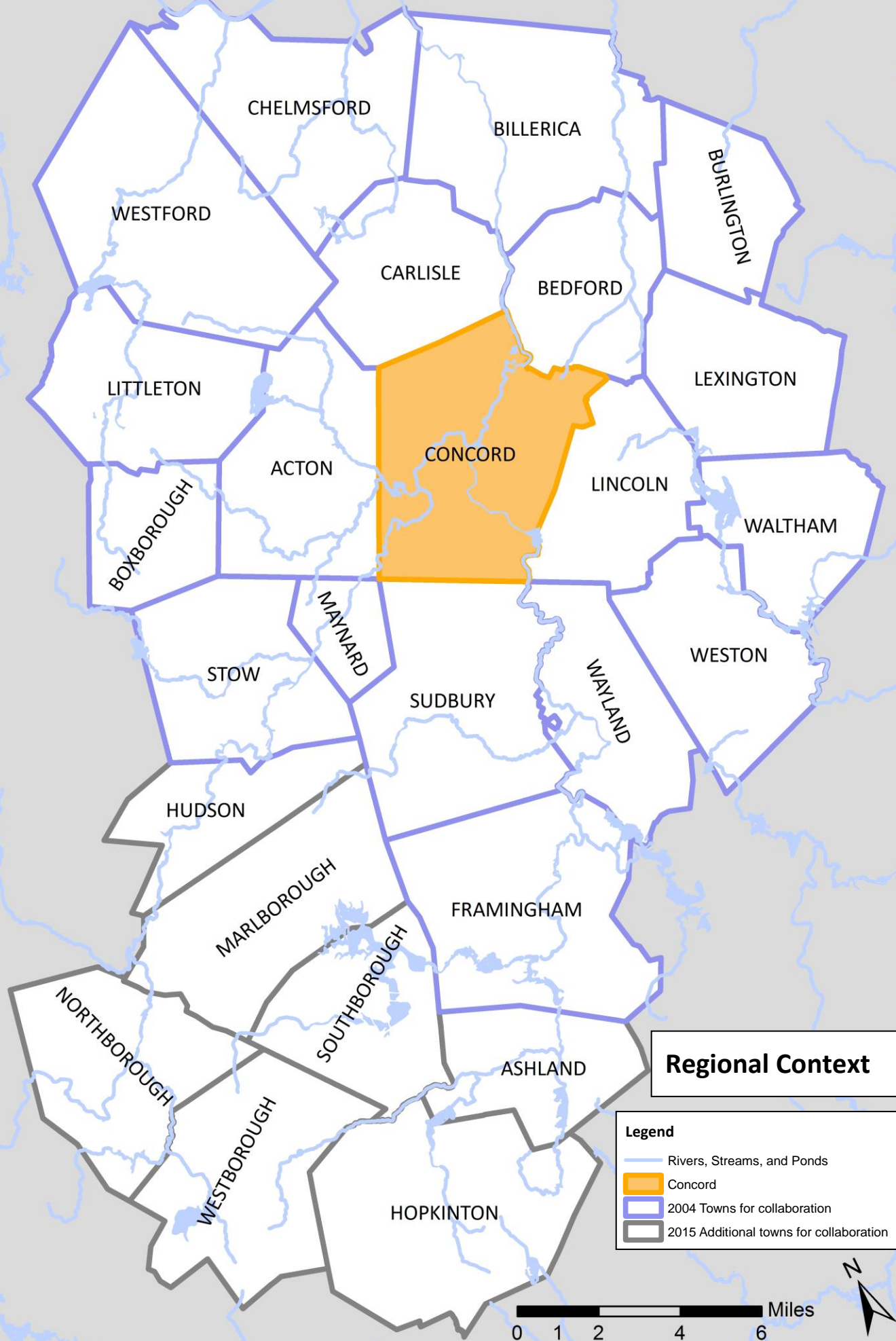
Concord is a suburban/rural suburb located to the west of Boston. Because of the abundant water resources in Concord, it is important that the town works regionally to protect the watershed of the rivers that run through it. The 2004 OSRP highlighted 18 towns for collaboration (purple outlines, see regional Context Map on the following page) and seven additional towns (grey outlines) are proposed for this OSRP to include the headwaters of the Sudbury, Assabet, and Concord Rivers.



between the Concord region and New Hampshire. To the north, east, and south, most outer towns of the region have little natural vegetation left and it is highly fragmented. Outer towns to the west have significant natural vegetation, but rather little is protected open space. Finally, very little natural vegetation, and still less protected open space, remains nearby in the adjacent towns around the southwestern quarter of Concord’s perimeter.

In addition to understanding patterns across the whole region, it is important to understand the impact of flows and movements across the town boundary, in particular those wildlife, water, pollutant, and human movements that originate within about one mile of the boundary and move toward or away from Concord. Some conditions have known effects across the boundary while others bear watching over time. It may be necessary to work with adjacent towns and nearby landowners to prevent, eliminate, or minimize negative effects and strengthen or encourage positive ones. Adjoining towns sometimes acquire open space that connects with and adds value to Concord’s natural vegetation and agricultural areas.

There are nine locations around the Concord boundary where major impacts now cross the border or may in the near future:



0 1 2 4 6 Miles



- Southwestern corner by Acton;
- Where Route 2 and Nashoba Brook cross the Acton line;
- Estabrook Woods and Spencer Brook area by Carlisle;
- Concord/Bedford line near the Concord River;
- Hanscom Field area in the northeastern corner;
- Route 2 in the Crosby's Corner area;
- Walden Pond and landfill area by Lincoln;
- Sudbury River and Nine Acre Corner area by Sudbury, Wayland, and Lincoln;
- Sudbury/Concord town land near White Pond.

B) History of the Community

The town originated in 1635 when English settlers arrived from Boston. Deforestation continued unabated until the mid-nineteenth century, reducing forest cover from perhaps over 90 percent to nearly as little as 10 percent. River corridors provided transportation, water resources, and wildlife. Agriculture, as well as industry on a limited scale, also expanded across the town up through the mid-nineteenth century, and agriculture remains viable today in at least five large areas (see Open Space Framework 2015 Map). In 1775 the American Revolution essentially began in Concord. In the early nineteenth century the town was a bustling commercial center with a county courthouse. The first railroad arrived in 1844, linking Concord to Boston. From about 1830 to 1880 Concord was effectively the literary center of America, where Ralph Waldo Emerson, Louisa May Alcott, Nathaniel Hawthorne, and Henry David Thoreau lived and wrote. Key wildlife was relatively scarce in the early part of the nineteenth century but began to rebound by the end of that century. During the twentieth century, the amount of agricultural land shrank, residential development spread, and the road network expanded. Population, the number of vehicles, and the frequency of commuting to the surrounding towns of Concord's region, as well as to Boston, grew enormously. A major highway corridor, Route 2, sliced Concord into two halves. In the second half of the twentieth century, land protection by federal, state, town, and nonprofit organizations resulted in a rich yet somewhat fragmented set of protected open space and recreation resources.^{28, 31, 34, 35, 33, 49}

According to a Concord Historical Commission report that highlights natural resources and architecture over time, about ten large areas, especially those near water bodies, are of archaeological importance for Paleoindian, Archaic, and Woodland

artifacts.⁹ Six historic districts, many isolated National Register structures, Walden Pond, Minute Man National Historical Park, five large agricultural areas, and the abundant protected areas help define the town's special character.

C) Population Characteristics

For more than a century, Concord's population grew quite slowly, from 1,564 in 1765 to 2,676 in 1875. Population growth picked up over the next 75 years, reaching 8,623 residents in 1950, and increased sharply over the 20 years after that: the town had 12,517 residents by 1960, then grew again by almost one third, to 16,168, in 1970, and in 2000 was 16,993.¹⁵ Population growth has slowed, increasing just 3.97 percent in the past decade and as of 2010 there were 17,668 inhabitants. In its region, the town is near the median in population size at approximately 680 people per square mile.¹⁵ Concord's zoning mirrors the distribution of the people in Town, with higher densities found within Concord Center, West Concord Village, and Thoreau Depot.

Concord's population is comprised of 87% Caucasian, 3.6% African American, 3.7% Hispanic American, 4% Asian American, and 1.7% Other. Eight percent of the population is foreign born. According to the Massachusetts Executive Office of Labor and Workforce Development in 2013, Concordians work in the following fields: Public Administration (7.3%); in Leisure and Hospitality (11.2%); Education (40.5%); Professional (19.3%); Finance (2.6%); Information (3.1%); Trades (9.6%); Manufacturing (1.4%); Construction (1.7%); Natural Resources/Mining (0.5%); and 2.8% classified as Other. In 2014, the unemployment rate was 4.4%.

Concord residents are aging, with the median age progressively increasing from 27.7 years in 1970 to 46.9 years in 2010, and with people aged 65 or older more than doubling from 8.6 percent to 20 percent of the population. Meanwhile children aged 0 to 9 gradually dropped from 18.8 percent to 10.4 percent over those 40 years.¹⁵

These demographic trends and several related patterns have diverse implications for Concord's open space and recreation planning. The gradually aging population highlights the need for increased accessibility of recreational resources (see Section 7). The decrease in percent of children, accompanied by an increase in organized sports enrollment, suggests maintaining existing playgrounds, playing fields and recreation facilities, while responding to changing types of recreation (see Section 7). House lot sizes and population

density have water, wildlife, and open space implications (as discussed below). Broad regional projected needs help focus recreational planning in Concord (see Section 7).

Median family income is relatively high at \$129,646, and continues to rise as urban sprawl and commuting distance increases, while available land for development in town shrinks, and housing costs rise. Diverse employment (especially small commercial establishments, light industry, small businesses in office buildings, private schools, a hospital, and self-employed residents) is widely dispersed across the town. Private schools maintain some open space. New light industry periodically appears in areas zoned for this activity. Forestry is minor but agriculture is important in town. Finally, though population growth remains slow, the implications of climate change, oil demand, and other potential impacts related to current land use patterns will require vigilance, investment, and careful planning in order to maintain a successful balance of developed and undeveloped lands.

D) Infrastructure

Concord essentially began with a mill, pond, and a cluster of buildings at its center, surrounded by forest. As farmland spread, open space provided agricultural products and water, game, and firewood. Later, as residential land with scattered woodland largely replaced the agricultural land, open space increasingly provided wildlife habitat, clean water, scenic value, intensive field-based activities, and recreational trails. These much-treasured resources, increasingly planned for and protected, help define and preserve the town's character.

Residential, commercial, and industrial areas provide structure to the Town and are shown as "built areas" on the map of the Open Space Framework (see Section 2). Large built areas are the centers of living, shopping, working, and interacting for people. But even these built areas contain important open spaces within them: the small pockets of open space in the midst of developed areas contribute to the quality of life. These include playgrounds, town greens, and cemeteries, and, secondarily, scattered large lots and corridors of backyards aligned together. They include naturalized areas such as those set aside as part of residential developments at Moses Pond, Westvale Glen, and most recently at Monsen Farms.

The public water supply serves almost all residences and businesses in Town and does not limit develop-

ment opportunity. In contrast, the town's sewer system serves less than one-third of the town, meaning that two-thirds of the Town have on-site septic systems. In Concord the sewer system has essentially followed, rather than stimulated, dense development. One active rail line remains in Concord, with the two train station locations established in the nineteenth century, to serve already existing nodes of development. Of this infrastructure, perhaps only the road system today has a widespread effect in defining and preserving the Town's character.

As discussed below, three types of infrastructure relevant to development and subsequent impact on open space planning include: transportation systems; water supply systems; and sewer and septic wastewater systems.

D.1 Transportation Systems

D.1.a Roads

Throughout its history, Concord has been a hub with roads that have facilitated commerce and stimulated development. Today's road network provides access to all of Concord's open space and recreational resources, and disperses impacts on wildlife and water resources (e.g., by road salt and traffic noise). Route 2 sliced through the town in 1935, and today has a wide swath of impacts, including acting as a barrier to crossing by wildlife and pedestrians. The two periods of rapid road building in town were 1635-65 and 1930-90.³ Concord maintains 107 miles of road (in 2013) and also contains 5 miles of Route 2, a major arterial highway. The total road miles figure includes arterial roadways (e.g., Laws Brook Road, Bedford Street), collector roadways (e.g., Harrington Avenue, Virginia Road), through streets (e.g., Church Street, Hawthorne Lane), and residential streets.

The highest average daily traffic volumes are (*in 2009*): Route 2 (*45,000 vehicles*); Main St. (*at Sudbury*) (*20,800*); (*in 2006*) Main St. (*west of Walden*) (*13,900*); Main St. (*east of Elm St.*) (*16,000*); Main St. (*at Baker*) (*13,000*); Old Bedford Rd. (*11,400*); Lexington Rd. (*10,100*); Lowell Rd. (*11,000*); Elm St. (*9,800*); Commonwealth Ave. (*10,500*); and (*in 2004*) Cambridge Turnpike (*6,200*). The town has 59 miles of sidewalks.²⁴

The town has 17,000 registered vehicles, with two vehicles reported in 49 percent of its housing units.²⁶ From 2000 to 2010 the number of residents commuting to work dropped from 7,374 to 6,335 and the number who drove solo dropped from 5,665 to

5,242. Carpooling rose from 383 to 556 motorists, while commuting on public transportation rose (384 to 537 residents per day). The number of Concord residents walking to work or working at home remained about the same since the 2000 Census, decreasing from 876 to 875 residents. Average travel time to work for all commuters increased from 28.5 to 29.5 minutes during the past decade.¹⁵

Walking and bicycling for work, shopping, and social interactions can help alleviate transportation issues related to climate change. Yet the proportion of such trips could grow noticeably with modest changes that make walkways and bicycle routes (including those on town roads) safer, more convenient, and more appealing. Reducing vehicular traffic or traffic growth would yield benefits to water bodies, wildlife, recreation, and open space. Water bodies would receive less runoff with traffic-caused pollutants. Wildlife would be less likely to be killed by vehicles or stressed by traffic noise. Improving walking and bicycling routes for transportation would also stimulate their recreational use. Reducing the number of cars on the road would also reduce the town's carbon footprint and help mitigate climate change. Low impact access to the town's open spaces would be enhanced, with associated opportunities for bird watching and nature appreciation. These cumulative benefits should translate into increased stewardship of neighborhood open spaces and natural resources by residents.

In 1999, the Concord Transportation Plan Committee recommended that the Town make a long-term commitment to traffic calming and management as an alternative to the traditional approach of meeting demand by increasing capacity. Traffic calming is accomplished with solutions involving signs, lane widths, intersection enhancements, road-surface markings and structures, parking adjustments, and other modifications that favor walking and/or bicycling. One goal of such efforts is to minimize cut-through traffic on local roads and decrease traffic volumes in major downtown areas. The committee urged the town to work on this problem in cooperation with other communities.

Traffic calming provides benefits to wildlife, water, recreation, and people. A wise adage says: "Design a community for 7 year-olds and 70 year-olds." A step towards accomplishing this includes making the roads of Concord pleasant and safe for walking, bicycling, children, and the elderly, which strengthens neighborhoods.








Existing Infrastructure

Concord is bisected by Route 2, has two train stations for a commuter train to Boston, 25 bridges, 107 miles of road, and 59 miles of sidewalks. Route 2 presents challenges to crossing for humans and wildlife. Despite having two train stations in town, the majority of commuters still use their cars to get to work. Bridges can become flooded and block emergency access during flood events, which may become more frequent with climate change. Widening bridges would improve wildlife corridors on riverbanks.



West Concord Train Station

Legend

-  Train Station
-  Bridges
-  Roads
-  Sidewalks
-  Railroad
-  Pond, Lake, River
-  Local Historic District

Carlisle

Bedford

Acton

Lincoln

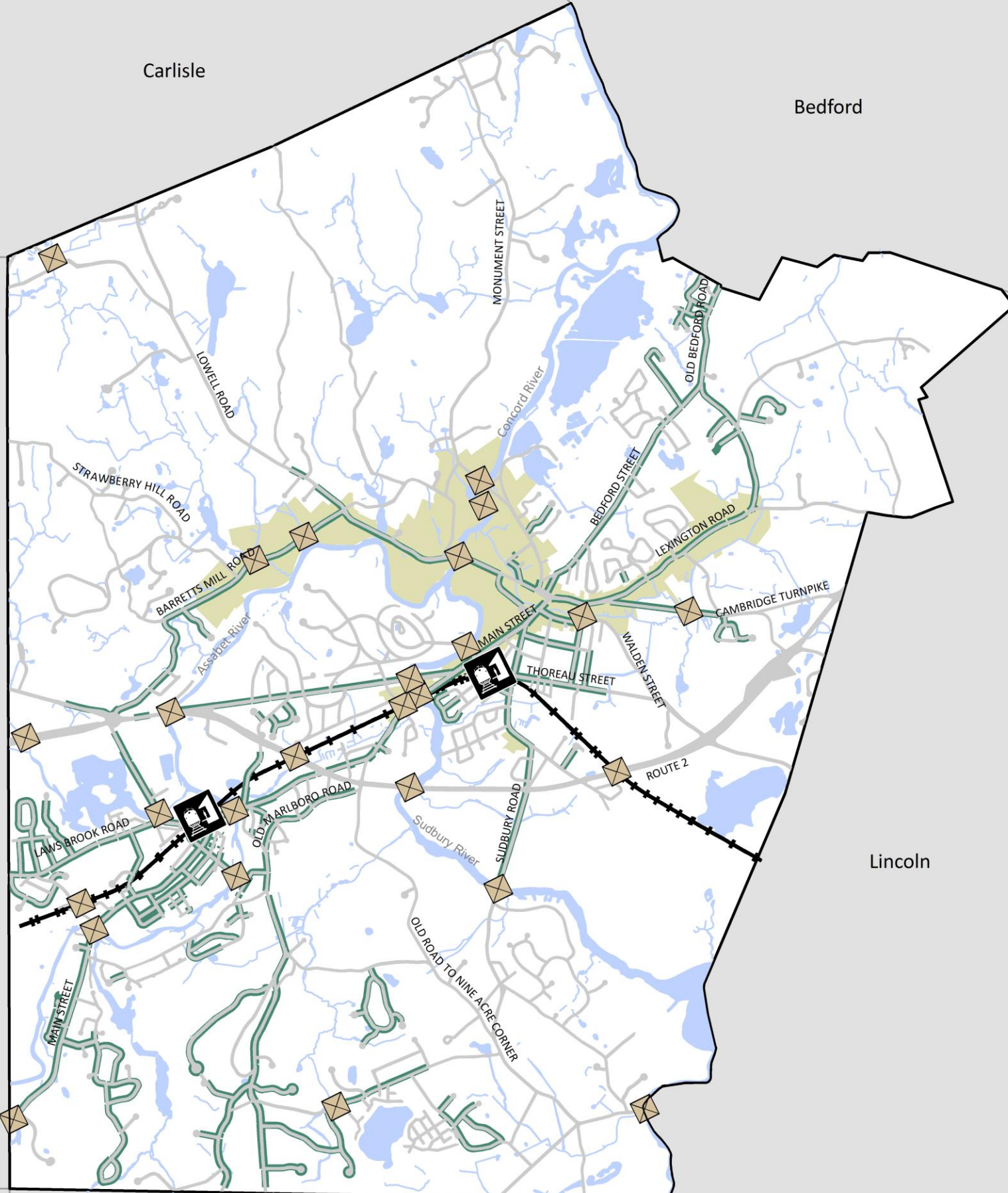
Sudbury

Existing Infrastructure

Wayland

Miles

0 0.25 0.5 1 1.5



To this end, improvements were made to increase circulation at Monument Square (the rotary in the town center) and at Concord Academy. The Cambridge Turnpike Improvement Project seeks to develop and implement a comprehensive plan to improve the many problems affecting the roadway from Lexington Road to Routes 2 and 2A. While the primary focus of this project is to address the existing flooding conditions that result in frequent road closures, flooding of homes and businesses and impacts to their septic systems, other design priorities will address environmental impacts, traffic safety and congestion, roadway width, historical preservation, and aesthetics. The town regularly collaborates with MAGIC, the regional planning committee, which has a transportation component called the MAGIC Mobility Transit Study. As a general rule, the Town continues to incorporate traffic calming management techniques.

Routes for rail travel, driving, bicycling, and walking across the region show quite different patterns (see Existing Infrastructure and Trail Maps). Interstate 495 is a major barrier for wildlife dispersing from the northwest into the Concord region, and as previously noted, with shifting climate patterns, will continue to serve as a barrier for east to west species migration.

D.1.b Major Highway, Route 2

Four-lane Route 2, with about 45,000 vehicles passing each commuter day, slices not only Concord, but also the entire region, in half. Concord's network of highways and large areas away from highways is relatively similar to the pattern in adjacent towns. Concord residents benefit from Route 2 as a commuting and travel route, but the highway inhibits walking for residential and shopping purposes and blocks recreational walking routes. Residents must cross it often, but rarely easily, as they travel about the town. Route 2 traffic jams consistently create bottlenecks for commuters and through-travelers. No one walks or bicycles along the highway, and crossing at intersections can be challenging. Vehicle accidents are a concern and occur more frequently on Route 2 than other roads in Concord.

Route 2 traffic is the major source of noise in town, annoying to nearby residents and audible for a mile or two. The noise also degrades songbird habitat for surprisingly wide distances.³³ Vehicle emissions pollute the air and soil. The busy highway inhibits wildlife movement, both in daily foraging and in dispersing to new home ranges. This effect is worse

where there are impenetrable concrete jersey barriers; road-killed animals are a frequent sight. In addition, the road is a concentrated source of road-salt, which accumulates in Concord's slow-moving groundwater. In short, the environmental and human impacts of Route 2 in Concord require mitigation.

Appropriate design methods have the potential to enhance wildlife, increase noise abatement, provide easier crossings for pedestrians, and ultimately ease traffic congestion in Concord's neighborhoods. Any improvements or upgrades should take an environmentally sensitive approach by aiming to restore or enhance the natural processes and biodiversity affected by this five-mile stretch of highway.

A significant effort to address congestion and safety concerns related to Route 2 is the realignment project currently under way at Crosby's Corner. Construction began in March 2013 and is anticipated to extend into 2016. The purpose of this project is to provide safety improvements at Crosby's Corner (intersection of Route 2, Cambridge Turnpike and Route 2A/ Concord Turnpike). This will be accomplished by constructing neighborhood service roads and a Route 2 flyover to carry Route 2 above other travel lanes. The benefits of the project include the ability to safely and efficiently accommodate traffic and to provide safe access to the residences and businesses along the project corridor. The project starts at the Bedford Road intersection in the Town of Lincoln and extends to 300 feet west of Sandy Pond Road in the Town of Concord.

Efforts to improve wildlife passage along Route 2 are also important aspects of town planning. The 2004 Open Space Task Force recommended several wildlife underpasses, porous median barriers, and one wildlife overpass to aid free movement of key wildlife between the two halves of town, split since the 1935 construction of Route 2. When carefully designed for animal behavior, wildlife passages facilitate crossings of highways for critical foraging and dispersal.^{33, 36} Fences and walls can be used to block some animal access to highways, though care is important not to further divide severed communities or degrade aesthetics. Fences and walls against animals are appropriate only where sufficient numbers and sizes of underpasses, tunnels or pipes are provided to permit ample movement between opposite sides of the highway. Also, effective escape mechanisms are essential for animals that inevitably get on the highway sides of fences. Since the *2004 Open Space Recreation Plan*, two wildlife underpasses have been built along Route 2 and a third is under construction.⁵⁹

Soil banks or raised soil berms along a somewhat depressed highway are effective in reducing traffic noise that has degraded nearby wildlife habitat (and residential areas). Reducing use of road salt or using ecologically suitable alternatives will reduce salt accumulation in groundwater and its effect on vernal pools, streams and ponds. Residents have expressed concerns about the overuse of salt on the roads, and road and sidewalk salt application procedures should continue to be evaluated as technologies change to minimize impacts. Lengthening bridges somewhat is also recommended, not only to overcome constricted-water-flow effects on river conditions, but also to provide adjacent floodplain strips under a bridge for wildlife movement.

Finally, overpasses or underpasses for walkers, shoppers and hospital access are important to reconnect the two split halves of town, particularly by Main Street and Emerson Hospital. Similarly, overpasses or underpasses are also needed for diverse recreational users in Concord, most critically at the intersection of Routes 126 and 2 and near Nashoba Brook by the Acton line. The Board of Selectmen requested that MassDOT include both the Bruce Freeman Rail Trail, which utilizes the Nashoba Brook wildlife corridor, and the old railroad crossing in its designs for a new Route 2 rotary, and both of these were included in the design for the Route 2 rotary. Currently, the rotary project has been put on hold. The Bruce Freeman Rail Trail has been separated from and is moving forward without the rotary project which will include an overpass at the Acton/Concord town line.

Specifically, solutions should be implemented to address the four major Route 2 issues that involve Concord's open space, water, wildlife and recreation. Noted below are relevant locations (from east to west) along the highway where special attention is warranted.

- A) Underpass/overpass structures and porous barriers for wildlife crossing.
- Deep gully opposite Crosby's Pond;
 - Eastern or central portion of the former landfill for a proposed wildlife overpass (perhaps compatible with a path for walkers) connecting the Walden Pond area with Brister's Hill and Town Forest;
 - A wildlife corridor near the Acton line where Nashoba Brook crosses and is joined by Fort Pond Brook.

B) Vegetated soil banks and berms to reduce traffic-noise.

- Landfill area to the Route 126 area where the highway could be slightly depressed, together with soil banks or berms, to reduce traffic noise toward Walden Pond and the high school; and
- Raised highway causeway over Sudbury River floodplain where traffic noise presently carries especially far.

C) Changes to bridge, culvert, causeway, and road salt use that will reduce stress on rivers, streams, and groundwater.

- By Crosby's Corner, the Mill Brook from Lincoln is blocked and diverted to a culvert, and a state road salt/sand supply leaks salt into Mill Brook and groundwater;
- West of Route 126, vernal pools in Walden Pond State Reservation may receive road salt in groundwater;
- The highway causeway by the Sudbury River blocks frequent floodwater flows and accelerates river scouring;
- Between Baker Avenue and Assabet Avenue similar effects occur by the Assabet River; and
- By the Acton line, road salt, sand, and floodplain blockage impact Nashoba Brook.

D) Passages and other safety measures for pedestrians and recreational passage.

- At the landfill area, a wildlife and pedestrian overpass could connect trails in the Walden Pond area and Town Forest area, as well as the Bay Circuit Trail;
- At Route 126, an overpass for pedestrians and cyclists would increase safety and recreation by avoiding highway traffic;
- At Emerson Hospital, walking across the highway may land one in the emergency room;
- Main St. (Route 62), another logical walking route for residents, is also dangerous; and finally
- At the Acton line, the proposed Bruce Freeman Rail Trail will need to cross over the highway.

D.1.c Public Transit

Public transport is another related mechanism to reduce traffic and achieve benefits to water, wildlife, climate change mitigation, and open space. Concord is unusual in being endowed with two commuter-rail stations connecting residents to

neighboring towns and the metropolitan region. Limited bus and van services are also part of the public transport system in Concord. Transit-oriented development guidelines emphasize the value of focusing growth within a half-mile (a 10-minute walk) of public transport centers, the typical maximum distance that people will walk for transportation.^{14, 17} Therefore providing convenient, safe, and appealing walkways near stations is important for success.

Rail corridors penetrate the northernmost and southernmost towns of the region, in addition to cutting on a northwest-southeast axis across from Waltham to Concord to Littleton and beyond. Commuter trains on these rail lines facilitate travel, at least radially to and from Boston, and slightly reduce traffic and its ecological effects. Some wildlife cross Route 2 in railroad underpasses in Concord and Littleton, and moose may cross under the I-495 barrier in Littleton along the rail line. Many wildlife use the recently-constructed wildlife underpasses under Route 2. Major power-line corridors are also likely to be important wildlife corridors in the region.

D.1.d Air

Hanscom Field on the corner of Bedford, Lexington, Lincoln, and Concord is the only major airport in the region, and its flight paths nearby are frequently characterized by considerable aircraft noise. Small private planes also use Erikson Field in Stow.

D.1.e Corridors

Human corridors include the primary and secondary road system, rail lines, gas and power lines, canoe routes, bicycle routes, and walking trails. They typically interconnect to form networks with loops and entrance/exit nodes. Most of the network types are spatially separated based on location, infrastructure requirements, and safety concerns.

Human corridors provide efficient transportation routes for goods and people. Recreation routes channel people through an area of interest and between points of interest. The corridors provide for human movement across, in, and out of town. Loops provide alternative movement routes and recreational round trips. Channeling people through corridors also helps protect farmland and the large remote areas of natural vegetation.

As many people enjoy the town primarily from their cars or from the train, the views from Concord's roads and railway line are important elements of the

town's open space. Maintaining the rural character of the town includes preserving those viewscapes that convey a sense of the town's agricultural and natural heritage.

D.2 Water Supply Systems

Concord was provided with legislative authority to establish a public water system in 1872. In 1874, water from Sandy Pond in Lincoln began flowing through the original network of water mains to Concord center. Today, the water system has evolved to include six groundwater and surface water sources (see Public Water Supply Map), seven pumping stations, two treatment facilities, and a high pressure water main network consisting of over 130 miles of pipe.

The 1974 Annual Town Meeting established the Water Fund. Expenses for the water system are covered entirely by user fees. The Water and Sewer Division of Concord Public Works is responsible for managing the day-to-day operations of the water infrastructure. There are presently 5,511 customers receiving potable water service and fire protection from the Town water system. This represents approximately 95 percent of Concord residents and businesses, along with a small number of Acton properties located on Route 2A. In case of emergency, Concord is able to receive from or supply water to the neighboring towns of Acton and Bedford (via water main interconnections).²⁴

Water conservation efforts to reduce overall and peak day demand are central to Concord's water supply strategy. The Water and Sewer Division continues to offer a variety of programs to support and encourage wise water use. After implementing a comprehensive water conservation program in 2002, Concord has reduced its total water demand by over 100 million gallons a year, average and peak water day demand by close to 1 million gallons per day, and residential per capital demand by over 10 gallons per person per day.

Water withdrawals in town may impact water quality and quantity in streams, water levels in ponds, vernal pools, and wetlands, and in aquatic ecosystems close to withdrawal locations. Water withdrawals are not limited to public water supply, but include private wells used for drinking water and irrigation. Agricultural withdrawals primarily associated with crop irrigation also influence groundwater and surface water levels.²⁴

Water-monitoring data have been collected for the Assabet River, and, in a more limited manner, for a few wetlands and ponds, but no systematic study of

these widespread, important surface waters or aquatic ecosystems has been done. Conducting a water quantity and quality survey of Concord surface waters would provide an important baseline for the Town to evaluate future development. Also, in the face of continuing urbanization within and around Concord, continuing open-space protection near well sites remains a wise investment.

D.3 Sewer and Septic Wastewater Systems

About 65 percent of Concord households have septic systems, most of which predate the rigorous standards required by the state's Title 5 regulations.^{58, 3} Thus wastewater from most households drains into septic tanks, underground pipes, and groundwater in yards across the Town. The water supply is designed to meet peak seasonal demand periods that can exceed 4 million gallons per day during the summer. Total water demand for 2012 was approximately 750 million gallons (mg), which represents an average daily demand of 2.04 mg and residential per capita consumption of 68 gallons per day.²⁴

Surface waters such as streams and ponds are fed, indirectly, by groundwater. With proper operation and maintenance, organic matter with associated pathogens (e.g., *E. coli*) in household wastewater is effectively treated by septic systems, before reaching surface waters. Also, with appropriate travel time through soil, mineral nutrients (especially phosphorus and nitrogen) in wastewater may also be diluted within the groundwater system, prior to being released into nearby surface water systems. Importantly, septic systems (and to a certain extent, neighborhood treatment systems) offer the only way to effectively recharge water locally.

However, with old or malfunctioning septic systems, the organic matter and mineral nutrients are more likely to reach and impair the town's streams and ponds. Furthermore, with increased development adding new septic systems across the town, increasing amounts of impurities may reach these surface waters. Septic organic matter reaching surface water can lead to a reduction of oxygen in ponds and streams that not only impart nuisance odors but could result in the loss of sensitive fish populations. Excess mineral nutrients, especially phosphorus and nitrogen, from septic wastes can increase the rate of eutrophication and degrade associated aquatic ecosystems.²⁴

Concord was provided with legislative authority to create a municipal sewer system in 1894. By early

1900 a small, centralized collection system was constructed, carrying wastewater from Concord center via a network of gravity mains to a collection chamber located at 141 Keyes Road where it was then pumped to a cluster of filter beds located approximately one mile away on fields located adjacent to Great Meadows. Over the years, service needs and treatment goals have evolved, resulting in a series of collection system expansions and treatment system improvements. As of 2012, the sewer system serves over 1,830 accounts (35 percent of the community) and consists of 33 miles of collector mains (gravity and low pressure), two pumping stations, six neighborhood lift stations and a tertiary treatment facility. The tertiary wastewater treatment facility was upgraded in 2009 and performs very well under a variety of flow conditions. The facility is able to remove more than 95 percent of the biochemical oxygen demand (BOD) and total suspended solids (TSS), 99 percent of pathogens (via UV disinfection), and reduces phosphorus to levels well below 0.2 milligrams per liter—utilizing a luminary (first of its kind in the world) treatment process identified as Co-Mag.²⁴

The municipal system primarily serves residential and commercial properties from the Thoreau School/Warner's Pond area eastward in the Park Lane, Emerson Hospital, Southfield Rd., High School, and Concord Center areas. A federal and state issued National Pollution Discharge Elimination System (NPDES) permit system currently limits the treatment capacity of the municipal wastewater system to 1.2 million gallons per day. Infiltration of groundwater into the system through leaking sewer pipelines, manholes, and perhaps unauthorized connections reduce the capacity of available service. Although actively addressed by Concord Public Works, this remains a problem. In 2004, the Town adopted a 20-year comprehensive wastewater management plan. The plan was developed in response to regulatory requirements imposed when the treatment plant reached 80 percent of its permitted capacity. The plan identified wastewater needs required to serve existing neighborhoods that had been waiting since the 1980s for town sewerage, prioritizing such areas based upon long-range environmental, public health, aesthetic, and financial benefits. The recommended plan identified solutions for nearly 1,000 parcels, about half of which were identified as having a high probability of needing an alternative form of wastewater management, instead of a (Title 5) septic system. Approximately 75 percent of the parcels in the recommended plan would

be connected to the existing centralized sewer system, which now serves approximately 30 percent of the town. Most of the parcels proposed for sewerage are located in the Elm Brook and Hawthorne Lane areas of town, West Concord, and near the Concord Country Club. Based on geographic settings, remaining parcels in the plan were proposed to be served by one of two neighborhood or “package” treatment systems: one to serve the White Pond area and one for the Conantum area, both being concentrated residential areas. Acquisition of municipal land for these package systems may be required. In 2003 and 2004 Town Meetings, the voters (and later the state) approved the first steps of the plan.²⁴

In addition to the municipally sewerage areas, several smaller-scale sewer collection and treatment systems exist which have been designed to meet the wastewater treatment needs of larger private entities. Three of the more notable package treatment facilities are associated with the Massachusetts Correctional Institution, which discharges to the Assabet River between Nashoba Brook and Route 2, the Middlesex School, which drains to Spencer Brook, and the 350-unit residential development Concord Mews, located on Nathan Pratt Drive, which is discharged to a state-approved groundwater discharge site.²⁴

The Town tests drinking water for coliform bacteria and other public health threats, and the results are typically good. Surprisingly little is known about water quality (including septic pollutants) in aquatic ecosystems across town. Sustained systematic data exist for the Assabet River, White Pond, and Walden Pond. In 2003, two of the five swimming beaches in Town (on Kennedy’s Pond and Silver Hill Pond) had to be temporarily closed due to excessive levels of *E. coli* bacteria, which is typically associated with septic leaching.²⁴

Otherwise, mostly scattered or anecdotal evidence of intensely green water (perhaps mainly eutrophicated by phosphorus, such as at Warner’s Pond and Moses Pond), blackish seepage, or odor suggests possible septic-caused pollution. Since 1995, when state septic regulations became tougher, 12 percent of the septic systems inspected by the Town have failed, while 6 percent received only a conditional pass.³ These observations suggest that some small surface-water bodies near septic systems in town are likely to be polluted, especially during dry periods, with consequent effects on fish and aquatic ecosystems. Careful sampling of streams and ponds across town for water-quality characteristics, such as phos-

phorus/nitrogen/chlorophyll, BOD, *E. coli*, turbidity, salt, and toxic substances, is needed to evaluate this concern and to provide a baseline for evaluating future land use changes.

E) Development

Several topics important to open space and recreation resources are presented here including: housing; land use patterns; municipal lands of particular conservation or recreation importance; and the ecological basis for concentrating and limiting development. The ongoing mix of proposed new houses and upgrades has its own low-level dispersed impact across the town.

Since the 2004 Plan, Route 2 has been widened, and median and peripheral barriers installed to increase safety measures and enhance capacity for through-traffic at somewhat higher average speed. Concerns over cut-through traffic still exist. Discussions about local traffic crossing the highway, traffic noise, and overpasses for crossing by local people, recreational walkers, and wildlife continue. Two effects of the planned sewer expansion on open space are potentially important. First, local water quality and aquatic ecosystems in and near the affected areas may improve somewhat. Second, the proposed large natural area, Jennie Dugan Kames, will be largely converted from septic to sewer wastewater treatment, with consequent long-term potential to stimulate development. However, neither project has commenced to date.

E.1 Housing

The total number of housing units in town grew from 4,440 in 1970 to 6,636 in 2010.⁶ The average number of persons per household progressively decreased from 3.6 to 2.68 during the last four decades.¹⁵

Since the mid-1990s, the number of available building lots and the number of persons per household has decreased, more of the population is retired and/or elderly, and the affordability of the existing housing stock has decreased. Additionally, the phenomenon known as “mansionization,” the building of very large houses to replace smaller ones, has increasingly become an issue. Such large houses often have large septic systems, large lawn areas, large paved areas and out-buildings, which impact Concord’s finite natural resources.

E.2 Land Use Patterns

As of 2001, approximately 38 percent of the Town was developed land. This figure has changed little over the past decade. An average of 21.4 new lots per year were created in the decade 1990-99 (mainly by

subdivision, planned residential development, and “approval-not-required”), and an average of 23 new housing units were built each year. In contrast, protected open space increased markedly over the same time frame. Uncommitted land decreased an equivalent amount.

The distribution of today’s protected open space across the Town at first glance mimics a “crazy quilt” (see Section 5). A closer look reveals an impressive, though ragged and incomplete pattern. Large aggregations or patches of protected land approximate and form the core of the large natural areas and some large agricultural areas of the Open Space Framework (see Section 2). For each large area, only a few high-priority parcels remain to be protected to complete the Town’s open-space pattern.

The diversity of protected-land ownership means that accessibility and management practices vary widely. For instance, land has been protected through Town and land trust acquisitions, through Conservation Restrictions (see Section 5), and through Agricultural Preservation Restrictions. In addition, private landowners have enrolled in state programs, under M.G.L. Chapter 61, 61A and 61B, whereby they receive reduced property taxes for managing their land for forestry, agriculture, and recreation, respectively. Though not permanently protected, in return for the tax reduction, the Town has right of first refusal when these properties are sold. This allows a greater opportunity for diversity of habitats and recreational opportunities. Yet multiple ownerships also present challenges for coordinated land management of large protected natural and agricultural areas (see Appendix C).

Over a quarter of the Town is “uncommitted land,” that is, neither developed nor protected (see Section 5). Strategic places remain to be protected as conservation land.

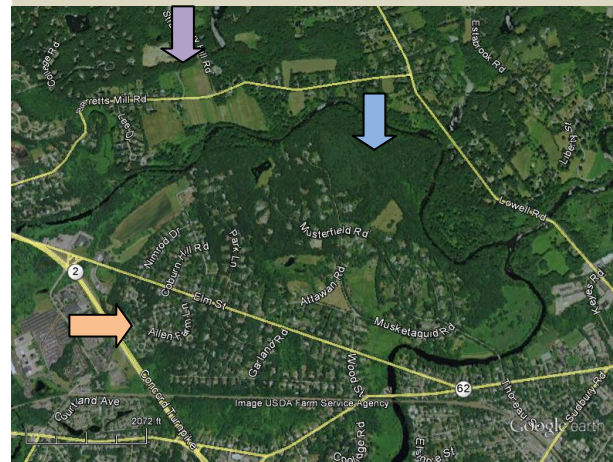
Zoning was enacted in Concord in 1928. Recognizing this, Town Meeting has frequently approved additions and amendments to the Bylaw, especially in 1972, 1977, 1987, and 1992, and has passed at least one zoning bylaw amendment every year since 1994. Some noteworthy Zoning changes since 2004 that impact open space include:

Section 10.2.9 Common Open Space (in Planned Residential Development (PRD)): (1) must comprise at least 25 percent of the total area of the PRD tract; (2) at least 50 percent of common open

Aerial View of Concord, 1938



Aerial view of Concord, 2008



Concord’s population rose dramatically after WWII, and nearly doubled by 1970. The larger population meant building more houses (see orange arrows above). In part because of early conservation efforts that started in the late 1950s, many natural and agricultural areas in the town have been preserved (see blue and purple arrows, respectively). Continued conservation efforts and careful planning are necessary if Concord wants to maintain its rural feel and stave off mounting development pressures.

space must be upland area [Note: Common open space does not include yards, patios, or gardens for exclusive use by residents.]

Section 7.6 Groundwater Conservancy District was extended and Section 7.2 Floodplain Conservancy District was amended in line with 2014 FEMA mapping.

Section 6.2.2 Minimum Lot Area – definition was clarified so that at least 50 percent of minimum area required for zone is upland – this most probably results in larger lots, as resource areas can only partially be counted towards lot area requirements.

The Town’s “Zoning Map” focuses on the zoning districts but also refers to various water-related and wireless communication areas. Dimensional regulations are specified for the zoning districts. The principal uses provided for are: extensive; residential; institutional; governmental and utility; business; industrial; and restricted and prohibited. Also many accessory uses, several special provisions, and three types of grouped residential buildings are delineated in the bylaws.

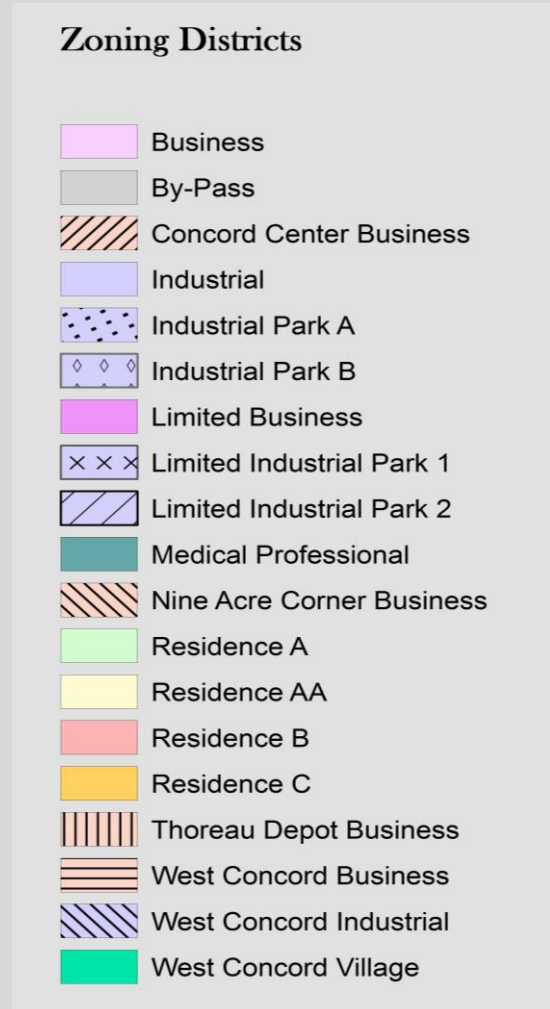
Zoning districts, laid out in an earlier era, do not correlate well with today’s understanding of natural resources, including threats and needs for clean water, wildlife, agricultural land, recreation, open space, and other town objectives. A more in-depth zoning revision based in part on the Open Space Framework would serve the Town well, in providing a tool for future planning.

While present protection status, state environmental regulations, and town zoning constraints inhibit development on certain parcels, many lands in Town are still vulnerable to future development pressures. Specifically, the Town would do well to consider unprotected parcels without these constraints that lie within the natural areas, agricultural areas, and corridors identified in the Open Space Framework as priority lands for protection. If all of these parcels were developed, the integrity of these environmentally sensitive areas would be compromised and serious impacts on ecological, open space, and recreation resources could result. The corresponding degradation of the integrity of the Town’s open space network as a whole would be expected.

Local effects of a maximum build-out would also

Zoning

The majority of the land in Concord is zoned residential. Changes to the Zoning Bylaw could help shape future development patterns in Concord.



Concord Riverwalk, an example of a Planned Residential Development

Carlisle

Bedford

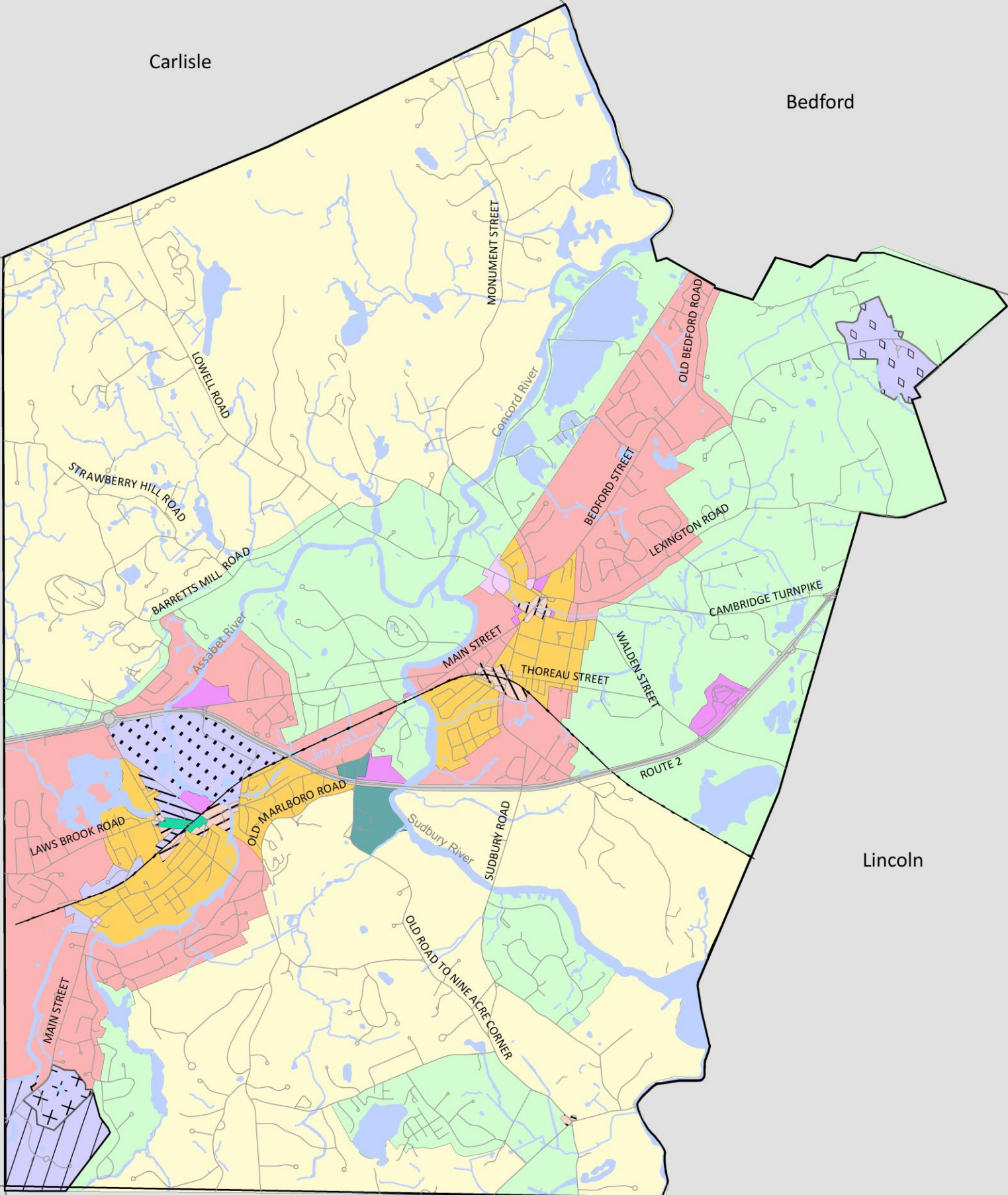
Acton

Lincoln

Sudbury

Maynard

Zoning Map



include the loss of opportunities to establish small neighborhood public open spaces and the degradation of some Special Sites (see Section 5), pollution of water bodies, loss of wildlife and its habitat, more threatened rare species, and loss of future opportunities for enhancing the public trail system in Town. Acquisition for land protection would become rare, and subsequent development would require densification of the Town and a corresponding loss of open space. Finally, it bears emphasis that local constraints, state regulations, and land ownership patterns can and do change. Protecting land with “permanent” conservation acquisition or restriction is important.

E.3 Municipal Land of Importance

In addition to Town conservation land, Concord has over 50 parcels of land designated for municipal, school, cemetery or other purposes. The Town should continue to evaluate these municipal lands for designation as permanent conservation land, in whole or in part:

- The Town Recycling Facility, the former landfill, which is a core parcel of the large Walden Woods Natural Area should continue to be considered for conservation land to provide connectivity while maintaining existing municipal uses.
- Willow Guzzle on Sudbury Road is a valuable part of the large Nine Acre Corner Agricultural Area, as well as a key connector to diverse trails and natural areas on adjacent permanently protected land.
- White Pond Reservation includes important watershed protection for a well site within a larger context of open space and woodlands in both Concord and Sudbury, and protects the pond with its fragile aquatic ecosystem (see Water Resources Map). In addition, it abuts the potential north-south regional rail trail and provides important wildlife habitat and functions as a wildlife corridor.
- Peter Spring farm field by the wastewater treatment facility provides habitat for a state-listed rare species. Some of the area is used for organic farming and some may be needed for future sewage treatment facility expansion.

Other municipal lands are not a priority for permanent conservation land, though many portions of them should be managed for conservation purposes. Also, portions of some are suitable as, for example, small informal playing fields, neighborhood meet-

ing places, farm fields, and so forth.

Lastly, both public and private parcels surrounding Town well sites should be identified for protection, in whole or in part. Such parcels help protect groundwater in the cone-of-influence around a well site by providing clean well water and conditions for natural aquatic ecosystems (see Public Water Supply Map). Future uses on these parcels should be identified and managed to ensure that resource values are protected.

E.4 Ecologically Based Development

Evaluating the advantages and disadvantages of different house-lot sizes can help inform discussions about where potential growth is desirable and undesirable in Concord. More people can be accommodated in an area with smaller lots, it is important to determine the relative effects of large, medium, and small lot sizes on water, wildlife, recreation, and open space.

A large parcel (e.g. 2 acres or more) with one house commonly retains most ecological values relatively well. Groundwater is unlikely to become contaminated, much of the area remains a relatively natural habitat for biodiversity, and sufficient spaces exist between houses for most wildlife movement (even with a dog present at the house). Such large lots along the boundary of a major protected area may be a relatively effective way to buffer and help protect the area’s valuable resources. However, properties with large lawns requiring significant fertilization do have the potential to impact and degrade ecosystems associated with those properties. Public outreach aimed to inform citizens of the detrimental effects of overwatering and fertilizer use can help reduce these issues.

Lots greater than two acres on prime agricultural soils may provide opportunities to individual property owners for agricultural use in the future, especially if food security becomes a problem with peak oil and climate change on the horizon. Protecting large lots from sub-division is one way that the Town can help prepare for the future.

At the other end of the scale, small building lots (e.g. 0.25 acre or less), form a fairly dense neighborhood providing relatively little ecological value. Still, such small lots may, for example, each provide sufficient living space, a small private space, and a vegetable garden for a family. Small lots within a half mile of amenities and public transportation also reduce car-dependence and help to reduce the carbon footprint of the Town.

Medium-size house lots (e.g., 0.5 to 2.0 acres) provide resources for relatively few people and can lead to extensive damage to the environment. At such densities, groundwater tends to accumulate diverse contaminants. The presence of domestic animals may impact wildlife by infringing on their habitat. Large lawns and their attendant lawnmowers, fertilizers, and significant water requirements are more common and negatively impact habitats and surface waters. Natural habitat is generally scarce, degraded, and fragmented. Planted and escaped exotic species are widespread. Road density and vehicular use are relatively high. As development density increases, extensive hard surfaces (e.g., roofs, driveways, sidewalks, roads) exacerbate surface-water runoff, with consequent high peak flows and/or flooding. An array of chemicals and sediments from lawns and roads is washed into streams, which are significantly degraded. With widespread septic systems, phosphorus, nitrogen and organic matter spread into groundwater and sometimes into surface water. Though the DPW has made strides in recent years in addressing these and other water-related issues, residents can take a proactive approach by managing these properties in a more sustainable manner.

Before adding buildings in unbuilt areas, consideration of an increase in the number of people per building and/or the number of buildings per acre in areas of medium-size lots should be evaluated. In general, the Town should try to focus growth in areas served by sewers (which might require sewage treatment plant expansion) and other infrastructure. In addition, targeting growth within a convenient half-mile walking distance of the public-transport train stations would help minimize road and traffic effects on water, wildlife and open space.^{14, 17} To help protect crucial large tracts such as Estabrook Woods, the Town Forest/Walden Pond/Fairhaven Hill area, and the National Park, large lots along their margins would be beneficial. Such approaches, based here upon open space and ecological criteria in Concord, are consistent with modern urban planning principles, including those of Metropolitan Area Planning Council (MAPC). In short, concentrating future growth in existing small and medium lot-size areas, especially those near the train stations and sewer infrastructure, and avoiding unbuilt areas, parcels adjoining major natural areas, and major water-protection and wildlife corridors, is strongly recommended.

MetroFuture, MAPC's 30-year plan for the region to support smart growth and regional collaboration

Current Land Use

Concord's long history of agriculture is apparent in its landscape of open fields and wooded groves. Sites of historical importance owned by the Federal Government, State, and Town draw tourists to town and are permanently protected from development. Suburban development surrounds the two town centers in Concord and roughly follows a southwest to northeast pattern across town.



Farmer's Cliff from Meadow, by H. W. Gleason (undated).
Courtesy of the Concord Free Public Library

include 13 implementation strategies: implementing coordinated plans; democratizing information; strengthening municipal finance; building regional collaboration; enabling smart growth; improving city life and school quality; protecting natural landscapes; expanding access to housing; supporting healthy families; investing in a skilled workforce; focusing economic growth; expanding coordinated transportation; and conserving natural resources. Concord employs many of these approaches through different initiatives. As these strategies relate to the OSRP, Concord strives to manage development to ensure the ecological integrity of its rivers, ponds, and wetlands is maintained to provide clean water for its residents while supporting healthy aquatic life and recreational opportunities. Specific initiatives include: sustaining native biodiversity by continuing to preserve large natural and agricultural areas, and water/wildlife corridors, while managing invasive species; increasing participation in the Community Preservation Act; providing strategies to adapt to climate change; increasing inter-municipal connectivity and collaboration; and supporting local farm production through the Agricultural Committee with the recent adoption of the Right to Farm Bylaw and creation of farm worker housing, to name a few.

CARLISLE

BEDFORD

ACTON

LINCOLN

MAYNARD

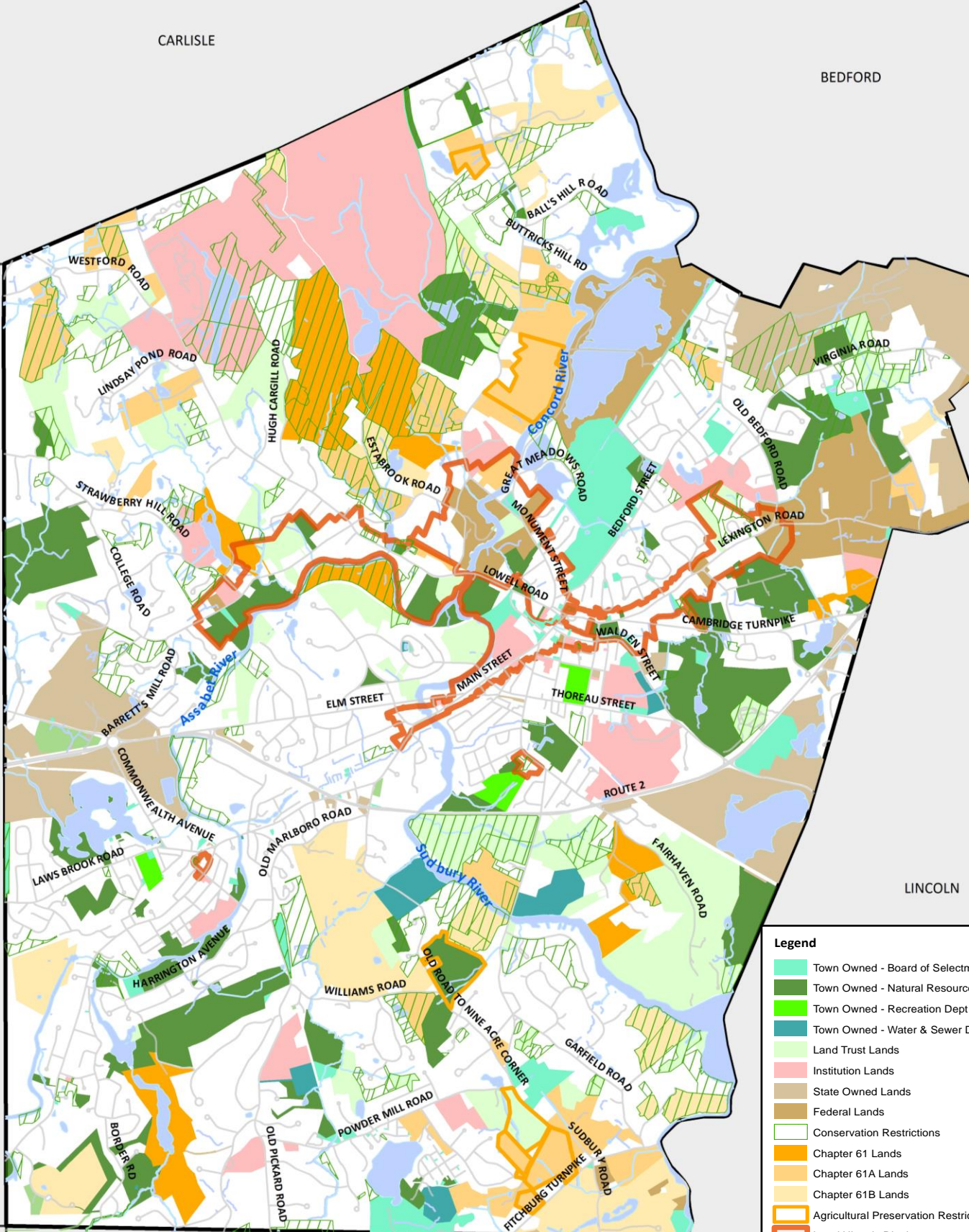
SUDBURY

WAYLAND

Current Land Use

Legend

- Town Owned - Board of Selectmen
- Town Owned - Natural Resources Commission
- Town Owned - Recreation Dept
- Town Owned - Water & Sewer Dept
- Land Trust Lands
- Institution Lands
- State Owned Lands
- Federal Lands
- Conservation Restrictions
- Chapter 61 Lands
- Chapter 61A Lands
- Chapter 61B Lands
- Agricultural Preservation Restrictions
- Local Historic District
- Roads



Forests cover much of Concord. Remaining areas are developed. Trees are providing a carbon sink and helping the Town to offset its carbon footprint. To expand agricultural opportunities in Concord, orchards or grazing in forested areas may be viable options that also maintain forest cover.

Carlisle

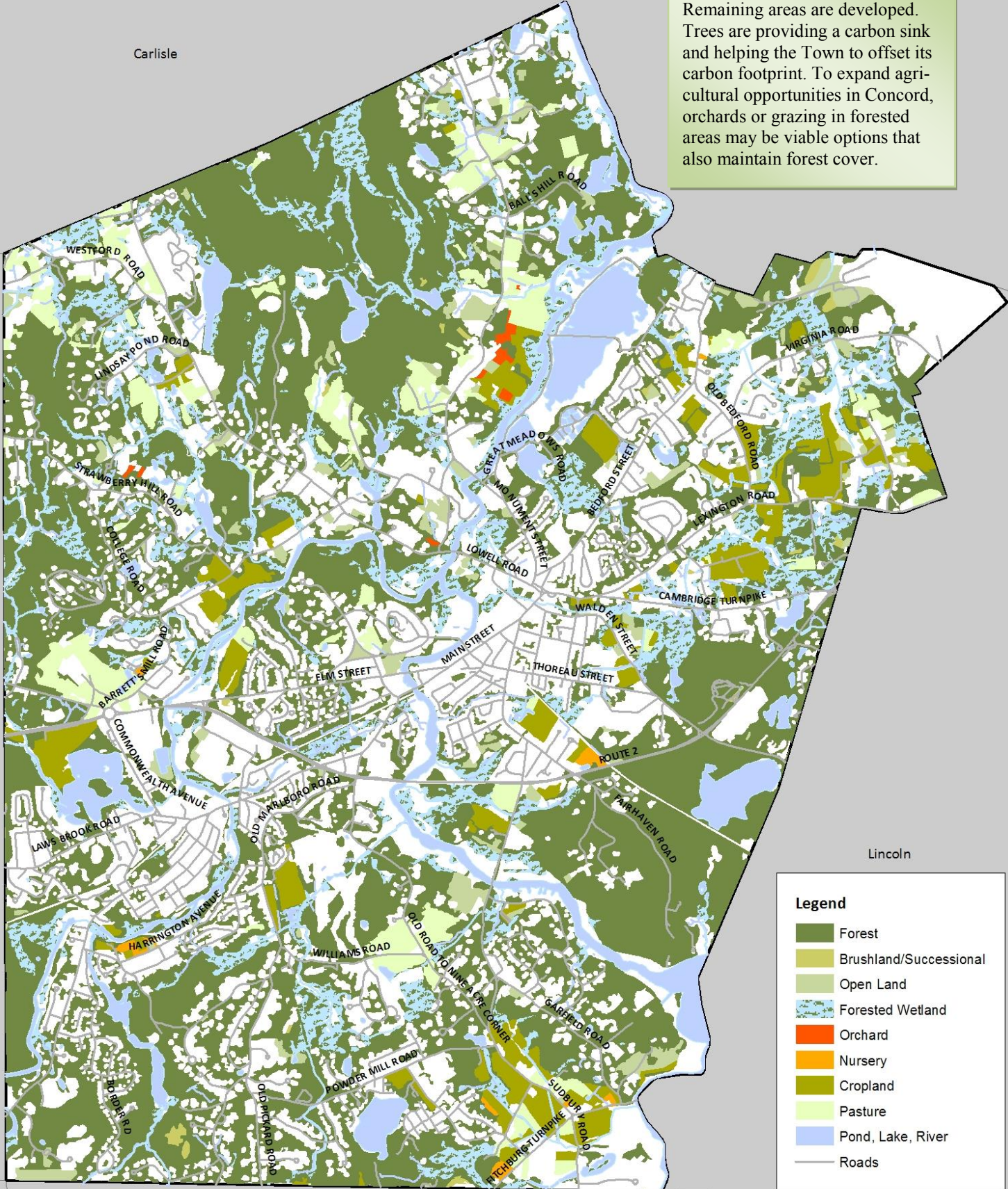
Acton

Lincoln

Maynard

Wayland

Westo



Current Land Cover

Legend

- Forest
- Brushland/Successional
- Open Land
- Forested Wetland
- Orchard
- Nursery
- Cropland
- Pasture
- Pond, Lake, River
- Roads



Page intentionally left blank



Turtle nets at Great Meadows National Wildlife Refuge by Cherrie Corey

Environmental Inventory & Analysis

Concord's wealth of natural resources has been well documented since the writings of Henry David Thoreau in the mid-nineteenth century. Since then there has been suburban development of agricultural land and industrial contamination, while at the same time also permanent protection of some of the Town's most prized natural areas has been realized. This section provides detailed inventory and analysis of the environmental resources in Concord today.

A) Geology, Topography, and Soils

Concord's topography ranges in elevation from a low of 112 feet where the Concord River flows into Carlisle, to 365-foot-high Annursnac Hill in the northwest. Several scattered hills and low ridges can be seen from many places in town, and provide a range of microclimates and habitats. Large, flat, low wetland areas provide varied wildlife habitat that supports biodiversity. The natural land surface displays a fine-scale pattern of small ridges, valleys, hillocks, and depressions. This surface is basically a result of three factors: (a) the buried bedrock surface (with faults and ice carving); (b) deposition layers of glacial till and delta sand and gravel; and (c) subsequent swamp- and river-floodplain deposits.

One billion years ago, the crust of earth that Concord occupies today would have been part of an earlier African continent.^{7, 62} Some bumping together of the former African and North American continents, mainly during the Paleozoic Era, produced high mountains, which eventually became the Appalachians. Beginning about 225 million years ago (in the Mesozoic Era), the

continents drifted apart. Much later, beginning about one million years ago (the Pleistocene Era) continental glaciers advanced, retreated, and re-advanced in the Concord area. Melting caused the southern edge of the last (Wisconsin) glaciation to retreat northward some 10,000 years ago.

When the southern edge of the last melting glacier stood just south of today's Concord Center, an extensive lake, Glacial Lake Sudbury, covered the southern portion of today's Town extending well into the Town of Sudbury. Somewhat later, with the ice edge standing in northern Concord, Glacial Lake Sudbury was south of Emerson's Cliff along today's Lincoln line. With further melting, the glacial edge had moved to the northern part of Concord and the land there was 50 feet below the delta which marked the edge of Lake Sudbury. The melting waters now backed up and began to form a new body, Lake Concord, which extended down into what is now Bedford and discharged into what became the Shawsheen River Valley. Today's Great Meadows National Wildlife Refuge, located at what was the northwest shore of Glacial Lake

Concord, was one of the last areas of the lake to drain. The large wetland there lies over the Assabet River fault. As the ice edge retreated northward, the Concord, Assabet, and Sudbury Rivers began flowing northward toward today's Merrimac River Valley, which thus drained the two glacial lakes, and caused the Mill Brook to flow westward.³² Since then, except for the Elm Brook area, almost all town land drains to the Sudbury and Concord Rivers (see Water Resources Map).

Several distinctive glacial deposits form the geomorphology of Concord.^{7, 62} Drumlins, land shaped like an inverted spoon, are thick deposits of glacial till (e.g., Punkatasset, Pine, and Nashawtuc Hills). Eskers are long, high, narrow, and sinuous sandy ridges (e.g., the ridge parallel to Monument Street and across the Concord River from Great Meadows, and the eastern sides of the Concord Country Club and Mink Pond). Kettle holes are steep-sided basin-shaped depressions (with no stream entering or leaving). If deep enough to reach below the water table, these are kettle ponds (e.g., Walden, Goose, and White Ponds). Some vernal pools (see Wildlife and Plant Habitat Map) are kettle ponds that dry out during part of the year. Kames, almost the inverse of kettle holes, appear as knobs that often separate kettle holes (e.g., Jennie Dugan Kames in south-central part of the Concord Country Club). Post-glacial lake and swamp deposits today appear as low, flat surfaces (e.g., the marsh north of Alcott School and the fields opposite Meriam's Corner, which were a part of Lake Concord).

The ridgeline north of White Pond that runs across Paul Revere Road and through Rolling Wood Lane is an ice-contact face where the glacier stopped its retreat and built up a delta while discharging its meltwaters out over the Nine Acre Corner area into Glacial Lake Sudbury. This contact face extends further over to the site of Concord Carlisle High School, the Hapgood Wright Town Forest, and towards Sandy Pond Road.

Due to differences in substrate types, vegetation types, groundwater conditions, microclimate, and land-use history, Concord has a rich mosaic of soils (see Soils Map). Several dozen named soil types are present and their characteristics further differ according to topographic slope.⁶⁹

Extensive areas of wet soils characterize this Town of three rivers. Hydric soils and soils with seasonally high water tables have been used for pastureland or conservation. Some of the latter soils also contain a restrictive hard layer that tends to prevent water from percolating downward. Most hydric soils in Town are

Bedrock Geology

The bedrock of the Concord area is largely granitic and metamorphic gneiss. Most of the Town lies between two regionally important geologic faults, the Bloody Bluff fault to the south and east, and the Assabet River (or Clinton-Newbury) fault to the north and west. These buried fault zones give Concord its general northeast-southwest topography. Rock outcrops, where bedrock reaches the land surface, are scarce in Town. Examples include Andover granite (Fairhaven Hill, and Emerson's Cliff in Lincoln), Shawsheen gneiss (along Route 2 just east of Crosby's Corner in Lincoln), Assabet quartz diorite (near the former Buttrick Mansion and on Lowell Road, west of the river), and gabbrodiorite (west of Fairhaven Bay). A small band of marble nearly reaches the natural land surface in Estabrook Woods.

mucks, especially Freetown, Saco (mucky silt loam), and Swansea. Most soils with seasonal high water tables are loamy sand (e.g., Deerfield) or fine sandy loam (e.g., Merrimac). Seasonal high water table soils with a restrictive layer are overwhelmingly fine sandy loams, mostly of the Montauk, Paxton, and Birchwood soil types.

In contrast, Concord's well-drained soils are especially appropriate for cultivation and for supporting development such as buildings and roads. Most of the well-drained soils are loamy sand (Windsor), fine sandy loam (Merrimac), or of the Merrimac-Urban Land Complex. Additionally, there are some areas that have excessively drained soils. Several areas of Town have only a thin covering of soil over bedrock, with soils mostly of the Charlton-Hollis-Rock outcrop complex. For building construction, the soils have the following conditions, though much variation exists: severely unfavorable (hydric, Deerfield, Hollis); unfavorable (Montauk, Paxton, Birchwood, Charlton); and favorable (Merrimac, Windsor).⁶⁹ Similarly, conditions for successful septic systems tend to be: severely unfavorable (hydric, Deerfield, Montauk, Paxton, Birchwood, Windsor, Hollis) and unfavorable (Merrimac, Charlton). In Concord, surface soils have a localized effect on access to drinking water (e.g., Hugh Cargill well), soil erosion (occasional steep slope by a pond), and recreational opportunities (trail inaccessible due to high water table).

B) Landscape Character

An integrated network of large natural areas or patch-

CARLISLE

BEDFORD

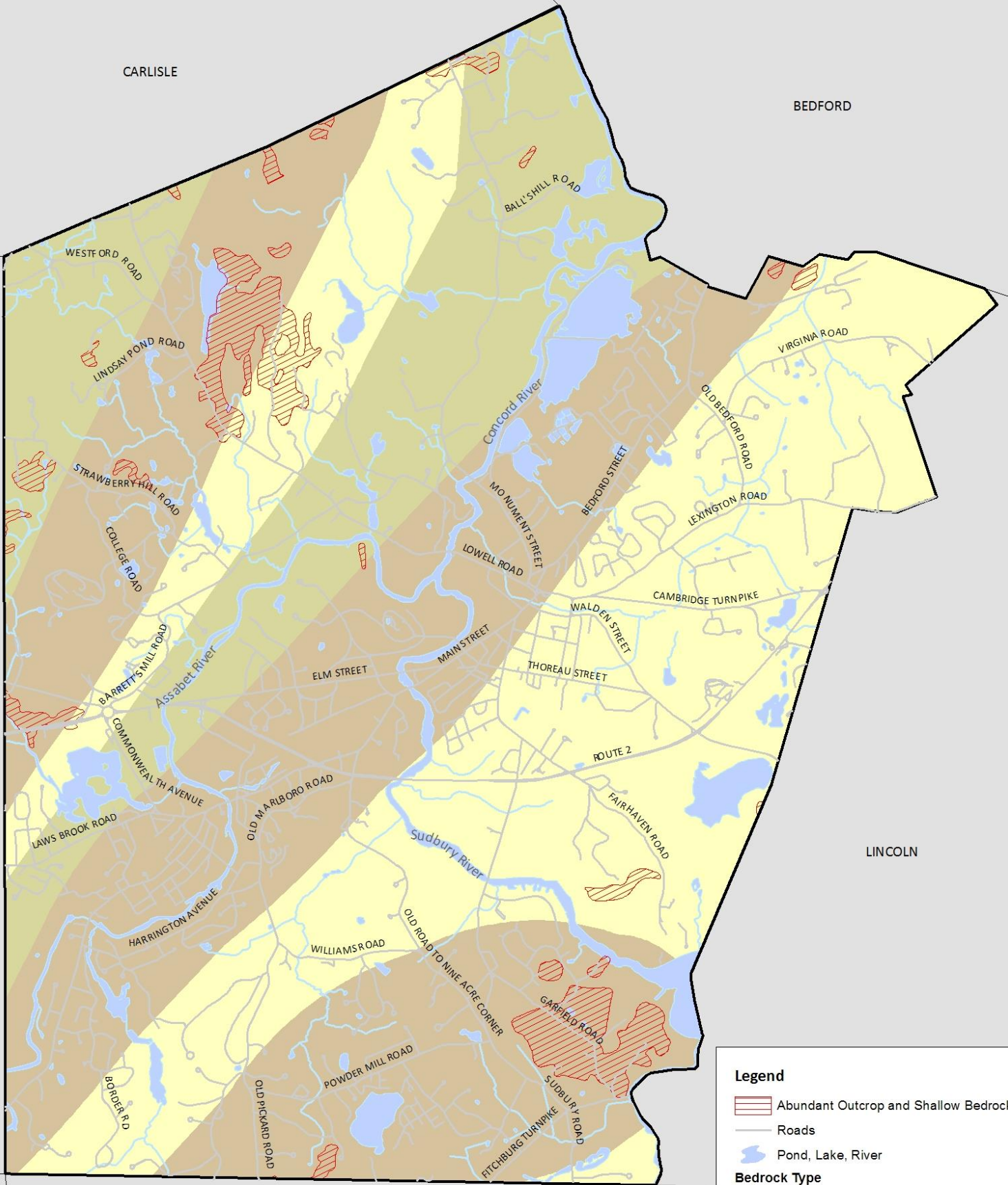
ACTON

LINCOLN

MAYNARD

SUDBURY

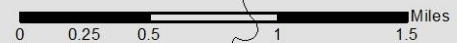
WAYLAND



Legend

-  Abundant Outcrop and Shallow Bedrock
-  Roads
-  Pond, Lake, River
- Bedrock Type**
-  Granite
-  Mafic Rocks
-  Metamorphic Rocks

Bedrock Geology



es, large agricultural areas, major wildlife corridors, water bodies and adjacent land, and certain unique features and microenvironments contribute to Concord's special character.

For the purpose of this plan, large natural areas are defined as patches of relatively natural vegetation that are intact and wide enough to provide a large interior area of forest or wetland (i.e., remote from edge effects and anthropogenic influences). The distance between these patches is less than the dispersal distance of key species, allowing for genetic dispersal between populations. These patches maintain many combinations of natural habitat conditions in proximity for species requiring two or more habitats. The size of the patch is sufficient to support large-home-range vertebrates and many interior species, to protect an aquifer and/or headwaters network of small streams, and for most natural disturbances to affect only a portion of the patch. Three large patches may be required to maintain the total richness of native species in an area. In the 2004 and 1992 OSRP, seven such areas were identified in Town. The boundaries of these areas have been modified for this Plan and two new areas were created based on Biomap2 released in 2012 (see Open Space Framework Map and Appendix C).

Large Natural Areas:

- N1. Estabrook Woods Area**
- N2. Great Meadows / Ball's Hill Area**
- N3. Walden Woods / Town Forest**
- N4. Second Division Brook Area**
- N5. Virginia Road Woods**
- N6. Annursnac Hill / Strawberry Hill Road**
- N7. Jennie Dugan Kames**
- N8. Hanscom**
- N9. White Pond**

For the purpose of this plan, large agricultural areas in Town are defined as extensive areas of contiguous agricultural or medium-sized farms close to one another that are predominantly open and possess prime farmland soil (i.e., fertile and well-drained) over at least one-third of the area (see Open Space Framework Map). Adjacent wooded parcels on prime farmland soil are included in the map because they represent potential cultivation areas in Town. Large agricultural areas may also include limited areas of wetland or an occasional building. These large agricultural areas were identified based on their opportunity for providing more efficient farm operations and fewer opportunities for negative impacts associated with adjacent development. While valuable to individual farmers and the community, small farmlands or isolated fields

Soils

Large portions of soil in the northern half of Concord are hydric. The high water table corresponds with hydric soils and shallow depth to bedrock in all places except for Punkatasset Hill. Hydric soils and high water table create ideal conditions for the abundant water resources in Concord such as the Great Meadows National Wildlife Refuge.

Prime farmland has the best combination of physical and chemical properties for producing food. The soils are of the highest quality and can economically produce sustained high yields of crops when treated and managed according to acceptable farming methods.



Great Meadows Wildlife Refuge

Source: By Liz West (Flickr: Great Meadow edit) [CC-BY-2.0 (<http://creativecommons.org/licenses/by/2.0>)], via Wikimedia Commons



Pied-billed Grebe by Ryan Schain

CARLISLE

BEDFORD

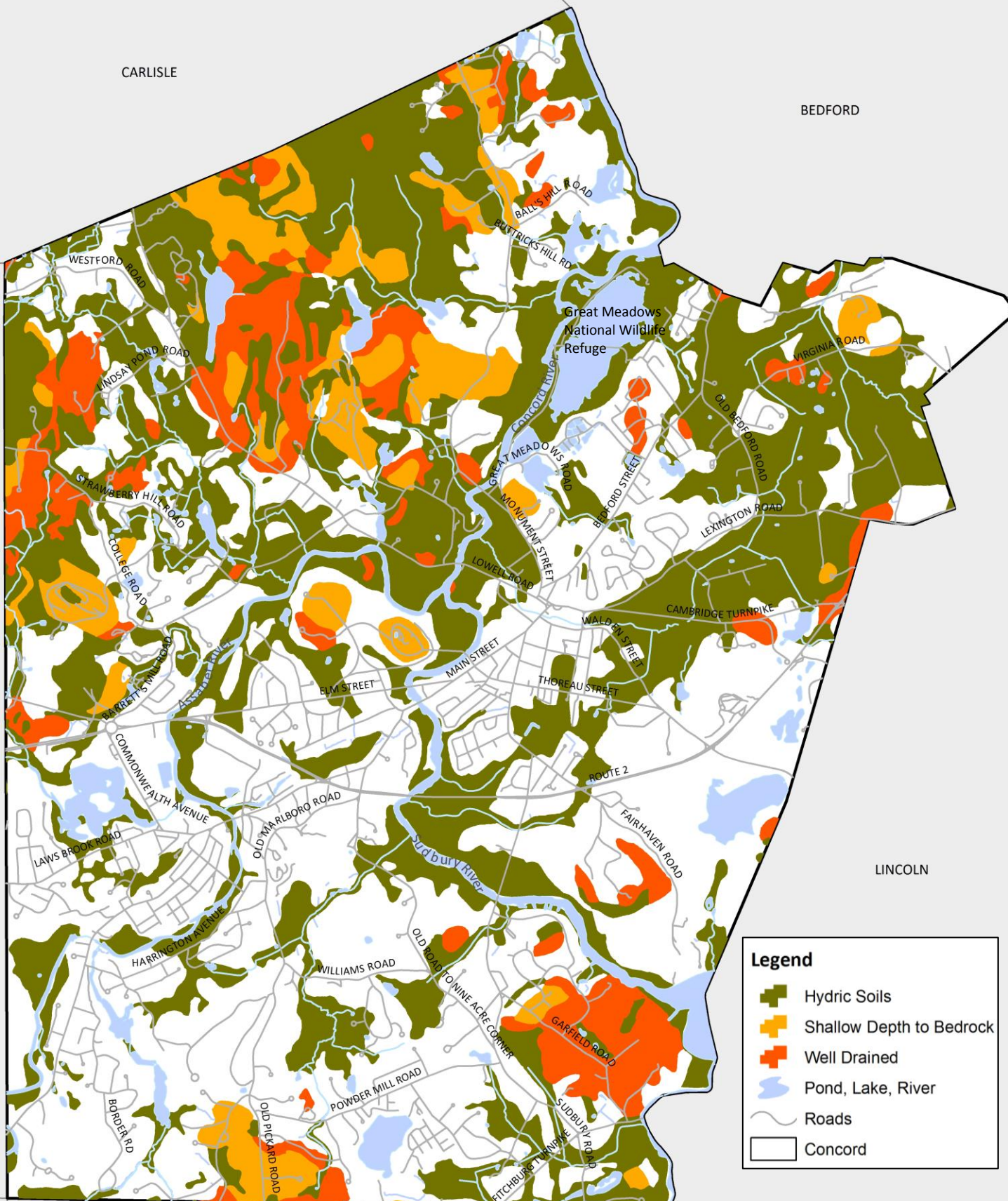
ACTON

LINCOLN

MAYNARD

SUDBURY

WAYLAND

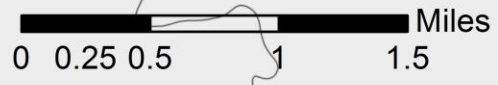


Great Meadows
National Wildlife
Refuge

Legend

- Hydic Soils
- Shallow Depth to Bedrock
- Well Drained
- Pond, Lake, River
- Roads
- Concord

Soils



in Town were not included in the large agricultural areas category and would need to be evaluated for protection on a parcel-by-parcel basis. In the 2004 OSRP, five large agricultural areas were defined:

Large Agricultural Areas:

- A1. Nine Acre Corner
- A2. Lexington Road
- A3. Monument Street
- A4. Williams Road / Sudbury Road / Route 2
- A5. Reformatory Farms / Barrett's Mill Road



Buckwheat at McGrath Farm, by Delia Kaye

Agricultural areas near roads, railroads, paths, and scenic points contribute significantly to the residents' perception of the open and rural character of the Town.

The areas provide farm products such as row crops, fruits, vegetables, eggs, and meat. The historic symbolism of farmland in Town, the availability and convenience of fresh produce for residents and the metropolitan market, and the ethics of protecting prime food-producing areas in a world with growing climate instability and increasing fossil fuel costs, all represent reasons why farmland is an important resource in Concord. Furthermore, active farmland is valuable in meeting other community priorities including recreation (such as perimeter trails around farm fields), education (school groups and youth programs that connect students with nature, science and food), historic preservation (keeping alive the agrarian landscape and values upon which the community and country were built), and as a way of serving others (growing food to contribute to local food production and to benefit needy communities). Finally, some agricultural areas enhance game populations and increase the Town's wildlife richness by providing habitat for species requiring large open areas.

Agricultural Soils

Prime agricultural soils in areas to the northwest and southeast of Concord Center have provided fertile ground for farmers for centuries. Its long agricultural history defines much of Concord's character. Many of the prime agricultural soils have already been built on (see buildings in grey on the map). However, there are still areas of prime agricultural soil that remain undeveloped and should be protected. Statewide Important Farmland is land other than prime farmland that is also highly productive.

C) Water Resources

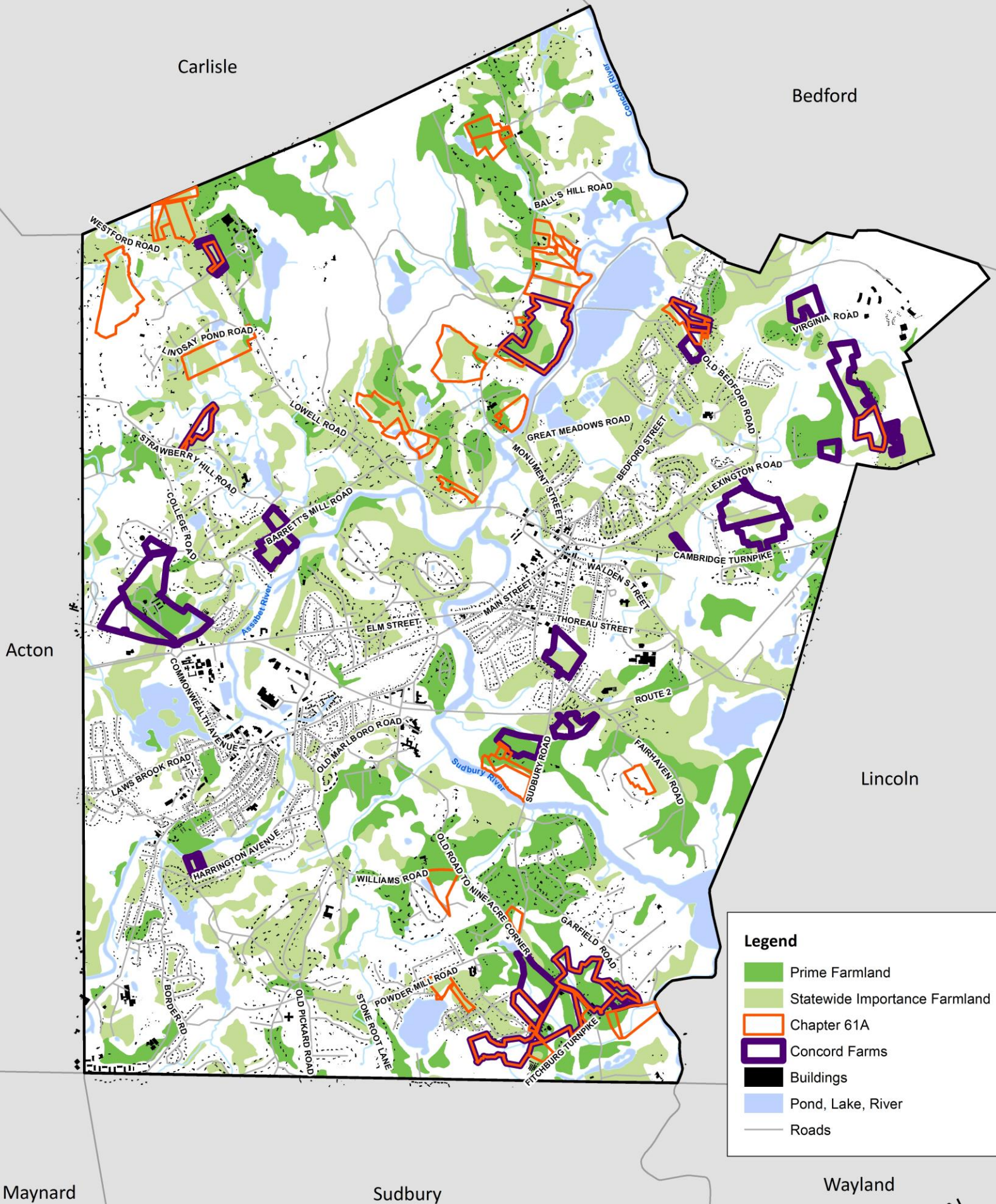
There are five types of water features of particular importance: (1) watersheds; (2) surface water; (3) aquifer recharge areas; (4) flood hazard areas; and, (5) wetlands.

C.1. Watersheds

Concord sits within the SuAsCo watershed, consisting of the Sudbury, Assabet, and Concord sub-watersheds. The Sudbury River originates in the Great Cedar Swamp in the town of Westborough and flows north through the Sudbury Unit of the Great Meadows Wildlife Refuge before entering Concord at the southern border. The Assabet River, also originating in Westborough, enters Town at the southwest corner. Both rivers continue a northward trajectory, joining to form the Concord River in the center of Town at the confluence point known as Egg Rock. The Concord River then continues north for approximately 16 miles before emptying into the Merrimack River in Lowell. The entire watershed drains roughly 377 square miles of land, affecting 36 municipalities and roughly 365,000 people.⁶³

Stormwater discharge and other aspects of development in Concord affect the quantity and quality of water in streams, ponds, wetlands and the ground. Open space in Concord is a major controller of both water quality and quantity, which in turn are important determinants of habitat quality, biodiversity, natural processes, and recreation. The central location of the Town within the watershed has implications both for water quality beyond town borders and for those waters flowing in from the sources discussed above.

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to inventory land uses within the recharge areas of all public water supplies; assess the susceptibility of drinking water sources to contamina-



Legend

- Prime Farmland
- Statewide Importance Farmland
- Chapter 61A
- Concord Farms
- Buildings
- Pond, Lake, River
- Roads

Agricultural Soils



tion from these land uses; and publicize the results to provide support for improved protection. The top five potential threats to public water sources in the state that were identified through SWAP are:

- 1) Residential lawn care/gardening;
- 2) Residential septic systems and cesspools;
- 3) Residential fuel oil storage;
- 4) Stormwater discharge; and
- 5) State-regulated underground storage tanks.

The Massachusetts Department of Environmental Protection has fulfilled this federal requirement, and a detailed report is maintained for public at the Concord Public Works Water & Sewer Division.

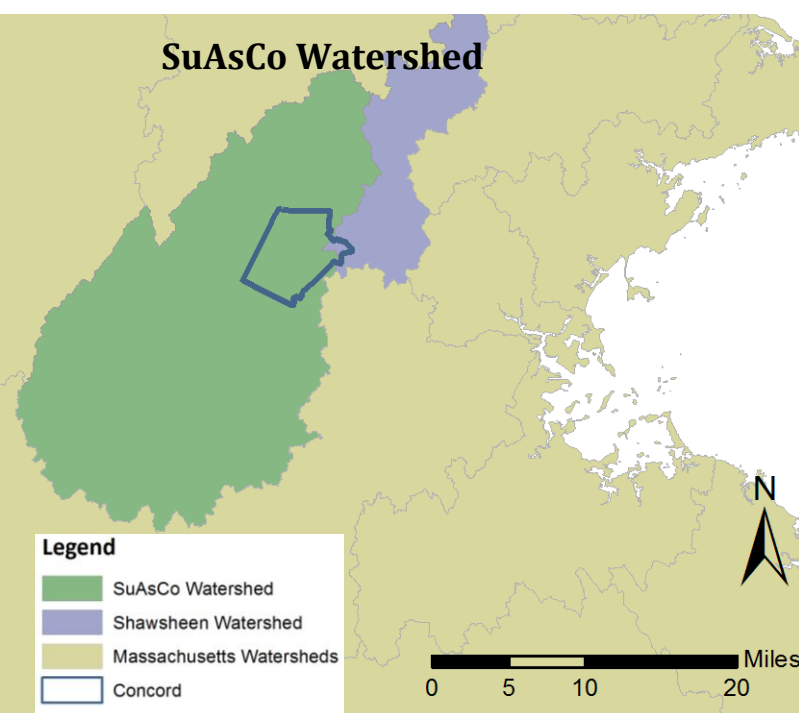
C.2 Surface Water

Primary recreational uses of water resources include canoeing, boating, and fishing in rivers, and fishing in streams and ponds. Swimming is popular in Walden, White, Silver Hill, Kennedy’s, and Annursnac Ponds, and canoeing or boating in Walden, White, Warner’s, and Bateman’s Ponds. Fishing and ice skating occur at most ponds. Essentially all areas adjoining surface water bodies provide recreational value for walking and enjoying nature, although not all of these areas have public access. There is public access in navigable rivers and streams, and in and around Walden Pond. Fishing and boating access, along with passive recreation access, is publicly accessible at White and Warner’s Pond, and smaller ponds such as Macone’s,

Hutchins, and Fairyland. In order to maintain recreational opportunities and preserve water quality it is important to protect the land adjacent to surface water. Protecting and enhancing certain water bodies is a focus of OARS (Organization for the Assabet, Sudbury and Concord River), the Mill Brook Task Force, White Pond Advisory Committee, White Pond Association, and Silver Hill (Pond) Association.

Ponds are a critical part of Concord’s open space and recreational resources on a regional, town, and neighborhood level.¹ On a regional level, Walden Pond, an “outstanding resource water,” is a key shared resource for Concord and Lincoln.^{49, 60} Both towns have to cooperate with the State in protecting and managing this high-value resource which draws visitors from around the world. Warner’s Pond is impacted by stormwater runoff from Acton, Boxborough, Carlisle, Littleton, Stow, and Westford. White Pond is subject to activities in Sudbury. The impoundments in the Great Meadows National Wildlife Refuge, recreational ponds at the Musketaquid and Concord Rod and Gun Clubs, and Macone’s skating pond off Lowell Road are examples of ponds that provide both wildlife habitat and outdoor recreation. On a neighborhood level, smaller ponds, such as those belonging to local associations, serve as centers for community activities. Some larger ponds, such as Kennedy’s Pond, are also at the center of neighborhoods. Fairyland Pond is a neighborhood pond for the Concord-Carlisle High School, as is Bateman’s Pond for Middlesex School.

While Walden and Fairyland ponds are already protected as open space, others, such as Kennedy’s and Warner’s Pond, could have more protection of their surrounding land. In addition to outright purchase of such land (the Natural Resources Commission currently owns 118.6 acres around Kennedy’s Pond and 34.5 acres adjacent to Warner’s Pond) the Town should consider other tools, including conservation restrictions and shoreline zoning. Particularly where ponds can provide neighborhood outdoor recreation, private fundraising and Community Preservation Act funds for acquisition is possible, perhaps in conjunction with a land trust. Municipal land by ponds may contain some undeveloped land that should be managed for conservation values until needed for town services, thus maintaining both conservation value and long-term land-use flexibility. In the case of municipal land near White Pond, parts of the property should be permanently conserved to better protect the pond; however, Town needs will first need to be evaluated. In order to raise awareness about surface water resources among residents, an educational wetlands bro-



chure, *A Homeowners Guide to Working Near Wetlands and Streams*, was mailed to all residents and provided to real estate agents and others in 2012. It highlights the key regulatory provisions and the importance and values of buffers adjacent to wetlands. Additionally, a watershed management plan was developed for Warner's Pond in 2012 and one is presently being developed for White Pond.

Surface Water Classifications are designations applied to surface water bodies, such as streams, rivers and lakes, which define the best uses to be protected within these waters (for example swimming, fishing, drinking water supply) and carry with them an associated set of water quality standards to protect those uses. Currently, the water classification of the three major rivers is B: Sudbury River (warm water fishery/treated drinking water supply), Assabet River (warm water fisheries), and Concord River (warm water fishery, treated water supply).^{42, 55} Class B waters are designated as habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. The Organization for the Assabet River has been testing the water quality of the Assabet since 1992, and currently conducts water quality, streamflow, and biomass monitoring on the main stems and large tributaries of the Assabet, Sudbury, and Concord Rivers.⁵⁵ The Mill Brook Task Force, Warner's Pond Stewardship Committee (2004-2012), and the White Pond Advisory Committee are the only town-sponsored groups focused on stewardship of a Concord surface water body. Other, similar groups or perhaps a broader stream/river group or surface water group might be formed to coordinate numerous stewardship opportunities across the Town. Such a group or groups could be effective in educating residents, in conducting a water-quality survey, and in other important roles.

The South Bridge Boathouse provides access to Concord's rivers, which are a major regional canoeing or kayaking attraction. The only other widely used recreational access to the rivers is next to the Lowell Road bridge. In 2005, the Lowell Road boat launch was upgraded to provide a more formal and stable access point to the river, facilitating canoeing and fishing. Since 2004, the Assabet River has been made accessible from the parking lot of Dino's Pizza (behind 1135 Main Street), and also from the Westvale boat launch located off Main Street just before the Westvale Meadows Condos. Boat launches also exist at the Pine Street Bridge, Warner's Pond, and White Pond. Canoe access for the Sudbury River and Fairhaven Bay is

A palette of well-known techniques for homeowners that can greatly reduce stormwater system runoff:

- Drains from roofs and driveways can be directed to surface depressions, vegetated swales, underground cisterns, aboveground rain barrels, water gardens, and more, in all cases to prevent roof-water runoff from reaching road drains.
- Cisterns and rain barrels can be used for watering gardens and even for certain indoor uses.
- Homes with groundwater wells should be expected and required to conserve water just as everyone else does (no lush green lawns during droughts), since pumping groundwater out during dry periods can quickly degrade nearby streams, ponds, and vernal pools.
- Strategic planting of native shrubs and trees on grassy or bare slopes reduces surface runoff.
- Homeowners can replace hard surfaces such as patios, driveways, sidewalks and parking lots with porous materials and surfaces.

also available in Lincoln on Route 117.

The Concord Department of Public Works (CPW) has taken significant measures to minimize the amount of pollution and sediment that drains from impervious surfaces into the stormwater system. CPW complies with Concord's infiltration/inflow control plan (initiated in September 2006) and submits annual reports in accordance with EPA National Pollutant Discharge Elimination System (NPDES) permit issued to the Town's Wastewater Treatment Plant. Measures that the CPW has taken include: the design and implementation of Low Impact Development (LID) techniques to minimize the amount of impervious material; construction improvements and upgrades to existing stormwater infrastructure, such as deep sump basins and infiltrating catch-basins; the institution of house-keeping programs to minimize sediment accumulation, including annual catch-basin cleaning and street sweeping; and, establishing household hazardous waste and unwanted pharmaceutical/personal care product collection events. The Town also has a Twenty Year Stormwater/Drainage Management Plan to address the backlog of deferred repairs and the need to replace large culverts in Town.⁵⁸

As the amount of impermeable surfaces increase, typically groundwater recharge is reduced, the water table drops, pond levels go down, wetlands shrink, streams become smaller, and vernal pools dry out sooner, all tending to cause significant ecological loss for Concord.

C.3 Aquifer Recharge Areas

The Nagog Pond surface water supply is located approximately five miles north of Concord in the towns of Acton and Littleton. Nagog Pond is a great pond with the majority of recharge from surface runoff and ground water recharge (thought to be through fractures); it has very limited tributary flow during times of high precipitation. Nagog Pond has a surface area of 0.44 square miles with a corresponding watershed area of only 1.25 square miles. The watershed comprises low density residential, conservation/protected land, and a small amount of commercial land in Nagog Park. Concord has a state-approved Nagog Watershed Resource Management Protection Plan, which includes comprehensive water quality monitoring, watershed surveillance, and watershed public outreach programs. Activities such as swimming, boating, and horseback riding along the shore are prohibited. In the early 1990s, curbing was installed along with a stormwater collection system that diverts stormwater out of the Nagog Pond watershed northeast into the Nashoba Brook watershed.

Access to both surface water and groundwater watershed lands has been restricted by posting “Public Water Supply Land – No Trespassing” signs. In select cases, where the Water and Sewer Division works closely with adjoining landowners, passive recreation, such as hiking on marked trails, is accepted. There is no active recreation, agriculture, or farming authorized on watershed lands, except when approved by the Water and Sewer Division, on a case-by-case basis.

C.4 Flood Hazard Areas

In addition to the Assabet, Sudbury, and Concord Rivers, Concord has many major streams or brooks (see Water Resources Map): Elm; Mill; Jennie Dugan; Nashoba, Spencer; Second Division; and Saw Mill, in addition to smaller brooks. A considerable area of Concord is subject to the statistical 1% annual chance flood event (100-year floodplain), though rather little additional area is subject to the calculated 500-year flooding (see Flood Zone Map).

Flooding occurs routinely in Concord and ranges from minor inconveniences to major damage (property damage, blockages of roadways or bridges vital for emergency response, and breaching of dams). The Town uses several mitigation strategies to alleviate flooding including the Massachusetts Stormwater Management Policy, beaver management, Twenty-Year Stormwater/Drainage Management Plan, and regular maintenance of culverts, drainage pipes, and

Water Resources

With the confluence of three rivers in the center of Town, Concord is especially well-endowed with wetland resources. Beaver activity generally extends the area of wetlands and increases habitat types and biodiversity. A state law passed in the mid-1990s eliminated most forms of beaver trapping, so, as elsewhere in the state, the town’s beaver population has grown noticeably.

other infrastructure. Concord’s drainage infrastructure consists of 124 culverts, 183 drainage outfalls, 2,522 catch basins, 751 manholes, and 50 miles of drain lines.⁵⁸

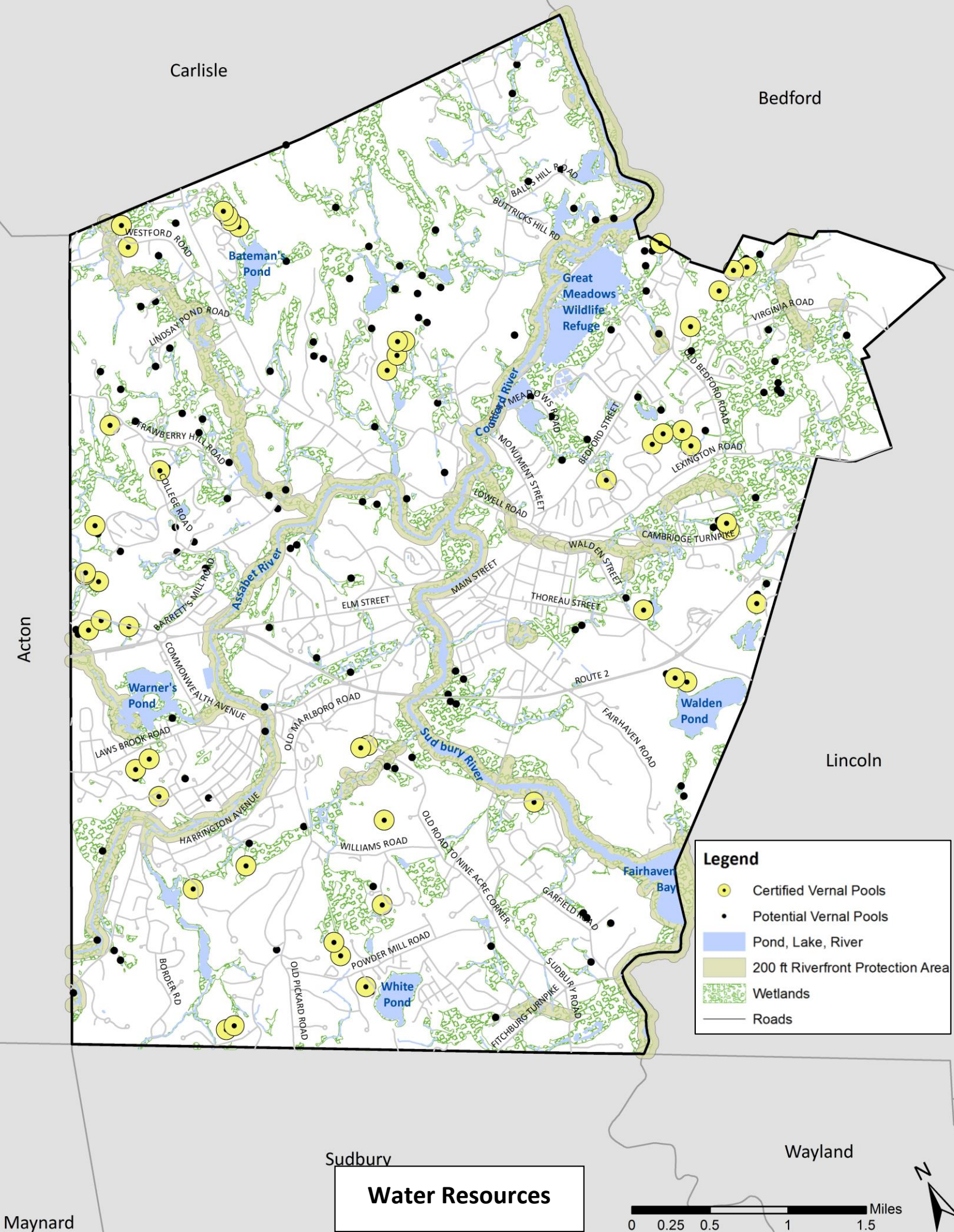
In the early 1990s stretches of the Sudbury, Assabet, and Concord Rivers were, with state and local collaboration, designated as Wild and Scenic Rivers. This provides some limits on alterations in and development near these rivers that are “outstanding resource waters.” In 1997, the state passed a Rivers Protection Act that protects a 100-foot buffer adjacent to perennial streams against development and permits only certain activities within 200 feet of perennially flowing streams and rivers.

C.5 Wetlands

Wetlands are protected by federal, state, and local laws. Filling and draining wetlands, altering the soil, cutting vegetation, and developing land within 100 feet of wetlands or within 200 feet of a perennial stream are regulated and require approval from the Natural Resources Commission.

In order to better protect its wetlands and water resources, Concord passed a Wetlands Bylaw in 2009. To help provide both long-term and improved protection of these valuable resources, the Wetlands Bylaw codified a 25-foot No Disturb Zone policy that the Commission has implemented since 1994, provided 100-foot protection to Certified Vernal Pools, and instituted an ability to impose fines. The Wetlands Bylaw, in conjunction with the River’s Protection Act, results in the preservation of valuable corridors in the Town that link some of the larger natural areas. The Commission also continues to enforce a 50-foot No Build Zone policy, first implemented in 2004, to better protect wetland resource areas.

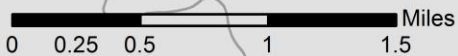
Water protection corridors include the water resource itself, as well as the associated strips of natural vegetation around ponds and along both sides of rivers and



Water Resources

Legend

- Certified Vernal Pools
- Potential Vernal Pools
- Pond, Lake, River
- 200 ft Riverfront Protection Area
- Wetlands
- Roads



streams. Trees and shrubs normally dominate these corridors in this region. These corridors provide several resources: clean water for drinking, swimming, and fishing; fallen logs and branches for critical fish habitat; shade to maintain cool water temperatures in summer; and leaf litter as a base of aquatic food webs. Water protection corridors help absorb stormwater and chemical runoff (fertilizers, pesticides, septic seepage, chlorine from pools, and other inorganic and toxic substances). The corridors also help reduce soil erosion, the scope and frequency of flooding, sedimentation, and loss of bottom fish habitat. They also serve as wildlife corridors.

D) Vegetation

It is likely that Concord is the most intensely botanized town in the United States for the longest period of time, starting with the brothers, Edward and Charles Jarvis in the 1820's and 1830's and continuing to the present day. Concord is endowed not only with a rich literary and historical heritage, but also with a wealth of habitats – three rivers, many ponds, brooks, meadows, bogs, swamps, marshes, deciduous-coniferous woodlands, open sandplains, fields, hills, ledges, and acidic as well as some circumneutral soils. It is situated close enough to the Atlantic coast to pick up elements of the coastal plain flora coming up from the south and far enough north and inland to pick up some elements of the boreal forest flora extending southward from northern New England.⁶⁵

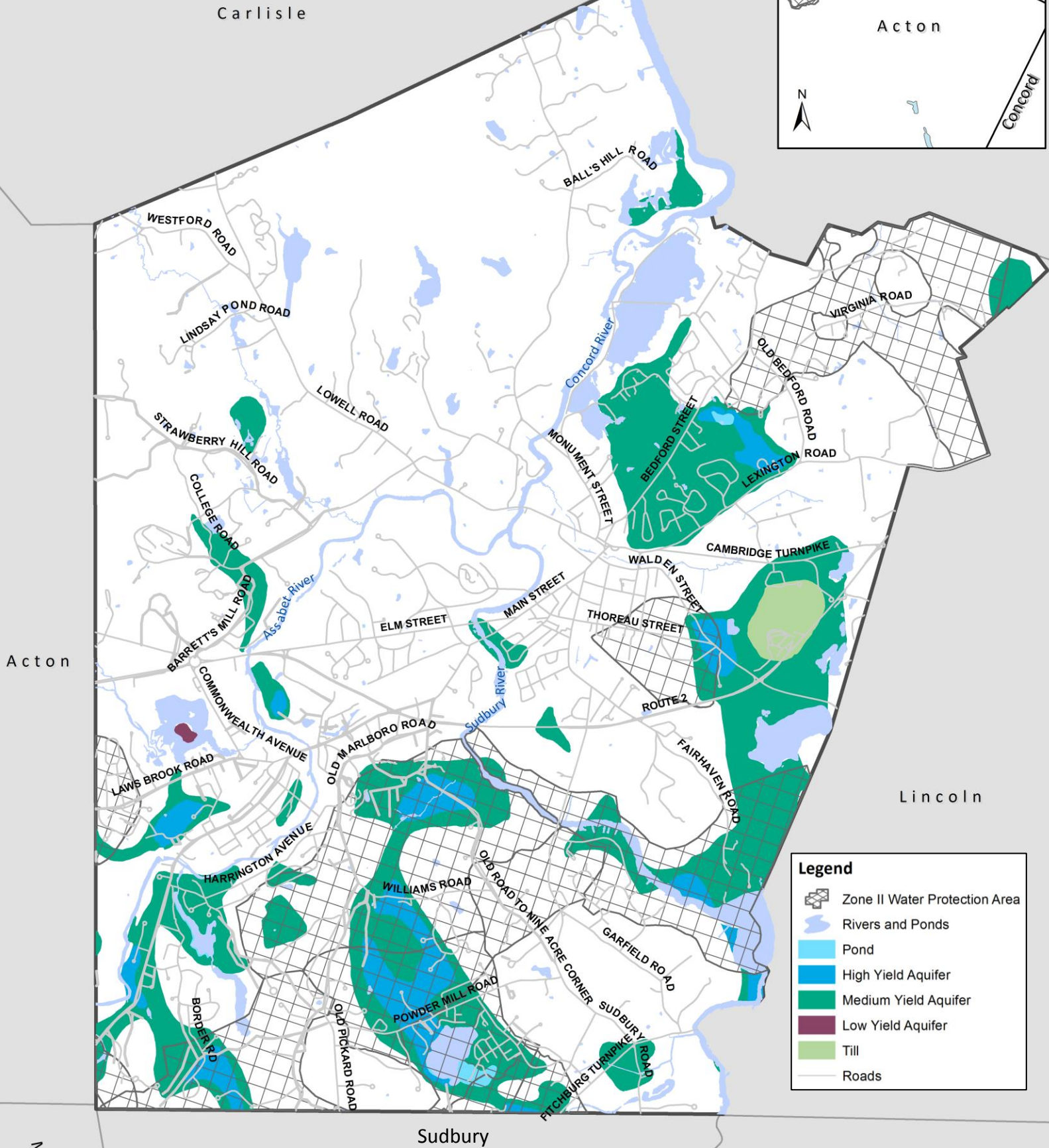
Concord's botanical legacy has been most solidly founded on the detailed observations and records of Henry David Thoreau (1817-62) and those he inspired to continue to study Concord's evolving flora thereafter. Following his death, Sophia Thoreau (1819-71), Edward S. Hoar (1823-93), Minot Pratt (1805-78), Alfred W. Hosmer (1851-1903), Herbert W. Gleason (1855-1937), and Richard J. Eaton (1890-1976) all made significant contributions to the Town's botanical record. From the late 1970's to early 1980's, amateur botanist and former curator of the New England Botanical Club, Ray Angelo spent nearly three decades comparing Thoreau's herbaria records and Journal entries to the Town's historical botanical record and his own exhaustive field explorations and inventories, in order to compile all of these observations into an annotated inventory with updated locations and place names.⁶⁵ This past decade has brought a resurgence of fieldwork, scholarship, and public interest focusing on Concord's flora. Dr. Richard Primack (Boston Uni-

Public Water Supply

Protection of land around groundwater wells is important for maintaining both the quantity and quality of groundwater. Designated aquifer-recharge areas for the wells are protected under the state's Department of Environmental Protection Zone I and Zone II regulations and Town Groundwater Conservancy Districts. These zones encompass a large amount of land in which certain activities are regulated to minimize pollution. Concord Zone II protection areas include land managed within other towns. Conversely, there are Zone II protection zones from the towns of Bedford and Acton that encompass Concord land.

versity) and Dr. Charles Davis (Harvard University) made use of Concord's botanical record, particularly the phenological data compiled by Thoreau, to study climate change and its possible impacts on the northeastern United States. Dr. Bryan A. Connolly, Massachusetts state botanist, has been conducting ongoing field visits to verify some of Concord's rarer plant species. In 2013, the Concord Museum presented an exhibition, "Early Spring: Thoreau and Climate Change," providing an overview of Concord's botanical legacy, changes in its flora, and possible impacts that might be attributed to climate change.

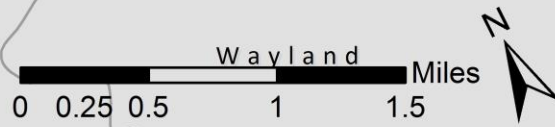
While Concord's predominant plant communities are characteristic of southern New England, the Town has a higher than average diversity of natural communities and flora due to the presence of three rivers, an abundance of wetlands, its glacial profile, and its situation both at the western edge of the coastal plain and the southern extent of boreal plant communities.^{1, 20, 29} Its upland forest matrix of transition hardwoods grow on well-drained, acidic glacial till and typically include red oak, white oak, black oak, white pine, black birch, and hickory species. Depending on orientation, slope, and drainage, these mixed hardwood stands may also include hop-hornbeam, American beech, American chestnut stump sprouts, hemlock, white birch, sassafras, and hazelnut species. A locally rare sugar maple-oak-hickory stand growing within a larger oak-hickory matrix in Conantum was first reported in Thoreau's Journal (September 17 and 24, 1851). It was subsequently relocated by Angelo in 1983, and reconfirmed and photographed by Cherrie Corey in October 2013 in a steep ravine along the southern boundary of Concord Land Conservation Trust's Anderson Woods



Legend

- Zone II Water Protection Area
- Rivers and Ponds
- Pond
- High Yield Aquifer
- Medium Yield Aquifer
- Low Yield Aquifer
- Till
- Roads

Public Water Supply



parcel, partially within an abutting private parcel. A few pockets of northern hardwood-hemlock-white pine grow along glaciated, north-facing slopes, including the northwestern end of Brister's Hill in the Town Forest. Pitch pine, which was once prevalent in the forested landscape into the mid-nineteenth century, now appears as a forest remnant or in reclamation areas, such as the one atop Brister's Hill, where the species was once naturally abundant. A few healthy, old growth pines and hemlocks of significant age and size still stand in protected areas of the Town Forest, Estabrook Woods, the Old Rifle Range, and along Conantum's western ridge.

Concord's landscape, within the floodplain of three rivers and set upon the gravel and sand till of glacial lake bottom soil, made it an especially attractive inland location for indigenous farmers from 1000-350 years ago and for its colonial founders in 1635, who sought a suitable landscape in which to resettle, farm, and feed their livestock away from the fractious religious and political climate in Cambridge and Boston. Beginning in the mid-1600's, the Town's early European settlers followed their cultural roots in designating an agricultural commons, the Great Field, which ran from the town center out through its East Quarter. The Town's Meriam-Burke, McHugh, and Kenney Farm fields are evidence of this long history, still in cultivation today and providing historic vistas. The Great Meadow provided abundant wet meadow hay for livestock from the mid-17th to late-18th centuries until deforestation and large river dams raised water levels and decimated the meadow grasses. Ultimately, it was impounded by landowner Samuel Hoar and, later, the U.S. Fish and Wildlife Service to create marshland for wildlife conservation in the early to mid-20th century.

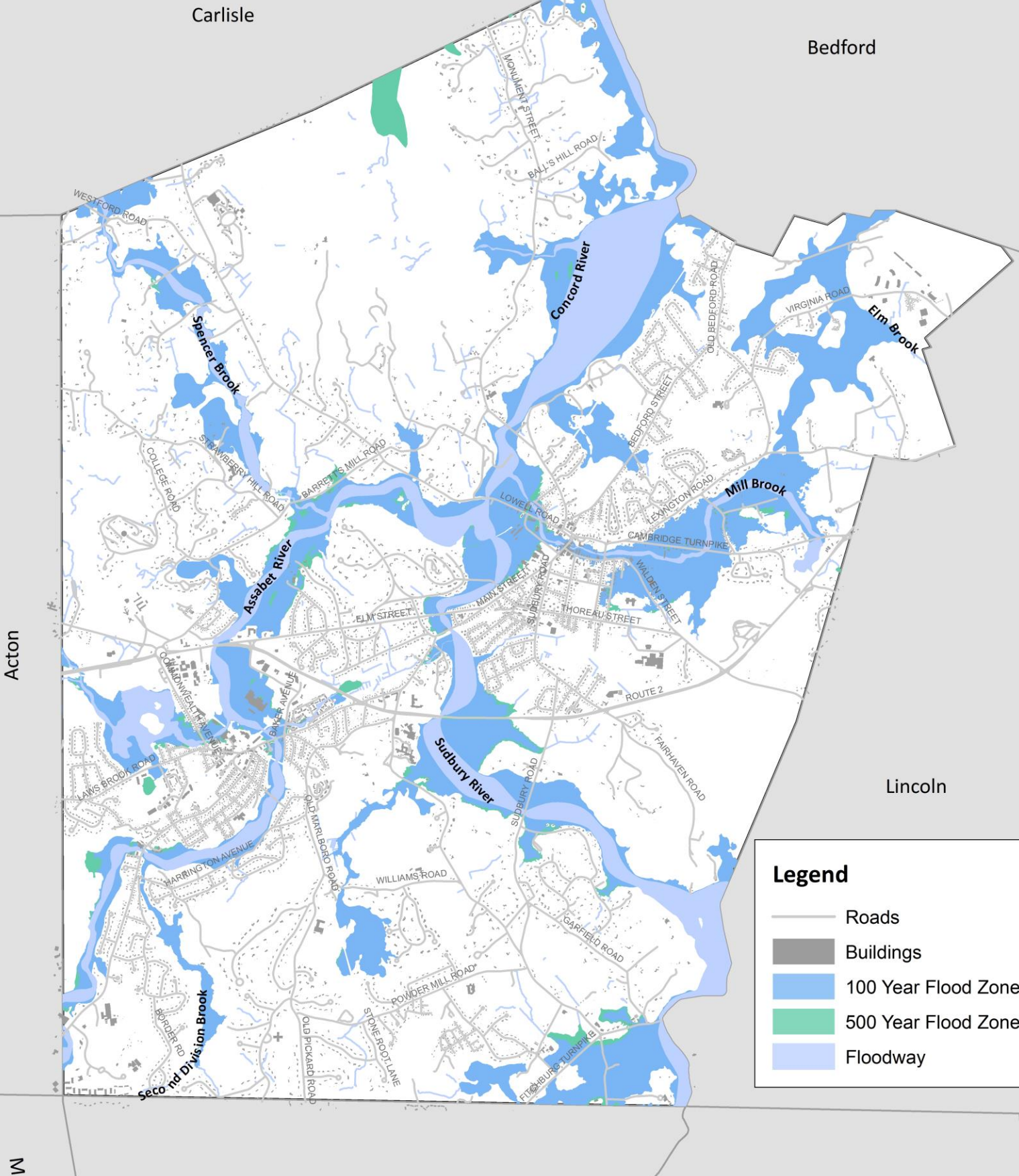
Today, Concord is distinguished by a diversity of wetland communities and plant associations, several of which are classified by the Natural Heritage and Endangered Species Program (NHESP) as priority natural communities that are imperiled or vulnerable, including stretches of small river floodplain forest along its three rivers, alluvial red maple swamp (at Great Meadows), level and kettlehole level bogs (most notably Gowing's Swamp, Bose's Meadow, and Jenny Dugan Kames bog), and acidic fens (the Andromeda Ponds and Heywood Meadow, west and southwest of Walden Pond). In addition, Concord has extensive shallow and deep emergent marshlands, numerous shrub and red maple swamps, wet meadows, highbush blueberry thickets, and inland acidic pond shore habi-

tat.

One of these wetland areas, Gowing's Swamp, stands out as perhaps the longest studied and most written about bogs in North America. In 2010, local naturalist Cherrie Corey completed a botanical inventory and historical survey of the Gowing's Swamp basin and the surrounding 13 acres of conserved upland forest and abutting vernal pools and cultural grassland, publishing a detailed historical and botanical report for the Sudbury Valley Trustees, titled *Gowing's Swamp and Thoreau's Bog, An Historical Wetland in Concord, MA*.²⁵ Based upon this updated research and hydrological data provided through MIT Professor Harold Hemond's 30-year study of the wetlands hydrogeology, the entire 8.9-acre wetland basin was determined to be fully a kettlehole level bog, perched above the divide of two watersheds, and not a boggy depression within a red maple swamp as previously characterized by Richard Eaton in 1969. Of the 220 plant species recorded, several are locally rare or significant including two separate stands of black spruce (one with 400+ trees, the only remaining significant stand in Concord), tamarack, bog rosemary, pale laurel, small-flowered cranberry, and numerous purple pitcher-plants. Some 52 species of lichens were recorded within the bog basin, a number of which are locally rare and highly sensitive to habitat disturbance and air pollution.²⁵ Gowing's Swamp is the most floristically diverse and intact bog remaining of some dozen bogs described in Concord's historical record. Care should be taken to minimize future impact on the bog by any alteration of the surrounding water table or its water chemistry, by localized exposure to sulfur dioxide emissions, by rapidly encroaching invasive plant species along its shoreline, and by the impacts of increased use of shoreline trails and egress onto the bog mat by the public and visiting dogs.

Flood Zones

A considerable area of Concord is subject to the 1% annual chance flooding probability (100-year floodplain), though rather little additional area is subject to the calculated 500-year flooding. The amount of stormwater over Concord's impermeable surfaces could cause flooding with potentially damaging effects on basements, septic systems, driveways, and roads and bridges in Town. Major floods with higher peak flows have the potential to transform and rearrange Concord's floodplain habitats and degrade fish populations in its waterways.



Carlisle

Bedford

Acton

Lincoln






Maynard

Sudbury

Wayland

Flood Zones

Legend

-  Roads
-  Buildings
-  100 Year Flood Zone
-  500 Year Flood Zone
-  Floodway



Three areas in Town support interesting pockets of locally rare flora due to calcite outcrops and circum-neutral soils, including Estabrook Woods (from Puntasset Hill to Mink Pond, the lime quarries, and Bateman’s Pond), Conantum, and on the east side of Annursnac Hill. While some of the species found in these areas were introduced by nurseryman Minot Pratt in the early to mid-19th century, and have since naturalized, other species appear to be native to these sites. Recreational overuse (principally wandering hikers, dogs, and trail bikes) are now causing the most immediate and obvious impact on these populations, especially in Estabrook Woods and at Martha’s Point in Conantum, overlooking Fairhaven Bay.

Over the past 160+ years that Concord’s flora has been intensively documented, increasing changes are being noted to both the overall profile of its plant communities and to some of the more unusual and specialized species within these areas. The impacts come from a host of factors which have shifted in significance over time, including: deforestation, reforestation; predation; disease; development (filling, dredging, contaminating, displacing the water table); changing air/water quality; increasing recreational degradation; precipitous spread of invasive introduced species; disappearance of pollinators; and, climate change. Some of these impacts can be mitigated with mindful town planning, land management, and public education while others are more complex, longer term, systemic problems, needing further study and wider resolution.

In addition to the natural vegetative communities, the Town Tree Warden manages 15,000 – 20,000 street trees, mostly along the streetscape, but also within recreational and public spaces. One hundred fifty trees are planted annually from a mix of 30 species (mostly native) to help diversify the native population. An inventory will be conducted in 2015 as a first step towards developing a master plan for the street tree program.

E) Fisheries and Wildlife

Because Concord is situated at the junction of the Asabet and Sudbury/Concord Rivers, and is blessed by large tracts of conservation land, the Town is able to host a wealth of wildlife species, unusual in a town so close to a major metropolitan area. Concord is, and has always been, a mecca for naturalists, with the result that Concord flora and fauna are among the most heavily studied in the nation with detailed records dating back to the journals of Henry David Thoreau.

Plant and Wildlife Habitat

Concord has 50 Certified Vernal Pools and 154 Potential Vernal Pools, and large portions of the Town, especially in the north, provide core habitat for rare and endangered species as shown by BioMap2 on the following page. Potential vernal pools should be evaluated and certified as appropriate.



Muskrat by Cherrie Corey



Britton's violet by Cherrie Corey



Northern Harrier by Ryan Schain



Praying Mantis by Ryan Schain

Acton

Lincoln

Sudbury

Wayland

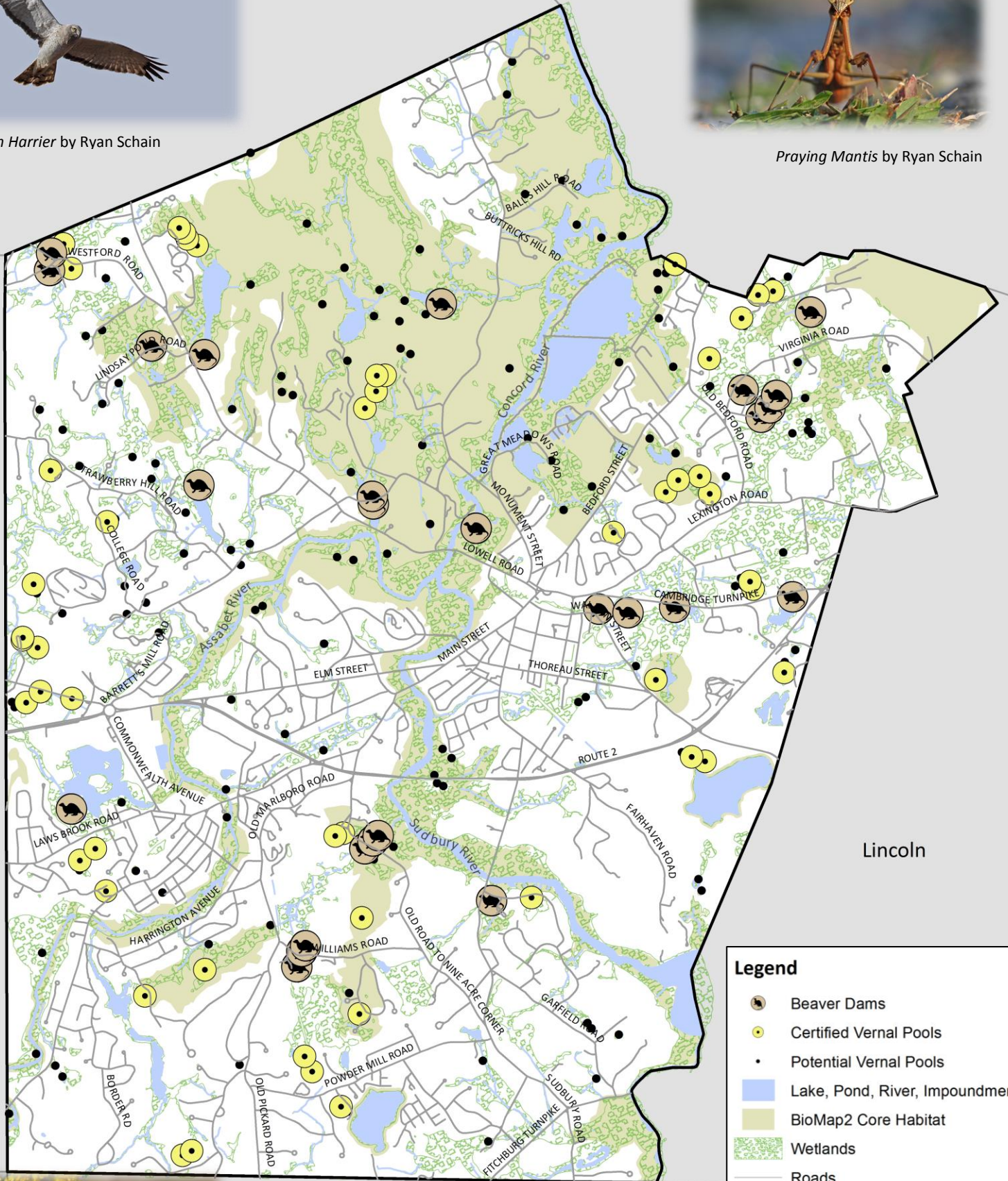
Plant and Wildlife Habitat

Legend

- Beaver Dams
- Certified Vernal Pools
- Potential Vernal Pools
- Lake, Pond, River, Impoundment
- BioMap2 Core Habitat
- Wetlands
- Roads



Orange Sulphur by Ryan Schain



Over the years, Concord-based organizations and the Town's residents have secured large tracts of open space which serve as habitat for many species of wildlife and which are used for wildlife compatible outdoor recreation. These tracts include the 1,200-acre Estabrook Woods, protected by numerous stakeholders, some 900 acres of conservation land owned by the Concord Land Conservation Trust, 1,360 acres of Town conservation land, and the 2,680-acre Walden Pond Reservation managed by the Commonwealth of Massachusetts' Division of Conservation and Recreation.

Because of the extent and diversity of wildlife habitat, wildlife is abundant and populations are healthy. To document the amazing wealth of wildlife, Concord launched the first Massachusetts biodiversity day in 1998 when, led by Peter Alden and Dr. Edward O. Wilson, Concord residents rose to the challenge of finding 1,000 species. Surpassing the challenge, they found 1,905 species and a few years later the state's Office of Environmental Affairs adopted the challenge state-wide.

Vegetation, wildlife, and biodiversity have changed markedly over four centuries of major human and land-use impact.^{28, 31, 34, 35} A major hurricane hit Boston in 1635, hurricane eyes passed within about ten miles of Concord in 1804 and 1869, and a 1938 hurricane caused extensive tree blowdowns, property damage, and, presumably, biodiversity changes in Town.³⁴ While recent storms have caused flooding in Concord, they have not caused high enough winds to inflict extensive damage.

E.1 Inventory

Mammals: White-tailed deer numbers are high in many parts of Town, as are numbers of many of the state's most adaptable mammals including coyotes, raccoons, and beaver. Where deer populations are high, some residents enjoy viewing them. Other residents bristle at the damage to ornamental plantings and the increase in tick-borne diseases, and concerns over impacts to forest health from excessive deer browse on native flora.

Biologists recommend holding deer population numbers at 8 – 10 per square mile and seek to manage deer numbers through hunting. Deer hunting opportunities in Concord are relatively limited. Much of the best deer habitat is in private ownership and hunting is further limited by the 500-foot setback regulation which effectively eliminates most of the open lands in Concord.

Less common than deer but equally charismatic are bear and the occasional moose that wander through Town. Moose occasionally make an appearance near the Concord or Sudbury River, though year round residence in Concord is very unlikely. There have been reports of moose using the active railroad line in Concord.

The presence of black bears has been noted from vandalized bird feeders, scat, and sightings, but is unlikely that there is a year-round bear population. There have also been a few reliable reports of bobcat sightings in Concord.

Wild canids—coyote, red fox, and gray fox—are well established in Concord and travel extensively in open space, through yards, along roads, and crossing Route 2. Family packs of coyotes have been reported by residents.

Fishers, relatively large, dark-colored members of the weasel family, are widespread in Concord. The abundance of large white pine trees for denning and the large number of squirrels for food may contribute to their success. Other weasel family members present in Concord are river otter, mink, and long-tailed and short-tailed weasels. Otter use all the rivers and most ponds in Concord to a surprising degree.

The eastern cottontail rabbit population fluctuates considerably. Its cousin, the New England cottontail, may be extirpated from the area. Raccoons are frequently seen, as are opossum and striped skunk; all these species have adapted well to the suburban landscape found in Concord.

Beaver are at home in many wetlands and ponds. If their food supply runs out, they will leave and return when it has grown back up. There are several beaver management devices (Jennie Dugan Brook, Punctasset, and a newly installed device at Fairyland Pond) that have successfully maintained water levels and prevented flooding; these options are worthwhile considerations to harmonize human/wildlife interactions.

There are only a few locations in Concord where individual porcupines have been seen. Slow moving and undaunted, they are especially vulnerable to vehicles. Hemlocks are an important food source. Given the effects of woolly adelgid on hemlocks, it is possible that the small population of porcupine will further diminish.

Among the small mammals present in Concord are at least four species of squirrel: gray, red, southern flying squirrel, and eastern chipmunk. White-footed mice

are ubiquitous, as are meadow voles. Less common are northern redback voles, pine voles, and meadow jumping mice. Hairy-tailed mole tunnels are frequently seen in sandy areas and the star-nosed mole inhabits many Concord wetlands. Short-tailed shrews and our tiniest mammal, the masked shrew, are also abundant. Muskrat are common in the rivers as well as in large and small marshes.

Sadly, bats have become much rarer in Concord in recent years, as elsewhere in Massachusetts. The primary cause for this decline is the new and devastating infectious disease, white-nose syndrome, which has obliterated more than 95% of our wintering bats since 2008. Big brown bats are likely the species most frequently seen in Concord.

Birds: The birdlife of Concord and the Sudbury Val-

such as eBird (<http://www.ebird.org>) to record their sightings. These types of tools, which now provide nearly instantaneous access to site-specific bird records, are revolutionizing the means by which such data are collected, archived, and disseminated. In 2013, a compilation of eBird records representing the sightings of dozens of local birders, yielded a total of 225 species in Concord (<http://tinyurl.com/p88hqj5>).

The avian richness of Concord is largely attributable to the Town's long-standing history of active land conservation and management, and to the extensive areas of open space that represent the fruits of those efforts. Areas that are notably rich in birdlife include Estabrook Woods, the Concord impoundments of the Great Meadows National Wildlife Refuge, the Dugan Kames Natural Area; the Elm Brook wetlands; Hanscom Airfield, and the agricultural fields at Kaveski

It is in vain to dream of a wildness distant from ourselves. There is none such. It is the bog in our brain and bowels, the primitive vigor of Nature in us, that inspires that dream. Consider how remote and novel that [Gowing's] swamp. Beneath it is a quaking bed of sphagnum, and in it grow Andromeda polifolia, Kalmia glauca, Menyanthes, Gaylussacia dumosa, Vaccinium oxycoccus, plants which scarcely a citizen of Concord ever sees. It would be as novel to them to stand there as in a conservatory, or in Greenland...

Henry David Thoreau - August 30, 1856

ley has been studied and chronicled nearly continuously for more than 150 years. This remarkable ornithological record is unsurpassed in North America. Thoreau laid the groundwork in the mid-19th century, William Brewster continued the tradition from late in the 19th century into the early 20th century, and between the 1940s and 1980s, Ludlow Griscom and Allen Morgan, led the move into the modern era of "birding." Today Concord is still home to professional naturalists and ornithologists and many avid birders. Not coincidentally, the documentation of the town's birdlife has become more thorough than ever.

Bird data collected recently in Concord, using standardized protocols, include the local records from the state-wide Massachusetts Breeding Bird Atlas (2007-2011, <http://www.massaudubon.org/bba2>); the Concord Christmas Bird Count (annually since 1960, <http://netapp.audubon.org/cbcobservation>); town-wide "Biodiversity" events in 1998 and 2008 (<http://www.waldenbiodiversity.com/species-list-2009-1998>); and regular, ongoing surveys at the Concord Unit of the Great Meadows National Wildlife Refuge (unpublished) and Minuteman National Park (unpublished). Additionally, local and visiting birders increasingly use internet-based "citizen science" tools

Farm, Nine Acre Corner, and Barrett's Mill. Estabrook Woods, the Refuge impoundments, and Hanscom, being especially important in terms of their contributions to Concord's avian diversity, are discussed in more detail below.

Estabrook Woods is, by far, Concord's largest tract of unfragmented, mature forest. By virtue of its sheer size and because it contains a wide variety of forest types and microhabitats, including several bogs, its avifauna is probably more diverse than all the Town's other woodland tracts combined. An impressive list of nesting species include barred owl, ruby-throated hummingbird, pileated woodpecker, winter wren, at least eight species of wood warblers including black-throated green warbler and northern waterthrush, along with scarlet tanager, wood thrush, hermit thrush, and veery.

The wetlands that comprise the Concord Unit of the Great Meadows National Wildlife Refuge attract an enormous variety of birds, especially in the breeding season and during the spring and fall migration periods. During migration, refuge staff actively manage the water levels within the impoundments to create conditions that are favorable for migrant waterfowl,



Pectoral Sandpiper by Ryan Schain

shorebirds, and other wetland taxa.

State-listed species that are known to nest in the Concord impoundments include least bittern and pied-billed grebe. Other listed species that occur there, but for which breeding has not yet been confirmed, include American bittern, king rail, and common gallinule. Wood ducks and hooded mergansers nest in the artificial nest boxes and in natural tree cavities along the periphery, and other noteworthy species that nest in the impoundments include Virginia rail, sora, willow flycatcher, marsh wren, and swamp sparrow. Over 30 species of waterfowl have been recorded at the Concord impoundments. Diving ducks such as ring-necked duck, common goldeneye, and hooded mergansers are more common when the water levels are highest in spring, whereas the numbers of dabbling species such as green- and blue-winged teal, American black duck, and northern pintail peak in the fall. A remarkable total of 30 species of shorebirds recorded at the impoundments has included 5 species of plovers and 25 species of sandpipers, the great majority of which have occurred as southbound migrants in mid-to late summer. At this season, shorebirds feed in shallow pools that form, or on mud flats that become exposed, when water levels are low. Species most commonly recorded include killdeer, greater and lesser yellowlegs, and semipalmated, least, and pectoral sandpipers. The abundance of birds at the impoundments invariably attracts avian predators. Raptors most frequently seen exploiting this food source include bald eagle, northern harrier, Cooper's hawk, merlin, and peregrine falcon.

Despite its conspicuous differences with the rest of Concord's open spaces, Hanscom Airfield is very important for a suite of birds that require early succes-

sional habitats. Two state-listed grassland obligates, upland sandpiper and grasshopper sparrow, nest in the large expanses of mowed grass at the airfield, as do various other grassland birds such as savannah sparrow, bobolink, and eastern meadowlark. One or two pairs of American kestrels, a cavity-nesting, grassland species whose population throughout the Northeast is in sharp decline, nest in crevices and cavities in the hangars and other buildings at the airfield. During migration and in winter this artificial grassland occasionally hosts other open country species including snowy and short-eared owls, northern harrier, horned lark, Lapland longspur, and snow bunting. Much of the Massport land around the margins of the airfield is maintained as shrubland habitat which supports species such as brown thrasher, blue-winged and prairie warblers, eastern towhee, field sparrow, and indigo bunting.

Reptiles: The common garter, northern water, ribbon, milk, northern ring-neck, eastern racer, and DeKay's snakes have all been seen in Concord, though only garter and water snakes remain common. The Massport land near Hanscom Airfield supports a small population of eastern racers, a declining species that may be a candidate for state listing in the future. All but one of the inland species of turtles in Massachusetts can still be found in Concord, though only painted and snapping turtles are common. Musk turtles are scattered along the major rivers and Nashoba Brook, though their numbers are small. Spotted turtles (Species of Greatest Conservation Need) occur in several areas in Concord, especially within the Estabrook Woods area, though their numbers have declined significantly in recent decades. Among the truly rare species, a small population of wood turtles (Species of Special Concern) persists on Massport land adjacent to Hanscom, a few individual eastern box turtles (Species of Special Concern) have been found in recent years in the Bedford Levels section of town, the Great Meadows area, including town-owned and private lands adjacent to the National Wildlife Refuge supports one of the largest populations of the threatened Blanding's turtle in the northeastern United States. Introduced red-eared slider turtles are present and are breeding in Concord, especially in and near Great Meadows and a large adult false map turtle, another introduced species, was recently found in that area by Bryan Windmiller.

Amphibians: Green frogs, bullfrogs, wood frogs, pickereel frogs, spring peepers, and gray frogs remain common and widespread in Concord. The Great Meadows area and Concord River wetlands support

what may be the Commonwealth's largest remaining population of northern leopard frog, a species that declined dramatically throughout its continent-wide range in recent decades. Spotted and red-back salamanders are common in the Town, while eastern newts and northern two-lined salamanders occupy a few areas of suitable habitat. Two rare salamander species, the four-toed salamander (Species of Greatest Conservation Need) and the state-listed blue-spotted salamander (Species of Special Concern) occur in several areas within the Town.

Vernal pools, bodies of standing water that dry up occasionally and thus lack fish populations, are particularly important breeding sites for many amphibian species. Concord is rich in vernal pools. Windmillers sampled more than 80 vernal pools in Concord and measured the abundance of spotted salamander egg masses as well as the presence of other amphibian species.⁷¹ Most spotted salamanders bred in a few large ponds. Also of land protection importance, the area, integrity, and habitat characteristics of upland forest within 300 meters of breeding ponds were the most significant correlates with spotted salamander abundance.

Fish: Fish diversity is moderately high in Concord, with many native and introduced species found throughout the rivers and stillwater habitats of the town. Native brook trout persist in Jennie Dugan Brook and have been found in Second Division Brook at the Concord-Sudbury line. The rivers and major ponds harbor a diverse mix of warm water fish fauna, most of them introduced. Among the notable populations of introduced fish are largemouth and smallmouth bass, yellow perch, bluegills, and northern pike. The Division of Fisheries and Wildlife stocks selected Concord waters with rainbow trout, brown trout, tiger trout, and occasionally eastern brook trout.

Invertebrates: Concord also supports a wealth of invertebrate species, especially insects. Most of this diversity is poorly known and poorly studied, though insects comprised the largest group of organisms of the 1,905 species found in Concord during the first biodiversity day in 1998.

One group of insects that is fairly well studied in Concord is the butterflies. The Concord Annual Butterfly Count conducted in association with the Massachusetts Butterfly Club was begun in 1989 and celebrated its 25th anniversary in 2013.

Over the last quarter century nearly 70 different species of butterflies have been seen with an annual average of approximately 40 species. Common butterflies



Monarch on Butterfly Bush by Ryan Schain

such as eastern tiger swallowtail, American copper, eastern tailed blue, American lady and silver-spotted skipper are seen nearly every year. The harvester Acadian hairstreak, Milbert's tortoiseshell and cross-line skipper are examples of uncommon to rare butterflies that have been seen. One of the Concord count's specialties is the bronze copper. Uncommon to rare in other parts of the state, Concord is fortunate to have several colonies of these butterflies inhabiting wetland edges on the Sudbury River. Occasional studies have also been undertaken of several other insects groups in Concord, including dragonflies and damselflies and some of the beetle species, particularly tiger beetles.

Rare Species: In 2010, the Massachusetts Division of Fisheries & Wildlife's Natural Heritage and Endangered Species Program (NHESP) published a statewide *BioMap2*, showing "core habitats" with a concentration of rare natural communities, animals, and/or plants. *BioMap2* lists 16 Massachusetts Endangered Species Act-listed species and 7 Non-listed Species of Conservation Concern in Concord. *BioMap2*: Core Habitat in Concord covers 5,403 acres, 2,926 acres of which are protected. Additionally, *BioMap2* identifies 3,738 acres of Critical Natural Landscape in Concord, 2,665 acres of which are protected. Core Habitats in Concord include: three Exemplary or Priority Natural Community Cores, one Forest Core, nine Wetland Cores, twelve Aquatic Cores, and eleven Species of Conservation Concern Cores (eight birds, one reptile, three amphibians, four insects, three mussels, ten plants). Critical Natural Landscapes include one landscape block, four wetland core buffers, and nine aquatic core buffers.

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

[Source: *BioMap2: Conserving the Biodiversity of MA in a Changing World*]

Mussels

Triangle floater, (*Alasmidonta undulata*), Non-listed SWAP species
 Eastern pondmussel, (*Ligumia nasuta*), SC
 Creeper, (*Strophitus undulatus*), SC

Insects

Moths

Two-striped cord grass moth, (*Macrochilo bivittata*), Non-listed SWAP

Butterflies

Frosted elfin, (*Callophrys irus*), SC

Dragonflies

Arrow clubtail, (*Stylurus spiniceps*), Non-listed SWAP species
 Umber shadowdragon, (*Neurocordulia obsoleta*), SC

Amphibians

Four-toed salamander, (*Hemidactylium scutatum*), Non-listed SWAP

Northern leopard frog, (*Rana pipiens*), Non-listed SWAP

Blue-spotted salamander, (*Ambystoma latera/e*), SC

Reptiles

Blanding's turtle, (*Emydoidea blandingii*), T

Birds

Upland sandpiper, (*Bartramia longicauda*), E

American bittern, (*Botaurus lentiginosus*), E

Least bittern, (*Ixobrychus exilis*), E

Pied-billed grebe, (*Podilymbus podiceps*), E

Sora, (*Porzana carolina*), Non-listed SWAP

Common moorhen, (*Gallinula chloropus*), SC

Grasshopper sparrow, (*Ammodramus savannarum*), T

King rail, (*Rallus elegans*), T

Plants

Acadian quillwort. (*Isoetes acadensis*), E

Violet wood-sorrel (*Oxalis violacea*), E

Pod-grass, (*Scheuchzeria palustris*), E

Lake quillwort (*Isoetes lacustris*), E

River bulrush, (*Bolboschoenus fluviatilis*), recently de-listed

Climbing fern, (*Lygodium palmatum*), SC

Long's bulrush, (*Scirpus longii*), T

Britton's violet. (*Viola brittoniana*), T

Engelmann's umbrella-sedge, (*Cyperus engelmannii*), T

Resupinate bladderwort, (*Utricularia resupinata*), T

Priority Natural Communities

Small-river floodplain forest, 52

Kettlehole wet meadow, 53

E = Endangered

T =Threatened

SC = Special Concern

SWAP = State Wildlife Action Plan

51 =Critically Imperiled communities, typically 5 or fewer documented sites or very few remaining acres in the state.

52 =Imperiled communities, typically 6-20 sites or few remaining acres in the state.

53 =Vulnerable communities, typically have 21-100 sites or limited acreage across the state.

Unique Features

Concord has a wealth of unique cultural, recreational, and ecological features that need to be protected in order to maintain Concord's character.



Farmland is a key component of Concord's character, by Cherrie Corey

Scenic Sites

1. Historic Districts
 - a. American Mile
 - b. Barrett Farm
 - c. Church Street
 - d. Hubbardville
 - e. Main Street
 - f. North Bridge/Monument Square
2. From high point
 - a. Fairhaven Cliff
 - b. Upper Assabet River reach
 - c. Punkatasset Hill
3. Water
 - a. Walden Pond
 - b. Fairhaven Bay
 - c. Great Meadows National Wildlife Refuge
4. Discrete Object
 - a. Waterfall at Nashoba Brook
 - b. Egg Rock from Lowell Road
5. Opening along road
 - a. Spencer Brook Valley from Lowell Road
 - b. Westford Road
6. Large agricultural area
 - a. Monument Street
 - b. Sudbury Road/Route 2/Williams Road
 - c. Sudbury Road/Route 117/ORNAC
 - d. Barrett's Mill Road
 - e. Lexington Road

Carlisle

Bedford

Lincoln

Acton

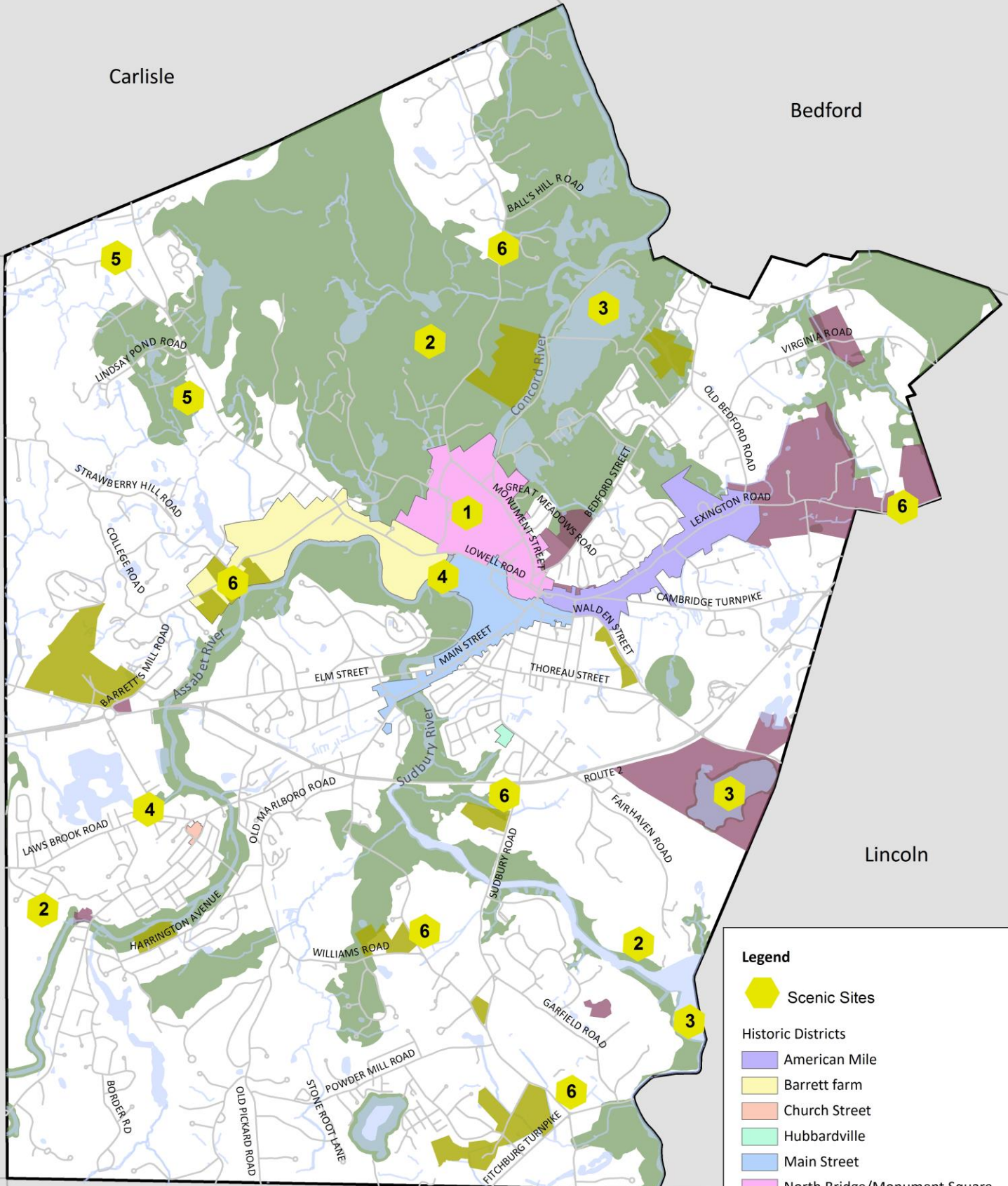
Sudbury

Maynard

Unique Features

Legend

-  Scenic Sites
- Historic Districts
 -  American Mile
 -  Barrett farm
 -  Church Street
 -  Hubbardville
 -  Main Street
 -  North Bridge/Monument Square
-  Roads
-  Heritage Landscape Inventory Farms
-  National Register of Historic Places
-  BioMap2 Core Habitat



Though no state-listed Areas of Critical Environmental Concern exist in Concord, the Town has 52 state-listed species of conservation interest according to the Natural Heritage Endangered Species Program (NHESP). Some of these are historic records or are species that have not been recorded since the nineteenth century. The list compiled in NHESP's updated *BioMap2* report (2012) gives a current list of the species of concern in Concord today.

Concord has the highest density of documented rare-species records (about 2 per square mile) of any town between Plymouth and the Sturbridge area. The main reasons are probably the confluence of the three rivers and the abundance of early observers studying plants and animals here from the mid-nineteenth to mid-twentieth century. Protecting this well-documented and deeply researched part of New England for all the species, particularly those that are not often seen elsewhere, should be a priority. Very little rare species habitat exists in adjacent towns; only Bedford and Sudbury have appreciable linkages evident in a northerly direction toward New Hampshire, though perhaps the most promising linkage would extend through southern Westford into Groton and beyond. Of the rivers and major streams across the region, only the Sudbury River and Concord/Bedford portion of the Concord River contain significant rare wildlife habitat.

E.2 Good News and Bad News

The good news in all this is the wealth and diversity of Concord's wildlife; the bad news is that there are significant challenges to wildlife conservation in the Town. Key among these are loss of, and fragmentation of, wildlife habitat caused by continuing development and an increase in traffic volume and speed on even small roads. The most significant wildlife barrier is Route 2 which bisects the Town and in most areas has concrete "Jersey barriers" which make passage impossible for most animals. To address this problem four "wildlife tunnels" were built under Route 2, in 2005.

Wildlife Passages: Cameras located in the wildlife underpasses under Route 2 have recorded 32 species utilizing the corridors. These include red fox, gray fox, coyote, fisher, eastern cottontail, white-tailed deer, weasel, ruffed grouse, beaver, salamander, mink, and otter.⁵⁹ A fifth underpass will be constructed to offset the Route 2 widening effects to wildlife.



White-tailed deer using Rt. 2 Wildlife Passage

Another threat to wildlife habitat is the proliferation of invasive plants – many of which supplant traditional wildlife food sources. Phragmites, a tough reed, has replaced cattails in many wetlands and ponds. Water chestnut and Eurasian milfoil have replaced water lilies. Buckthorn, burning bush, Asiatic bittersweet, Japanese knotweed, and swallowwort are just a few of the terrestrial plants flourishing and spreading. Concerned citizens and conservation groups have made valiant efforts to halt the spread of these plants and to remove them where found. The long-term success of these efforts is yet to be determined.

Purple loosestrife, long identified as an invasive plant, arrived in the colonies most likely in ship ballast during the late 1700s. It was initially welcomed as an attractive plant that offered herbal medications and nectar attractive to bees and butterflies. Today it is still prized by bee keepers but botanists are less enthusiastic as loosestrife has taken over many wetlands. Currently an initiative is underway to halt the spread of purple loosestrife by releasing beetles that feed on the plants, an approach that appears to have promising long-term success.

The SuAsCo Cooperative Invasive Species Management Area (CISMA) is a group of partnering organizations that work together to manage and control invasive species in the SuAsCo Watershed. Concord has been involved in regional invasive species control efforts since 2005, and in 2009 was involved in the establishment of the SuAsCo CISMA watershed-wide program. Current projects include early detection and rapid removal of invasive species, beetles releases to control purple loosestrife, and the Sudbury Weed Education and Eradication Team (SWEET) invasive species management project.¹⁸



Conservation Crew harvesting invasive water chestnut in Fairhaven Bay

For more information regarding invasive species and how you can help, visit the Concord Division of Natural Resources website at:

www.concordma.gov/pages/ConcordMA_NaturalResources/invasives/invhome.

Pollution of local waters also stresses wildlife populations – whether it be phosphate runoff from cultivated lawns, pesticides used to kill weeds and invasive plants, or simply discharged pollutants.

Fish in the Sudbury and Concord Rivers have elevated levels of contaminants as a result of pollution from the Nyanza superfund site in Ashland, MA and should never be eaten (see: *Restoration Plan and Environmental Assessment for the Nyanza Chemical Waste Dump Superfund Site*, September 2012).⁵⁴ Phosphorus and nitrogen from sewage treatment plants and development in towns upstream along the Assabet River, as well as from MCI-Concord, enrich the river and reduce oxygen levels. This impacts both fish and aquatic mammals such as beaver, muskrat, otter, and mink. However, recreational fishing remains popular in both rivers and ponds. Fish stocked by the Division of Fisheries and Wildlife are free of these pollutants, at least until they have lived in polluted waters for some time.

One of the most insidious threats to wildlife in Concord is the diversity of human attitudes. What plants or animals do we wish to have and how many is too many? Some residents enjoy plants labeled as “invasive” by others. Deer are considered an asset by some and “too much of a good thing” by others. Coyote families are perceived as threatening by some while others note that they provide a certain amount of small rodent control. The diversity of attitudes among Concord residents will continue to make wildlife conservation in Town both stimulating and challenging.

The following are systematic surveys conducted of species in Concord.

Newbury Woods Ecology. An ecological inventory conducted in 1998 for the Concord Land Conservation Trust of a 55-acre parcel (Newbury Woods) embedded in the southwestern portion of the Estabrook Woods area provided an impressive picture of the value of a large natural area in Concord.⁷² This mainly pine-oak-covered parcel with swamps, hemlock groves, a pond, and an old field supported an exceptional concentration of forest-interior species that are rare in the Concord region. Highlights were porcupines, fishers, barred owls, black-throated green warblers, hermit thrushes, and northern waterthrushes. Other species of considerable interest include great horned owls, blue-winged warblers, several vascular plant species (of the 249 recorded), and two state-listed invertebrates, a bog-breeding dragonfly (ringed boghaunter) and a shrimp-like crustacean (Mystic Valley amphipod). The interior portion of the parcel had a paucity of invasive exotic species. The adjacent Christian family property contained even more state-listed rare species and locally rare species. At a broader scale, the Estabrook Woods is apparently the second largest contiguous forest within 25 miles of Boston (Willowdale State Forest in Ipswich is a bit larger), and these two forests are the only ones with such a dependable array of forest-interior wildlife. The only other fairly large contiguous forest in Concord’s region is the “Desert” (Sudbury-Hudson-Marlborough-Stow) which is partly dissected by military roads and other human activities. In short, the large unfragmented natural areas of Concord, and especially the Estabrook Woods, are of exceptional value in Concord and indeed the Boston Region.

Bigelow Field/Soutter Woods Plants. A plant survey conducted in 1998 for the Concord Land Conservation Trust of a 76-acre protected area (Bigelow Field and Soutter Woods by Sudbury Road, Route 2, and the Sudbury River) provides a quite different picture.¹⁹ This heterogeneous land constituting the eastern portion of the Jennie Dugan Kames large natural area, contains a 12-acre pasture, wet meadow, oak-pine forest, red maple swamp, floodplain marsh, and two vernal pools. The wet meadow is an uncommon habitat in Concord. Many invasive species had considerable coverage and most habitats had prominent invasive species cover. Two hundred and fifty vascular plants were identified, including Atlantic white cedar. Distinctive species included bobolinks and bluebirds in open areas and two state-listed invertebrates (Mystic Valley amphipods and elderberry borer beetles).

Biodiversity Sites. A report for the Massachusetts Executive Office of Energy and Environmental Affairs identified and documented 42 Biodiversity Sites in the Sudbury, Assabet and Concord Rivers Watershed.²⁰ Eight of the 42 outstanding biodiversity sites in this large area are in Concord as follows:

1. **Estabrook Woods:** Extensive area in Concord and Carlisle. Mixed geology, variable oak/white pine forest types with bogs, ponds, streams, small patches of sweet soils, hemlock forest, red maple swamp, shrub swamps, level bogs. One of two largest unfragmented forests in Middlesex County, a variety of habitats, connected to Concord River, well-documented natural history, state-listed rare species, many focal species including unusual forest-interior birds, Louisiana and northern water thrushes, winter wren, black-throated green warbler, porcupine, breeding fisher, bear, state-listed dragonflies.
2. **The Great Meadows:** 250 acres. Both deep and shallow emergent marshes, wet meadows, shrub swamps, small river-floodplain forest, alluvial red maple swamp. The core of the area is a National Wildlife Refuge and Wild and Scenic River with more or less natural flow and flood dynamics, extensive marshes and floodplain forest, other associated wetland communities (some unique to SuAs-Co), many NHESP (state) records for amphibians/reptiles, birds and plants, migratory waterfowl and passerine birds, many focal species, and an ownership mandate to protect biodiversity.
3. **Balls Hill:** 230 acres (immediately west of Great Meadows and the Concord River). Bluff over Concord River and impounded ponds, steep upland directly abuts river. Unusual geology, high number of focal species and endangered species, NHESP species records, provides upland directly adjacent to river corridor.
4. **Egg Rock:** 205 acres. Small river floodplain forest, linden/hop hornbeam stand. Confluence of two mainstem rivers that flood regularly, good example of floodplain forest, unusual upland trees.
5. **Minute Man Grasslands.** 780 acres (partly in Lincoln). Cultural grasslands. Extensive successional forest areas are in the process of being cleared to become fields managed for grassland birds, the Minute Man National Historical Park fields are near other fields owned by Lincoln Conservation Commission, both field complexes have ownership man-

dates to manage for biodiversity.

6. **Greater Walden:** 1,250 acres (partly in Lincoln). Mixed oak/white pine forest on glacial outwash, tracts of mature forest with extensive hemlock, kettlehole pond, kettlehole level bogs, streams, fields, acidic rock outcrop. Mosaic of habitats including Walden Pond, good examples of kettlehole bogs, mixed-age forest types adjacent to Sudbury River, floodplain forest in northern section, interior-forest focal species.
7. **Jennie Dugan Kames:** 410 acres. Vernal pool, level bog, fen, mixed forest, glacial kames. Unusual diversity of species especially for small area, includes exceptionally rich vernal pool that is similar to coastal pond, brook with trout and banded sunfish, wetlands with breeding soras, woodlands with hermit thrush, winter wren, black-throated green warbler and porcupine.
8. **Second Division Brook.** 390 acres. Shrub swamp, grassland, streams, oak forest, white pine forest. Unusual combination of swamp, streams, grassland, and steep slopes on glacial kames; NHESP rare plants; sub-basin divide.

The preceding surveys and data make apparent that no systematic mechanism exists for keeping track of species in Town. Species of importance include state-listed rare animals and plants, pests and invasives, and certain mammals, birds, reptiles, amphibians, fish, butterflies, plants, and other species appreciated by residents and society. Thus it is difficult for municipal agencies to gather and use key wildlife and biodiversity information in a timely manner.

A wildlife and biodiversity committee reporting to Concord's Natural Resources Commission (NRC) and coordinating with the Natural Resources Director should be established, both to help protect key species and to aid the Town in its planning and management. Members of the committee should gather and maintain systematic data on key species and natural communities in Concord and its region; assist the Town and NRC by providing wildlife and biodiversity information to aid in planning and management; and help inform the Town and its residents about wildlife, biodiversity, and land protection in the Concord region.

E.3 Corridors for Wildlife Migration

Major wildlife corridors are conduits for the movement of species through and between towns. They prevent isolation of patches and the gradual species impoverishment therein. Species often disappear temporarily in a local area and corridors may enhance their return. Corridors provide protective cover for wildlife against human activities and domestic animals. The network of corridors provides options for species movement to avoid disturbances, hunters, and predators.

The distribution of large natural vegetation areas helps determine the location of major wildlife corridors. Wildlife corridors contain at least a high shrub layer, typically without significant gaps or narrows. They normally connect with large patches of natural vegetation and interconnect to form a town-wide network with loops. The wildlife corridors in Concord extend to the town boundary and connect to large patches of natural vegetation in the surrounding towns. Water protection corridors, especially if wider than the frequently flooded portion of a floodplain, are part of the wildlife network.

Major wildlife and water-protection corridors:

- C1. Assabet River
- C2. Sudbury River
- C3. Concord River
- C4. Saw Mill Brook
- C5. Spencer Brook
- C6. Second Division Brook
- C7. Jennie Dugan Brook
- C8. Second Division Brook / Jennie Dugan Kames to Assabet River
- C9. Virginia Road Woods Area to Walden Woods / Town Forest
- C10. Town Forest to Walden Reservation via railroad underpass and school land
- C11. Nashoba Brook / Warner's Pond
- C12. Annursnac Hill / Strawberry Hill Road Area to Estabrook Woods Area
- C13. Virginia Road Woods to Great Meadows / Ball's Hill Area

Wildlife corridors can be as large as the Concord River floodplain and as small as a hedgerow running between farm fields. For the purpose of this plan, only the medium-to-large corridors are mapped (see Open Space Framework Map). Migratory birds, river otters and Blanding's turtles have been observed to move along local river valleys. For many of the other corridors listed above, local data on wildlife move-

ment are lacking, but studies of similar corridors elsewhere confirm movement of diverse species. Undeveloped, naturally vegetated corridors connecting large open-space areas in town are gradually being severed, and the opportunity to preserve the continuity of these corridors is disappearing.

On a broader scale, Concord and its region are connected to New Hampshire through a patchwork corridor of large natural areas, which serves as a source of large wildlife, such as moose, bear, and potentially cougar. Only one route or wildlife corridor from southern New Hampshire appears promising for effectiveness in the long term. This passes through Pepperell/Townsend and Groton into Westford, and then under/over Interstate 495 into northern Acton and/or Carlisle before reaching Concord and many other towns of the region. Thus, to maintain the wildlife corridor against the noose of development to the northwest requires serious collaborative land protection, especially in Westford and Groton, but also in towns to the southeast and northwest (see Regional Context Map).¹¹

Protecting this corridor extending north to New Hampshire would provide for sustained biodiversity and wildlife movement within Concord, and throughout its region as a whole; a growing concern in light of the potential necessity for species to move in response to a changing climate. The alternative is an erosion of Concord's rich ecological systems, as rapidly spreading development closes the noose, leaving the Town and its region in isolated pieces.

F) Scenic Resources and Unique Environments

Because these resources and environments contribute strongly to the landscape and special character of the community, this subject is mainly integrated into the discussion in *Section 4B*. A Scenic Landscape Inventory survey by the Massachusetts Department of Conservation and Recreation was done in 2006 (revised in March 2007) and results are included in the *Concord Reconnaissance Report: Freedom's Way Landscape Inventory* as part of the Massachusetts Heritage Landscape Inventory Program. Priority heritage landscapes identified in Concord include: Barrett Farm, Estabrook Woods, Flood Meadows, Massachusetts Department of Correction Land, Nine Acre Corner, Virginia Road, Walden Woods / Route 126 Corridor, and West

Concord Village (see Unique Features Map).^{44, 47}

The Unique Features Map on page 51 includes historic places on the National Register, including Walden Pond and lands under the National Park Service, local historic districts, where house modifications are reviewed to maintain the historical character of Concord, as well as agrarian landscapes and areas with high biodiversity, such as the Great Meadows Wildlife Refuge and Estabrook Woods. Though there are no Areas of Critical Environmental Concern in Town, a significant portion of Concord is designated by Bio-Map2 as Core Habitat. Most of these areas are permanently protected, in whole or in part. Unprotected areas within these identified areas are high priority for protection. There are three areas of geological interest identified: Fairhaven Cliffs, the upper Assabet River, and Punkatasset Hill. Additional areas of interest are listed and mapped and described in Section 5. Numerous archeological sites also exist in Town, but in order to protect these resources their locations are not made public.³⁷

G) Environmental Challenges

Global climate models indicate a high likelihood of changes in New England in the decades immediately ahead.^{21, 2, 51} Less extreme low winter temperatures, less snowfall, and less snow cover are likely. Warmer surface water affecting water supply, fish, and recreation can be expected. An increase in rainfall and in the variability of precipitation is likely, suggesting somewhat wetter conditions favoring disease vectors, water contaminants, and heavy precipitation events.⁷⁰

Though beneficial in many ways, agriculture presents its own challenges when viewed in the context of impacts to local wildlife, habitats, and water resources. Conventional farming methods can lead to soil erosion and often require high amounts of pesticide and nitrates, both leading causes of groundwater contamination. Inefficient irrigation systems can affect water

security. Fences fragment habitat and can be dangerous for certain species. Livestock have the potential to over-graze and also impact water supply through fecal waste if not properly managed.³⁸ Fortunately, Concord farms are managed responsibly to minimize negative impacts on the environment.

Within the Town, based upon responses to the questionnaire, excessive development is considered to be the major environmental challenge influencing open space and recreation planning. Much of the current building in Town involves reconstructing existing houses; however, most new construction on undeveloped land involves multi-unit projects. These developments usually incorporate an open space component, resulting in small pockets of open space distributed throughout Town.

At the town scale, erosion and sedimentation are negligible and chronic flooding in flood-prone areas is normal, but still poses significant threats (see discussion earlier in this section).

Concord's landfill, which was opened in 1959, was capped in 1995 and obtained DEP closure status in 2012. This land is now used for snow storage, composting of brush and leaf litter, and a new solar array.

The Town is working with the EPA to develop a Remedial Investigation and Feasibility Study for the cleanup of the chemical-pollutant site Nuclear Metals (Starmet). A draft of this study is under review by the EPA. The Town's desire is for EPA to select a remediation alternative that meets residential standards and allows for the least restricted future use of the site.

The following is a summary of EPA's Waterbody Assessment and Total Maximum Daily Load Status for Concord's Waterbodies (see map and additional information on the following pages).



Ringed-necked ducks by Ryan Schain

Environmental Challenges

Oil and/or Hazardous Materials Sites

Tier 1A: Most complex and hazardous sites. Require direct oversight by Massachusetts Department of Environmental Protection. Sites that pose an imminent hazard or affect public water supplies are automatically classified as Tier 1A.

Tier 1B: Slightly less complex and contaminated than Tier 1A. Permit required.

Tier 1C: Slightly less complex and contaminated than Tier 1B. Permit required.

Tier 1D: Required information has not been submitted to the Massachusetts Department of Environmental Protection on time.

Tier II: Least contaminated, complicated, and potential for exposure. No permit required.

Activity and Use Limitation Sites

An AUL provides notice of oil and/or hazardous material contamination remaining at the location after cleanup has been conducted. The AUL is a legal document that identifies activities and uses of the property that may and may not occur, as well as the property owner's obligation and maintenance conditions that must be followed to ensure the safe use of the property.

The AUL sites in Concord are in close proximity to the major rivers running through Town. Therefore, they may have negative impacts on the water quality of these rivers. Efforts should be made to reduce the risks of oil and/or hazardous material contamination in the future.

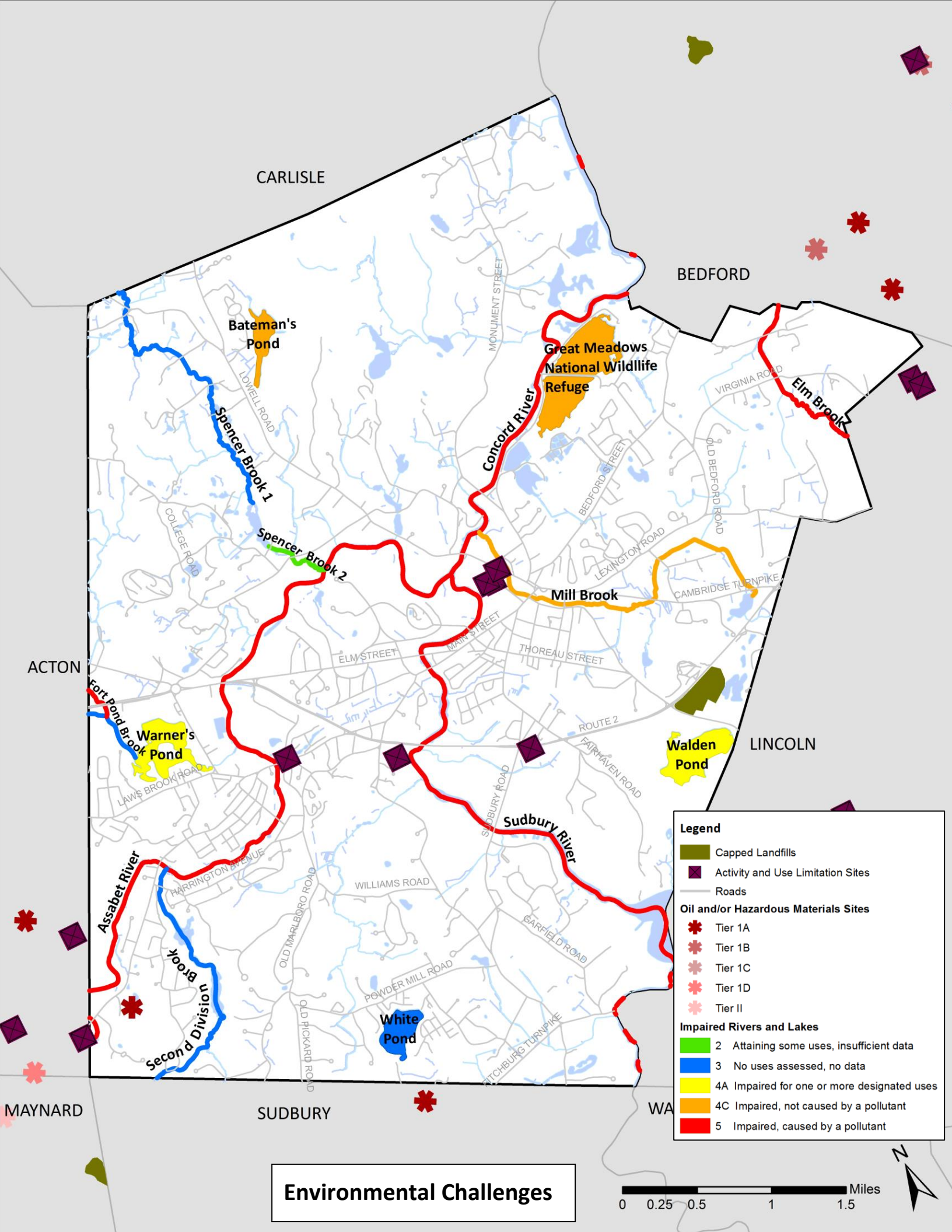
Impaired Rivers and Lakes

Surface waters in Massachusetts are evaluated with respect to their capacity to support aquatic life, fish consumption, drinking water, shellfish harvesting, primary contact-recreation (i.e. swimming), secondary contact-recreation (i.e. boating), and aesthetics. Surface waters are categorized as 1-5 depending on their ability to support these uses:

1. Attaining all designated uses.
2. Attaining some of the designated uses and insufficient or no data is available to determine if remaining uses are attained.
3. Insufficient or no data to determine if any designated uses are attained.
4. (A + C) Impaired for one or more designated uses by low flow, habitat alterations, or non-native species.
5. Impaired for one or more designate uses by pollutants such as nutrients, metals, pesticides, solids, or pathogens.

Concord's Waterbodies

- *Assabet River*: Category 5 for nutrients, organic enrichment/low dissolved oxygen, and pathogens
- *Bateman's Pond*: Category 4c
- *Concord River*: Category 5 for exotic species, metals, nutrients, and pathogens
- *Elm Brook*: Category 5 for pathogens, turbidity, and other habitat alterations
- *Fort Pond Brook*: Category 3
- *Great Meadow Pond #3*: Category 4c
- *Mill Brook*: Category 4c
- *Nashoba Brook*: Category 4c
- *North Great Meadows*: Category 4c
- *Second Division Brook*: Category 3
- *Spencer Brook 1*: Category 3
- *Sudbury River*: Category 5 for exotic species and metals
- *Spencer Brook 2*: Category 2
- *Walden Pond*: Category 4a for mercury
- *Warner's Pond*: Category 4c for exotic species and mercury
- *White Pond*: Category 3



CARLISLE

BEDFORD

Bateman's Pond

Great Meadows National Wildlife Refuge

Elm Brook

Spencer Brook 1

Concord River

Mill Brook

Spencer Brook 2

ACTON

Warner's Pond

Walden Pond

LINCOLN

Fort pond Brook

Sudbury River

Assabet River

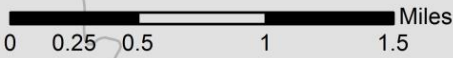
Second Division Brook

White Pond

Legend

- Capped Landfills
- Activity and Use Limitation Sites
- Roads
- Oil and/or Hazardous Materials Sites**
- Tier 1A
- Tier 1B
- Tier 1C
- Tier 1D
- Tier II
- Impaired Rivers and Lakes**
- 2 Attaining some uses, insufficient data
- 3 No uses assessed, no data
- 4A Impaired for one or more designated uses
- 4C Impaired, not caused by a pollutant
- 5 Impaired, caused by a pollutant

Environmental Challenges





New England Correctional Institution Farmland

Inventory of Lands of Conservation and Recreation Interest

Concord's long history of conservation planning has led to permanent protection of over one third of its land area, including forests, farmland, and wetlands. Much of the remaining land has either been developed or is held by town, state, or federal government agencies, and is therefore not facing an immediate threat of development. Concord residents might question the value of an Open Space and Recreation Plan when so much is already protected. However, there are still critical parcels that remain at risk for development, including farmland and critical habitat for endangered species.

A) Open Space in Concord

Open space generally refers to an unbuilt or undeveloped area with some form of protection against future development. For the purposes of an Open Space and Recreation Plan, open space refers to a relatively continuous area of public or private lands without buildings or highways that holds significant value either for conservation or recreation. To provide a functional network of natural, cultural, and recreational resources for a town's future, protection of key open space properties is important.

Open space comes in varied forms, especially farmland, playing fields, parks, and other types such as golf courses and gravel pits. In Concord, town-owned open space is either conservation land, municipal land, or public school land. The first is considered to be permanently protected and is managed for conservation values such as wildlife habitat, groundwater, and aquatic ecosystems. Municipal land is managed for various town purposes, including but not limited to, recreation, cemetery, and sewage treatment, which may change over time and may include areas held for potential future needs. Town municipal land may include natural areas managed for, but not protected for, conservation value.

Most conservation land is in a natural state (i.e., not

planted or intensively managed), and is protected against development in perpetuity. In Concord, much of the agricultural land is protected to some degree, but less than one third is permanently protected as conservation land.

Conservation lands may be permanently protected through fee-simple ownership or through a conservation restriction (CR). Conservation and other public and private lands may be further restricted under an agricultural preservation restriction (APR), to preserve farmland use in perpetuity. Temporary protection may be through current use programs (Ch. 61, Ch. 61A, and Ch. 61B).

Of the 15,936 acres of land in Concord, approximately 6,119.84 acres (38 percent) are permanently protected open space.

The following pages look closely at the open space lands in Town, which are divided into private, public, and non-profit lands. Priority parcels for protection were identified using several criteria, including water resources, rare species habitat, prime farmland, existing built areas, existing trails, historic districts and other culturally important sites, and areas identified by residents at the town meetings and in the 2007 *Freedom's Way Landscape Inventory Reconnaissance Report*.

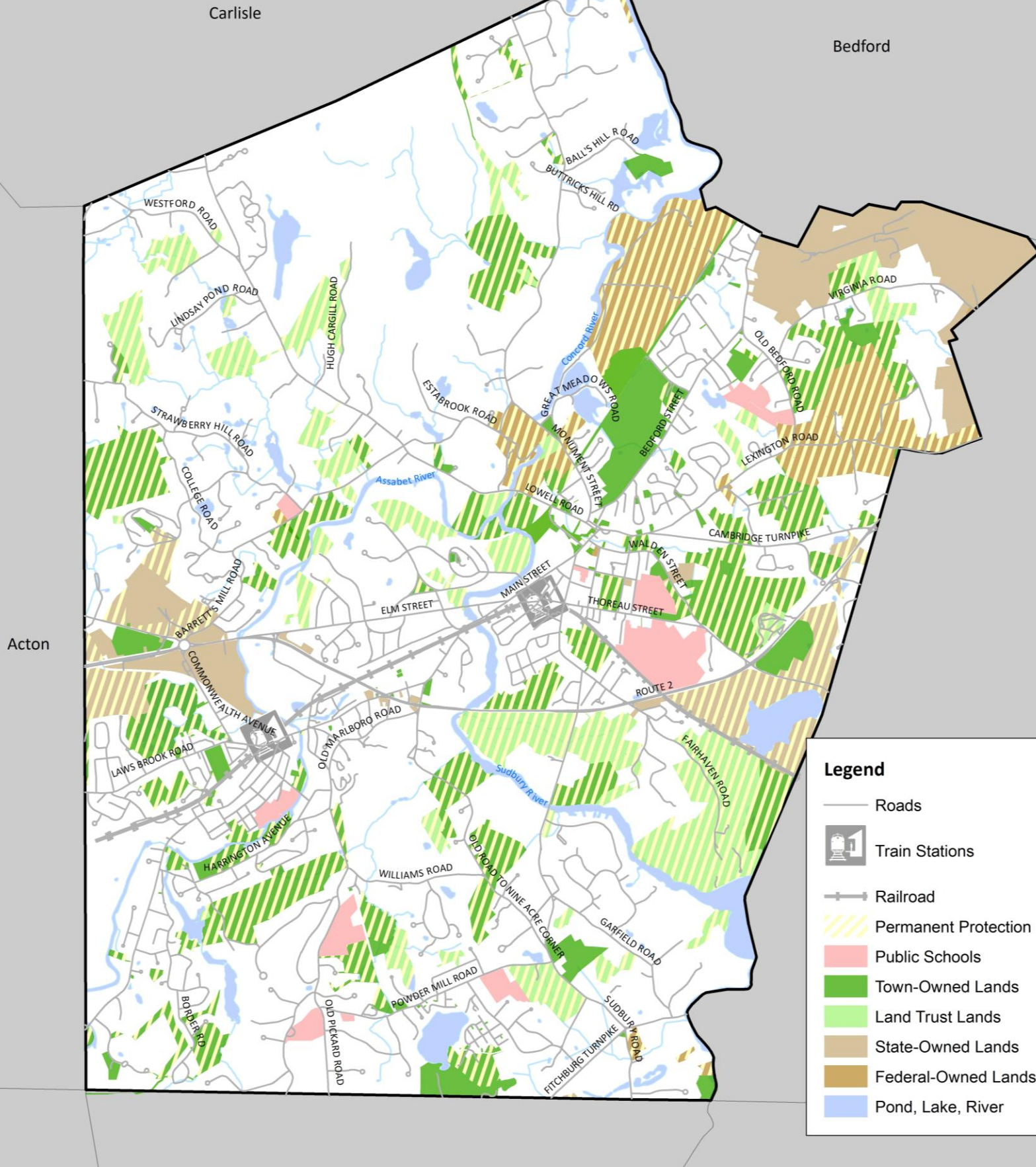
Publicly & Non-Profit Owned Open Space

Most of the best known conservation land in the community is the land that is publicly owned and accessible. The Town owns over 2,200 acres managed by various entities, including the Natural Resources Commission, the Board of Selectmen, the Water and Sewer Division, the Recreation Department, the Municipal Light Plant, and Concord Public Schools. Of these 2,200 acres, approximately 1,548 acres is considered permanently protected. Significant open space holdings include Hapgood Wright Town Forest at 175 acres, the Old Rifle Range at about 120 acres, Annursnac Conservation Land at 118 acres, Punkatasset Conservation Land, 100 acres adjacent to Estabrook Woods, and Warner's Pond and adjacent conservation lands at 77 acres. These areas provide valuable habitat for wildlife and are components of larger landscape blocks and wildlife corridors. These are also highly valued by residents

for their many passive recreation opportunities including hiking, birding, cross-country skiing, and wildlife viewing. There are several moderately-sized farmland parcels owned by the Town that range in size from 15 to 40 acres. The majority of the other parcels held are less than 10 acres and include forested land, wetlands, and open fields.

At 2012 Town Meeting, the community voted to acquire the 80-acre W.R. Grace property at 214Y Main Street (Assessor's Parcel #2322) for municipal purposes including public works, solar electrical generation, recreation, and open space. This acquisition is still under negotiation as of the time of this report, therefore the acreage is not represented in the table below, and the parcel is not shown on the map.

Publicly & Non-Profit Owned Open Space	Acres	% of Total Land Area in Concord (15,936 ac total)
Town Owned – Natural Resources Commission (all permanently protected)	1359.85	8.5%
Town Owned – Board of Selectmen	434.23	2.7%
<i>Permanently protected by Conservation Restriction or APR</i>	12.8	0.08%
<i>Deed restricted</i>	12.36	0.08%
<i>Unprotected</i>	406.07	2.5%
Town Owned – CPW - Water and Sewer Division (all protected)	125.9	0.79%
Town Owned – Recreation Department	37.12	0.23%
<i>Permanently protected (Article 97)</i>	37.12	0.23%
Town Owned – Municipal Light Plant (all unprotected)	34.29	0.22%
Public Schools (all unprotected)	246.9	1.55%
State Owned Lands	1017	6.4%
<i>Permanently protected</i>	257.2	1.6%
<i>Permanently protected by Article 97</i>	130.38	0.82%
<i>Temporarily protected</i>	101.1	0.63%
<i>Unprotected</i>	528.32	3.3%
Federally Owned Lands	638	4.0%
<i>Permanently protected</i>	637	4.0%
<i>Unprotected</i>	1	.006%
Land Trust Lands (all permanently protected through ownership or CR)	1018	6.4%
<i>Concord Land Conservation Trust</i>	881.6	5.5%
<i>Walden Woods Project</i>	84.17	.5%
<i>Sudbury Valley Trustees</i>	33.4	.2%
<i>The Trustees of Reservations</i>	11.46	.07%
<i>Lincoln Land Conservation Trust</i>	7.31	.05%
Total publicly owned open space	4,911.29	30.8%
Total permanently protected publicly owned open space	3,590.6	22.5%



Acton

Maynard

Carlisle

Bedford

Wayland

Publicly Owned Open Space

Legend

- Roads
- Train Stations
- Railroad
- Permanent Protection
- Public Schools
- Town-Owned Lands
- Land Trust Lands
- State-Owned Lands
- Federal-Owned Lands
- Pond, Lake, River



Public and Nonprofit Parcels

This section provides a descriptive inventory of public conservation and recreation resources including federal, state, municipal, and nonprofit conservation lands.

Recreational Facilities:

Boat Launches: There are seven formal boat launches to access rivers and ponds. Boat launches to access the Assabet River are located at Westvale Meadows and behind Dino's Pizza on Main Street, and at the Pine Street Bridge. One can access all three major rivers from the Lowell Road Bridge boat launch. Boat launches are also available at Walden Pond at 90B Walden Street, Warner's Pond at 39A Commonwealth Avenue, and White Pond off Plainfield Road.

Beede Center: Located on the Concord-Carlisle Regional High School property, the Beede Center features a 25 yards by 25 yards, 8-lane competition pool; a 30-foot by 40-foot diving well featuring two 1-meter boards and one 3-meter board standing over 13 feet of water; a 20-foot by 30-foot warm water therapy pool; and a children's play pool featuring sprays, fountains and a slide. There are two fitness rooms: one furnished with Cybex Treadmills, Arc Trainers, semi-recumbent and upright cycles, rowing machines, and stair steppers, and one furnished with Cybex strength training machines and free weights.

Cousins Park: Located at the end of Brown Street, the park contains an open informal multi-use field, community gardens, and a hiking trail to the Assabet River.

Emerson Field: Located at 26 Stow Street, Emerson Field contains a multi-use field, two 60-foot baseball/softball fields, a playground, a ¼ mile track, five tennis courts, a 90-foot baseball field, two basketball courts, and a swimming pool.

Hunt's Recreation Center: Located at 90 Stow Street and adjacent to the Emerson Field, the Hunt's Gym consists of a full size accessible gymnasium, a Multi-purpose Room, a Conference Room, and public bathrooms.

Rideout Playground: Located on Lawsbrook Road, the Rideout Playground consists of three 60-foot baseball/softball fields, one 90-foot baseball field, two basketball courts, three tennis courts, a fully accessible playground and public bathrooms.

South Meadow Field: Located off of Riverside Road, the South Meadow Field has both active recreation

and passive conservation land. It consists of an open and informal multi-use field which is used by lacrosse in the spring, soccer in the fall and frisbee in the summer.

School Athletic Fields:

- Alcott Elementary, Thoreau and Willard Elementary Schools all have informal multi-purpose fields. Willard School also has 2 tennis courts.
- Peabody Middle School uses the Cushing Field, which is an adjacent multi-use field.
- Sanborn Middle School has two multi-use fields and a softball/baseball field diamond.
- Ripley School features a premier baseball facility which includes a 90-foot diamond, dugouts, and batting cages. This area also includes a multi-use field and a fully accessible Natural Playscape.
- Concord Carlisle Regional High School's outdoor athletic facilities and fields are scheduled for a major renovation. CC at Play, Inc., a private not-for-profit organization is currently renovating the fields in a three-phase project which will result in the following:
 - Six tennis courts
 - Installation of a turf field in the stadium which will accommodate, football, soccer, lacrosse and field hockey
 - Half-mile accessible walking track around the perimeter
 - Renovation and upgrade of the varsity softball and baseball fields
 - Concession stand and bathrooms
 - Construction of a full-size multisport grass field

Conservation Facilities:

Annursnac Conservation Land: Purchased by the Town in 1970 from Harvard University, this 118-acre property between Annursnac Hill and Strawberry Hill contains about one mile of trails over varied terrain of wooded hills, meadows, and wetlands intersected by a brook.

Battle Road: This five-mile trail within the Minute Man National Historical Park owned by the National Park Service traverses farm fields, wetlands, and forests, connecting historic sites from Meriam's Corner in Concord to the eastern boundary of the park in Lexington. The main theme of the trail is the Battle

of April 19, 1775 which interprets the broader human story of the people whose lives were altered by this event.

Bear Garden Hill: This 43-acre forested tract was one of the places where Henry Thoreau studied forest succession and was purchased by the Walden Woods Project in 1990. The parcel provides a popular access point for trails connecting to the Farm at Walden Woods, Town wellhead protection land, and other conservation land.

Bigelow Woods and Soutter Field: Located at the corner at Sudbury Road and Route 2, this 77-acre Concord Land Conservation Trust (CLCT) property consists of large open fields, currently used for cattle grazing, and an extensive wet woodland which is home to a variety of wildlife. An 18-acre portion of Soutter Field was acquired in 2008 as a joint effort between the Town and CLCT, and represents an important step to save local farmland.

Chamberlin Park: This 0.7-acre off Lowell Road just outside Monument Square was donated to the Town by Mary Chamberlin in 1969. The Town later constructed a footbridge over the Mill Brook, connecting the land to the Keyes Road municipal parking area.

Chamberlin Woods: This CLCT property consists of 59 acres of land, mostly wooded, on the west side of Lowell Road. The land was donated by the five Newbury children of Mrs. Chamberlin in 1999 and connects to other holdings in the Upper Spencer Brook Valley.

Community Gardens: There are three Town-managed community gardens: Cousins Community Garden at 2A Shirley Street, East Quarter Community Garden at 33X Old Bedford Road, and Hugh Cargill Community Garden at 24B Walden Street.

Corey/Bourquin Land: Acquired by CLCT in 2006 and located off Lowell Road, this property contains 23 acres of hayfield, woods, and wetlands.

Estabrook Woods: Estabrook Woods is the largest contiguous and undeveloped woodland within thirty miles of Boston. Owned mostly by Harvard University, trails follow the route that the Minutemen traveled from Carlisle to the North Bridge to face off against the British in 1775. Henry David Thoreau wrote no less than 160 entries of his walks in Estabrook Woods. Remnants of its past can still be seen including a saw mill, limestone kiln and quarry, and a large glacial erratic dubbed by Thoreau as “Indian Rock” where he reported the Native Americans camped on

their seasonal wanderings.

Great Meadows Wildlife Refuge: In 1944, Samuel Hoar donated the first 250 acres of land that now makes up the refuge to the U.S. Fish and Wildlife Service (USFWS). Comprised of more than 3,800 acres of freshwater wetlands stretching along 12 miles of the Concord and Sudbury Rivers in Concord and Carlisle, the USFWS protects and manages Great Meadows as nesting, resting, and feeding habitat for wildlife, with special emphasis on migratory birds. The diversity of plant and animal life visible from the more than 2.5 miles of refuge trails provides visitors with excellent opportunities for wildlife viewing and nature study.

Hapgood Wright Town Forest: A walk in the Hapgood Wright Town Forest can be a relaxing time with over four miles of trails for exploring its natural features. This area witnessed the lives of freed slaves who settled here struggling to farm its poor soil in the 1700s and was frequented by 19th century literary figures Henry David Thoreau and Ralph Waldo Emerson, and the Alcott and Emerson children.

Harrington Park: In 1974 the Town acquired Harrington Park, which includes a house built around 1742 and the oldest known house in West Concord along with 15 acres of farmland extending from Harrington Avenue to the Assabet River. There are nature trails along the Assabet River in the rear of the property.

Heywood Meadow: Heywood Meadow holds a special place in the hearts and minds of Concord citizens. Just outside Concord Center, it is a surviving feature of the first inland settlement. Part of the meadow formed the Mill Pond, used in early industry, it was witness to the events of April 19, 1775, and it inspired many of Concord’s 19th century authors. This Town land includes two open fields bisected by Heywood Street, along with two parcels on Walden Street on the other side of Mill Brook.

Hutchins Land: This 16.5-acre CLCT property is in the Estabrook Woods and adjacent to Punkatasset Conservation Land.

Kazmaier Land: Located near Elm Street, CLCT’s open fields totaling 16 acres are used for agricultural purposes.

Keyes Land: This CLCT property consists of almost 28 acres of woodland on Strawberry Hill Road, and connects to other CLCT holdings in the Upper Spencer Brook Valley.

Mattison Field: Purchased by the Town in 1998,

Mattison Field contains 1.5 miles of trails over 43 acres within an agrarian setting complete with an historic, wooden water tower used to water cows until the mid-1990's. Mattison Field is also home to breeding bobolink during the summer.

Miller Farm: Acquired by CLCT in 2001, the 52-acre Miller Farm consists of wooded upland and farmland along Sudbury Road in active agricultural use.

Nashawtic Hill: Concord's three major rivers are the backdrop for this assemblage of CLCT lands including Simon Willard Woods (65 acres), Brengle-Ham Field (7 acres), Brooks Hudson Field, French's Meadow (29 acres), and Sherwood Red Maple Swamp (10.5 acres) which are connected by an abandoned railroad right of way.

Newbury Land: Located across Lowell Road from Chamberlin Woods, this 34-acre parcel donated to CLCT in 1990 offers some of the most beautiful riparian and meadow landscapes in Concord.

Old Calf Pasture: Located off Lowell Road just before the bridge over the Concord River, at the confluence of the Assabet and Sudbury Rivers, this Town land includes an open pasture which is home to the largest known population of a state-listed rare violet, ½ mile of wooded riverside trails, a picnic area, and a boat launch for the three rivers.

Old Manse: Adjacent to the Old North Bridge, this property, owned by The Trustees of Reservations, became the center of Concord's political, literary, and social revolutions. In the mid-19th-century, leading Transcendentalists such as Bronson Alcott, Henry David Thoreau, and Margaret Fuller discussed the issues of the day here, with the Hawthorne and Ripley families.

Old North Bridge: Site of the "shot heard round the world" this picturesque landscape is home to the birth of our nation. Managed by the National Park Service, this property contains one mile of trails, the North Bridge Visitor Center, and Daniel Chester French's Minute Man statue.

Old Rifle Range: Acquired in 1909 for the Massachusetts Volunteer Militia, this 111-acre area saw extensive use in training soldiers prior to deployment in World War I. The range contains 1.7 miles of woodland trails and still retains its four abutments used for military training.

Punkatasset Conservation Land: On the southeast boundary of Estabrook Woods, this 100-acre woodland contains over 2 miles of trails, Hutchins Pond, and Punkatasset Hill, the vantage point from which

the Minutemen saw smoke emanating from Concord center. Fearing their homes were being burned by the British, Colonel Barrett led his militia to the Old North Bridge on April 19, 1775.

Rogers Land: Acquired jointly with CLCT in 2010, this 4.74-acre parcel is currently undergoing site and slope restoration in order to bring the property back into active agriculture. Once completed, the Rogers Land will provide farming and community garden opportunities, as well as walking trails along the bluff of the Assabet River.

Spaulding Land: Donated to CLCT in 2002, this property totals nearly 40 acres along Elm Brook off Virginia Road and abuts the Thoreau Birth House, Gaining Ground, and Hanscom Field.

Thoreau's Path at Brister's Hill: Purchased in 1993 by the Walden Woods Project to help protect the internationally-significant Walden Woods, this 18.6-acre parcel contains an interpretive walking trail with inspirational quotations by Henry Thoreau and other environmental and social reform leaders. Thoreau's Path is part of the Town's first handicap assessed trail loop.

Walden Pond: The backdrop to Henry David Thoreau's *Walden*, Walden Pond is considered the birthplace of the conservation movement. Located at 915 Walden Street, the 335-acre Walden Pond State Reservation includes swimming, over six miles of trails, a gift shop, bookstore, and the Tsongas gallery.

Warner's Pond: Warner's Pond has been a source of economic development and pleasure since its origin in the mid 1800's. Once a summer recreational area complete with picnic area, playground, swimming beach, and boat rides, Warner's Pond has experienced significant eutrophication. Efforts are needed to restore this resource area.

White Pond: Comprised of over 73 acres in Town ownership under three entities (Board of Selectmen, Natural Resources Commission, and the Water and Sewer Division), these lands contain 2.5 miles of walking trails overlooking the picturesque White Pond.

Wright Woods: The anchor of CLCT holdings, the 213-acre Wright Woods offers a variety of walks to Fairhaven Bay and the Sudbury River. One of the most scenic trails in Concord runs from Fairhaven Bay along and above the Sudbury River, past what Thoreau called Grape Cliff.

Privately Owned Open Space

Privately owned open space in Concord includes private institutional lands, lands in Chapter 61, 61A, and 61B tax programs, and other properties under private ownership with some level of protection, either through a CR, APR, or other means of protection.

Educational institutions, both public and private, are the main landholders of institutional lands. Some of this land has no open space and recreation potential. However, of significant note are the 612 acres held by Harvard and the 333 acres held by Middlesex School that form a portion of Estabrook Woods. These lands, together with adjacent Town, Land Trust, and CR lands, form the largest intact natural area in Town. Highly valued ecosystems, these forests and wetlands are vulnerable to future development because only 122 acres of the Middlesex property are permanently protected by CR. Harvard University protected its 612 acres as

open space by recording a Notice of Public Charitable Obligation in the Middlesex County Registry of Deeds. While protection of any of the smaller landholdings is beneficial, efforts geared towards maintaining the integrity of the Estabrook Woods natural area are especially important.

Chapter 61, 61A, and 61B lands, which are afforded temporary protection as long as they are maintained for forestry, agriculture, and recreation respectively, constitute 12.7 percent of the land in Town. Over one third of that land is permanently protected by CR. This figure could be increased as the Town has right of first refusal should any of these properties become available while enrolled in the program and for one year thereafter. The Town should continue to prioritize protection of these lands as they become available, especially when doing so will support town-wide conservation objectives including rare species habitat, agricultural land protection, or sensitive water resources.

Privately Owned Open Space	Acres	% of Total Land Area in Concord (15,936 ac total)
Institutional Lands	1330.68	8.4%
<i>Permanently protected by Conservation Restriction or other mechanism</i>	642.34	4.0%
<i>Unprotected or temporarily protected</i>	688.34	4.3%
Chapter Lands	2,029.5	12.7%
<i>Temporarily Protected under Chapter 61</i>	480	3.0%
<i>Permanently Protected Chapter 61 Lands by Conservation Restriction</i>	245.6	1.5%
<i>Temporarily Protected under Chapter 61A</i>	683	4.3%
<i>Permanently Protected Chapter 61A Lands by Conservation Restriction or APR</i>	331.59	2.1%
<i>Temporarily Protected under Chapter 61B</i>	866.5	5.4%
<i>Permanently Protected Chapter 61B Lands by Conservation Restriction</i>	220.8	1.4%
Additional Private Lands Permanently Protected by Conservation Restriction or APR	1088.9	6.8%
Total privately owned open space	4,449.08	27.9%
Total permanently protected privately owned open space	2,529.23	15.9%

Carlisle

Bedford

Acton










Lincoln

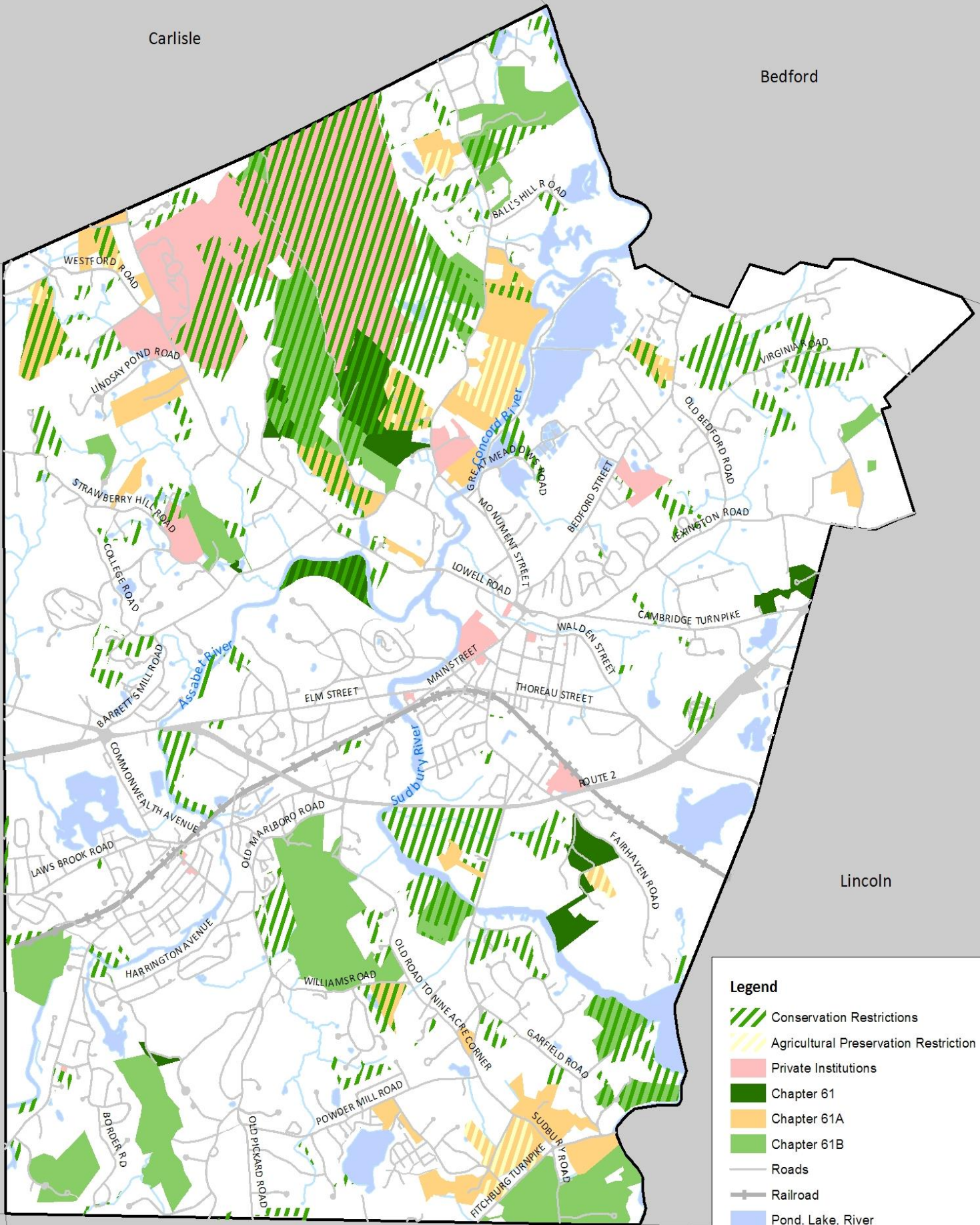
Maynard

Wayland

Privately Owned Open Space

Legend

-  Conservation Restrictions
-  Agricultural Preservation Restriction
-  Private Institutions
-  Chapter 61
-  Chapter 61A
-  Chapter 61B
-  Roads
-  Railroad
-  Pond, Lake, River



Process to Identify Priorities for the 7-Year Action Plan

The Open Space Framework (OSF) identifies town-wide landscape types. When mapped, these reveal a pattern of large intact areas and major corridors. Special sites are also scattered across Town. The 1992 OSF has been updated to reflect changes in Concord over the past two decades.

The methodology for creating this seven-year action plan began by updating the 1992 OSF in the following ways:

- Natural areas were expanded to include portions of BioMap2;
- Two new natural areas were created to reflect the BioMap2;
- A built area was added to reflect development since 1992; and
- Agricultural areas were expanded to include adjacent Chapter 61A lands.

The parcel inventory was used to determine the permanently protected land in Concord. Unprotected parcels within any large natural areas, large agricultural areas, or wildlife and water corridors in the 2015 OSF are considered to be areas of

conservation and recreation interest.

To further prioritize parcels, those lands identified as priorities in the 2004 OSRP were compared with the 2015 OSF map. Lands of conservation and recreation interest made up of unprotected land within the large natural and agricultural areas and corridors in the 2015 OSF are identified as “Lands of Conservation Interest in OSF” on the Lands and Properties of Conservation and Recreation Interest maps. Unprotected properties shown on the 2004 Special Sites map are all included within the 2015 priority properties for conservation and recreation interest.

If further prioritization of the identified properties of conservation and recreation interest (see Section 9) were desired, a point system could be created for ranking properties according to certain criteria. For example, a property could be awarded points for the number of special sites in its proximity, a point for chapter land, a point for prime agricultural soils, etc. Points could be summed for each parcel and properties with a high number of points would be ranked as having higher importance for protection.



Raccoon by Ryan Schain

Below are the major processes and patterns of open space, natural resources, and recreation in the region that affect Concord, as well as those of Concord that affect the region. The patterns and processes discussed below were used to identify or rank lands with highest conservation value.

Large vegetation areas, including wetlands

- 1) Serve as habitats and dispersal sources for species with large home ranges;
- 2) Serve as habitats and dispersal sources of rare interior species;
- 3) Protect groundwater and provide clean water for well systems, as well as streams, rivers and ponds; and
- 4) Serve as sponges that reduce or prevent downstream flooding.

Major water-protection corridors along streams, rivers and ponds

- 1) Reduce erosion, sedimentation, mineral nutrient and other chemical input effects on water bodies;
- 2) Provide shade, logs/branches, and leaf litter as food and habitat for aquatic organisms including fish;
- 3) Serve as wildlife corridors for terrestrial resident and migratory fauna; and
- 4) Serve as recreational corridors for canoeists, kayakers, and boaters.

Major wildlife corridors away from a water body

- 1) Serve as movement routes for key animals, including bear, deer, fisher, rare amphibians, and many other fauna, either between large vegetation areas or as a dispersal route from a large vegetation area.

Special sites (small habitats) containing rare species

- 1) Serve as population sources of individuals dispersing to surrounding areas; and
- 2) Protect against loss of species and biodiversity.

Walking trails, including trail networks, away from roads

- 1) Provide recreational routes, often connecting large vegetation areas to neighborhoods, for residents to experience and appreciate nature; and

Agricultural land

- 1) In large patches may support rare grassland birds, such as upland sandpipers and grasshopper sparrows;

2015 Open Space Framework

Large Agricultural Areas:

- A1. Nine Acre Corner
- A2. Lexington Road
- A3. Monument Street
- A4. Williams Road / Sudbury Road / Route 2
- A5. Reformatory Farms / Barrett's Mill Road

Large Natural Areas:

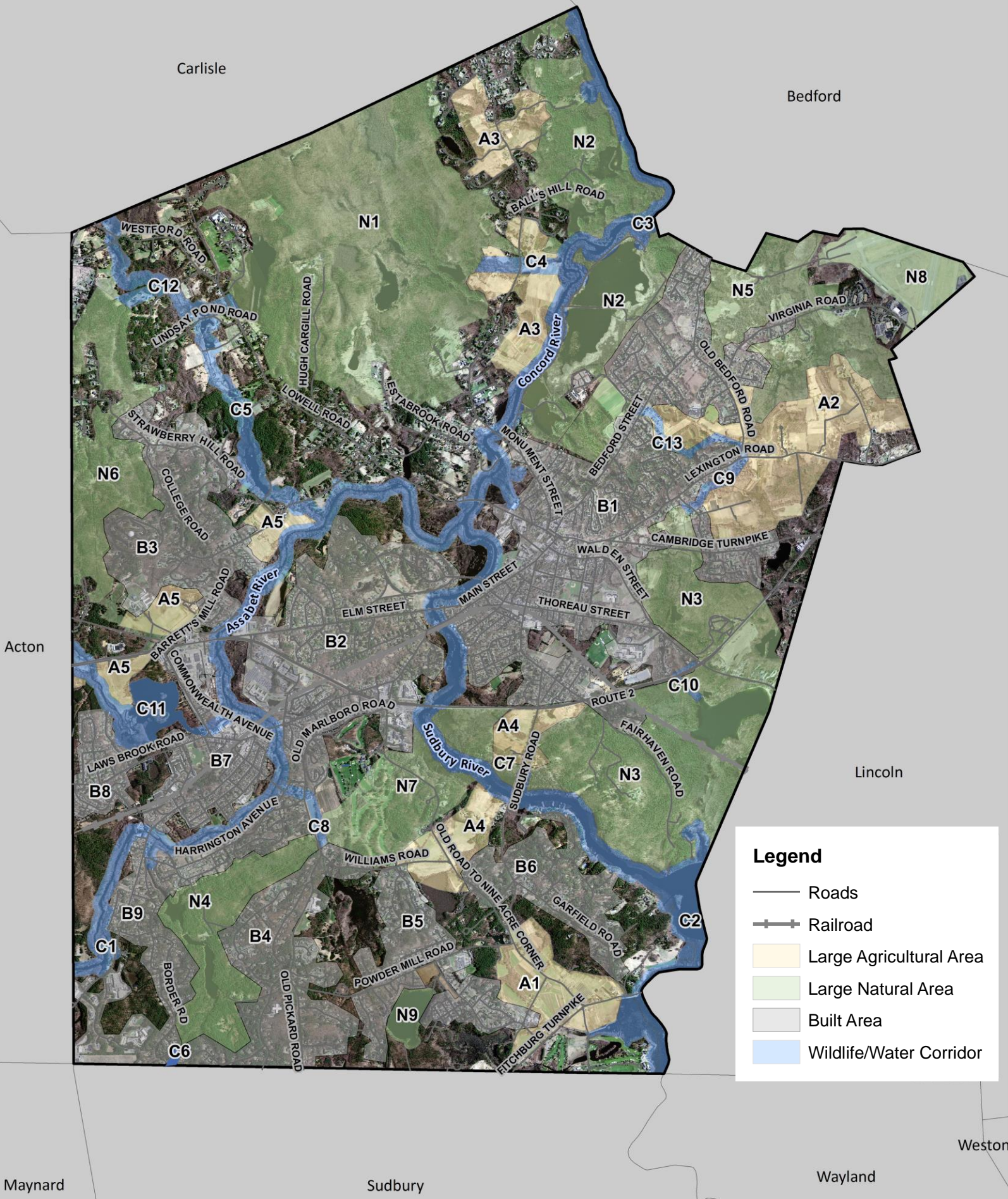
- N1. Estabrook Woods Area
- N2. Great Meadows / Ball's Hill Area
- N3. Walden Woods / Town Forest
- N4. Second Division Brook Area
- N5. Virginia Road Woods
- N6. Annursnac Hill / Strawberry Hill Road
- N7. Jennie Dugan Kames
- N8. Hanscom
- N9. White Pond

Large Built Areas:

- B1. Concord Center / Bedford Street
- B2. West Concord / Elm Street
- B3. Annursnac Hill / Barrett's Mills Road
- B4. Peabody / Sanborn Schools
- B5. White Pond Area
- B6. Garfield Road
- B7. Thoreau School
- B8. Hillside Ave / Sorrel Road
- B9. Second Division Brook

Major Wildlife and Water-Protection Corridors:

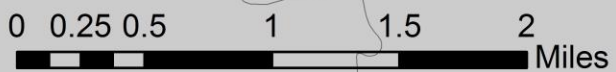
- C1. Assabet River
- C2. Sudbury River
- C3. Concord River
- C4. Saw Mill Brook
- C5. Spencer Brook
- C6. Second Division Brook
- C7. Jennie Dugan Brook
- C8. Second Division Brook / Jennie Dugan Kames to Assabet River
- C9. Virginia Road Woods Area to Walden Woods / Town Forest
- C10. Town Forest to Walden Reservation via railroad underpass and school land
- C11. Nashoba Brook / Warner's Pond
- C12. Annursnac Hill / Strawberry Hill Road Area to Estabrook Woods Area
- C13. Virginia Road Woods to Great Meadows / Ball's Hill Area



Legend

- Roads
- +— Railroad
- Large Agricultural Area
- Large Natural Area
- Built Area
- Wildlife/Water Corridor

2015 Open Space Framework



- 2) Many small or large patches may support populations of other grassland species such as bobolinks and eastern meadowlarks, as well as other wildlife that regularly use open areas such as turkey and deer;
- 3) Provides a diversity of recreational experience in a landscape of woods and residential areas; and
- 4) May result in greater erosion, sedimentation, nutrient runoff (from fertilizers), pesticide runoff to streams, rivers and ponds.

Residential land

- 1) Has a high diversity of common and non-native plants and micro-environmental conditions that support a high diversity of edge species: such as Carolina wrens, American robins, and catbirds;
- 2) Has a high density of animals that benefit from food provided by people, e.g., raccoons, gray squirrels, deer, house sparrows, and blue jays;
- 3) Is a source of human, invasive exotic plant, dog, and cat effects that can degrade ecological conditions of surrounding natural areas;
- 4) Tends to act as a barrier that cuts wildlife corridors;
- 5) May have a relatively high percent of hard surfaces (e.g., roofs and driveways) that increase flooding, and tends to dry out streams and wetlands in late summer;
- 6) Tends to have an elevated level of chemical substances from septic effluent, yard fertilizers/pesticides, and other sources, that may pollute groundwater and surface water bodies; and
- 7) Is a source of vehicular traffic that requires roads, causes road maintenance/repair effects, results in road salt and sand effects, causes traffic noise and disturbance, and may increase shopping / commercial / industrial development.

Shopping, commercial and industrial areas

- 1) Have a high percentage of hard surfaces (e.g., roofs and parking areas) that increase flooding and may dry out streams and wetlands in late summer;
- 2) Produce considerable vehicular traffic during certain periods;
- 3) Tend to have solid waste problems resulting in times when materials disperse into water channels or surrounding areas;
- 4) Have effluents from commercial/industrial processes and parking lots that can pollute groundwater, streams, or rivers; and
- 5) May have particulate, aerosol or gaseous air-pollutant effects on the surroundings.

Roads with vehicles

- 1) Roads, especially busy and/or wide ones, tend to be barriers that disrupt wildlife corridors;
- 2) Are a source of road salt that may degrade nearby groundwater, vernal pools, shallow ponds, streams, and wells;
- 3) Are a source of sand (mixed with road salt) that may reach streams, either directly or through stormwater drainage pipes or snow dumping, which degrades habitat for many aquatic organisms including fish;
- 4) When especially busy, are a source of visual disturbance and traffic noise that degrades recreational use alongside;
- 5) When especially busy, are a source of traffic noise that degrades nearby songbird communities; and
- 6) Cause roadkills of amphibians, reptiles, birds, and mammals, especially near vernal pools, wetlands, ponds, and large vegetation areas.

Rail and air transportation

- 1) Produces noise that degrades recreational experiences and usage; and
- 2) May serve as wildlife passages, e.g., commuter rail lines and underpasses beneath Route 2.

B) Special Sites in Town

Special sites in Town were identified in the 1992 and 2004 *Open Space Plan* and are included again with the addition of boat launches and recreational facilities (see tables below).^{2, 3} Special sites include such diverse features as a rock outcrop, historic site, rare animal habitat, and recreational fields. They are grouped into eight categories: ecological habitats, geological features, historical, recreational, water resources, scenic, institutions and education, and town infrastructure.

The value of a special site is greater if it is (a) rare or unique at the national or state level, and (b) irreplaceable or, upon loss, requires centuries or decades to recover a condition similar to that of today. Thus an overall value of each special site to

the Town (and beyond) is determined, based primarily on the rarity and replacement/ recovery time for a site, with factors such as present usage a secondary consideration.

These value rankings are used to prioritize special sites for protection. Small geometric symbols on the map refer to key categories, and numbers in the symbols refer to the type of site (e.g., old forest, calcareous habitat, fish biodiversity site) within a category (e.g., ecological habitat). For each priority special site mapped, the core or essential character of the site is inadequately protected. About three-quarters of the priority special sites are located in large patches and/or major corridors.

"Relative Uniqueness." Only 1, 2, or 3 examples exist at the scale indicated.

*** = national/international

** = state

* = town

"Recovery/Replacement." If a site were severely damaged or destroyed by a one-time event, this is the approximate time required for recovery or replacement to a condition similar to that of the present.

*** = irreplaceable or centuries

** = decades

* = years

"Value" (to the Town and beyond the Town) – This assessment is based primarily, but not exclusively, on relative uniqueness and recovery time.

*** = highest

** = high

* = medium

- = low

"Sites Protected Now." This indicates whether sites are on permanently protected land, either public land in conservation use or other land under conservation restriction.

"Priority for Protection." These are of highest value and not on protected land.

Numbers in parentheses are given where more than three sites are present. A site may be listed in more than one category if it provides more than one value. The 1992 Open Space Plan provides a fuller description of the Special Sites analysis and table.

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
GEOLOGICAL FEATURES						
1. River	*	**	***	-	no	*
2. Large deep pond	*	**	*	-	no	
3. Large siliceous rock outcrop	*	**	*	-	no	
4. Rock outcrop with calcite	*	**	*	-	no	
5. Marble area	*	**	**	-	no	
6. Pegmatite outcrop area	*	***	**	-	no	
7. Cluster of large glacial erratics	*	***	**	-	no	
8. Esker	*	***	**	-	no	
9. Neck of ancient volcano	*	**	*	-	no	

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
ECOLOGICAL HABITATS						
1. Stand of old forest trees	*	***	***	-	no	*
2. Pitch pine stand	*	**	**	-	no	
3. Tamarack-spruce stand	*	**	*	-	no	
4. Riverine meadow	*	*	**	-	yes	
5. Calcareous habitat	*	**	***	-	no	*
6. High biodiversity habitat						
A) For plants	*	**	***	-	no	*
B) For birds	*	**	***	-	no	*
C) For amphibians & reptiles	*	**	***	-	no	*
D) For invertebrates	*	**	***	-	no	*
E) For mammals	*	**	***	-	no	*
F) For fish	*	**	***	-	no	*
7. Massachusetts state-listed (23) "Areas of Ecological Significance"	**	**	***	**	no	*
8. Additional species of major interest	*	*	*	-	no	

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
HISTORICAL FEATURES						
1. Key archaeological site	*	***	**	-		
2. Burying ground						
A) Sleepy Hollow	***	***	***	***	yes	
B) Hill	*	***	***	**	yes	
C) South	*	***	**	*	yes	
3. Old North Bridge area	***	***	***	***	yes	
4. Punkatasset Hill	*	**	*	-	yes	
5. Revolutionary Route	**	**	*	***	no	*
6. Oldest buildings	*	***	**	*	no	
7. Colonel Barrett's homestead	*	*	***	**	yes	
8. Damondale	*	*	**	-	no	
9. 19 th c. Writers' home (6)	***	***	***	***	no	*
10. Historic district (5)	**	***	***	***	yes	
11. Monument Square	*	*	**	*	yes	
12. Concord Junction	*	*	**	*	no	
13. Area made famous by Thoreau						
A) Walden Woods	***	***	**	***	no	*
B) Estabrook Woods area	***	***	**	*	no	*
C) Three Rivers	***	**	*	***	no	*
14. Brewster's October Farm	**	*	*	*	no	

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
WATER RESOURCES						
1. River						
A) Sudbury River	*	**	***	**	no	*
B) Assabet River	*	**	***	**	no	*
C) Concord River	*	**	***	**	no	*
2. Public water supply (wells-6)	*	**	***	-	yes	*

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
RECREATIONAL FEATURES						
1. Sightseeing area						
A) Minute Man National Historic Park	*	**	*	***	yes	
B) Historic District	*	**	*	**	yes	
2. Swimming (natural water body)						
A) White Pond	**	**	***	*	no	*
B) Walden Pond	**	**	*	***	yes	
3. Boating area/Launches						
A) River						
1. Behind Dino's Pizza	*	**	**	**	yes	
2. Lowell Road Bridge	*	**	**	**	yes	
3. Pine Street Bridge	*	**	**	**	yes	
4. Westvale	*	**	**	**	yes	
B) Pond						
1. Walden Pond	**	**	*	***	yes	
2. Warner's Pond	*	**	**	*	yes	
3. White Pond	*	**	**	*	no	
4. Fishing area						
A) Pond	*	*	*	*	no	
B) River	*	**	*	*	no	
C) Brook	*	*	*	*	no	
5. Active Recreational Facilities						
A) Beede Center	***	***	***	**	yes	
B) Cousins Field	*	*	*	*	yes	
C) Emerson Field	***	***	***	**	yes	
D) Hunt's Recreation Center	*	**	**	*	yes	
E) Rideout Playground	*	*	**	*	yes	
F) South Meadow Field	*	*	*	*	yes	
6. Sportsmen's club property	*	*	*	-	no	
7. Golf course property	*	*	**	-	no	
SCENIC						
1. Historic District (5)	**	**	***	***	yes	
2. From high point						
A) Fairhaven Cliff	*	**	*	-	no	
B) Upper Assabet River reach	*	**	*	-	no	
C) Punkatasset Hill	*	**	*	-	yes	
3. Water						
A) Walden Pond	*	**	*	**	yes	
B) Fairhaven Bay	*	**	*	-	no	
C) Great Meadows National Wildlife Refuge	*	**	*	*	yes	
4. Discrete object						
A) Waterfall on Nashoba Brook	*	*	*	-	no	
B) Egg Rock from Lowell Road	*	**	*	-	yes	
5. Opening along road						
A) Spencer Brook Valley from Lowell Road	*	**	**	*	no	
B) Westford Road	*	**	*	*	no	
6. Large agricultural areas (5)						
A) Monument Street	*	**	**	*	no	

6. Large agricultural areas (continued)						
B) Sudbury Road / Route 2 / Williams Road	*	**	***	*	no	*
C) Sudbury Road / Route 117 / ORNAC	*	**	***	**	no	*
D) Barretts Mill Road	*	**	***	*	yes	
E) Lexington Road	*	**	***	**	yes	
7. Views along roads with high traffic volumes or entrance points	*	**	**	***	no	*

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
TOWN INFRASTRUCTURE (not shown on map)						
1. Landfill	*	*	***	*	no	*
2. Sewage treatment facility	*	*	***	-	yes	
3. Keyes Road service / office facility	*	*	**	-	no	*
4. Town Hall	*	*	**	-	yes	
5. Pipeline						
6. Fire / Police / EMS facility	*	*	***	-	yes	
7. Affordable housing sites (7)	*	*	***	-	yes	

Features	Relative Uniqueness	Recovery Replacement	Value to the Town	Value Beyond Town	Sites Protected Now	Priority for Protection
INSTITUTIONS & EDUCATION (not shown on map)						
1. MA Correctional Institution	**	*	*	**	no	
2. N.E. Correctional Facility (MA)	**	*	*	**	no	
3. Middlesex County Courthouse	*	*	*	**	no	
4. Concord Public Schools (7)						
5. Emerson Hospital	*	*	***	***	no	
6. Hanscom Field (U.S. D.O.D.)	**	**	*	***	no	
7. Middlesex School	*	**	*	**	no	
8. Concord Academy	*	**	*	**	no	
9. Fenn School	*	**	**	-	no	
10. Nashoba Brooks School	*	*	**	-	no	
11. Thoreau Lyceum	*	*	**	**	yes	
12. Estabrook Woods (Harvard)	*	***	*	*	yes	

Key to Lands of Conservation and Recreation Interest Map.

With rare exceptions, only large protected and unprotected properties in public, nonprofit and private ownership are mapped.

To protect private landowners on this state-required map, no information is available for their property except the presence of an officially recorded conservation restriction or agricultural preservation restriction.

Unless otherwise mentioned: the owner manages the land; property has no public access; no handicap accessibility is recognized; land is zoned residential; no grant was received based on readily available data; property is not conservation land protected against development; no potential for a major near-term change in mainstream recreation type is evident; and the land is in "good" condition.

All properties are zoned residential except a portion of property 54 by Route 2 zoned for limited business.

** = public land;

* = nonprofit land;

All others = private land.

N, E, S & W = compass directions.

CLCT = Concord Land Conservation Trust.

TTOR = The Trustees of Reservations.

CR = perpetual conservation restriction (properties 33 & 67 with a term restriction).

APR = agricultural preservation restriction.

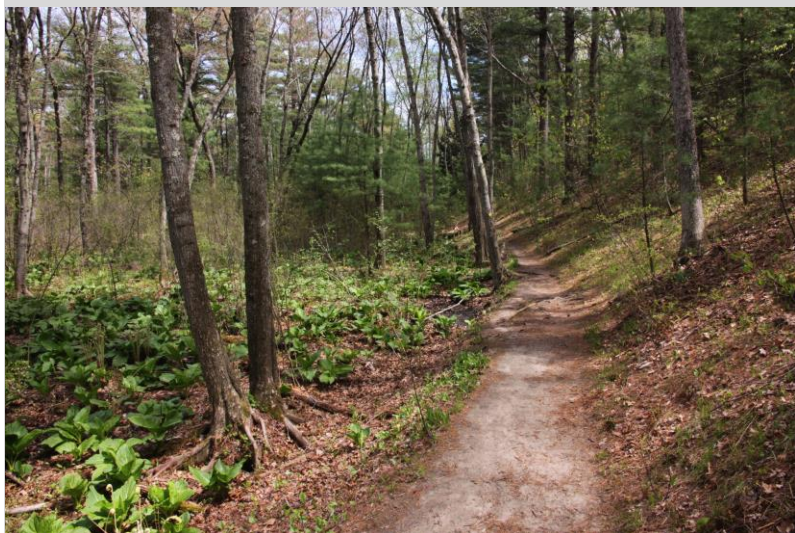
Properties of Conservation and Recreation Interest:

1. **Ball's Hill area.** Mainly private land.
2. **Spencer Brook Corridor.** Private land.
3. **NE of Bemis farmland.** Private land.
4. **Along & N of Strawberry Hill Rd. near Acton.** Private land.
5. ****NE Correctional Institution.** State land managed by Department of Corrections; farmland & area of buildings; no recreation; partially conservation protected.
6. ****Prison farmland.** State land managed by Department of Corrections; farmland; no recreation; not conservation protected.
7. ****Thoreau School.** Town land; public school grounds; public access; handicap accessibility; not conservation protected.
8. **Second Division Brook area.** Private land.
9. **Concord Country Club.** Private land. CR with term limitation.
10. ****White Pond Reservation.** Town municipal land & trails; public access; not conservation protected.
11. ****Willow Guzzle.** Town municipal land; farmland & trails; public access; not conservation protected.
12. **Nine Acre Corner E of Sudbury Rd.** Private land.
13. **Fairhaven Woods.** Private land.
14. ****Landfill area.** Town municipal land; snow dumping & leaf composting (W) & savanna created on capped landfill (E); solar array; potential for various recreation types; public access; not conservation protected.
15. **East of Kenney Farm.** Private land.
16. **East of Kaveski Farm.** Private land.
17. ****Hanscom runways.** State land managed by MassPort; airport runway area; not conservation protected.
18. ****Hanscom flightpath woods.** State land managed by MassPort; natural land; trails; not conservation protected.
19. ****Sleepy Hollow Cemetery.** Town municipal land; cemetery with natural land, trails & farmland to N; public access; some handicap accessibility; not conservation protected.
20. **Assabet River corridor.** Private land.

Properties of Conservation and Recreation Interest

Lands of conservation and recreation interest made up of unprotected land within or adjacent to the large natural and agricultural areas and corridors in the 2015 Open Space Framework are identified as “Lands of Conservation Interest in OSF” on the map on the following page. Specific parcels have not been identified in order to protect the privacy of individual landowners.

Properties of conservation interest identified include unprotected parcels (for full list of 2004 properties of conservation interest, see Appendix J). Those properties from the 2004 OSRP that have not yet been protected and that overlap with the “Unprotected areas within OSF” are included as properties of conservation interest for 2015 as “Selected 2004 Priority Lands.”



Trail in Old Rifle Range by Cherrie Corey

Concord has a wealth of trails through its open space. Only trails on publicly accessible and publicly owned land are shown on the map on page 78. Improving connectivity of trails would benefit Concord residents. Accessibility of trails for an aging population is also a priority for many residents. Improving safe biking routes through Town is very important to many residents. For additional information on trails, see Section 7.

Carlisle

Bedford

Acton





Lincoln

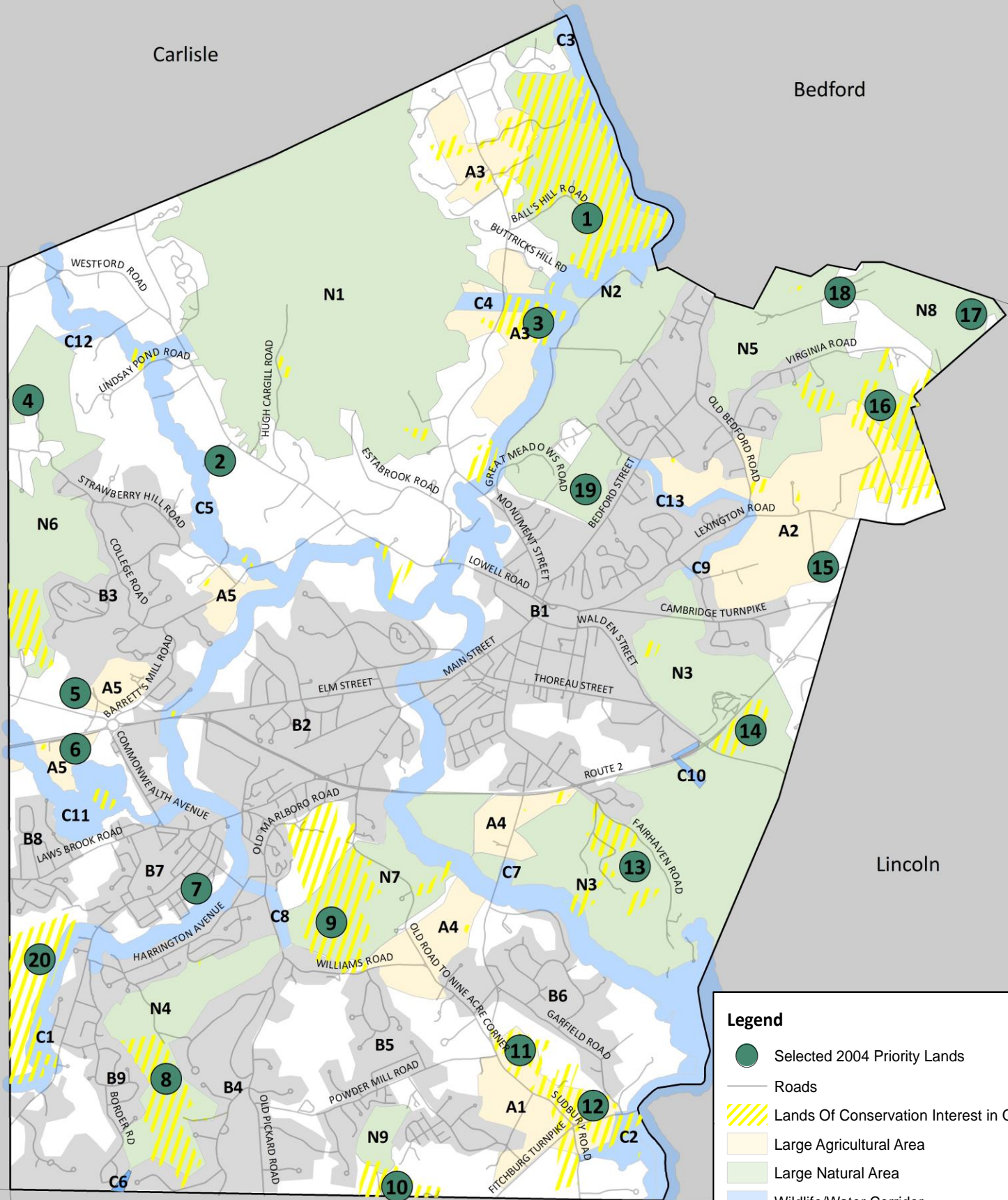
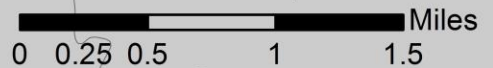
Maynard

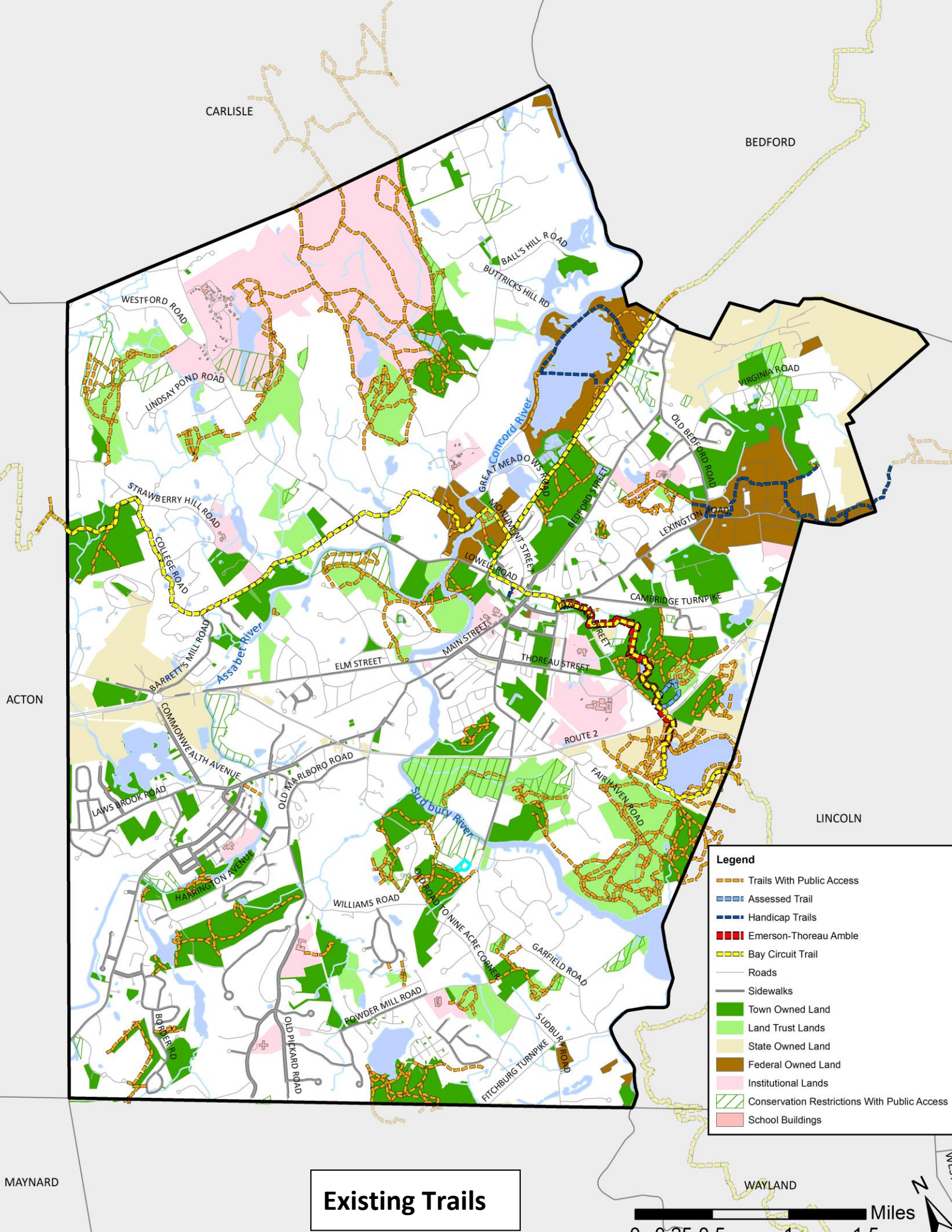
Wayland

Lands of Conservation and Recreation Interest

Legend

-  Selected 2004 Priority Lands
-  Roads
-  Lands Of Conservation Interest in OSF
-  Large Agricultural Area
-  Large Natural Area
-  Wildlife/Water Corridor
-  Built Area





CARLISLE

BEDFORD

ACTON

LINCOLN

MAYNARD

WAYLAND

WESTON

Existing Trails

- Legend**
- - - Trails With Public Access
 - - - Assessed Trail
 - - - Handicap Trails
 - - - Emerson-Thoreau Amble
 - - - Bay Circuit Trail
 - Roads
 - Sidewalks
 - Town Owned Land
 - Land Trust Lands
 - State Owned Land
 - Federal Owned Land
 - Institutional Lands
 - ▨ Conservation Restrictions With Public Access
 - + School Buildings





Cattails by Cherrie Corey

Community Vision

This section highlights the broad themes that concern Concord residents. Concord residents want to preserve the Town’s unique character and meet the challenges faced on the Town’s lands into the future. Concord is engaged and acting on issues related to open space and recreation planning through the Board of Selectmen, Planning Board, Natural Resources Commission, Recreation Committee, Trails Committee, Agriculture Committee, and Climate Action Network. Part of this open space and recreation planning includes implementing sustainable principles to help mitigate climate changes and ensuring food and water security.

A) Description of Process

This plan builds on Concord’s long history of planning and conservation. The process engaged citizens, town officials, and volunteers on the Open Space and Recreation Committee, assisted by a consulting team of graduate students from the Conway School. The report is an update of the 2004 *Open Space and Recreation Plan*, as expanded and approved in 2010, and also draws concepts from the 2005 *Comprehensive Long Range Plan: A Vision for 2020*.

inform the goals of this document.

The first community meeting was held on February 4, 2013, in the conference room of the town offices at 141 Keyes Road in Concord. Flyers, newspaper announcements, and emails were used to advertise the meeting and approximately 45 residents gave their input on priorities for open space and recreation in Concord. Roughly 40 people attended the second community meeting on March 13, 2013, and provided feedback on the preliminary recommenda

“Our open spaces are systematically being developed and are slowly disappearing. Preserving what is left is critical for the well-being of our community as well as its historic character.” – Concord Resident

The goals of the 2010 action plan provided guidance in developing the goals for this plan. Each 2010 action item was analyzed to ascertain whether it had been completed, still needs to be completed, or is no longer applicable. Community feedback from two community meetings and an online survey all helped

tions. In addition, an online survey was sent out in the Town, both in electronic and hard copy format, and 453 responses were collected and analyzed. In addition to community input, the Conway student team also sought information from experts in planning, ecology, and climate change.

B) Statement of Open Space and Recreation Goals

Many Concord residents are well-informed and proactive in their conservation efforts. They recognize the unique assets that Concord has to offer, including its recreational, ecological, and cultural resources. Concord residents expressed their concerns about development pressure, “mansionization” (tearing down existing homes and building much larger ones), loss of farmland, lack of safe bicycle routes, and lack of walkability and trail connecti-

ty. Residents also expressed a desire to protect the ecological integrity of the natural areas in their community.

From the planning process, the following four overarching goals emerged to help guide the action strategy for open space and recreation for the next seven years in Concord.

Four Overarching Goals

1. Protect water resources and biodiversity.

Residents want to protect water resources and biodiversity. Factors relevant to water resources include quality, availability/supply, and safety. Concern for biodiversity includes protecting wildlife habitat, connecting migration corridors, and managing invasive species.

2. Improve recreational access and connectivity.

Residents want schools, parks, and residential neighborhoods to be connected to natural areas through a network of improved trails and sidewalks. They are also interested in seeing the Bruce Freeman Rail Trail completed. Both goals will allow residents to engage more with the natural resources in Concord and thereby become better stewards of the land. Providing pedestrian and bike routes that connect amenities will allow for less car-dependence and help reduce the Town’s carbon footprint. Updating and distributing a town-wide trail map will ensure that all residents are aware of the trails and have the opportunity to use them.

3. Protect agricultural land, including fields, meadows, and orchards.

Residents want to protect farmland in Concord not only because of its scenic and historical importance, but also because of their desire to produce food locally.

4. Improve collaboration and management.

Many of the goals and objectives identified in the *2004 Open Space and Recreation Plan* address management and collaboration issues for the three goals listed above. Residents want town officials to collaborate with other town departments, strengthen relationships and share planning strategies with regional partners, and increase efforts to secure funding for implementation of the specific action items and other objectives outlined in this plan.



Late Autumn Sky – Ammendolia Field by Cherrie Corey

Analysis of Needs

Protecting specific parcels, protecting and promoting agriculture and biodiversity, and improving biking and walking trails throughout Town have emerged as high priorities for residents. These needs were identified through discussions at the two community meetings and from citizen responses to the online survey administered by the Town. Information and analyses in the preceding sections support protection of the existing network of large natural areas and large agricultural areas connected by major wildlife and water-protection corridors.

Community Voices

Concord residents strongly value the natural qualities that a mix of natural open space and a robust agricultural landscape add to the Town's character. Through the public input gained from meetings and a citizen survey, there was strong concern that economic pressure to develop open areas would negatively impact Concord's character and create spillover effects which would impact natural systems. There is strong support for both Town and individual actions to engage in multiple strategies to encourage preservation of existing open and farmed areas. However, when asked about an array of initiatives the Town might undertake, overwhelmingly citizens responded that they would prefer an agenda which afforded more ways in which people could interact with the outdoor environment, including the repurposing of existing open spaces to more intensive human uses. Concord has shown remarkable stewardship of its historic landscape, and should take a conservative approach in balancing these pressures as it moves forward.

Results from community meetings and a survey distributed to Concord residents and Town employees consistently identify widespread concern about development pressure and the need to protect the open space in Concord for ecological, recreational, and agricultural purposes. Trail access and connectivity, especially bike trails, are a top priority for residents, as well as improving access to recreational resources.

The following boxes summarize these priorities and concerns.

Ranked concerns in order of their priority for attention, from 2013 Survey (415 respondents)

1. Excessive development (172)
2. Groundwater quantity and quality (80)
3. Loss of natural habitats (47)
4. Loss of agricultural lands (42)
5. Effects of siltation on rivers, ponds, and wetlands (33)
6. Lack of access to ponds and rivers (22)
7. Pollution from road/parking lot runoff (11)



Fisherman by Cherrie Corey

A) Summary of Resource Protection Needs

Open space in an environment of benign neglect will eventually disappear as various pressures prevail in the community to derive a higher utility for human use. In this context, the habitat needs of rare and common species alike require strong voices, financial commitment and policy strategies in the Town as a counterweight to the economic reality of intensifying uses. Community members were polled for their opinions regarding the importance of open space preservation and both municipal actions and actions which can be undertaken by individuals as a means of preserving the remaining open spaces in Town.

Rank importance of various aspects of open space preservation, from 2013 Survey (435 respondents)

1. Quality of Rivers, Streams and Ponds (265)
2. Quality and Quantity of Groundwater (244)
3. Open Space for Conservation/Passive Recreation (204)
4. Agricultural Land and Local Food (176)
5. Biodiversity and Wildlife Habitat (169)
6. Places of Historical Value (164)
7. Rural Character (144)
8. Open Space for Active Recreation (134)
9. Connectivity of Open Space throughout Town (103)
10. Proximity/accessibility to Village Centers (89)
11. Connectivity with Other Communities (68)

Rank of Town actions favored to preserve open space, from 2013 Survey (417 respondents)

1. Promote zoning/planning changes to encourage open space conservation (173)
2. Acquire/accept conservation restrictions (152)
3. Town purchase of land (139)
4. A combination of public and private partnership funding (131)
5. Acquire easements to connect open space (117)
6. Dedicate more town lands for conservation and/or recreational use (105)
7. Dedicate more town funds to maintain existing facilities (62)

Rank of actions residents are willing to take to preserve open space, from 2013 Survey (415 respondents)

1. Vote for a town supported land acquisition program (320)
2. Collaborate with other public/private conservation entities (292)
3. Increase Community Preservation Act funding (244)
4. Sell or contribute a conservation restriction on your land (68)
5. Sell your land to the town (54)
6. Gift some land to the town, state, or land trust (31)

Due in large part to the significant conservation efforts that have taken place in Concord since the 1960s, the Town has maintained a rich array of habitat types supporting extraordinary biodiversity. Previous open space plans have identified seven large natural areas. These areas remain as vital landscape blocks to protect and enhance through proper management techniques and further conservation efforts.

Additionally, studies such as the State's Biomap2 project prepared by the Natural Heritage and Endangered Species Program provide valuable resources to aid town planners and conservation groups in their efforts to maintain the health and integrity of natural areas. The Biomap2 study, issued late in 2012, provides information on species of conservation concern and identifies particular types of landscapes and habitats that merit concern. The BioMap2 report and reports for Concord and other towns within Concord's region can significantly aid local and regional planning efforts related to biodiversity.

Prioritizing parcels for Town or land conservation purchase will guide future efforts at protection. Town purchase for land conservation purposes is an effective, but very expensive, strategy for protecting key parcels of ecological or agricultural value. Additional strategies include overlay zoning districts, large-lot zoning, conservation restrictions, agricultural preservation restrictions, and transfer of development rights (TDR) (see Appendix B for discussion of TDR.)

Increased public education and outreach foster a sense of civic responsibility and personal accountability for the long-term health of these valued ecosystems.

One innovative way of encouraging residents to participate in stewardship of their unique natural resources is through Audubon International's Environmental Stewardship Program. This program provides support in developing environmental management plans to aid conservation efforts. The program engages citizens and communities in conservation, complements Town and land trust conservation efforts, and has the potential to strengthen the resiliency of the Town and the region.

A.2 Water Resources

Situated at the center of the regional watershed, Concord is blessed with an array of rivers, streams, wetlands, ponds, and vernal pools. Some of these waters are healthy and clean, while the degraded state of others necessitates action in order to improve water quality. Specifically, both the Assabet and Sudbury Rivers,

which originate southwest of Town, require continued attention and action in order to mitigate known pollutants and invasive species. Historical industrial pollution, wastewater treatment output, as well as road and agricultural runoff all contribute negative impacts to water quality in the Sudbury-Assabet-Concord (SuAsCo) watershed. Regional vigilance and conformance to regulatory frameworks is the best support for this extensive river system. As these rivers converge to form the Concord River at the center of Town, it too will require water testing and action in order to improve and maintain water quality into the future.

B) Summary of Community's Needs

When polled regarding their desires for future initiatives, citizens encouraged the Town to focus on its already rich resources in trail networks and to make these more accessible through trail maps and guides, but also to consider extending sidewalks and developing rail trails, which provide safe passage without direct conflict with vehicular traffic.

Citizens also opted for initiatives which would promote outdoor activities, such as gardening, farming, and choices for more open green space for athletics, both formal regulation games and informal spaces. This is consistent with results received through the Recreation Facilities Strategic Plan.

Top ten priorities for potential town initiatives, from 2013 Survey (425 respondents)

1. Extend sidewalks/walking paths to improve walkability of Town (153)
2. Develop Bruce Freeman Rail Trail (102)
3. Update town trail map and develop a trail guidebook (50)
4. Return conservation lands to agricultural production (28)
5. Invasive species control efforts (26)
6. Develop additional community gardens (13)
7. Develop additional regulation-size playing/ballfields (13)
8. Develop trail connection from the Battle Road Trail to the Thoreau Birth House (12)
9. Improve handicap accessibility to town trails (8)
10. Develop additional informal playing fields/baseball diamonds (3)

In their spare time, some people enjoy hiking, canoeing, or tracking animals. Others are drawn to organized sports or long-distance bicycle riding. Still others find satisfaction in walking along roads or gardening or landscape painting. Concord is for-

tunate to have resources that can support a wide range of recreational interests and many programs that help people of all ages keep physically active and engaged.

Particularly from the perspective of open space, it is convenient to consider separately intensive-use recreation (includes field-based activities, playgrounds, parks, and bike trails) and nature-based (or resource-based) recreation. Yet it must be emphasized that many valuable recreational opportunities might not fit into either category because they are not associated with land resources. Art classes, walking groups, and visits to museums are a few examples. Luckily, Concord is blessed with an abundance of such offerings.

Concord has been (see *Town of Concord 1985 Open Space Plan*) and is relatively well endowed with intensive-use recreational resources (see table, page 90). As the Town assesses lands for potential playing fields, it is critical to carefully evaluate the resource protection values associated with those lands. The Open Space Framework laid out in this plan is designed in part to identify those valuable natural and agricultural areas that would be unsuitable for such activities and, conversely, to guide planners to areas where playing fields would be appropriate and easily accessed and where they would enhance the community.

The protected open space of Concord provides highly varied recreational opportunities (1992 OSRP). Outdoor recreation can include active pursuits such as hiking, canoeing or bicycle riding, or more passive activities such as wildlife viewing, photography, and quiet appreciation of the scenic corners or historic treasures in Town. For recreational activities that are resource-based, such as hiking and fishing, protection of the areas and sites of the Open Space Framework, and as identified in the action map in section 9, would meet many of these demands.

Many of Concord's special sites (see map, page 72), which include relatively unique resources with either high value to the Town or beyond the town, are also of major recreational importance. These include:

- Sightseeing areas: Minute Man National Historical Park, Sleepy Hollow Cemetery, and the Historic Districts;
- Swimming in natural water bodies: Walden Pond and White Pond;

- Boating areas: the Sudbury, Assabet, and Concord Rivers and three ponds (White, Warner's, and Walden);
- Fishing areas: the Sudbury, Assabet, and Concord rivers, five ponds, and three brooks;
- Sportsmen's club property: Musketaquid Sportsmen's Club and Concord Rod and Gun Club; and
- Golf course property: Concord Country Club and Nashawtuc Country Club.

Also local, neighborhood open space resources provide opportunities for nature-based recreation, affording easily accessible wildlife viewing, nature education, and opportunities for frequent, personal, quiet connection to the natural areas of Concord. Even the Town's three community gardens at Hugh Cargill, East Quarter, and Cousins provide residents with deep linkages to nature, and there is a strong desire among residents for more community garden plots.

For a town of its size and population, Concord provides a broad range of outdoor recreational opportunities. The focus of this plan is on town resources, though private and other public resources (from private schools, clubs and beaches to major state and federal lands) greatly enrich the recreational opportunities in Concord. Recreation programs have long been, and are, handicap accessible, and a wide range of properties, facilities and equipment, is handicap accessible (see Appendices E and F).

B.1.a Major Trails

Trail activities, including hiking, walking, jogging, nature study, bicycling, horseback riding, and cross-country skiing, continue to be very popular at the state, regional, and local levels. In Concord there are many ways to obtain maps and information about open space, conservation lands, and trails information, including:

- *Town of Concord Conservation Land Guide* (June 2000) and trail maps by the Trails Committee
- *Trail Guide* (2014) by the Concord Conservation Land Trust
- *Concord's Mill Brook: Flowing Through Time*, a guide to the Lower Mill Brook, by Richard T. T. Forman, prepared for the Mill Brook Task Force and the Town of Concord Natural Resources Commission (1997, 2nd ed. 1999)
- *Mill Brook Historic Tour: Glimpsing Concord's*

History Through the Eyes of the Mill Brook (May 2003) by the Mill Brook Task Force

- *Bay Circuit Trail Map* by the Bay Circuit Trail Alliance
- *Battle Road Trail Map* by the National Park Service
- *The Assabet River Pocket Guide* by the Organization for the Assabet River
- *MAPC Hiking and Biking Trail Map* (2012) by Metropolitan Area Planning Council

Regional paths for walking and bicycling include Minuteman Commuter Bikeway connecting Bedford, Lexington, Arlington, and Cambridge; Battle Road Trail from Concord to Lincoln and Lexington; and an informal path on a town-owned abandoned railroad bed from Concord to Bedford. The Bay Circuit Trail (for walking) connects Acton, Concord, Lincoln, and Wayland as part of a 200-mile circuit around the Boston Region. This trail goes westward from Concord Center to enter Acton south of Strawberry Hill Road, and southeastward from Concord to enter Lincoln at Walden Pond. Efforts should continue, to reduce road walking to the extent feasible. A long planned component, the Emerson-Thoreau Amble, was completed in 2013, and extends from Heywood Meadow in Concord Center through the Town Forest and Brister's Hill, culminating at Thoreau's cabin site in the Walden Pond State Reservation. Continued efforts of this type will make the Concord segment of the Bay Circuit trail a pleasant traverse of our natural spaces.

A new trail connection was developed in 2012 between Bedford and Concord through MassPort land. Further enhancement of the trail connection between Concord and Bedford through the MassPort land will provide welcome recreational opportunities for residents. Existing trails in Estabrook Woods link Concord and Carlisle. In contrast, no regional walking or bicycling trails serve the southwestern half of Concord, nor provide recreational access to the considerable natural-vegetation areas in Littleton, Boxborough, and Stow to the west.

Several proposed regional trails would greatly enhance recreational opportunities in the region. Concord residents will especially gain from completion of the 25-mile Bruce Freeman Rail Trail which will provide access to the natural land and countryside of Sudbury, Acton, and Westford. The Concord portion of this trail, connecting Acton and Sudbury, is scheduled to commence construction in 2016.

B.1.b Proposed New Local Trails

More work is required to complete the Town's system of trails and to increase its accessibility to all, including individuals with disabilities and the elderly. The Town should continue its efforts to build other local walking trails that have been proposed by various town committees and task forces. Seven in particular stand out.

Assabet-Nashoba Trail: There is an informal trail from the outlet of Warner's Pond along the Nashoba River to its confluence with the Assabet River which connects Warner's Pond to the proposed Bruce Freeman Rail Trail (BFRT). This trail should be formalized to connect to a future trail required under permits issued to Concord Park along the Assabet River and Nashoba Brook that could also allow passage over the Assabet River to CR land at 330 Baker Avenue, though this would require a crossing of the Assabet River. The pocket park at Warner's Pond, constructed in 2012, offers a lovely spot for contemplation of the pond and its environs. The Assabet-Nashoba Trail could continue to potential future trail connections from Wright Road and the MCI land discussed in more detail, below.

Trail of the Colonial Militia: On the 225th anniversary of the Concord Fight, in 2000, the citizens of Concord voted to designate an existing path on Town land from Monument Street to Bedford Street a "Trail of the Colonial Militia." It marks the path the Militia took from North Bridge toward Meriam's Corner in 1775. Voters urged town officials "to accommodate the approximate route of this trail in any future use of the Town-owned land".³ The portion from Bedford Street to Meriam's Corner remains unfinished. There are several possible routes, including from Bedford Street to Birch Drive to Ridgeway Road to Ripley School grounds to an "ancient way" owned by the Town to Meriam's Corner.

MCI Land off Wright Road: Evaluate connecting the trail system on the MCI prison land to explore the environs of Nashoba Brook and Warner's Pond. With the construction of the BFRT, there is an opportunity to create a trail connection from the BFRT, through the Massachusetts Correctional Institution land along Nashoba Brook, to Wright Road.

Landfill and Brister's Hill trails: Concord's 2001

Town Meeting created a study group to work with interested residents and the Walden Woods Project to arrive at a permanent use of the Town's 35-acre capped landfill site. In 2002, Concord's Landfill Committee recommended that the Selectmen offer to swap the landfill site for a state-owned parcel on which the Town could continue public works functions, including yard waste recycling, mulching, and snow dumping. In 2012, the Walden Woods Project offered to purchase a Conservation Restriction on a former landfill site, allowing the continuation of municipal uses of the land and the introduction of a solar array. The Town voted at 2013 Town Meeting not to place the site under a CR. The Town also voted not to use a portion of the site as the bus parking lot for the Concord-Carlisle High School. Placing a CR on the property would facilitate the creation of a safer trail linkage of the Town Forest, the Emerson-Thoreau Amble, Bay Circuit Trail, and Brister's Hill Interpretive Site to Goose and Walden Ponds. In order to safely cross Route 2, an overpass could be constructed. The Walden Passage Feasibility study completed in 2007 identified an overpass in the vicinity of the former landfill as the most suitable location. Walking trails in the vicinity of the landfill and Brister's Hill should be limited and carefully designed to ensure safe operation of the solar array installed on the landfill in 2013 and 2014. The valuable pitch pine stand on Brister's Hill also requires protection.

Old Mill Crossing (or Milldam Crossing): The Town should build a footbridge over the Mill Brook at the site of, and in recognition of, the original mill built at the founding of Concord (by today's Main Streets Market & Café). This would link the visitor center and Town parking lots with Monument Square.

Elm Brook Trail: The Town should continue to work with the Thoreau Farm Trust to develop a trail connection from the Thoreau Birth House at 341 Virginia Road, to the Battle Road Trail, to unite the historic and literary legacies on Concord.

Assabet Bluff Trail: Future extensions of the Assabet River trail are recommended south of Main Street. The Town should continue to pursue easements across private parcels to create a trail from the newly constructed canoe launch at the Main Street/ Cottage Street intersection (behind the Dino's parking lot) to the Concord Riverwalk at 1657 Main Street. There are likely to be some marshy areas that might require elevated boardwalks to limit the potential impacts to wetland resource

areas.

The Town should continue to improve the newly acquired Rogers land off Harrington Avenue and establish a trail connection along the Assabet River from the Second Division Brook Conservation Land, through the Rogers Land, across the newly acquired easements over private land, through Marshall Farms and connect with existing trails at Harrington Park.

In addition, many informal neighborhood trails and paths on private land link Concord residents to the Town's open spaces. The Town should act to secure existing trails when opportunities arise, such as when subdivisions are proposed.

B.1.c Bikeways

Bicycling has grown enormously in popularity, both for recreation and fitness. Concord has become a mecca in eastern Massachusetts for regional riders, making cycling an economic as well as recreational driver in the community. Safe and convenient bicycling routes should be greatly expanded in Town for recreation as well as transportation. Indeed, the Town's "share the road" signs suggest the importance of roads as a major component of an effective biking network. Work on the bicycle trails in the north/south rail corridor, as well as the Route 2 crossing at Route 126 and south to the Lincoln line, were recommended by the 1995 Concord Bikeways Task Force. The Town should study and plan for bicycle use in the Concord to Bedford corridor and from Route 126 to Concord Center. The Town continues to move forward with the BFRT design, presently scheduled for construction in 2016.

B.1.d Regional Trails

Regional trails not only help link the communities in Concord's Region, but provide beautiful, convenient access for Concord residents to countryside and open spaces in neighboring towns.

Bay Circuit Trail (BCT): This 200-mile walking trail extends through 34 Massachusetts towns, from Plum Island in Newburyport to Duxbury. The Concord segment runs from the Acton line in the Annursnac Conservation Area, passes over the historic Old North Bridge, where the trail forms at Monument Street. One section continues through Concord Center and the Hapgood Wright Town Forest, reaching the Lincoln line in the Walden Pond State

Reservation. A second branch extends from Monument Street up the Reformatory Branch Trail up through Bedford. For hikers' safety, and to enhance the woodland experience, the BCT should be re-routed wherever possible off roads, such as College, Barrett's Mill, and Barnes Hill Roads, onto existing trails through the Spencer Brook Valley.

Bruce Freeman Rail Trail (BFRT): The old Framingham-Lowell railroad right-of-way is a valuable north-south corridor that runs intact for approximately 25 miles, from just north of Route 3 in Lowell to close to Route 9 in Framingham, with significant sections in Chelmsford, Acton, Concord, and Sudbury. The trail has been named the Bruce Freeman Rail Trail in honor of the former Chelmsford State Representative who was its first strong advocate. The trail has been completed through Chelmsford and Westford. The 3.5-mile Concord section enters from Acton just before crossing Route 2, passes close to Warner's Pond, and crosses Commonwealth Avenue, Nashoba Brook, Main Street, and the Assabet River at Concord Junction. It then skirts scenic woodlands, farmlands, wetlands, and White Pond before crossing into Sudbury. The Concord section of the trail is scheduled to begin construction in 2016.

This rail trail will provide Concord with a valuable recreational and alternative transportation resource. It will serve walkers, joggers, bicyclists, children in strollers and on tricycles, scooters, cross-country skiers, snow-shoers, equestrians, and wheelchair users alike. It will connect West Concord Center – including the MBTA commuter rail station – to the playing fields behind Sanborn Middle School, and walking trails in the Old Rifle Range. In 2004, the Selectmen approved a preliminary engineering study of the Concord section of the trail, and a local Friends group raised the required funds for the study. The study included delineating wetlands and evaluating impacts on rare species. Bridge crossings over Route 2, Nashoba Brook, and the Assabet River will be needed. In March 2003 the Concord Selectmen indicated that MassDOT should include the abandoned railroad right-of-way crossing over Route 2 (as well as the Nashoba Brook wildlife corridor under the highway) in its designs for a new rotary, and both of these recommendations have been incorporated in the Route 2 Rotary design. However, the Route 2 Rotary project has been put on hold and isn't currently included in the 20-year state Transportation Improvement Program. The

BFRT portion of the project was segregated out to continue towards 75 percent design. Discussions of the rail trail's feasibility and attributes, including the important Nashoba Brook/Route 2 crossing and White Pond water quality and neighborhood impacts, continue in Concord. The design of this important regional recreation resource should be sensitive to the other major aspects of Concord's 2015 OSRP.

B.2 Accessibility of Trails to Persons with Disabilities

B.2.a Federal and state standards

The 1992 OSRP recommended that the Natural Resources Commission "work with the town's Section 504 coordinator to identify the level of effort that should go into upgrading or creating Class I and Class II trails." Since then, the Americans with Disabilities Act, or ADA, has largely replaced Section 504 of the federal Rehabilitation Act in setting the requirements for making town facilities and services accessible to persons with disabilities (*see Appendix F for ADA self-evaluation of Town's facilities and services*). The Architectural and Transportation Barriers Compliance Board ("Access Board"), the federal agency with ADA oversight, is developing proposed regulations for "Outdoor Developed Areas," including access to trails. These will be based on the "Draft Final Accessibility Guidelines for Outdoor Developed Areas" developed in 2009. The "Final Guidelines for Outdoor Developed Areas" was issued in November 2013, but these only apply to federal lands, and the regulations for state, town, and private lands may not be issued for some time. On March 15, 2011 the Department of Justice (DOJ) revised rules went into effect allowing "other power-driven mobility devices" to be used by "individuals with mobility disabilities."

B.2.b Existing wheelchair accessible trails

Three existing trails in Concord are said to meet the Guidelines' standards for accessibility to persons with disabilities, but can easily become unusable if not maintained. Two of these are federally maintained: the Battle Road Trail (accessible except for a 200-foot section climbing onto The Ridge) in the Minuteman National Historical Park and the Dike Trail in Great Meadows National Wildlife Refuge (the ramps at the ends of bridges over two spillways are sometimes in need of repair). The other trail is the Town-maintained Chamberlin Path in Concord Center. Minor improvements will be required in the

next few years to reinforce the bridge.

Although the trails in Walden Pond State Reservation may not meet wheelchair accessibility standards, the 2013 Resource Management Plan Walden Planning Unit calls for the design and construction of a universally accessible connection between the top of the E-Ramp at Route 126 and the bathhouse and Main Beach. The Reservation makes a "beach wheelchair" available to visitors upon request, and a permanent ramp runs from this walkway down to the beach. Despite periodic regrading by the Reservation, however, at the point where the ramp meets the beach, shifting sand sometimes creates a several inch drop onto the sand. This problem might be corrected by extending the ramp a foot or more beneath the sand surface. A similar improvement may also be useful at two places where dirt trails (one leading to the site of Thoreau's cabin) meet the stone walkway.

B.2.c Proposed trails to be made accessible for wheelchair users

So that all of Concord's residents and visitors may partake of the Town's natural resources and beauty, the Town should make several more existing or proposed trails accessible to people using wheelchairs. Some trails would be seasonally accessible. The Town should focus its effort on improving access for disabled persons on six important trails as follows (*described in Appendix E: Proposed Trails Accessible for Wheelchair Users*).

Assabet-Nashoba Trail: From the West Concord train station along the west side of the Assabet River and south side of Nashoba Brook to the arched footbridge; also a spur across the old railroad bridge northward on the railroad bed to Commonwealth Ave. near the access to Warner's Pond.

Town Forest Trail: From the Walden St. parking lot to the Fairyland Pond spillway.

Punkatasset Trail: From Monument St., bearing left at the gate, to the brook entering Hutchins Pond.

Landfill and Brister's Hill trails: Proposed trails on both sides of Route 2; routes to be selected.

Old Mill Crossing (Milldam Crossing): Proposed footbridge connecting visitor center and Monument Square.

B.2.d "Assessed trails" and universally accessible trails

The Massachusetts Department of Conservation and Recreation has designated seven state trails as "Acces-

sible” (constructed for universal accessibility). In addition, it now defines a new class of “Assessed Trails,” which are “unimproved hiking trails [that] offer a more rugged experience” for persons with disabilities. Five such trails have been designated in Massachusetts. The Trails Committee developed and mapped an assessed trail in the Town Forest in 2013 and will be assessing additional trails in Punkatasset and Annursnac Conservation lands over the next few years. Both the Accessible and Assessed trails in Town should be identified as such with appropriate signage, as well as in Town maps and guides.

Some trails should also be made usable by individuals with disabilities other than mobility impairments, such as sight impairments. The Massachusetts Audubon Society has created a trail through its Broadmoor Wildlife Sanctuary in Natick that is accessible to individuals with partial or total blindness. A universally accessible trail should have an uninterrupted guide handrail running its entire length and may include interpretive signage in Braille or audiotape, as well as in standard print format.

The Town should make similar accommodations on one or more relatively level trails, such as the Chamberlin Path, the proposed Assabet-Nashoba Trail (or portions thereof), and the proposed footbridge over Mill Brook in Concord Center.

B.2.e Trails committee and meshing trail and conservation objectives

Overall, to aid the Town in trails issues and facilitate processes related to them, a Town Trails Committee reporting to Concord’s Natural Resources Commission (NRC) and coordinating with the Division of Natural Resources staff was created in 2007. Members of the committee monitor the condition of all Concord public trails, both existing and proposed, and advise the NRC on trail issues including, but not limited to: trail marking, routing or re-routing, handicap accessibility, trail blockages or deterioration, any restrictions required for trail preservation, trail maps and descriptions, and instances of improper encroachment or interference with trail use. Committee members are also developing trail guides for the Town’s trail system.

Finally, trails should be consistent with conservation objectives. Trails facilitate the movement of people for recreation, largely through natural areas. That movement when concentrated, and especially when accompanied by dogs, can have detrimental effects on natural populations of key wildlife. The diversity,

density, habitat, and movement routes of many forest species are likely to be reduced or disrupted, and should be considered when routing new trails or relocating existing ones.

B.3. Field-based and Other Intensive-use Activities

The Town of Concord provides citizens many opportunities to participate in active recreation programs at a range of facilities in town. Formal and informal playing fields host a diverse array of individual and team sports programs including soccer, baseball, softball, ultimate frisbee, and lacrosse. The Concord Recreation Department has two facilities, the Beede Swim and Fitness Center and the Hunt Recreation Center, which offer many programs for a broad range of ages. The Beede Swim and Fitness Center offers swimming classes in its four pools to its 4,054 members. There were 3,592 total fitness participants in 2012 who participated in personal training held at the Beede Center and fitness classes held at the Hunt Recreation Center and the Ripley Gym. In addition, the Hunt Recreation Center provides many summer camps and after school programs for children of all ages. In 2012, the youth basketball program alone had 435 participants. The Recreation Department continually evaluates the current trends to meet the community’s needs for active recreation.

Because demand for these types of programs and facilities are high, the Recreation Department has received \$30,000 in Community Preservation Act (CPA) funds to hire a consultant for the purpose of developing a Recreation Facility Plan, which will be a five-year strategic plan delineating the recreational needs of the Concord community.

Small informal playing fields, mainly for neighborhood use, are also a valuable recreation resource. Such areas provide additional opportunities for children who cannot participate in, or wish to have additional opportunities to, the organized teams and activities requiring regulation ball fields. In winter, informal ice-skating and hockey take place at Moses, Crosby’s and Macone Ponds, as well as the Town-sponsored rink at Emerson Field and Nashawtuc Hill is a popular sledding destination. Located within convenient walking or bicycling distance of homes, small neighborhood fields provide opportunities for spontaneous and multi-age recreation. They also reduce the need for vehicular travel and tight scheduling by families, and additionally could reduce pressure on the existing regulation ball fields. Convenient small, informal play-

ing fields enhance neighborhoods and provide places for neighbors to meet. The Recreation Facilities Strategic Plan, completed in 2014, also identified a very high level of interest and need for neighborhood parks. Currently at 0.62 acres per thousand Concord residents, the Town should work towards achieving the Level of Service Standard of 3.5 acres/thousand residents.

New playing fields, of course, require resources for maintenance by the Concord Public Works Department. In many cases neighborhood residents should be able to help maintain small, informal neighborhood fields.

B.3.a Playgrounds and skate-park:

With the recent construction of three elementary schools in Concord, the playgrounds at each of the schools were also updated. The Emerson Playground was completed in Spring 2009; the Rideout Playground was completed in Fall 2011; and the Playscape at Ripley is under construction now.

The Playscape at Ripley is being constructed in Concord's East Quarter, adjacent to Ripley School. Located next to conservation land, the new Playscape at Ripley will purposefully connect individuals of all abilities with nature, while fostering cognitive and social growth. Community groups will be able to use the green spaces for a variety of activities, while the performance circle will host outdoor performances. Hikers and nature-lovers will have access to trails, and families with strollers or seniors with limited mobility will be able to use the Playscape's reinforced textured path. There will be shady spots, ample seating, and quiet spaces.

The Concord-Carlisle Teen Alliance, the Concord Police Department, the Recreation Department, and groups of parents and youth have worked together to identify a location and fund the creation of a skate park in town. An approximately 10,000-square-foot park for skateboarding and inline skating at Concord-Carlisle Regional High School was completed in 2004. The skate park has since been removed with the new high school construction underway, and survey respondents did not rank replacing the skate park as a high priority. With the construction of the high school athletic fields, an ADA-compliant path will be developed around the athletic facilities to access the fields or stroll the grounds.

B.4 Water-based Outdoor Recreation

Concord's abundance of natural water resources

allows residents and visitors alike to enjoy a variety of water-related recreational activities year-round. From swimming and kayaking to fishing and ice-skating, residents' outdoor experiences are enhanced enormously by Concord's rivers, streams and ponds. Providing an additional public access point to natural surface waters for water-based recreational activities should be evaluated. These types of activities provide exercise without the structure of organized sports and reinforce a connection with the natural world that is often elusive in our modern lives.

The tables on the following pages provide a glimpse at the recreational resources available in Town as well as a look at resident desires for improvements to these areas and facilities.

C) Management Needs, Potential Change of Use

C.1 Land and Habitat Management

Protected land, enjoyed every day by significant numbers of residents and visitors, remains arguably the most outstanding resource in Concord. Although users are overwhelmingly respectful of the land, with this intensive use inevitably there are impacts on trails, pollutants entering streams and ponds, habitat degradation, and inadequate protection of sensitive species. Invasions by exotic plant species are degrading habitat in many areas.

State regulations now partially protect wetlands and unbuilt areas near streams and rivers, which is especially critical in a town trisected by three rivers and numerous associated wetlands with abundant water resources (see map, page 39). Two major responsibilities of Concord's Natural Resources Division are wetlands protection and management of the Town's conservation lands. Property boundaries tend to define open space parcels and recreation spaces. In contrast, natural resources, such as water and wildlife, readily move and are distributed across many properties, both private and public.

Managing land and natural habitats is a vital aspect of ownership responsibilities. The following paragraphs provide an overview of the different approaches to management presently occurring in Town. It is fortunate that Concord has an ongoing tradition of leaders who run a relatively open town government, as well as a Concord Public Works department with a strong interest and record in environmental protection. Consequently, local boards and agencies generally communicate well and conflicts relative to open space and recreation are limited.

Availability of Recreational Resources in Concord

Concord assesses the demand for recreational activities in a number of ways: by extrapolating from the Statewide Comprehensive Outdoor Recreation Plan (SCORP); by evaluating the level of use of existing programs, resources, and facilities; by occasionally conducting surveys; by referring to existing plans and policies; by maintaining close communication with other agencies and organizations; and by listening to comments at public meetings on issues ranging from town budgets to plans such as this.

Many initiatives identified in this OSRP meet the four goals set forth in the most recent 2012 SCORP report. To meet Goal 1 - increase the availability of all types of trails - the Town will construct the Concord portion of the Bruce Freeman Rail Trail, a paved, multi-use regional trail, and will also be assessing Town trails for use by other power driven

mobility devices, while continuing to pursue efforts that provide connectivity for trail users and wildlife alike. Goal 2 relates to increasing the availability of water-based recreation. The Town will be working with OARS to provide better visibility for the six boat launches on Town lands while also providing indoor swimming opportunities at the Beede Center and outdoor swimming pool at Emerson Field. To meet Goal 3, Concord is blessed with a plethora of recreational options in all areas of Town, including three community gardens with a fourth to be completed in 2016. The need for small neighborhood parks is also highlighted in this OSRP. As an aging community, this OSRP also meets Goal 4, to invest in racially, economically, and age diverse recreational opportunities as can be seen with creation of the Playscape at Ripley, a nature park design for all ages and abilities.

Outdoor Recreational Activity	Availability in Concord
Hiking	Trails through town-owned conservation land; state and federal land; land trust land
Hunting	Two private sportsmen's clubs; some state lands; private property with permission
Organized natural / historical / cultural and sightseeing	Six historic districts and numerous tours and staffed sites, such as Minute Man NHP, Walden Pond State Reservation, Great Meadows Refuge, Old Manse, Emerson House, Concord Museum
Picnicking	Picnic tables at Emerson and Rideout playgrounds; numerous open, grassy areas elsewhere in town
Archery / target practice	2 private sportsmen's clubs
Baseball / softball	11 baseball or softball diamonds
Soccer / lacrosse	11 multiple use soccer/lacrosse fields
Golf	2 private 18 hole courses
Tennis	10 public courts; 25 courts at 6 private clubs
Basketball	3 public outdoor courts
General playgrounds	Emerson, Rideout, Ripley, and at 3 elementary schools
Bicycling	Narrow paved pathways along roadsides have limited use; off-road bicycling on Battle Road Trail; Concord is a popular rendezvous for individual cyclists and regional bicycle clubs, who use area roads
Horseback riding	4 major areas all on private lands; Town conservation land, CLCT land
Ice skating	10 ponds with public access and extensive riverine areas plus 2 public seasonal Rideout and Emerson Field
Skiing (cross-country)	See hiking above
Boating	4 public access points on rivers and 3 on ponds; 2 private launch areas, including the popular boat/canoe rental business at the South Bridge Boathouse
Fishing	Same rivers and ponds as above; 3 ponds on sportsmen's club property; 5 brooks with limited public access
Swimming (pools)	2 public facilities: Beede Swim and Fitness Center (4 pools), Emerson Playground (1 pool); 3 private clubs;
Swimming (freshwater)	2 public areas (Walden Pond); 4 private associations (Nashawtuc Country Club, Concord Country Club, Heritage Swim and Tennis, White Pond Associates Beach)
Running / Walking	¼ mile track at Emerson Field

Source: Concord Recreation Department

Resident-identified Recreational Facility Needs

When asked to indicate the top five recreational facilities they felt are needed or should be expanded, residents selected bike paths, hiking and walking trails, and conservation areas as their top three areas of interest. Additional areas where residents expressed moderate levels of interest are neighborhood parks, swimming areas, children play areas, and dog parks.

In a separate question asking about the adequacy of existing resources, the only resource deemed inadequate were biking resources. With the revised Dog Bylaw proposed for 2014 Town Meeting (after the conductance of this survey), the need for a formal dog park was raised as a community desire and requires further evaluation.

Recreational Resource (416 Respondents)	Ranked #1	Ranked #2	Ranked #3	Total
Bike Paths	127	64	39	230
Hiking and Walking Trails	72	88	54	214
Conservation Areas	66	46	32	144
Dog Park	20	22	21	63
Swimming Areas	17	23	21	61
Children Play Areas	16	29	18	63
Indoor Recreational Facilities	16	12	21	49
Neighborhood Parks	13	20	38	71
Tennis Courts	11	10	8	29
Baseball Fields	9	4	4	17
Outdoor Benches	6	12	18	36
Soccer Fields	6	0	2	8
Summer Recreational Programs	5	4	7	16
Family Picnic Areas	4	8	13	25
Ice Skating Rinks	4	6	16	26
Overnight Camping	4	4	5	13
Public Boat Access/ Ramps	4	7	16	27
Bridle Paths	3	4	6	13
Fishing Access	2	8	13	23
Hunting Areas	2	3	5	10
Softball Fields	2	4	2	8
Basketball Courts	1	8	5	14
Sledding Areas	1	6	6	13
Skateboard Park	0	3	3	6

Source: 2013 Online Survey administered by the Division of Natural Resources

C.2 Town Conservation Land Management

Land acquired under the provisions of Massachusetts General Laws, Chapter 40, Section 8C is deemed conservation land and permanently protected from development. Conservation land is granted a special status to be maintained in its natural condition in perpetuity and is under the care and control of the local Conservation Commission. In the Town of Concord, the Natural Resources Commission (NRC) is the Conservation Commission.

Town lands acquired for conservation and open space purposes since 1965 include over 1,300 acres of varied habitats, including woodlands, meadows, steep hills, agricultural fields, drumlins, freshwater ponds and free-running streams. Town conservation lands include Annursnac, Old Rifle Range, Punksasset, Old Calf Pasture, Mattison Field, Town Forest, and many important small areas (see Publicly Owned Property Map). Guidance and oversight of management on Town conservation land is the responsibility of the NRC. Management of Town conservation land is highly diverse, and almost always arises through collaborative endeavors. The Town is very fortunate to employ the summer Conservation Crew, reporting to Division of Natural Resources staff, which helps maintain trails and fields, manage exotic invasive terrestrial and aquatic species, maintain and erect trail signs, mow conservation fields, and maintain foot bridges, among other activities.

Volunteers, including the Heywood Meadow Stewardship Committee, Trails Committee, and Mill Brook Task Force, provide stewardship of conservation lands. These NRC subcommittees conduct field days and participate in land management undertakings, including engaging consultants to develop master plans, implementing stream clean ups, and monitoring catch-basins in the watershed.

Warner's Pond is a valuable water asset under the care and control of the NRC. The Division of Natural Resources had a Watershed Management Plan developed in 2012 to determine appropriate management techniques to improve the health of Warner's Pond, which is suffering from severe degradation and is slowly filling in. The Town will be pursuing funding for limited dredging to expand deeper water habitats in targeted areas of the pond to remove accumulated sediments and enhance water-based recreation. Hand harvesting of the aquatic invasive species continues under the efforts of the Division of Natural Resources Conservation Crew.

Likewise, a significant cooperative effort in Fairhaven Bay and the Sudbury River has been undertaken since the late 1990s to remove the invasive water chestnut. The Concord Land Conservation Trust and the Town of Lincoln worked closely with Concord's Natural Resources Division in this effort, made possible by the loan of an aquatic weed harvester from the U.S. Fish and Wildlife Service. For the last two years, only hand harvesting has been necessary, a testament to the previous several years of concerted efforts to remove this noxious plant.

In many instances staffing of management activities is done in conjunction with Concord's Department of Public Works, notably its Park and Tree Division. Annual activities regularly undertaken with the Park and Tree Division includes field mowing, invasive species management, trail maintenance, and maintenance of water-related structures.

While Concord's Natural Resources Division is fortunate to have such effective partners for conservation land management, the responsibilities and challenges often overwhelm the available resources. In addition, issues involving beaver, deer, rare species, hunting, dogs, grassland birds, trails, ice-skating, fire, parties, and more demand attention. Funds allocated for land and habitat management should be consistent with the amount spent on a per-acre basis by other conservation organizations, such as land trusts and government agencies.

Sufficient operating funds and staff time must be devoted to the management of town-owned conservation land. Having acquired land for conservation, Concord has a responsibility to provide thoughtful stewardship for each parcel, determined by inventory and delineation of each property with a management plan in place to protect its values and enhance and define the visitor experience. Proper signs, parking, and trail markers should be installed where appropriate to make our public lands accessible to all. Proper management of Town conservation land will help to build a constituency of thoughtful stewards and advocates for our land long into the future.

Municipal, State, Federal and Private Conservation Land Management

Management of municipal lands (in contrast to conservation lands) is accomplished principally by the Concord Public Works (CPW) Park and Tree Division. CPW cares for all of Concord's public streets and ways, including maintenance of drainage facilities. It also cares for cemeteries and Town recreation lands such as Emerson Field and Playground.

Town lands also include land under the care and control of the Water and Sewer Division of CPW. All town well sites fall within this category. Parcels that have been acquired and designated as well sites maintain special status and are principally preserved for water supply purposes. Water supply regulations require land to be maintained in an undeveloped, natural condition. For instance, uses allowed on conservation lands, including agriculture and grazing of livestock, are prohibited on Zone 1 water supply lands.

Concord has considerable land managed by federal and state agencies, each with different objectives and management priorities. Minute Man National Historical Park is managed by the U.S. National Park Service to preserve and protect a national historical treasure, to educate visitors, and to provide appropriate recreation in a historic landscape. Great Meadows National Wildlife Refuge is managed by the U.S. Fish and Wildlife Service primarily for protection of wildlife habitat, especially for migrating water birds, and passive recreation related to wildlife. Walden Pond State Reservation is managed by the Massachusetts Department of Conservation and Recreation primarily for protection of the pond and historic landscape, as well as passive recreation related to these resources. MassPort manages Hanscom Field primarily for safe aircraft operations, which includes vegetation management and associated activities. The Massachusetts Correctional Institution and Northeastern Correctional Center are managed by the Department of Corrections primarily as a medium-security prison and a detention center, and include a considerable amount of farmland and other open land. MassDOT manages slivers of land adjacent to roads for present or potential transportation purposes.

Other than the Town, the largest landholder in Concord is the Concord Land Conservation Trust (CLCT). This non-profit conservation organization has been a key catalyst for land conservation in town since its establishment in 1959. CLCT employs a part-time land manager to manage its land holdings, and a part-time office manager to oversee office operations. Recent activities include deer management, water chestnut removal in Fairhaven Bay, and long-term mowing of fields to maintain valuable field habitat. Field edges are maintained, the spread of invasive species contained, trails mowed, and brush cleared. CLCT manages its lands both to preserve natural values and to offer opportunity for public access and enjoyment of its land

holdings.

Sudbury Valley Trustees (SVT) is a regional land trust that conserves land and protects wildlife habitat in the Concord, Assabet, and Sudbury River basin for the benefit of present and future generations. SVT partners with towns and local land trusts on land protection and stewardship projects throughout the 36-town watershed service area. In Concord, SVT assisted with protection of the Concord prison farm fields in a partnership with the Department of Corrections, the Town, and CLCT. In addition, SVT participated in the Wildlife Passages Task Force in order to monitor the use of underpasses beneath Route 2 by local wildlife.

SVT owns the Dugan Kames conservation land (27 acres) and a portion of Gowings Swamp (7 acres). SVT also holds a CR at Gowings Swamp (one acre) and at the Soutter Field and Bigelow Woods (79 acres). SVT is also collaborating with the Concord Children's Center (CCC) on the nature Playscape at Ripley. The Town will continue to collaborate with SVT, CLCT, and CCC on access, trails, and management of the Gowings Swamp natural area.

D) Land Policies, Regulations, Protection Mechanisms and Planning

Given the high cost of protecting open space through purchase, as well as the Town's tradition of proactive land use planning and regulation, it is appropriate and fair for the Town to use available regulatory and legal tools to protect open space. Most of these are well-developed and understood programs such as the Zoning Bylaw and Planning Regulations. Others are less well known or have changed since the *2004 Open Space Plan*. All offer interesting opportunities to accomplish the Town's goals.

D.1 Regulatory, Legal, and Funding Tools Available

D.1.a. The State Wetlands Act continues to be an effective tool for protecting critical habitat in Concord, where roughly 20 percent of the Town is classified as wetlands under the jurisdiction of this Act. Recent changes to the Wetlands Protection Act presently being reviewed by the State would loosen oversight, placing more importance on Concord's Wetlands Bylaw. The volume and intensity of cases handled by the NRC in recent years testifies to the importance of this program in maintaining open space in Town. The addition of the Rivers Protection Act to the Wetlands Act in 1997 was a milestone. It created a 200-foot corridor around all perennial rivers and

streams, which is largely protected as open space, subject to various exceptions. In Concord's system of waterways (see map, page 39) this 200-foot corridor protects high value habitat.

D.1.b A Wetlands Bylaw was adopted by Town Meeting in 2009 "to protect the town's wetlands, water resources, flood-prone areas, and adjoining upland areas including three major rivers, the Assabet, Sudbury, and Concord and their tributaries by prior review and regulation of activities deemed by the Concord Natural Resources Commission likely to have a significant or cumulative effect on resource area value." Local policy includes a fifty-foot No Build Zone around wetlands, established in 2004. The Wetlands Bylaw approved in 2009 and amended in 2013, with Regulations issued in 2010, provide still further protection of areas close to wetlands by establishing a 25-foot No Disturb Zone, protecting critical habitat within 100 feet of certified vernal pools, and providing the Town the capacity to fine non-compliant or repeat violators of wetlands laws.

D.1.c The Community Preservation Act (CPA) was passed in 2001 by the state. Cities and towns may elect to join the program and set aside municipal funds for open space, historical preservation, and affordable housing, by means of an increase of up to 3 percent in local real estate taxes. The CPA was passed by 2004 Town Meeting at the 1.5 percent level. The revenue for Concord has been substantial – an average of \$1,328,552 per year. This dedicated funding stream has made acquisition and management of open space far more flexible and dependable, funding over \$4,000,000 of open space and recreation projects over the past eight years. Because of the success of this program in protecting resources, the Town should consider raising the level to the maximum (3.0 percent) so that there are more funds available to protect more resources. CPA funds should be focused on major projects, such as helping to protect core parcels of the Town's large natural and agricultural areas, and/or restoration of these areas to better reflect the values for which the land was acquired.

D.1.d Zoning Bylaw changes have significant potential for open space protection. A number of development projects have gone forward in recent years that relied on changes in the Town's zoning requirements and provided for additional open space in exchange. The Town should continue to encourage the creative negotiation of such projects. They

are often the most effective and sensible way to protect open space. In 2010, the Zoning Bylaw was amended to require that for Planned Residential Developments (PRDs) half of the required 25% protected open space must consist of upland. The Town should expand this requirement to other forms of development. The Town should continue efforts to develop affordable housing using the cluster approach. The Town should continue its open-minded and flexible approach to these projects; some may be a wise use of land and others may not. Because it is difficult to write general rules in this area, a case-by-case approach is necessary. The Town should continue to encourage the formation of informal task forces comprised of land use staff and Town board members to consider such requested zoning change early on in the permitting process, so that projects that might protect open land by allowing for denser development are given a thoughtful and speedy resolution. A recent example of this type of group is the Mill Brook Tarry Task Force.

Additionally, Agricultural District Overlays have been proposed and should be adopted as a strategy for protecting agricultural land in town. Transfer of Development Rights is another zoning strategy that should be explored as an option for protecting agricultural land and encouraging development within one half mile of train stations (See Appendix B for full discussion of TDR).

D.1.e New Conservation Restrictions. The Town should review the lands it holds as open space to determine where additional conservation restrictions (CRs) might be adopted for permanent protection. While the Town may want to keep its options open at most sites, there are others where some degree of protection may make sense. The identification of a new category of town lands (short of a CR) may be desirable for areas currently managed by the NRC, but which are also set aside for the Town's long term potential needs for public facilities, housing, and other compatible uses.

D.1.f Conservation Restrictions in Hazardous Waste Clean-up Programs. Conservation restrictions are frequently used to limit development on land being cleaned of hazardous waste contamination. These restrictions can be of significant open space value. The Board of Selectmen and NRC, together with other citizen groups interested in such sites, should take advantage of any opportunity to develop such CRs so as to preserve open space. The Starlet clean-up site and W.R. Grace property are good examples.

D.1.g Review of Existing Conservation Restrictions.

In addition, older CRs already in place (Appendix G) should be reviewed by the NRC and other land trusts holding CRs in Concord, with the object of discussing with current landowners whether they would be willing to update their restrictions to more closely match the terms, conditions, and duration of recent restrictions.

D.1.h Joint Land Acquisition. The Town should continue to partner with land trusts, government agencies, and individuals to acquire highest and high priority open-space land, maximizing any government funds that can be used for this purpose. The Town has already participated in several such successful joint projects such as the Hubbard Brook Farm Field on Sudbury Road in 2008, and the Rogers Land off Harrington Road in 2011.

D.1.i Vernal Pool Certification. In conjunction with other groups and individuals, the NRC should sponsor the certification of the remaining appropriate potential vernal pools in Concord identified by the Natural Heritage and Endangered Species Program. While 53 pools have already been certified, at least a few of the remaining ones (see Plant and Wildlife Habitat Map) may qualify and, if certified, would significantly increase protection for the open space on which they are located.

D.1.j Bond Issue. For protection of the few remaining highest-priority large natural areas, the Town should consider a bond issue along with other financial considerations. This financing tool was successfully used in the conservation of Mattison Field in 1998.

D.2. Use of this Plan in Community Decision-making

Water, wildlife, recreation, and open space, the heart of this Open Space and Recreation Plan, are compelling issues that emerge in decisions facing the Town and the community. A history of leadership in this area dates to 1928 when Concord became one of the first communities in the nation to pass a zoning bylaw, and later to establish the first Department of Natural Resources in the state. Town leaders and Concord residents alike take these goals seriously.

Too often, however, the Town's open space and recreation goals are considered only after a decision-making process is well along. Incorporating the goals addressed in Concord's Open Space and Recreation Plan as a normal or required operation early

in decision-making would increase efficiency for all parties involved. More importantly, it would help establish a trajectory that directs actions toward shared open space objectives.

Town and community leaders can doubtless develop effective ways to use the Open Space and Recreation Plan. One promising approach would be to revise the Town's zoning map (see Section 3) based in part on the Open Space Framework (see Section 2) to better protect the Town's large natural and agricultural areas, plus the major water-protection and wildlife corridors. Another approach would use the Open Space Framework as an important required overlay and guide in evaluating development proposals.

Equally important, all Town boards and committees that deal with open space issues need to be familiar with the findings and recommendations of the Town's Open Space and Recreation Plan, as well as the thoughts of interested persons in the community. To accomplish this, one Selectmen and one member of the other relevant boards or committees should be designated to be knowledgeable about open space issues and opportunities, and to advise their respective entities accordingly. These individuals should meet from time to time, especially when major open-space issues arise. Furthermore, the NRC, perhaps jointly with the Board of Selectmen, should sponsor an "Open Space Night" each fall, so that interested residents could provide useful discussion on open space issues and opportunities, as well as potential articles for Town Meeting.

E) Climate Change

Future climate change scenarios posit varying levels of impact in the coming years that may undoubtedly affect natural systems and their processes if, collectively, we do not take actions to create a sustainable environment. Both mitigation and adaptation are important components of planning for these issues. By taking land management steps to promote the health of our soils and maintain and restore natural ecosystems, the emphasis and associated expenses needed for mitigation and adaptation to climate change can be reduced. The two tables on the next page present the implications of climate change on open space, recreation, and ecological systems in Concord. Potential issues for the Town and its residents are defined and possible responses offered.

Potential Impacts of Climate Change on Recreation and Open Space

Climate Change	Recreational Impact	Adaptation or Mitigation
More frequent floods	Areas near rivers will be periodically inaccessible	Focus development outside of flood prone areas
More frequent droughts	Lower rivers and pond levels could diminish boating and drinking water supplies	Strengthen active water conservation efforts now, e.g., encourage shift from large lawns to xeriscaping
Increased incidence of vector-borne disease	Limited times outdoors when mosquitoes are active	<i>Adaptation:</i> Increased use of indoor recreation centers <i>Mitigation:</i> Reduce town's emissions, increase use of public transit, strengthen infrastructure for cyclists and pedestrians
More poor air quality days	Limited time outdoors on poor air quality days	<i>Mitigation:</i> Reduce town's emissions, increase use of public transit, strengthen infrastructure for cyclists and pedestrians
Increased temperature	Limited recreation time outdoors in hot weather	Provide indoor recreation space, lighting for recreation after dark when it is cooler

Potential Impacts of Climate Change on Plant and Animal Species

Climate Change	Recreational Impact	Adaptation or Mitigation
Warmer waters	Loss of cold water habitats that support cold-adapted species	Maintain and expand riparian buffer zones to shade streams; remove dams to allow species migration
More frequent droughts	Drying out of wetlands leads to habitat loss and infestation of non-native plant species	Allocate more water to wetland hydrology, increase attention to watershed protection, more vigorous invasive controls
Increased temperatures	Increase in insect-borne disease among plant communities	Promote resilience by managing age structure of forest stands to favor more young vigorous trees
Increased temperatures	Shift in plant and animal species due to changing ecosystem	Maintain strong open space protection practices for ecosystem resiliency
<i>Some information in chart from Department of Fish and Wildlife.</i>		



Saw Mill Stream in Estabrook Woods by Cherrie Corey

Goals & Objectives

This section takes the four goals outlined in Section 6 and delineates specific objectives for each of the goals. The goals were formulated based upon resident feedback, analysis of resources, and the goals and objectives presented in the *2004 Open Space and Recreation Plan* and the *2010 Update*.

A) Goals and Objectives

Based upon the previous plans and the analysis presented in this plan, the following specific goals and objectives emerge as central for Concord's open space and recreation planning (responsible parties and specific actions are identified in Section 9):

GOAL 1: Protect water resources and biodiversity.

- Protect Concord's large natural areas and major wildlife corridors.
- Manage quantity and quality of groundwater and surface water to protect the Town's water resources.
- Protect and/or monitor Concord's streams, rivers, ponds and wetlands.
- Protect biodiversity and state-listed species in Concord.
- Prioritize remaining parcels along waterways for protection if and when they become available.
- Revise zoning laws to further protect open space in Town.

GOAL 2: Improve connectivity and access to recreational resources.

- Reduce major impacts of Route 2 (such as barrier to pedestrians/cyclists/wildlife, too much salt use, and traffic).
- Meet active recreation use needs.
- Continue developing the local/regional trail network for transportation and nature-based recreation.
- Establish committee to conduct in-depth study of potential improvements in resources and safety for bicycling in Town.
- Consider developing a multipurpose dog park with features for other users as well (e.g., benches, walking track, etc.)
- Provide neighborhood-oriented opportunities for recreation and gardening by creating informal playing fields, expanding community garden locations, maintaining and improving existing playgrounds, etc.
- Provide more recreational opportunities for disabled individuals.
- Support maintenance, improvement, and potential development of active recreation resources.

GOAL 3: Protect agricultural land including fields, meadows, and orchards.

- Prioritize agricultural land to protect based on threat of development, proximity to other farmland, lot size, overlap with other OSRP goals, and prime agricultural soils.
- Promote zoning changes to protect agricultural land including agricultural overlay districts and transfer of development rights.
- Promote conservation programs that protect farmland such as Agricultural Preservation Restrictions and Community Preservation Act.
- Support farmers and local food systems in Concord.

GOAL 4: Improve collaboration and management.

- Incorporate the *Open Space and Recreation Plan* in Town and community decision-making.
- Think regionally and work collaboratively with neighboring towns.
- Continue to partner with land trusts, government entities, and individuals to make full use of available government funds and programs, as well as enhance laws and regulations, to acquire and/or protect important land parcels.
- Manage all Town-owned land consistent with open space objectives.
- Secure funding and partner with other entities for open space land protection.
- Encourage major open space landowners to establish a committee and lay out management practices for their land consistent with the Town's open space objectives.
- Increase educational outreach and promote culture of resource conservation, sustainability, and climate change mitigation.
- Monitor open space lands for compliance with respective restrictions, easements, or access.



Greater Egret in the Lotuses by Cherrie Corey

Seven-Year Action Plan

This seven-year action plan provides specific actions Concord can take for each open space and recreation goal and objective. The action plan identifies key areas for protection, trail improvements, mechanisms for protecting farmland, and strategies for working with neighboring towns. By implementing these actions, Concord will increase the connectivity of its natural areas, improve its rich ecological diversity, clean its waterways, protect its farmland, and begin planning for climate change mitigation and adaptation.

This plan builds on the broad perspective and analysis of the 2004 *Open Space and Recreation Plan*, while incorporating current Town needs and resident feedback. All recommendations are addressed to the Town of Concord, as well as to the broader Concord community. Most are also addressed to one or more organizations or agencies as potential collaborators. Successful implementation of these actions will require cooperation and sustained effort from all parties. In addition to collaboration, successful implementation of the following goals, objectives, and actions will depend upon funding and appropriation. Most initiatives will be accomplished with the use of Town funds, either within the operating budget or as capital projects, and will rely highly on volunteer participation. When additional funds are needed, applications will be submitted to the Community

Preservation Committee for Community Preservation Act funds.

Highest priority is given to actions proposed to be completed in years 1-3. The goals should be reviewed annually, updated, and reevaluated to ensure consistency and relevancy with current goals and objectives. An action map is included on the next page and followed by other action items.

At the end of this section is a map of open space and recreation accomplishments since the 2004 Open Space and Recreation Plan. For a description of accomplishments as well as a complete list of conservation and recreation accomplishments since 1992, see appendix G at the end of the report.

Seven-Year Action Map

Seven-Year Action Map

The map on the next page identifies actions for the Town of Concord:

- Key areas to protect for their ecological, agricultural and recreational values (green numbers and areas);
- Potential Agricultural Overlay districts to be implemented (black polygons previously identified by the Town and proposed additional Agriculture Overlay based on current analysis in blue);
- Potential Transfer of Development Rights to within one-half mile of train stations;
- Potential vernal pools that should be surveyed and certified;
- Proposed trail improvements on publicly accessible protected land, making recreational resources more available throughout Town (dark orange and yellow lines).

Additional criteria that could be used to prioritize the identified lands of conservation and recreation interest include:

- Presence of prime or statewide importance agricultural soils;
- Proximity to identified Special Sites;
- Land that could be used for trails or to connect trails; and
- Current Use Program Lands (Chapter 61, 61A, and 61B).

Agricultural Preservation Restriction (APR)

APR is a state funded preservation tool that seeks to protect agriculturally productive land through permanent deed restriction. Towns can apply for, and sometimes match, state funds in order to purchase the restriction which limits use in order to maintain agricultural potential.⁴⁶

Transfer of Development Rights (TDR)

TDR is a development tool that restricts growth in certain areas (sending districts) by transferring the development rights for those areas to more suitable locations (receiving districts). In this way open space, agricultural land, sensitive habitats, and areas with some form of recreational potential may become permanently protected by focusing growth

in urban centers, areas near public transportation lines, or underutilized properties in town. For example, development rights might be transferred to areas within one-half mile of commuter rail stations. This would foster walkability in town and a decreased dependence on automobiles, thereby reducing carbon emissions in the town. In this way, important open space land is protected, economic growth and development is allowed to continue, and climate change issues are also addressed (see Appendix B for full discussion of TDR).⁴⁵

Transfer of development rights has had limited application in Concord. The 1992 Town Meeting adopted Zoning Bylaw Section 6.3.4 “Dedication of Land to the Town of Concord for Municipal or Other Public Uses,” which allowed only property owners in the Limited Industrial Park District (Forest Ridge Road) to transfer development rights within the District. One property owner subdivided a 25-acre parcel into two parcels equal in land area; he then transferred the development rights from the land he gave to the Town as open space (creating a buffer between the StarMet site and other land in the Forest Ridge development) to the land he continued to own.

Transfer of development rights on a broader scale requires significant investment in community outreach and education to understand and agree upon the value of the land to be protected, the extent of development possible and the increased development potential of the land receiving the development rights. Concord has frequently found simpler and easier solutions to protect land that is valued for open space, agriculture, historic preservation, or recreation purposes.

Agricultural Overlay District

First discussed in the 2005 Comprehensive Long Range Plan, an agricultural overlay district essentially limits development in areas deemed agriculturally important through the assessment of certain key characteristics including: availability of prime agricultural soils, proximity to major blocks of farmland, the size of the parcel, the degree of development, and other risk factors. If a special Agricultural Overlay District were created, then the regulations of the underlying residential district would be modified by stricter controls and/or the provision of additional development options for use of the property.⁴⁰



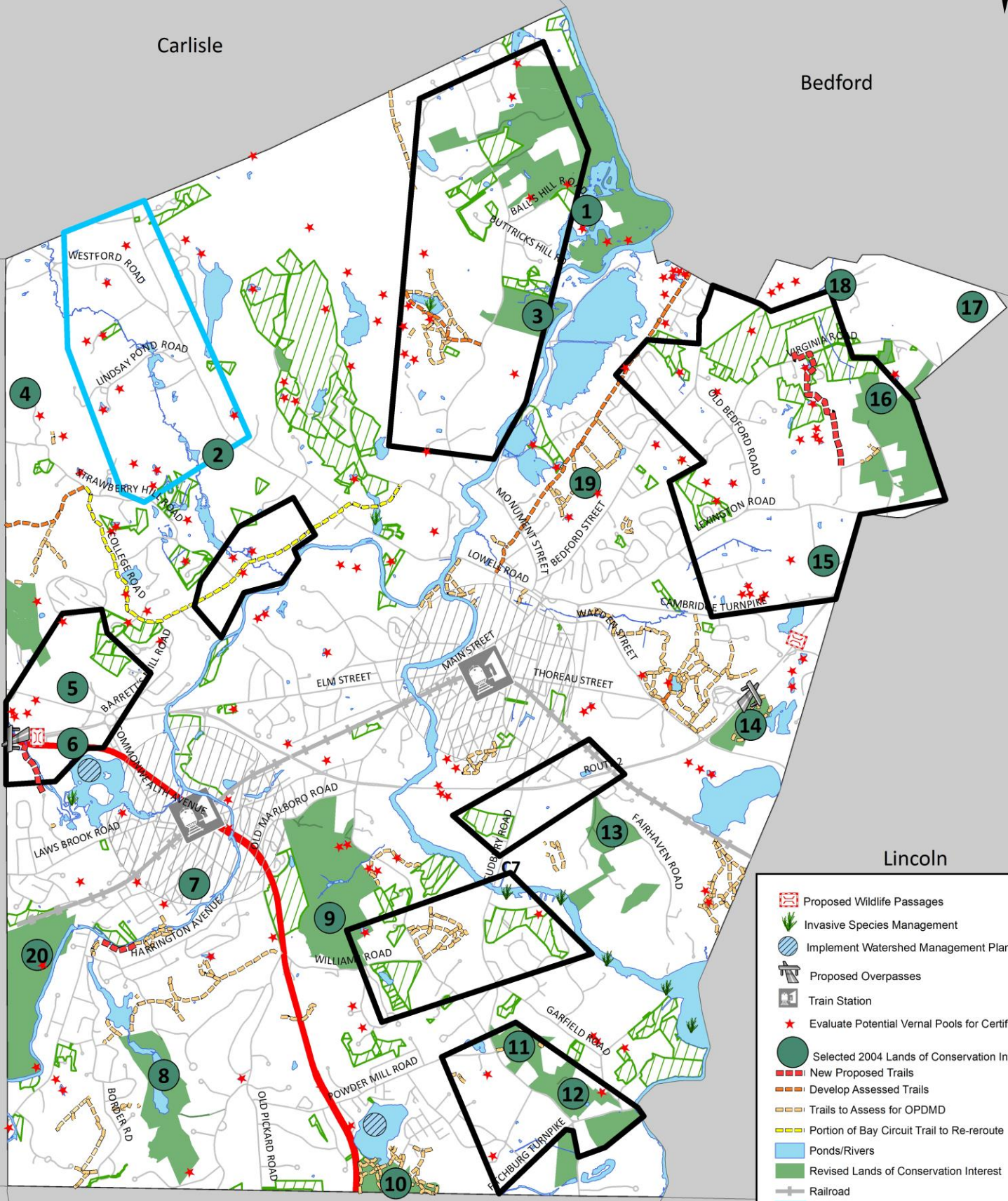
Carlisle

Bedford

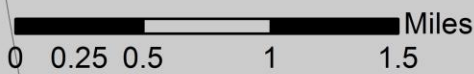
Acton

Lincoln

Maynard



- Proposed Wildlife Passages
- Invasive Species Management
- Implement Watershed Management Plan
- Proposed Overpasses
- Train Station
- Evaluate Potential Vernal Pools for Certification
- Selected 2004 Lands of Conservation Interest
- New Proposed Trails
- Develop Assessed Trails
- Trails to Assess for OPDMD
- Portion of Bay Circuit Trail to Re-route
- Ponds/Rivers
- Revised Lands of Conservation Interest
- Railroad
- New Proposed Ag Overlay District
- Proposed Ag Overlay Districts
- Proposed TDR Receiving Area
- Proposed Bruce Freeman Rail Trail
- Roads
- Monitor Town Conservation Restrictions



Seven-Year Action Map

Acronyms of organizations potentially responsible for implementing action items:

CONCORD

AC	Agriculture Committee
ADAC	ADA Coordinator
BFRTAC	Bruce Freeman Rail Trail Advisory Committee
BOA	Board of Assessors
BOS	Board of Selectmen
CCC	Concord Cemetery Committee
CPC	Community Preservation Committee
CPS	Concord Public Schools
CPW	Concord Public Works
CSEC	Comprehensive Sustainable Energy Committee
DNR	Division of Natural Resources
FinCom	Finance Committee
HD	Health Department
NRC	Natural Resources Commission
PB	Planning Board
PWC	Public Works Commission
REC	Recreation Department
TM	Town Manager
WCTF	West Concord Task Force
WPAC	White Pond Advisory Committee
ZBA	Zoning Board of Appeals

GOVERNMENT

DEP	Department of Environmental Protection
DOC	Mass Dept. of Corrections
DCR	Mass. Dept. of Conservation and Recreation
EOEEA	Executive Office of Energy and Environmental Affairs
MassDOT	Mass Dept. of Transportation
MAPT	MassPort
NHESP	Natural Heritage of Endangered Species Program
NPS	National Park Service
NRCS	Natural Resources Conservation Service
RSC	Wild and Scenic River Stewardship Council
USFW	U.S. Fish and Wildlife Service

PRIVATE

AUD	Mass. Audubon Society
BCT	Bay Circuit Alliance
CC	ConcordCan
CLCT	Concord Land Conservation Trust
CISMA	Cooperative Invasive Species Management Area
FOPAR	Friends of the Playscape at Ripley
OARS	Organization of the Assabet River
SVT	Sudbury Valley Trustees
TTOR	The Trustees of Reservations
WWP	Walden Woods Project

GOAL 1: Protect water resources and biodiversity.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
A. Protect Concord's large natural areas and major wildlife corridors.								
1. Construct wildlife passage at Crosby's Pond.	NRC, MassDOT	●	●					
2. Evaluate constructing a wildlife/pedestrian connectivity near Route 126.	BOS, TM, NRC, PB, WWP, CLCT, AUD, MassDOT,			●				
3. Develop wildlife corridor near Acton line where Nashoba Brook crosses and is joined by Fort Pond Brook.	NRC, PB, MassDOT, BFTRAC			●	●			
B. Manage quantity and quality of groundwater and surface water to protect the town's water resources.								
1. Assess potential impacts of climate change on flooding and the need to accommodate larger volumes of floodwater expected to result from the effects of climate change.	BOS, TM, NRC, PWC, PB, CC	●	●	●	●	●	●	●
2. Systematically study lands surrounding ponds and rivers to identify threats to water quality and actions to be taken to improve these conditions.	NRC, DNR, CPW, HD, OARS, DCR, USFW, RSC, WPAC	●	●	●	●	●	●	●

GOAL 1 (Continued): Protect water resources and biodiversity.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
3. Promote town-wide water saving techniques.								
a. Evaluate limiting watering to odd or even days.	CPW		●					
b. Promote handheld hoses for watering instead of sprinkler systems and discourage use of yard irrigation systems.	CPW, NRC	●	●	●	●	●	●	●
c. Encourage residents to use the rain barrel program in town through public education.	CPW, NRC	●	●	●	●	●	●	●
d. Continue to encourage residents to convert to low-flush toilets through promotion of the toilet rebate program.	CPW	●	●	●	●	●	●	●
4. Continue to protect open space near well-heads.	BOS, TM CPW, NRC, PB	●	●	●	●	●	●	●
5. Increase public education about detrimental effects of fertilizer runoff in streams and other anthropogenic impacts to streams, rivers, ponds, and wetlands.	CPW, NRC, DNR, AC, OARS	●	●	●	●	●	●	●
C. Protect and/or monitor Concord's streams, rivers, ponds, and wetlands.								
1. Develop a Watershed Management Plan for White Pond.	DNR, WPAC	●						
2. Implement White Pond Watershed Management Plan.	NRC, DNR, WPAC		●	●	●	●	●	●
3. Implement Recommendations from the 2010 Warner's Pond Watershed Management Plan.	NRC, DNR	●	●	●	●	●	●	●
4. Develop a surface water monitoring program.								
a. Systematically sample streams and ponds across town for water-quality characteristics such as phosphorus, nitrogen, chlorophyll, BOD, <i>E. coli</i> , turbidity, salt, and other toxic substances to evaluate and create a baseline.	NRC, DNR, HD, CPW, OARS, DCR, USFW	●	●	●	●	●	●	●
D. Protect biodiversity and state-listed species in Concord.								
1. Develop a Biodiversity Committee.	NRC		●					
2. Monitor wildlife and biodiversity to establish baselines and measure change over time, and protect key habitats within BioMap2 Core Habitat that are not under permanent protection.	DNR, CLCT, WWP, SVT, AUD, USFW, NHESP, TTOR		●	●	●	●	●	●

GOAL 1 (Continued): Protect water resources and biodiversity.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
3. Continue invasive species management.	DNR, CLCT, WWP, SVT, AUD, USFW, NHESP, TTOR, CISMA	•	•	•	•	•	•	•
4. Support and encourage participation in annual events that celebrate wildlife diversity such as Big Night, Biodiversity Days, and the Christmas Bird Count.	DNR, AUD	•	•	•	•	•	•	•
5. Support certification of potential vernal pools identified by the Natural Heritage and Endangered Species Program.	NRC, DNR, NHESP, CLCT	•	•	•	•	•	•	•
6. Evaluate lengthening bridges, where feasible, when being reconstructed.	PWC, CPW, NRC, PB, MassDOT				•			
7. Evaluate removing dams in rivers and streams to allow aquatic species migration.	NRC, OARS, RSC		•					
E. Prioritize remaining parcels along waterways for protection if and when they become available.	BOS, TM, NRC, PB, CLCT	•	•	•	•	•	•	•
F. Revise zoning laws to further protect open space in town.								
1. Form a committee to assess a zoning revision based in part on the open space framework to align zoning with current understanding of natural resources.	BOS, TM, PB, ZBA, NRC				•			

GOAL 2: Improve connectivity of and access to recreational resources.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
A. Reduce major impacts of Route 2 (such as barrier to pedestrians /cyclists/wildlife, and too much salting, traffic).								
1. Evaluate overpass for pedestrians /cyclists at Rt. 126.	BOS, TM, NRC, PB, WWP, CLCT, AUD, MassDOT,			•				
2. Construct overpass for Bruce Freeman Rail Trail.	NRC, PB, MassDOT, BFTRAC			•	•			
B. Continue developing the local/ regional trail network for transportation and nature-based recreation.								
1. Provide online information to share trails and knowledge about natural and recreational programs in Concord.	REC, DNR	•	•	•	•	•	•	•

GOAL 2 (Continued): Improve connectivity of and access to recreational resources.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
2. Develop town trail maps and guide.	NRC, DNR	●	●	●				
3. Complete proposed trail connections and further assess potential new ones to improve accessibility of recreational resources.	BOS, TM, NRC, DNR, PB, CCC, CPW, REC, WCAC, BFRAC, MassPort, NPS, DOC	●	●	●	●	●	●	●
4. Establish and enhance open spaces in and around the town centers, connected where feasible to town trail systems and public transportation, to improve walkability of the community.	BOS, TM, PB, CPW, NRC, WCAC, HD		●		●		●	
5. Install signs, parking, and trail markers where appropriate.	CPW, NRC, DNR			●		●		●
6. Secure public access to existing trails when opportunities arise, such as when subdivisions are proposed.	PB, ZBA, NRC	●	●	●	●	●	●	●
7. Study and plan for bicycle use in the Concord to Bedford corridor and from Route 126 to Concord Center.	BOS			●				
8. Pursue former Landfill and Brister’s Hill Trails, Old Mill Crossing, and connection to prison land off Wright Road.	BOS, TM, CPW, NRC, WWP, DOC			●	●	●	●	●
9. Reevaluate route of the Trail of the Colonial Militia from Bedford St. to Meriam’s Corner.	BOS, TM, NRC, NPS, CLCT					●		
10. Evaluate Assabet Trail extension South of Main St.	BOS, TM, WCAC, NRC, CLCT			●				
11. Continue rerouting regional Bay Circuit Trail off town roads, and better link with other trails to enhance safety and experience.	BCA, DNR, NRC	●		●		●		●
C. Establish committee to conduct in-depth study of potential improvements in resources and safety for bicycling in town.								
1. Determine and map safest cycling routes through town.	CPW	●	●					
2. Provide maps in printed and online format.	CPW						●	●
3. Install signs to facilitate navigation and safety for cyclists.	CPW			●	●	●		
D. Provide neighborhood-oriented opportunities for recreation and gardening by creating informal playing fields, expanding community garden locations, maintaining and improving existing playgrounds, etc.								
1. Evaluate town lands for creation of informal playing fields.	BOS, TM, REC	●		●		●		

GOAL 2 (Continued): Improve connectivity of and access to recreational resources.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
2. Develop a new community garden at Rogers Land.	DNR, CLCT		●					
3. Evaluate town lands for creation of additional community gardens.	DNR, AC	●	●	●				
4. Maintain and improve existing playgrounds.	REC, CPW, CPS	●	●	●	●	●	●	●
E. Improve universal access to open space resources.								
1. Develop a policy regarding other power driven mobility devices.	BOS, TM, NRC, CLCT	●	●					
2. Evaluate town trails for use by other power driven mobility devices.	BOS, TM, NRC, PWC, CCC			●	●	●		
3. Construct and support Ripley Playscape.	CPS, FOTPAR	●	●	●				
F. Support maintenance, improvement, and potential development of active recreation resources.								
1. Develop a Recreation Facilities Strategic Plan.	REC	●						
2. Evaluate possible town-owned locations for creation of a gymnasium.	REC			●				
3. Consider a dog park to assist in the control of dogs in public areas.	BOS, TM, NRC		●	●				

GOAL 3: Protect agricultural land including fields, meadows, and orchards.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
A. Prioritize agricultural land to protect based on threat of development, proximity to other farmland, lot size, overlap with other OSRP goals, water availability, and prime agriculture soils.								
1. Create a database of Chapter 61A lands.	NRC, BOA	●						
2. Develop evaluation system to prioritize Chapter 61A lands for acquisition.	NRC, AC, CLCT		●					
3. Evaluate Chapter 61A lands and reassess annually.	NRC, AC, CLCT			●	●	●	●	●
4. Create database of all agricultural land in Concord.	AC	●	●					
B. Promote zoning changes to protect agricultural land including agricultural overlay districts and transfer of development rights.								
1. Evaluate creation of Agricultural Overlay Districts.	AC, PB, NRC, CLCT		●		●			

GOAL 3: Protect agricultural land including fields, meadows, and orchards.

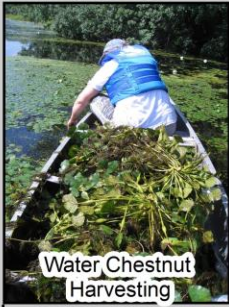
	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
2. Evaluate appropriateness of Transfer of Development Rights to protect agricultural lands.	AC, PB				●			●
3. Promote large-lot zoning to protect prime agricultural soil from being subdivided.	PB	●						
C. Promote conservation programs that protect farmland such as Agricultural Preservation Restrictions and Community Preservation Act.								
1. Encourage farmers to place their lands under an Agricultural Preservation Restriction.	AC	●	●	●	●	●	●	●
2. Apply for Community Preservation Act funds to acquire agricultural lands as they become available.	BOS, TM, NRC, PB, AC, CPC, CLCT	●	●	●	●	●	●	●
D. Support farmers and local food in Concord.								
1. Support farmer’s Community Supported Agriculture initiatives and other efforts to protect Concord’s agricultural heritage.	BOS, TM, NRC, DNR, AC, CLCT	●	●	●	●	●	●	●
2. Provide information on farm programs, regulations, and best agricultural practices to the local farming community.	AC, CPW, NRSC, DNR		●	●	●	●	●	●
3. Evaluate conversion of conservation land back into agricultural production.	NRC, DNR, AC		●	●				
4. Bring Rogers Land back into active agriculture.	TM, NRC, DNR, CLCT	●	●					

GOAL 4: Improve collaboration and management.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
A. Incorporate the Open Space and Recreation Plan in town and community decision-making.								
1. Town should host meeting of interested persons in the fall to review progress on the OSRP.	NRC	●	●	●	●	●	●	●
2. Town should consider creating a new staff position to oversee open space and recreation planning. This person would be responsible for tracking and implementing OSRP actions, facilitating communication between departments and committees, writing grant proposals and researching other funding opportunities, and facilitating public outreach and education opportunities related to open space and recreation in town.	BOS, TM, NRC, FinCom					●	●	

GOAL 4 (Continued): Improve collaboration and management.

	Responsible Party	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
3. One member of each town board or committee should be designated to be informed about open space issues and opportunities relevant to their respective entity.	BOS, TM, FinCom, PWC, PB, NRC, AC, REC, HD	●	●	●	●	●	●	●
B. Think regionally and work collaboratively with neighboring towns.								
1. Meet bi-annually with conservation professionals from surrounding towns to discuss regional land protection efforts.	DNR	●	●	●	●	●	●	●
2. Continue involvement with SuAsCo CISMA.	NRC, DNR, CLCT, SVT, WWP, TTOR	●	●	●	●	●	●	●
C. Continue to partner with land trusts, government entities, and individuals to make full use of available government funds and programs, as well as laws and regulations, to acquire and/or protect important land parcels.								
	BOS, TM, NRC, DNR, CLCT, SVT, WWP, TTOR, DCR, NHESP, EOEEA, DEP, MassPort	●	●	●	●	●	●	●
D. Manage all town-owned land consistent with open space objectives.								
1. Develop Land Management Plans for town conservation lands based on inventory and evaluation of each property to provide thoughtful stewardship and to protect the land's values and enhance and define the visitor experience.	NRC, DNR		●	●	●	●	●	●
2. Evaluate municipal lands for conservation and recreation interests.	NRC, REC	●	●	●	●	●	●	●
3. Continue to develop Baseline Documentation Reports for town CR lands.	NRC, DNR	●	●	●	●	●	●	●
4. Continue to monitor town CR lands for compliance.	NRC, DNR	●	●	●	●	●	●	●
5. Form a Comprehensive Long Range Plan Update Task Force and complete update.	PB		●	●				
E. Secure funding and partner with other entities for open space land protection.								
1. Evaluate increase in CPA funds to 3%.	CPC			●				
F. Increase educational outreach and promote resource conservation, sustainability, and climate change mitigation.								
1. Develop an invasive species management site on the town website.	DNR	●						
2. Encourage residents to participate in stewardship of their unique natural resources through Audubon International's Environmental Stewardship Program.	NRC, DNR		●					
3. Educate residents about climate change mitigation adaptation strategies.	CC, CSEC	●	●	●	●	●	●	●



Water Chestnut Harvesting

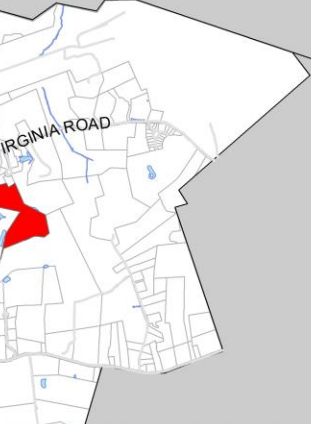
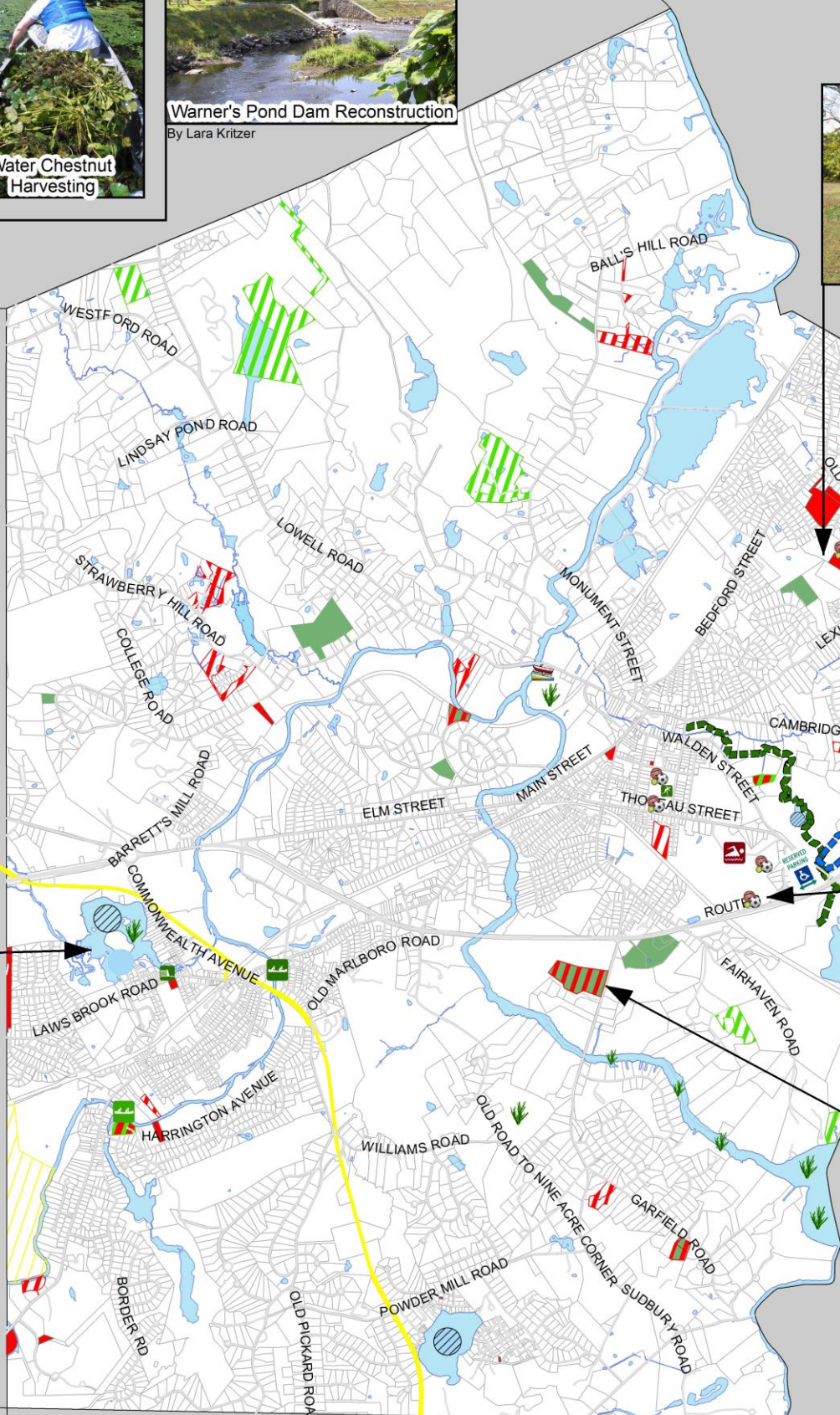


Warner's Pond Dam Reconstruction
By Lara Kritzer



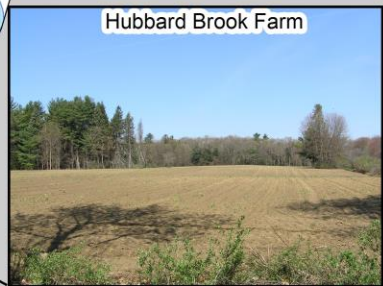
Playscape at Ripley

By Lara Kritzer



CCHS Synthetic Field

By Lara Kritzer



Hubbard Brook Farm

By Lara Kritzer



- Invasive Species Removal
- Improved Boat Launch
- New/Renovated Athletic Facilities
- Developed Watershed Management Plan
- New Canoe/Kayak Lauches
- Emerson Skating Rink
- Construct Beede Center
- Reconstruct Warner's Pond Dam
- Town Forest Handicap Parking
- Assessed Trail
- Emerson-Thoreau Amble
- Bruce Freeman Rail Trail 25% Design
- Town Acquisitions since 2004
- Town Conservation Restrictions since 2004
- Potential Town Acquisition
- Land Trust Acquisitions since 2004
- Land Trust Conservation Restrictions since 2004
- Ponds/Rivers

Conservation and Recreation Accomplishments Since 2004

ACTON

MAYNARD

SUDBURY

Practical Ways for All Landowners to Improve Land in Concord

To preserve and enhance open space, natural resources, and recreation in Concord, as well as address existing environmental problems and enhance stewardship and care of the resources in each neighborhood, an illustrative array of ideas follows. These are suggestions for individual residents on private land, for the Town in managing conservation and municipal land, for federal and state land agencies, and for organizations managing their lands. Additional printed recommendations are available at the Natural Resources and Public Works department offices on Keyes Rd. Ideas are grouped into four somewhat-overlapping categories: (A) species and habitats; (B) water; (C) materials; and (D) human activities.

a) Species and habitats

1. Learn to identify the plant communities, vernal pools, and other aquatic habitats in town, and protect scarce ones. Loss of a scarce natural resource is an impoverishment of the town's rich resource base.
2. Do not remove plants or animals rare in town (or in the state), and avoid damage to their habitat. Loss of individuals of a rare species may lead to its disappearance, and pose difficulty for its reestablishment in an ever-changing area.
3. Maintain small piles of brush and branches near yards or buildings as appropriate. Such brush piles provide useful cover for many wildlife species. However, do not place them in natural habitats, which would alter natural ecosystem food webs.
4. Retain dead standing trees, dead branches on trees, and fallen logs so long as they do not pose hazards to safety or property damage. Dead wood provides important habitat for numerous species, including woodpeckers, flying squirrels, chickadees, wrens, and salamanders, as well as for beetles and other valuable insect foods for wildlife.
5. Plant only or mainly native species, and if non-native (exotic) species are used, rigorously avoid invasive species that spread into natural habitats. This helps protect native species in natural conservation areas against the invasions of exotic plants. Common buckthorn, Asiatic bittersweet, Norway maple, glossy buckthorn, Japanese barberry, Japanese knotweed, multiflora rose, purple loosestrife, winged euonymus, and shrub honeysuckles are among the prominent invasive exotic species in Concord.
6. Remove invasive species where permitted (not within 100 ft. of a wetland) and appropriate, but in the process retain a relatively continuous vegetation cover for wildlife.
7. Work with local and regional nurseries to eliminate known invasive species from their inventories. This should reduce the number of such future plantings in yards.
8. Identify and protect dog-free natural areas. Wildlife tend to be inhibited by the presence and urine scent-marking of dogs.
9. On appropriate large open areas, use management approaches that enhance grassland birds and other open-country species.

b) Water

1. Maintain a relatively wide strip of natural vegetation, especially woody cover, along streams, rivers, and ponds. This provides shade and branches/logs for fish and other aquatic organisms, and reduces erosion, sedimentation, and chemical substance inputs to maintain water quality.
2. Minimize the watering of lawns, gardens and outdoor plants. In Concord's lush climate, lawns rarely require supplements to rain; even in droughts one soaking per week normally keeps a good green lawn.
3. Watering of lawns, gardens and outdoor plants should be done late in the day (if a noticeable fungus problem ever occurred, early morning watering may help, though excessive watering may be the cause). During the heat of the day in the growing season, much of the water is evapo-transpired, and hence wasted.
4. Private well-water use should be minimized. Most of Concord's public water supply comes from rainfall and groundwater, the same source as most private well water. Removal of groundwater during dry periods may result in well water shortages and a premature drying out of streams and wetlands, with associated ecological degradation. Residents are in a groundwater "bathtub" together and are neighbors in a town together, so lawn-watering practices and restrictions that protect water supplies apply to neighbors with public or private water supply alike.
5. Learn where groundwater flows within and from a property, and where stormwater drains and pipes lead. These are key steps in decreasing impacts on aquatic ecosystems and fish.
6. Minimize the use of road salt on driveways and roads. This helps protect against contamination of groundwater, wells, vernal pools, and other surface water.
7. Minimize the use of sand on driveways and roads. Some is washed through pipes or directly into streams, which alters stream-flows and smoothes out stream bottoms, thus reducing habitat for fish, valuable aquatic insects and plants.
8. Disconnect roads from water bodies such as streams and ponds where appropriate. Instead of having water flows carried directly and rapidly from road to stream- or pond-side, causing many negative hydrological and ecological effects, break up the route so that water percolates as much as possible into the ground.

c) Materials

1. Avoid or minimize the use of fertilizers containing phosphorus or nitrogen. These elements tend to infiltrate through groundwater or wash directly into streams and ponds, causing eutrophication blooms of algae with disruptions of natural food webs and fish populations.
2. Avoid or minimize the use of insecticides and other pesticides. Almost all insects, including grubs, ants, and larvae perform important ecological roles in both natural and lawn/garden ecosystems.
3. Prevent hazardous wastes, including gasoline, oil, paints, stains and chlorine, from reaching the soil and water. They are toxic to native organisms and may move in the groundwater to wells and drinking water, as well as to aquatic ecosystems with fish.
4. Take steps to reduce incoming junk mail, bags and packaging material. This means there is less to be hauled away and less reaches the town's roadsides, streams and natural ecosystems.
5. List all outputs, e.g., solid waste, chemicals, noise, light and vehicles, from a property or business, and attempt to reduce each. This should lessen effects on neighbors, the community, and surrounding natural ecosystems.
6. Mulch or leave grass clippings on lawn and, where appropriate, recycle leaves and branches on site and compost vegetable scraps. This provides mulch or fertilizer for gardens, enhances soil, benefits wildlife, and reduces costs to the town.

d) Human activities

1. Do not remove or loosen historical or archaeological objects, e.g., from a stonewall or cellar hole on conservation land. These represent Concord's heritage over generations and are often of historical and scientific interest.
2. Identify and mark some trails that are appropriate, and inappropriate, for mountain biking and/or equestrian use. Also mark walking trails to avoid especially sensitive natural areas. This should reduce soil erosion and damage to natural vegetation.
3. Walk or bicycle for short trips (typical ½-mile walk = 10 minutes; typical bike ride 1 mile = 6 min.; brisk walk 1 mile = 15 min). This decreases vehicle noise and emissions, benefiting people, water, and wildlife.
4. Acquire and use small fuel-efficient vehicles within town. This reduces noise, emissions, road deterioration and chemical pollution, and can reduce the area of driveways and parking lots required, as well as benefiting water and wildlife.
5. Reduce the area of mowed lawn and the frequency of mowing. This will decrease the amount of gasoline, oil and emissions. It also reduces noise, both the deafening and the incessant background types. Electric and rechargeable battery mowers produce minimal noise and local air pollution. Motorless mowers have zero emissions, do not cause a noise disturbance and provide good exercise. Plant a meadow instead of lawn where possible.
6. Rake leaves; leaf blowers are significant polluters of both hydrocarbon emissions and noise. Raking provides some exercise and nature appreciation.
7. Establish a diversity of flowers and plants in lawns and gardens by reducing the use of water, fertilizer and pesticide, and by mowing, mulching, weeding and trimming to favor a richness of native plants. This should reduce costs. It helps protect groundwater, streams and ponds. A big reward will be the increase in butterflies, pollinators, birds and other wildlife.
8. Mainly use reasonable-size, nimble fire trucks in town, so over time many streets and intersections can become smaller. These are safer for children, the elderly and walkers, and have less hard surface and reduced stormwater runoff impacts.
9. Learn how the town works: the intriguing wastewater treatment facility; the Wheelabrator Waste-to-Energy Incinerator, where trash is taken for disposal; the original water-storage reservoir atop Nashawtuc Hill and the present water-storage location atop Pine Hill; the power substation, where electricity is captured and brought to a residence or business; a recycling facility, to learn what happens to materials after leaving the street curb. Knowledge of the processes involved should lead to resource conservation and less impact on the neighborhoods of Concord.

Page intentionally left blank



Frosted Lotus Pods by Cherrie Corey

10 Public Comments

The Draft Open Space and Recreation Plan was distributed to all Town Boards, Commissions, Committees, employees, and distributed widely throughout the community through the town website, newspaper, and email. Electronic and paper copies were made available. This section includes public comments and letters of support received on the draft Plan.

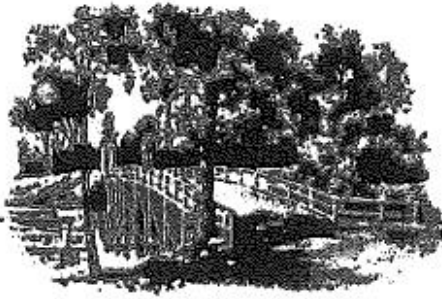
In mid-November 2014, the public was invited to review and provide input on the draft 2014 Open Space and Recreation Plan, posted online with hard copies made available upon request. Feedback was received and incorporated into this final Plan. The comments received were encouraging and demonstrated the importance of open space and recreation to Concordians; that so many people were carefully reading this robust report and providing such thoughtful comments is a testament to resident's commitment to open space and recreation.

Fifteen residents attended the public presentation of the draft Plan on December 18, 2014, at the Harvey Wheeler Center, where large format maps were displayed along with a Power Point presentation of the Plan and process. Additional interest was voiced, but many, having been involved throughout the process, did not feel compelled to attend. Many of

the comments received at the public meeting suggested including comparative information regarding development to evaluate the achievements in land preservation that has occurred over the previous ten years.

Letters of review from the Planning Board, chief elected officials, and the Metropolitan Area Planning Council, are required before the plan can obtain approval from the State of Massachusetts Division of Conservation Services. Additional letters from Town Boards, Commissions, Committees, as well as local and regional partners and the general public are included in this section.

Approval of this plan is required from the Division of Conservation Services, and will make Concord eligible to participate in grant rounds for the next seven years.



OLD NORTH BRIDGE

TOWN OF CONCORD

BOARD OF SELECTMEN'S OFFICE
22 MONUMENT SQUARE - P.O. BOX 535
CONCORD, MASSACHUSETTS 01742

TELEPHONE (978) 318-3001
FAX (978) 318-3002

January 7, 2015

Natural Resources Commission, Jeffrey Adams, Chair
Planning Board, John Shipe Chair
Recreation Commission, Susanne Jarnryd, Chair

Concord's 2015 Open Space and Recreation Plan presents a comprehensive survey and inventory of the Town's valued forests, uplands, wetlands, lakes, ponds, rivers and streams, meadows and agricultural lands. This update to prior years' plans incorporates not only the risk posed by development, but addresses the potential impacts of a changing climate. Improved GIS capability since the last plan has resulted in much richer maps having been developed and included in this plan.

The 2015 plan includes a 20 year retrospective of changes in the Town that were either the result of town efforts or those of partnering land and conservation organizations. Appendix H chronicles these events and accomplishments that have affected Concord's natural resources. Further, the report reviews the recommendations of the 2004 plan and notes the progress towards achieving many of those goals.

At its conclusion, the plan provides a Seven Year Action Plan that will serve as the aspirational guideposts for Concord. Key opportunities were identified under each of the four resource planning goals:

- 1) Protect water resources and biodiversity
- 2) Improve connectivity and access to recreational resources
- 3) Protect agricultural land including fields, meadows and orchards
- 4) Improve collaboration and land management.

The Board of Selectmen commends the efforts of the Planning, Natural Resources and Recreational Departments in developing this forward looking plan and supports the 2015 Open Space and Recreation Plan and its Open Space Framework.

Very truly yours,

Steven Ng, Chair
Concord Board of Selectmen



TOWN OF CONCORD

Planning Board

141 Keyes Road, Concord, MA 01742

(978) 318-3290

To: Open Space & Recreation Plan Update Committee
From: Planning Board
cc: Natural Resources Commission
Re: Draft 2014 Open Space & Recreation Plan
Date: December 17, 2014

In reviewing the draft Plan, the Board offers only two comments in Section 9, Seven-Year Action Plan;

- 1) In reference to promoting handheld hoses for watering and the use of rain barrels by residents in Goal 1.B.3(b) and B3(c), the Board questions the usefulness and/or effectiveness of the Planning Board being a responsible party since we are very rarely, if ever, working directly with individual property owners at this level.
- 2) In reference to continuing to protect open space near well-heads in Goal 1.B.4, the Board is not listed as a responsible party. While there is currently language in the Zoning Bylaw and Subdivision Rules & Regulations regarding aquifer protection, the Board believes there is always an opportunity to review these regulations in the future to make sure the Town is doing all it can to protect our water supplies.
- 3) In reference to promoting large-lot zoning to protect agricultural soils in Goal 3.B.3, the Board notes this goes against sustainable planning principals and recommends this goal be to explore a range of zoning options to protect agricultural soils.

As was noted by the Planning Board in 2004, this Plan creates a positive framework for the next seven years. The Board believes that the recommendations and implementation of the Open Space & Recreation Plan will need to be reviewed within the context of the broader elements of the Comprehensive Long Range Plan update that will begin in the fall of 2015 so there is a balanced approach to all aspects that go into making a vibrant and healthy community.

The Planning Board would like to thank all of the members of the Open Space & Recreation Plan Update Committee for their dedication and perseverance to a challenging task and the superb quality of the draft Plan is a testament to your commitment.

On behalf of the Planning Board,

Elizabeth Hughes, Town Planner



SMART GROWTH AND REGIONAL COLLABORATION

January 5, 2015

Lori Capone
Assistant Natural Resources Director
141 Keyes Road
Concord, MA 01742

Dear Ms. Capone:

Thank you for submitting the "2014 Draft Open Space and Recreation Plan" to the Metropolitan Area Planning Council (MAPC) for review.

The Division of Conservation Services (DCS) requires that all open space plans must be submitted to the regional planning agency for review. This review is advisory and only DCS has the power to approve a municipal open space plan. While DCS reviews open space plans for compliance with their guidelines, MAPC reviews these plans for their attention to regional issues generally and more specifically for consistency with *MetroFuture*, the regional policy plan for the Boston metropolitan area.

The draft plan is very comprehensive and represents a high level of detail and a thorough grounding in the natural environment of the town. The plan is highly consistent with *MetroFuture* and it should serve the town well as it continues its efforts to preserve open space and provide for the recreational needs of its residents.

Thank you for the opportunity to review this plan.

Sincerely

Marc D. Draisen
Executive Director

Cc: Melissa Cryan, Division of Conservation Services



TOWN OF CONCORD
NATURAL RESOURCES COMMISSION
141 KEYES ROAD, CONCORD, MASSACHUSETTS 01742
TEL. (978) 318-3285 FAX (978) 318-3291

December 17, 2014

Open Space and Recreation Plan Update Committee
141 Keyes Road
Concord, MA 01742

RE: 2014 Open Space Recreation Plan

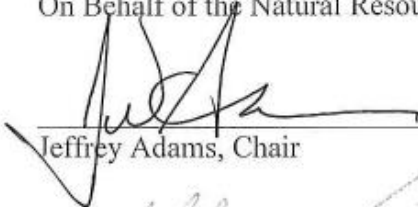
The Natural Resources Commission would like to thank the Open Space and Recreation Plan Committee and the Department of Natural Resources for completing a comprehensive update to the 2004 Plan. The 2014 update offers enhanced maps and graphics which clearly identify existing conditions and future opportunities for land and natural resource protection and recreational use.

The Plan examines open space in Concord from a regional perspective, town wide evaluation and neighborhood viewpoint and recommends prudent steps to protect and manage open space.

The Natural Resources Commission wholeheartedly endorses this update and encourages all town boards and committees to be familiar with the document and to annually review goals outlined in the Plan that are pertinent to their purview.

Many thanks to the Committee!

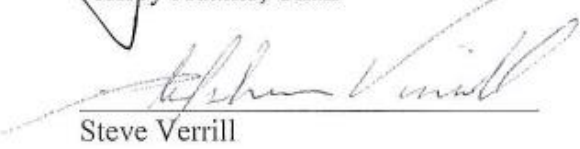
On Behalf of the Natural Resources Commission,




Jeffrey Adams, Chair



Elissa Brown



Steve Verrill



Greg Higgins



Lynn Huggins



CONCORD RECREATION DEPARTMENT

HUNT • RECREATION • CENTER

90 STOW STREET • CONCORD, MA 01742 • (978) 369-6460 • FAX (978) 369-9403

Danner J. DeStephano
Recreation Director

December 16, 2014

Open Space and Recreation Plan Update Committee
c/o Natural Resources Commission
141 Keyes Road
Concord, MA 01742

Dear Committee,

At the December 2, 2014 Recreation Commission meeting the Open Space and Recreation Plan was discussed. After a comprehensive review the Commission voted approval of the plan pending the recommended changes.

Sincerely,

Susanne Jarnryd
Chair, Recreation Commission



CONCORD BOARD OF HEALTH

141 Keyes Road
Concord, MA 01742
Phone: (978) 318-3275
Fax: (978) 318-3281



Public Health
Prevent. Promote. Protect.

December 16, 2014

Open Space and Recreation Plan Update Committee
c/o Natural Resources Division
141 Keyes Rd.
Concord, MA 01742

Subject: Draft Open Space and Recreation Plan

Dear Committee members,

The Board of Health has received and reviewed the November 2014 draft Open Space and Recreation Plan.

The plan is thorough and well-considered. The arrival of this plan at a time when the town is preparing to embark on updating its Comprehensive Long-Range Plan is very fortuitous. This enables the town and its many interested committees, individuals and organizations to work cooperatively towards community preservation, expanded recreational opportunities, and healthy community goals.

The Board of Health recognizes that your committee has worked diligently on this plan and we appreciate the dedication and thoughtfulness that were put into creating the plan in its current form. The Board of Health hereby endorses the draft plan. We look forward to receiving the final version and thank you for preparing such a useful and creative tool for planning for the town's future needs.

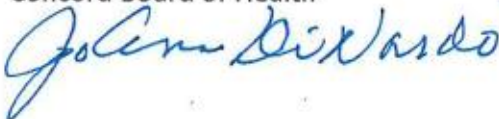
Sincerely,


Kerry Diskin, Chair

Jack Bergman


Alan Woodward

Joanne DiNardo
Concord Board of Health



MEMORANDUM

Date: January 10, 2015

To: Lori Capone and members of the Open Space and Recreation Plan Update Committee

From: Members of the West Concord Advisory Committee

Re: Open Space Recreation Plan

The West Concord Advisory Committee would like to thank the Natural Resources Division staff and members of the Open Space and Recreation Plan Update Committee for assembling the excellent Open Space and Recreation 2014 Update. We agree whole-heartedly with the four overarching goals of protecting large open spaces, enhancing connectivity and access to open space, protecting agricultural land, and improving collaboration and management of conservation land.

We would like to offer a few specific points of emphasis that reflect our efforts to maintain and improve the character and livability of West Concord:

- We fully support the action item B.4. under Goal 2 to “establish and enhance open spaces in and around the town centers, connected where feasible to town trail systems and public transportation, to improve walkability of the community.” While the Transfer of Development Rights bylaw described in Appendix B should be fully explored, further density in village centers should be accompanied by strategic open space protection near housing.
 - We strongly support the creation of neighborhood parks – small green spaces in an otherwise densely populated area. A small park serves a large population by providing open space within a short walkable distance. For example, the West Concord section of Concord includes a tightly developed neighborhood just west of Route 2, between Main Street and Old Marlboro Road and including Emerson, MacArthur, Orchard, Old Bridge, Bridge Court, Crest, Cottage, Staffordshire Lane and 220 units at Concord Greene. Rideout Playground, located on the opposite end of the West Concord Village, is the closest public open space to that neighborhood. But Rideout is 1.7 miles from Emerson Road, which is too long a walk for many children and even too far away for older children who are on their own. A small park at the available 1053 Main Street, as an example, would provide much needed open space within a short walk of hundreds of residents' homes. We believe that the Town’s decision not to buy this parcel was a lost opportunity and recommend that the Town looks to take advantage of these opportunities when they arise in the future.
- We emphasize the need for trails and safe bicycling routes leading from developed residential areas to recreational facilities within West Concord and from West Concord to Concord Center.
 - The right-of-way path leading from Willard School south to the residential neighborhood is an excellent example of connecting a neighborhood to a recreational facility and

school. While Rideout Playground is a tremendous asset for West Concord, the Main Street/Central Street neighborhood is cut off from the playground by the rail line. Reaching the playground via Church Street and Commonwealth Avenue involves navigating a sharp corner at the train tracks and Conant Street has an uneven and narrow sidewalk (see photos attached). These pinch points complicate access for young children who would bicycle to the park with parents and for children who might otherwise be old enough to bicycle or walk to the playground on their own. We recommend a direct passage under or over the train line via town-owned land or through newly acquired land or easements.

- Action item A.1. under Goal 2 calls for reducing major impacts of Route 2, and action B.7. calls for enhancing bicycle access to Concord Center, but both neglect to mention connecting West Concord to Concord Center via Main Street. A nascent effort by West Concord middle schoolers to bike to school will most likely end when they reach high school age as the Route 2 crossing is currently too dangerous for unaccompanied young teens. Improvements at these crossings, or a dedicated bike path connecting Concord Center to West Concord, would greatly improve bike access between the two districts.
- We also fully support action item C under Goal 2, to establish a committee to conduct an in-depth study of potential improvements in resources and safety of bicycling in town. Of course, this study should consider bicycle use for commuting and errands as well as recreational riding. We offer our members as participants in this committee.
- The plan points out the potential for trail connections through town-owned land and easements along the south side of the Assabet River. We would add the need for an extension of this trail all the way to Route 62 on the west side of the Assabet River. This would necessitate a bridge across the Second Division Brook, but it could create a key pedestrian link between Main Street and the Harrington Avenue neighborhood. Ultimately, combined with a new pedestrian crossing on the downstream side of the Rt. 62 bridge over the Assabet River at Damon Mill, this connector trail could be part of a safe route to school for children going from the Main Street and Old Stow Road neighborhoods to the middle schools. Currently, the existing crossing and sidewalk at Harrington and Main Street is very dangerous and is a barrier to pedestrian traffic between these neighborhoods, which may result in the river trail being an underutilized destination, rather than a passage through town neighborhoods. Further, in its present state, this town conservation land is essentially walled off by abutting property owners, with no access from Route 62 which has no sidewalk on the south side here, has no nearby crosswalk, and is blocked by a guard rail.

Submitted on behalf of the West Concord Advisory Committee by Jeff Collins, Burton Flint and Steve Irza.



Conant Street approach to railroad crossing, looking south.



Conant Street crossing looking north.



Conant Street crossing looking south.



Post Office Box 141
Concord, Massachusetts 01742-0141

CONCORD LAND
CONSERVATION TRUST
Joan D. Ferguson, *Chairman*
Pauline Cross Reeve, *Vice Chairman*
Eleanor C. Horwitz
Lynn G. Huggins
Jonathan M. Keyes
Gordon H. Shaw
John M. Stevens, Jr.

CONCORD OPEN
LAND FOUNDATION
Thomas C. Tremblay, *President*
John Bemis
Lynn G. Huggins
F. Robert Parker

January 12, 2015

Delia Kaye, Natural Resources Director
Lori Capone, Assistant Natural Resources Director
Division of Natural Resources
141 Keyes Road
Concord, MA 01742

Re: 2014 Open Space and Recreation Plan

Dear Delia and Lori,

I am pleased to submit this letter on behalf of the Board of Trustees of the Concord Land Conservation Trust (CLCT) in support of the updated Open Space and Recreation Plan.

We are encouraged that the seven-year action plan includes improving connectivity of and access to recreational resources, protecting agricultural land including fields, meadows, and orchards, and improving collaboration and management so as to incorporate the Plan's goals in Town and community decision-making. CLCT has a shared interest in protecting otherwise unprotected parcels within large natural areas, and wildlife and water corridors.

The Plan is comprehensive and well-written and will serve as an important tool for guiding land use decisions by the Town, and supporting the efforts of local organizations such as CLCT to preserve large parcels of open space and parcels that connect other areas of open space.

Sincerely,

Joan D. Ferguson, Chairman





SUDBURY
VALLEY
TRUSTEES

Conservation, Collaboration, and Community since 1953

December 23, 2014

Lori Capone
Assistant Natural Resources Director
141 Keyes Road
Concord, MA 01742

Dear Ms. Capone:

Sudbury Valley Trustees is pleased to submit this letter in support of the Town of Concord's 2014 Open Space and Recreation Plan.

As a partner on several local conservation efforts, SVT is an enthusiastic supporter of the work of the Concord Natural Resources Department. We applaud the efforts of the working group that developed this plan, for its design, impressive scope, and for the very ambitious goals set out in the seven year action plan. Of particular note is the emphasis placed on addressing potential impacts of climate change, as well as food and water security into the future.

We also appreciate that the plan looks far beyond Concord's borders to take a regional view of open space needs. SVT is currently undertaking a regional analysis that seeks to identify those parts of the Su-As-Co watershed that are most critical for conservation, and we look forward to sharing the results of that exercise with our Concord partners.

SVT supports your outstanding planning process to meet the Town's municipal needs, achieve balanced growth, and preserve the Town's unique character in the years ahead. We look forward to continued collaboration with Concord officials, staff, and volunteers to protect the important resources identified in your plan.

Sincerely,

Lisa Vernegaard
Executive Director

Concord Agriculture Committee
Letter for inclusion in Town of Concord Open Space and Recreation Plan

The Town of Concord Agriculture Committee writes in appreciation for the considerable work that has gone into this update of the Town's Open Space and Recreation Plan.

Concord's "working lands" contribute significantly to our open spaces, providing a lively, scenic link with the town's agricultural heritage. Concord's farms and farm stands are not merely scenic, of course. They also strengthen and diversify the town's economic base, generating jobs and revenue that stay local. And, through the production of locally grown food, our farms are helping to build community resilience to deal with the effects of climate change.

The Agriculture Committee shares the concern, addressed in the OSRP, that unprotected agricultural land is particularly vulnerable to development. This land is usually flat, open, and located in a residential zone. The OSRP recommends two zoning strategies for preserving and promoting agricultural land—establishing Agricultural Overlay Districts, and permitting Transfers of Development Rights. While the Agriculture Committee is not able to assess the effectiveness of these strategies—there are few existing examples to review—it is ready to work with the Town Planning Zoning Board to explore these recommendations.

Until that time, the Committee believes that prioritizing Chapter 61A agricultural land to protect—an OSRP goal—warrants the Town's concerted effort. In 2004 there were 668 acres of land in the Chapter 61A program that were not also subject to a conservation restriction (CR) or an Agricultural Preservation Restriction. Ten years later, there are 351 such acres. The Town and land conservation trusts purchased 58 acres of the land that came out of Chapter 61A during this period. Most of the other land coming out of Chapter 61A has been developed or otherwise permanently taken out of agricultural use.

Providing some form of permanent protection for the 351 unprotected acres currently in the Chapter 61A program is critically important for preserving the remainder of Concord's agricultural land. Another key element of maintaining our working lands is conserving and extending the infrastructure on which a farm business depends. This infrastructure includes both access to water and electricity, and a variety of structures. The need for housing, so that Concord farmers and farm workers can live in the community where they work, is especially great.

The Committee notes that Concord's 2004 Long Range Plan urged the Town to establish and develop an Emergency Land Fund to acquire farmlands released from the Chapter program. The need for such a fund is no less urgent today. Through various land acquisition projects in the past decade, Concord has gained valuable experience and built collaborations among residents and institutions to maintain and enlarge a vibrant agricultural sector. The Agriculture Committee looks forward to working with other Town Boards and committees as well as Concord residents to secure agricultural use of our open space for the next seven years and beyond.

Agriculture Committee 2014-2015: Emily Wheeler, chair; Gin Stanley, clerk. Bill Kenney, Dudley Goar, Susan Macone, Brian Cramer, Laura Sackton, Happy Goethert.

TERRY W. ROTHERMEL

330 MUSKETAQUID ROAD

CONCORD, MA 01742

(508) 369-7573

18 December 2014

Ms. Lori Capone, Assistant Natural Resources Director
Open Space and Recreation Plan Committee
c/o Concord Natural Resources Department
141 Keyes Road
Concord, MA 01742

Subject: Comments on the 2014 Draft Open Space and Recreation Plan
– A Citizen’s Nudge in Preserving our Agricultural Lands

Dear Ms. Capone and Plan Committee Members:

Concord and its citizens have wisely invested in the preservation of our natural landscape and diversity over many generations. Our success in conserving our open spaces is well documented in this comprehensive plan – and most dramatically in Appendix G. Open space thus continues to be a high priority in Concord’s Long Range Plans.

In addition to Concord’s values for conserving our natural landscape in our Long Range Plans, there are also important Concord values associated with preserving our human landscape and diversity. My “nudge” in this letter, is addressed at one specific part of Concord’s open space goals:

“How might we begin to more broadly define our open space goals when it comes to preserving our agricultural lands? ”

Is it possible to move from the open space goal of preserving “farmlands” towards the broader goal of preserving “farms”? Then is it possible to include insuring a role for Concord’s own farmers in our efforts to preserve farming in Concord?

Is it possible to be less concerned about providing for “efficient farm operations” in the future and more concerned about conserving the heritage of “smaller farms” in our landscape?

Is it possible in our open space goals to pursue “joint land acquisition” not only with other land preservation interests, but also with interests in support of playing field recreation, affordable housing and, indeed, affordable farm housing?

Thank you for considering this “nudge” towards your consideration in this Plan of a broader framework for preserving the open spaces of Concord agriculture.

Respectfully,



Terry W. Rothermel

I write as a relatively long-term Concord resident who, among other things, has helped spearhead the town's 1992 Open Space Plan, 1995 Historic Resources Masterplan, and 2004 Open Space and Recreation Plan. It is a pleasure to express my hearty congratulations to both the 2014 Open Space and Recreation Plan Committee, and to you, for a superb Draft 2014 OSRP! The upcoming future of Concord is significantly enhanced with a document of such exceptional quality.

I think the following topics are especially strong and valuable: (1) attractive informative maps & photos throughout; (2) Open Space Framework as an organizing conceptual framework, now slowly spreading worldwide; (3) town-centered regional perspective; (4) Route 2, traffic levels, & traffic calming relative to wildlife/water/people; (5) diverse water dimensions across the town; (6) disconnect between land-use patterns/zoning & today's biodiversity/water/recreation; (7) preliminary spatial approach for vegetation & habitats; (8) helpful detail on key species; (9) highlighting of unique features in town; (10) map of "environmental challenges" in & near town; (11) listing of public & non-profit owned open space; (12) trails; and (13) appendices with lucid detailed data. Great job.

The Draft 2014 OSRP is an impressive document and valuable roadmap for the years just ahead. I have no other recommended changes. But instead I've appended some thoughts for our 2019 (?) Concord open-space and recreation planners. Thank you for your remarkable Draft 2014 Plan. This should be a model for all such plans across our Commonwealth.

Appended thoughts for a longer-term future:

- A) The Nuclear Metals superfund site (& perhaps W. R. Grace site) has such potential significant, widespread and long-term effects on biodiversity, water, and recreation in Concord and surroundings, that a scenarios approach with potential spatial effects would be quite informative.
- B) Groundwater and surface water are a single integrated resource (e.g., Winter, T. C. *et al.* 1998. USGS Circular 1139. Denver, CO), emphasizing that effects on groundwater affect water quantity/quality of surface water river/stream/pond/wetland, and vice versa... a highly useful conceptual framework for Concord's water dimensions.
- C) Water and wildlife flow/move across the town's numerous land uses, boundaries and infrastructure. Mapping these flows/movements, somewhat like a trail & sidewalk system for recreationists, though in a more flexible format recognizing change, would be highly informative.
- D) Protection and enhancement of the town's large natural areas probably now would be most enhanced by the strategic removal of buildings, both on inholdings and those projecting into the large natural areas. This would be a pioneering approach perhaps led by private initiatives.
- E) Mixed use with residential, commercial, cultural, farmland, local industry, and parkland close together, is a familiar way to reduce transportation and increase community cohesion. Perhaps Concord's greatest limitation for this are local jobs/industry, best increased in or by the existing commercial/industrial footprints, together with appealing and safe walkway/bikeway/public-transport access.
- F) When were the 100-yr, etc. flood-zones calculated/mapped, and how have they changed where, given the upriver changes in farmland/forest/development/infrastructure in recent decades?
- G) Mentioning, but not emphasizing, the control of non-native and invasive plants seems appropriate, since success is basically impossible in the face of ongoing colonizers of Boston, huge numbers in the states just to our south (some already in town), climate change, and suburbs themselves being major non-native species sources. Somewhat analogous to evaluations by school teachers and professors: "Judge a species by what it does, not its origin."
- H) The traffic levels on different roads and traffic calming, both relative to wildlife/water/recreationists, would be especially appropriate for the town-centered region approach.
- I) Again using a scenarios approach for the effects of combined climate change and town-centered-region urbanization, it would be quite useful to map potential spatial effects on biodiversity/water/recreation across the town and its surroundings.

Dorrie Kehoe - 51 MacArthur Road:

I have finished reading this excellent updating of the nearly ten year old Open Space Plan. You have provided enormous background information as well as clear plans for the future.

Because this plan deals with not only open space, but also Recreation, I have read it side by side with the Recreation Department's Facilities Strategic Plan of 2014—and have attempted to balance the two.

First of all, I am struck by the fact that Concord is particularly blessed because there is so much Open Land in Town that is owned by other than the Town: State and Federal parklands, accessible conservation lands owned by private agencies and organizations and clubs, and school spaces.

“Seen collectively, these lands provide over 220 acres of the publicly-accessible open space per thousand residents. As a result, the acquisition of addition parkland should not be a priority for the Department. **If any efforts are made for park development, it should include adding to the inventory of neighborhood park land.** (emphasis added.) Concord Recreation Facilities Strategic Plan, Page 20.

The Recreation Plan goes on to say,

“Neighborhood park land/development; according to the survey, results a very high level of interest... The Level of Service Standards shows a need for 3.5 acres of neighborhood parkland per thousand population. Currently, Concord's system for neighborhood parks includes .62 acres per thousand population.” Page 38

The Department of Natural Resources Open Space and Recreation Plan also acknowledges the importance of small neighborhood parks:

“Located within convenient walking or bicycling distance of homes, small neighborhood fields provide opportunities for spontaneous and multi-age recreation. They also reduce the need for vehicular travel and tight scheduling by families, and additionally could reduce pressure on the existing regulation ball fields. Convenient small, informal playing fields enhance neighborhoods and provide places for neighbors to meet.”

Section 7: Analysis of Needs, Page 89.

However, the main emphasis of the DNR plan seems to be the acquisition and maintenance of larger open spaces and particularly “linkage,” i.e. connecting large parcels of open space throughout the Town and not emphasizing at all the importance of small, independent and neighborhood oriented public spaces.

Recently, I was part of a group of West Concord residents who urged that the Town to purchase a 2.2 acre parcel of land off Main Street (directly across from the entrance to Concord Greene.) The Board of Selectmen was opposed to this purchase—not only for the price—but of equal importance because it was not part of what the Board referred to as the “necklace” of contiguous lands.

I would hope that when the final Open Space and Recreation Plan is adopted it will knit together the interests of the Department of Natural Resources and also of the Recreation Department. I hope, as well, that it will emphasize the importance of neighborhood parks which are so very valuable to the ordinary citizens of the Town and which are particularly critical in densely populated areas.

Concord is truly blessed in the amount of accessible open space within the Town. For many residents, small, neighborhood parks furnish an important respite. Large tracts of land for hikers or for wildlife are important. But so, too, are small, local spaces. Many of the non-Town owners of open space in Concord (noted above) are appropriately interested in large properties. We must look to the Town to remember to “think small.” And I hope that all Town Boards and Committees will agree to adopt this joint emphasis.

David Clarke – 26 Bartlett Hill

I wish to express my commendation and thanks for the work that Lori Capone and the Committee did in producing such an excellent and thorough Open Space and Recreation Plan for Concord. I am sure that it will be of much value to the town in the coming years.



ConcordCAN! would like to commend the 2014 Open Space and Recreation Committee for their comprehensive work on the 2014 Plan. The plan identifies critical environmental concepts that must be considered in future planning, such as:

- Food and water security
- The need to adapt to and mitigate climate change
- The need to counter pressures for development with sustainable land management practices
- The special ecological characteristics of our town and their usefulness in helping to stabilize climate.

These concepts are consistent with Concord's Sustainable Municipal Principles Policy, which was officially adopted in July 2011 after earlier approval by residents at Town Meeting. ConcordCAN recommends that a copy of this policy be added to the document to highlight the Town's strong sustainability commitment, together with an explicit recommendation that the policy be used as a guide when translating the plan into action.

Secondly, ConcordCAN recommends that whenever climate change mitigation and adaptation are mentioned in the plan, the maintenance and restoration of healthy soils and ecosystems, also, be highlighted as a proactive approach that the Town and citizens may take to lessen the needs for mitigation and adaptation in the future.

By protecting and strengthening the natural ecosystems that exist in Concord and by restoring others to a natural state, the town and its citizens can help build the capacity to sequester CO₂ in the earth and reduce atmospheric levels. As a town that is noted for "the shot heard around the world", Concord has an opportunity, once again, to provide a model for other towns and cities.

Carbon sequestration, together with specific "organic" approaches to managing our land, are proven technologies that have the potential, if adopted widely, to reduce the current level of carbon dioxide emissions into the atmosphere. They deserve a place, alongside energy efficiencies and the growing use of alternative energy, in our collective strategies for reducing the town's carbon footprint.

We appreciate the opportunity to comment on this wonderful plan and look forward to working with the town on an ongoing basis to help inform public opinion and increase understanding of environmental needs and responsibilities through our outreach efforts including Sustainable coffees, Speaker Series, and Panel Discussions.

Submitted by Lori Gill-Pazaris on behalf of ConcordCAN
1/14/15

Agricultural land:

Farming and agricultural land is one of the most important characteristics of the history and present benefits of the Town of Concord . We strongly encourage giving the preservation of as much as possible of our current farmed land for the use of farming. Natural Resource Commission, Planning Board, Board of Selectmen, and Town Manager should be encouraged to increase their contact with and use of advice from the town's farmers and Agricultural Committee in varied ways of preserving this valuable but steadily diminishing part of the Town's character.

Some particular agricultural lands by Old Bedford Road:

Our understanding is that some of these lands (Burke, Ammendolia) were bought by the town for 'educational purposes'. We would like it to be considered that an 'educational purpose' can be an endeavor that educates the public at large, and also that *an educational project need not necessarily be solely in the domain of the school department.*

As such, we would like to encourage that these lands be included in the open space and natural conservation plans, given their current agricultural use, and their proximity to the Gowing's Swamp. A statement was made by the chairman of the Agricultural Committee during one of the meetings of the committee where we were present in summer 2013, that Burke is especially good agricultural land. If an educational use is demanded at any point, it might be geared towards educating students and the public about agriculture and natural preservation. (There is also the archeological history of the area to consider.)

A couple years ago when an individual School Committee member was proposing that the area might be suitable for a bus depot, Naturalist and environmental expert Cherrie Corey composed a letter summarizing the sensitivities of the location. The Natural Resources Commission already has a copy of that letter, and in fact is indeed very familiar with its contents anyway, but we are attaching a copy of it, just in case. (Please see the attached copy of Ms. Corey's letter to the school committee.)

Tree preservation:

Because trees are important for wildlife habitat, erosion control, water quality and quantity, flood mitigation, town neighborhood character and natural beauty, we would like to see more efforts to reduce cutting of large numbers of trees during various public and private development or expansion work. In particular we strongly encourage the Concord Planning Board to work on putting forward measures to actively encourage the retention of mature trees.

Trails:

With regard to trails, we strongly prefer the use of natural or stone dust surfaced trails to the use of asphalt or concrete paving. The more yielding surface is better suited to walking which is the premier use of nature trails, and is more consistent with a natural environment.

Water resource management:

Citizen responses to the draft open spaces plan have placed water resources at the top of concerns. We wholeheartedly agree with this and encourage more town-wide action on the many different contributing aspects of this topic. Inventorying and tracking the increase over time of impermeable surface areas in the town, especially in areas where flooding effects have been known to occur, would be helpful.

Preservation of trees and large plantings can be encouraged. When a development project has required a ground water impact or wetlands impact report, there would be a great benefit in a follow-on after-project -completion assessment of actual impacts obtained with respect to water tables, local flooding reports, etc.

What are we losing/what have we lost over time?

A very important suggestion was raised by a citizen at the Open Space Plan review presented at the Harvey Wheeler Center recently, namely, what open spaces have we lost to development over time, say since 2000? We think it would be extremely helpful information for the citizens of Concord , to have a tabulation, not only of the success stories of areas preserved, but of the overall picture over time of the "lost opportunities" or if you prefer, of the "competing uses". For example, agricultural land once converted to a housing development, rarely if ever comes into farming again. The same can be said for forested land. Surely there is public record information that could be utilized to present a timeline overview of certain changes in land use in the Town over history, either recent or longer term. A table by year of open acres subdivided and built over is a simple example. If town staff is not available for this correlation work, then perhaps volunteers or students of environmental or town planning could help.



Works Cited

Common Merganser (male) by Ryan Schain

1. *1985 Open Space and Recreation Plan*. 1985. The Natural Resources Commission, Town of Concord, Massachusetts.
2. *1992 Open Space and Recreation Plan*. 1993. The Natural Resources Commission, Town of Concord, Massachusetts.
3. *2004 Open Space and Recreation Plan*. 2004. The Natural Resources Commission, Town of Concord, Massachusetts.
4. Alden, P. "Walden Biodiversity Day: Organisms and Experts." Dec 8 2009. 18 Mar 2013. <<http://www.peteraldenwildlife.com/media/WaldenBiodiversityResults.pdf>> ; 23 Dec. 2009. 18 Mar 2013: <www.waldenbiodiversity.com>.
5. Alden, P. "Concord Christmas Bird Count." 30 Dec 2012. 26 Feb 2013: <<http://www.concordcbc.files.wordpress.com>> ; also: <http://concordcbc.files.wordpress.com/2013/02/maco-12_30_2012-checklist3.pdf>.
6. *Annual Reports of the Town Offices of Concord*. 1992 to 2014. Concord, Mass.
7. Barosh, P. Bedrock Geology of the Walden Woods. In *Thoreau's World and Ours: A Natural Legacy*. 1993. Schofield, E. A. and R. C. Baron, editors. North American Press, Golden, Colorado. 212-221.
8. Bennett, A. F. *Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation*. 2001 IUCN-The World Conservation Union, Gland, Switzerland and Cambridge, U.K.
9. Blancke, S. and B. Robinson. *From Musketaquid to Concord: The Native and European Experience*. 1985. Concord Antiquarian Museum, Concord, Mass.
10. BioMap2. "BioMap2 Conserving the Biodiversity of Massachusetts in a Changing World." Concord. 2012. Massachusetts Department of Fish and Game, Division of Fisheries and Wildlife and The Nature Conservancy. 21 Mar 2013: <http://www.maps.massgis.state.ma.us/dfg/biomap/pdf/town_core/Concord.pdf>.
11. Breunig, K. *Losing Ground: At What Cost?* 2003. Mass Audubon, Lincoln, Mass.
12. Brownfields. Date. 22 Mar. 2013: <<http://public.dep.state.ma.us/searchablesites>>
13. Burne, Matt, Personal communication. 20 Mar 2013.
14. Calthorpe, P. *The Next American Metropolis: Ecology, Community, and the American Dream*. 1993. Princeton Architectural Press, New York.
15. Census 2010. 12Mar2013. 28 Mar2013: <www.census.gov>. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP04&prodType=table
16. Concord Public Works Engineering Division. Personal communication. 19 March 2013.
17. Cervero, R. *The Transit Metropolis: A Global Inquiry*. 1998. Island Press, Washington, D.C.
18. CISMA. Sudbury, Assabet, and Concord Cooperative Invasive Species Management Area. 2011. 18 Mar. 2013: <<http://www.cisma-suasco.org>>
19. Clark, F. H. "Bigelow Field and Soutter Woods." Draft Report for Concord Land Conservation Trust, Concord, Mass. 1998.

-
20. Clark, F. H. *SuAsCo (Sudbury, Assabet, and Concord Rivers Watershed) Biodiversity Protection and Stewardship Plan*. Under Direction of the Massachusetts Riverways Program in Conjunction with the Massachusetts Watershed Initiative of the Executive Office of Environmental Affairs, Boston, Mass. August 2000.
 21. *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change*. 2001. U.S. Global Change Research Program. Cambridge University Press, Cambridge, U.K.
 22. COHMAP Members. *Climate Changes of the Last 18,000 Years: Observations and Model Simulations*. 1988. *Science* 241: 1043-1052.
 23. Concord Manager Reports. 2011. 21 Mar 2013: <http://www.concordma.gov/Pages/ConcordMA_ManagerReports/2011%20Manager%20Reports%202011.pdf>.
 24. Concord Public Works, Water/Sewer Division. 17 Mar 2013. 28 Mar 2013: <www.concordma.gov>.
 25. Corey, Cherrie. *Gowing's Swamp and Thoreau's Bog: An Historical Wetland in Concord, MA*. 2009. Sudbury Valley Trustees. 19 Mar. 2013: <<http://www.sudburyvalleytrustees.org/files/GSBotanicHistorReport.pdf>>.
 26. Dee, Carolyn. Personal communication. 14 March 2013.
 27. Dexter, S. O. *Concord River: Selections from the Journals of William Brewster*. 1937. Harvard University Press, Cambridge, Mass.
 28. Donahue, B. *The Great Meadow*. 2004. Yale University Press, New Haven, CT.
 29. Eaton, R. J. *A Flora of Concord from Thoreau's Time to the Present Day*. 1974. Special Publication 4, Museum of Comparative Zoology, Harvard Univ., Cambridge, Mass.
 30. Eells, S. F. *The Seasons in Estabrook Country: An Anthology about the Cycle of the Year and This Landscape*. 1999. Printed by the author, Lincoln, Mass.
 31. Forman, R. T. T. *Land Mosaics: The Ecology of Landscapes and Regions*. 1995. Cambridge University Press, New York.
 32. Forman, R. T. T. *Concord's Mill Brook: Flowing Through Time*. 1997. Natural Resources Commission, Concord, Mass.
 33. Forman, R. T. T., D. Sperling, et al. *Road Ecology: Science and Solutions*. 2003. Island Press, Washington, D.C.
 34. Foster, D. R. and J. D. Aber. *Forests in Time: The Environmental Consequences of 1,000 Years of Change in New England*. 2004. Yale University Press, New Haven, Connecticut.
 35. Gross, R. A. *The Minutemen and Their World*. 1976. Hill and Wang, New York.
 36. Gutzwiller, K. J., editor. *Applying Landscape Ecology in Biological Conservation*. 2002. Springer, New York.
 37. Historical Commission, Town of Concord. Forman, Richard T. T., Julyann Allen, Frances Benjamin, Carla Garbarino, Theodore K. Osgood, Christopher Roof, Ann C. Young, and Susan H. Curtin, Authors. *Historic Resources Masterplan of Concord, Massachusetts*. 1995. 212. [Also, *Highlights of Concord's Historic Resources*. 137].
 38. Imhoff, Daniel. *Farming with the Wild. Enhancing Biodiversity on Farms and Ranches*. 2003. Watershed Media, Healdsburg, CA, Sierra Club Books, San Francisco, CA.
 39. James-Pirri, M. "Natural Resource Assessment for Minute Man National Historical Park Natural Resources Report". NPS/NER/NRR-2009/022, U.S. Department of the Interior NPS, Northeast Region. Aug. 2009. 21 Mar. 2013: <http://www.nps.gov/nero/science/FINAL/MIMA_Nat_Res_Assess/MIMA_FINAL_Jan2010.pdf>. 61-69.
 40. *Long Range Plan*. 2005. Town of Concord Comprehensive Long Range Plan Committee, Concord, Mass.
 41. Marsh, W. M. *Landscape Planning: Environmental Applications*. 1991. John Wiley, New York.
 42. MassDEP. 22 Mar 2013. 28 Mar 2013: <www.mass.gov/dep/water/resources/82wqar4.doc>
 43. Massachusetts Natural Heritage & Endangered Species Program. 27 Feb. 2012 18 Mar. 2013: <http://www.mass.gov/dfwele/dfw/nhesp/species_info/ mesa_list/ mesa_list.htm>.
 44. Massachusetts Office of Energy and Environmental Affairs (a). *Preserving Agricultural Land and Farming Opportunities*. Web. 10 April 2013. <http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-ag.html>.
 45. Massachusetts Office of Energy and Environmental Affairs (b). *Transfer of Development Rights (TDR)*. Web. 10 April 2013. <http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-tdr.html>.
 46. Massachusetts Office of Energy and Environmental Affairs (c). *Agricultural Preservation Case Study*. Web. 10 April 2013. <http://www.mass.gov/envir/smart_growth_toolkit/pages/CS-ag-amherst.html>.
 47. Massachusetts Dept. of Conservation and Recreation (a). *Concord Reconnaissance Report*. March 2007. Web. 30 March 2013.

-
48. Massachusetts Dept. of Conservation and Recreation (b). *ACEC Designations*. <http://www.mass.gov/dcr/stewardship/acec/acecs.htm>. Web. 14 April 2013.
 49. Maynard, W. B. 2004. *Walden Pond: A History*. Oxford University Press, New York.
 50. McAdow, R. The Concord, Sudbury and Assabet Rivers. 1990. Bliss Publishing Co., Marlborough, Mass.
 51. McCarthy, J. J., O. F. Canziani, N. A. Leary, D. J. Dokken and K. S. White, eds. 2001. "Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of the Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change". Cambridge University Press, New York. (Intergovernmental Panel on Climate Change, 2007. *Climate Change 2007: Impacts, Adaptation and Vulnerability*. New York: Cambridge University Press.)
 52. Natural Resources Commission. "Town of Concord Wetlands Bylaw." 2009. Web. 16 April 2013.
 53. Nuclear Metals (Starmet). 14 Jun 2001. "EPA Site Cleanup and Reuse in New England". 29 Jan 2013. 21 Mar 2013: <http://yosemite.epa.gov/r1/npl_pad.nsf/8b160ae5c647980585256bba0066f907/7b6349f1a22ffdf3852569e5006ca840!OpenDocument>.
 54. Nyanza. "Restoration Plan Environmental Assessment for the Nyanza Chemical Waste Dump Superfund Site". 4 Sep. 2012. 21 Mar. 2013: <<http://www.doi.gov/restoration/news/Final-RPEA-for-Nyanza-Chemical-NPL-site-released.cfm>>.
 55. Oars3Rivers. Late 2011. 19 Mar 2013: <<http://www.oars3rivers.org/sites/default/files/OARS-WQ-2011-Report.pdf>>.
 56. *October Farm: From the Concord Journals and Diaries of William Brewster*. 1937. Harvard University Press, Cambridge, Mass.
 57. Rare Species: Massachusetts List of Endangered, Threatened, and Special Concern Species. 19 Dec 2012. 21 Mar 2013: <www.mass.gov/dfwele/dfw/nhosp/species_info/mesa_list/mesa_list.htm>.
 58. Reine, Richard. Personal communication. 20 Mar 2013.
 59. Rogers, L. and N. Charney. NETWC 9-18-12 Abstract and Bios: "The Wild Side of Suburban Boston: A Volunteer Study of Wildlife Underpasses in Concord, MA." 5 Mar 2013.
 60. Schofield, E. A. and R. C. Baron, editors. *Thoreau's World and Ours: A Natural Legacy*. 1993. North American Press, Golden, Colorado.
 61. SCORP Report "Massachusetts Outdoors 2006". 2006. 9 Mar 2013: <<http://www.mass.gov/eea/docs/eea/dcs/massoutdoor2006.pdf>>.
 62. Skehan, J. W. Walden Pond: Its Geological Setting and the Africa Connection. In *Thoreau's World and Ours: A Natural Legacy*. 1993. Schofield, E. A. and R. C. Baron, editors. North American Press, Golden, Colorado.
 63. SuAsCo Watershed. 2013. 21 Mar 2013: <<http://www.mass.gov>>
 64. Town of Concord, Massachusetts. Concord Public Works. "Hazard and Mitigation Plan, Overview of Flooding Hazards 2010." 2010. 20 March 2013.
 65. Vascular Flora of Concord, MA. Ray Angelo, 2014. *Phytoneuron* 84: 1-48 www.ray-a.com/ConcordMassFlora.pdf
 66. Walton, R. K. *Birds of the Sudbury River Valley – An Historical Perspective*. 1984. Massachusetts Audubon Society, Lincoln, Mass.
 67. West Concord Master Plan 2012. 2.A-1 - 2.C-1. <http://www.concordma.gov/pages/ConcordMA_BComm/trafficvolumes.pdf>
 68. Whitney, G. G. and W. C. Davis. "From primitive woods to cultivated woodlots: Thoreau and the forest history of Concord, Massachusetts." 1986. *Journal of Forest History* 30: 70-81.
 69. U.S. Department of Agriculture. *Middlesex County, Massachusetts: Interim Soil Survey Report*. 1995. Middlesex Conservation District, Soil Conservation Service, Mass.
 70. Union of Concerned Scientists. *Massachusetts: Confronting Change in the U.S. Northeast*. <http://www.climatechoices.org/assets/documents/climatechoices/massachusetts_necia.pdf> Web. 13 April 2013.
 71. Windmiller, B. S. "The Pond, the Forest, and the City: Spotted Salamander Ecology and Conservation in a Human-Dominated Landscape." 1996. Dissertation, Tufts Univ., Medford, Mass.
 72. Windmiller, B. and F. H. Clark. "An Ecological Inventory and Assessment with Recommendations for the Ecological Stewardship of the Newbury Woods." 1998. Prepared for the Concord Land Conservation Trust and Sweet Water Trust. Concord, Mass.
 73. Walden Biodiversity Days 2009. 21 Mar 2013: <<http://www.waldenbiodiversity.com>>
-

Page intentionally left blank

Appendix A

Map Data Attribution

Unless otherwise indicated, the maps in this document are for planning purposes only. These maps were created using data from multiple sources. Legend titles are the same as layer titles unless noted. Data sources include:

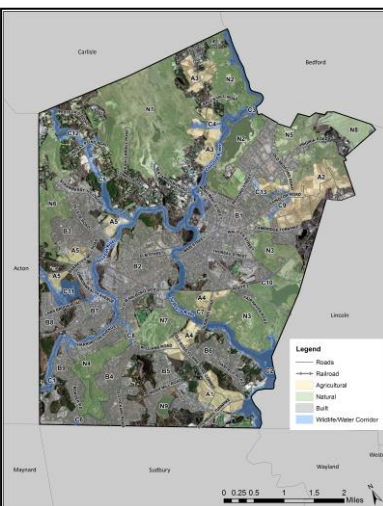
MassGIS Office of Geographic Information Commonwealth of Massachusetts, Information Technology Division

USDA NRCS Geospatial Data Gateway

Town of Concord

Original Data Produced By Authors

Third Party Producer



2015 Open Space Framework

Section 2, Page 7

Illustrates landscape blocks as defined by Open Space Framework.

Data Sources

Agricultural, Open Space Framework, 3/13

Natural, Open Space Framework, 3/13

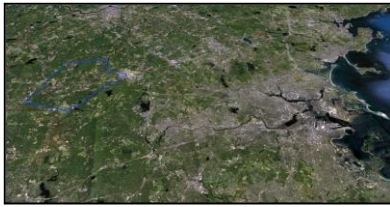
Built, Open Space Framework, 3/13

Corridor, Open Space Framework, 3/13

Train Stations, 3/13

Roads, 3/13

Railroads, 3/13



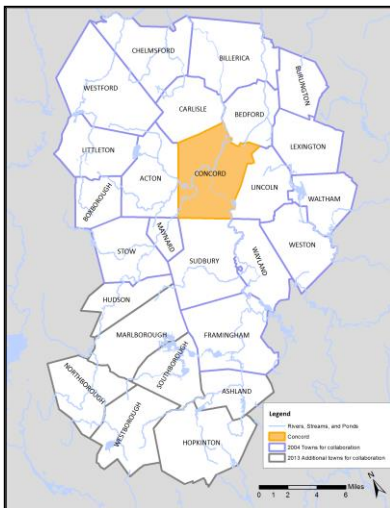
Satellite Imagery

Section 3, Page 10

Concord's location in relation to neighboring towns.

Data Sources

Google Earth Pro, 1/13



Regional Context

Section 3, Page 11

Concord's location in relation to neighboring towns.

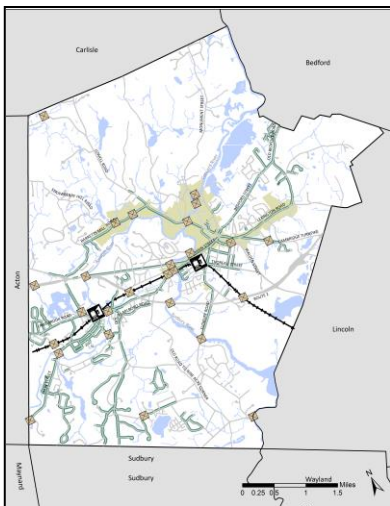
Data Sources

Rivers, Streams, and Ponds, Major Hydrography, 3/13

Concord, 3/13

2004 Towns for collaboration, 3/13

2013 Additional Towns for collaboration, 3/13



Existing Infrastructure

Section 3, Page 15

Data Sources

Concord, 3/13

Train Station, 3/13

Bridges, 3/13

Sidewalks, 3/13

Roads, 3/13

Sidewalks, 3/13

Railroad, 3/13

Groundwater Conservancy District, 3/13

Pond, Lake, Rivers, Water Bodies, 3/13

Local Historic District, MHC Historic Inventory Areas, 3/13

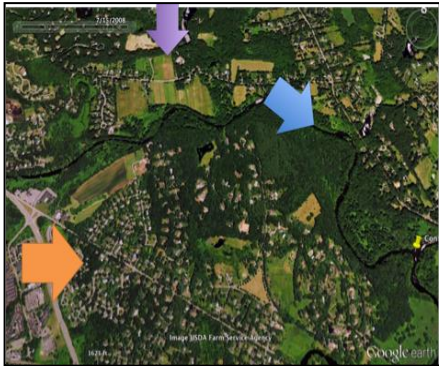


Aerial View of Concord, 1938

Section 3, Page 21
Shows landscape patterns from 1938.

Data Sources

Concord Free Public Library, 2/13

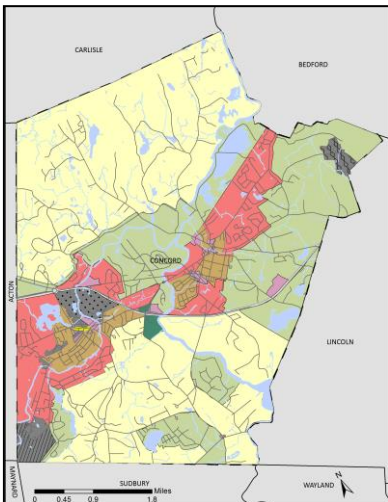


Aerial View of Concord, 2008

Section 3, Page 21
Shows landscape patterns from 2008.

Data Sources

Google Earth Pro, 2/13

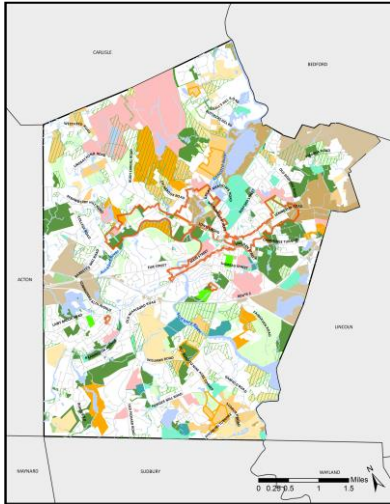


Zoning

Section 3, Page 23
Breakdown of zoning districts in town.

Data Sources

Roads, 3/13
Pond, Lake, River, Water Bodies, 3/13
Concord, 3/13
All other legend titles, Zoning Districts, 3/13

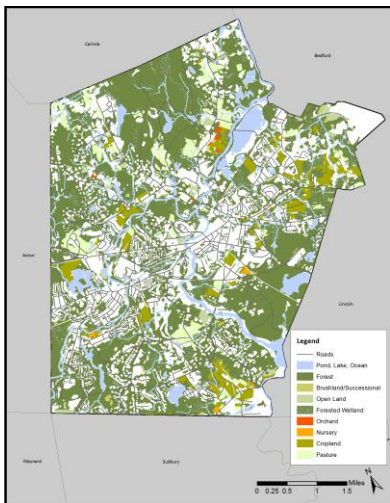


Current Land Use

Section 3, Page 26
Breakdown of land use across town.

Data Sources

- Local Historic District, MHC Historic Inventory Areas, 3/13
- Town Owned – Water & Sewer Dep’t, 3/13
- Town Owned – Recreation Dep’t, 3/13
- Town Owned – Natural Resources Commission, 3/13
- State Owned Lands, 3/13
- Land Trust Lands, 3/13
- Institution Lands, 3/13
- Federal Lands, 3/13
- Chapter 61 Lands, 3/13
- Chapter 61A Lands, 3/13
- Chapter 61B Lands, 3/13
- Concord, 3/13
- Roads, 3/13

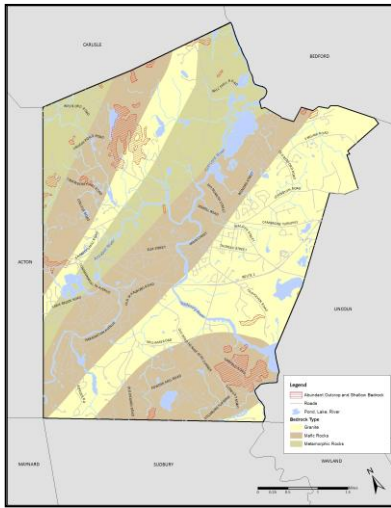


Current Land Cover

Section 3, Page 27
Land cover pattern across town.

Data Sources

- Roads
- Pond, Lake, River, Water Bodies Concord Clip, 3/13
- All other legend titles, Land Use_2005_Concord Clip, 3/13



Bedrock Geology

Section 4, Page 31

Breakdown of bedrock types across town.

Data Sources

Abundant Outcrop and Shallow Bedrock, Shallow Bedrock, 3/13

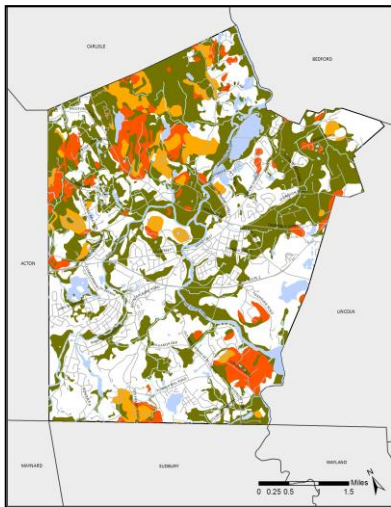
Roads, 3/13

Pond, Lake, River, Water Bodies, 3/13

Granite, Bedrock Type, 3/13

Mafic Rocks, Bedrock Type, 3/13

Metamorphic Rocks, Bedrock Type 3/13



Soils

Section 4, Page 33

Different soil types across town.

Data Sources

Hydric Soils, Hydric Rating by Map Unit, 3/13

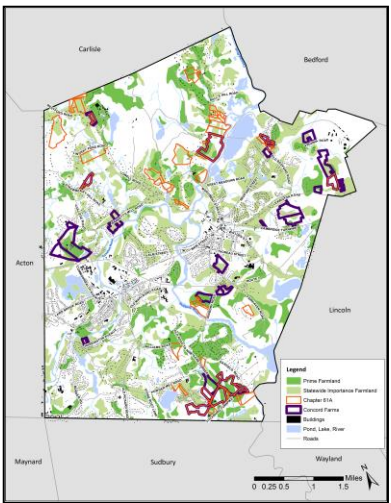
Shallow Depth to Bedrock, Depth to Selected Soil Restrictive Layer

Well Drained, Drainage Class

Pond, Lake, River, Water Bodies, 3/13

Roads, 3/13

Concord, 3/13



Agricultural Soils

Section 4, Page 35

Various types of agricultural soils found in town.

Data Sources

Prime Farmland, Prime Farmland & Statewide Importance, 3/13

Statewide Importance Farmland, Prime Farmland & Statewide

Importance, 3/13

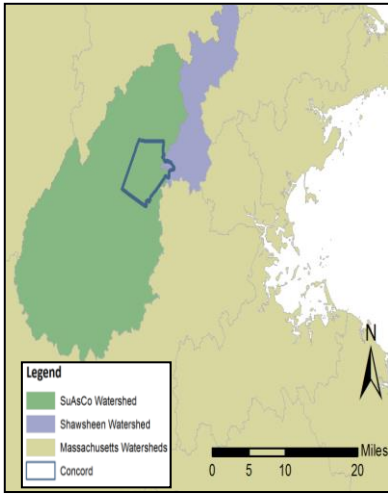
Chapter 61A, 3/13

Farms, 3/13

Buildings, Prime Farmland, 3/13

Pond, Lake, River, Water Bodies, 3/13

Roads, 3/13

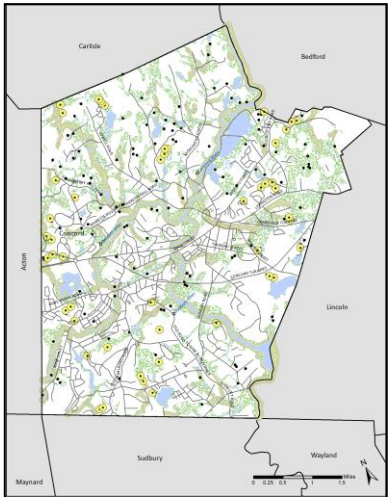


SuAsCo Watershed

Section 4, Page 36
 Watersheds relevant to Concord.

Data Sources

- SuAsCo Watershed, 3/13
- Shawsheen Watershed, 3/13
- Massachusetts Watersheds, 3/13
- Concord, 3/13

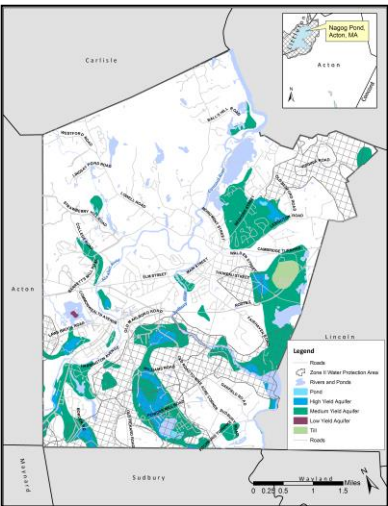


Water Resources

Section 4, Page 39
 Water resource typology and protection areas in town.

Data Sources

- Certified Vernal Pools, 3/13
- Potential Vernal Pools, 3/13
- Wetlands, 3/13
- 200 ft Riverfront Protection Area, 3/13
- Roads, 3/13

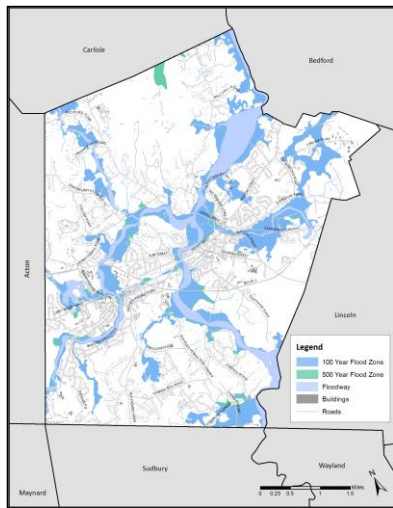


Public Water Supply

Section 4, Page 41
 Aquifers and protection areas in town.

Data Sources

- Zone II Water Protection Area, 3/13
- Rivers and Ponds, 3/13
- Pond, Aquifers, 3/13
- High Yield Aquifer, Aquifers, 3/13
- Low Yield Aquifer, Aquifers, 3/13
- Till, Aquifers, 3/13
- Roads, 3/13



Flood Zones

Section 4, Page 43

FEMA designated flood zones in town.

Data Sources

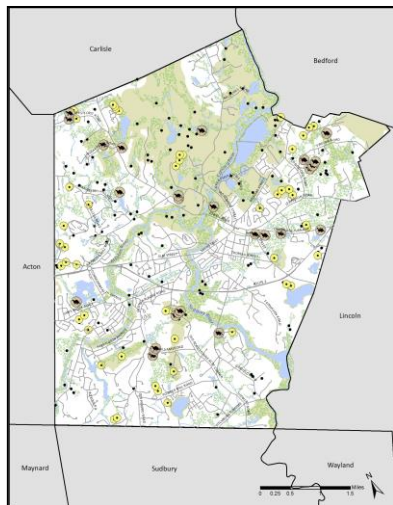
100 Year Flood Zone, 7/14

500 Year Flood Zone, 7/14

Floodway, 7/14

Buildings, 3/13

Roads, 3/13



Plant and Wildlife Habitat

Section 4, Page 45

Aquatic and terrestrial wildlife habitat across town.

Data Sources

Beaver Dams, 3/13

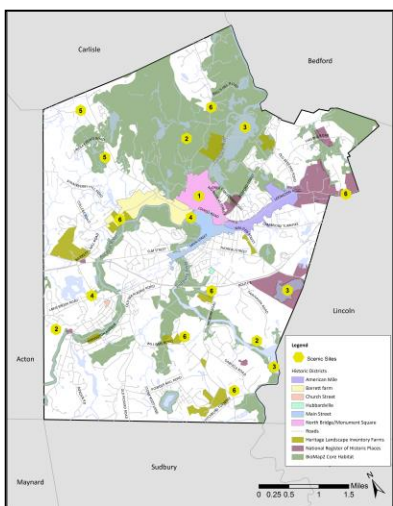
Certified Vernal Pools, 3/13

Potential Vernal Pools, 3/13

Wetlands, 3/13

BioMap2 Core Habitat, 3/13

Roads, 3/13



Unique Features

Section 4, Page 51

Unique features, sites, and districts across town.

Data Sources

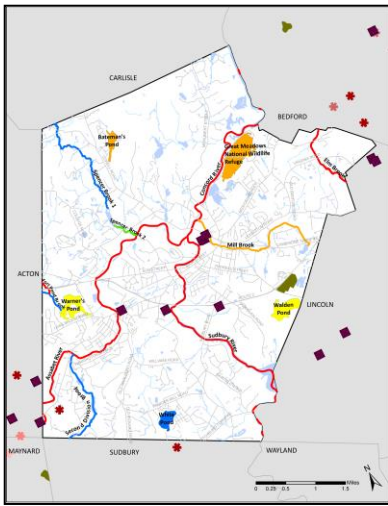
Scenic sites, 3/13

Heritage Landscape Inventory Farms, 3/13

Local Historic District, 3/13

BioMap2 Core Habitat, 3/13

Roads, 3/13



Environmental Challenges

Section 4, Page 58

Environmental challenge areas including waterways, landfill and brownfields.

Data Sources

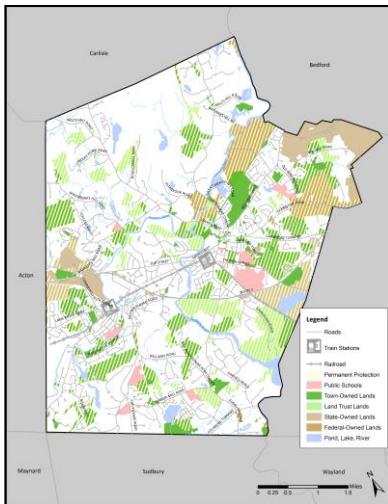
Capped landfills, 3/13

Active and Use Limitation Sites, 3/13

Roads, 3/13

Oil and/or Hazardous Material Sites, 3/13

Integrated Rivers and Lakes, Impaired Rivers and Lakes, 3/13



Publicly Owned Open Space

Section 5, Page 61

Protection status of publicly owned open space.

Data Sources

Permanent Protection, 3/13

Institutions, 3/13

Town Owned NRC, 3/13

State Owned Lands, 3/13

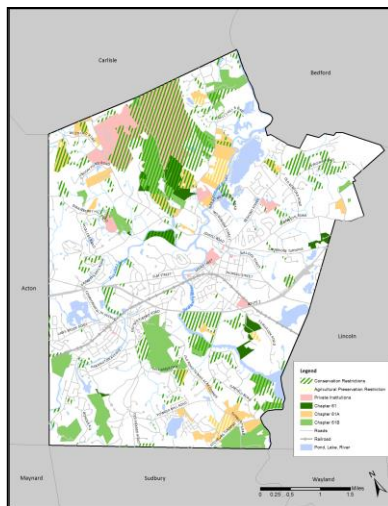
Federal Owned Lands, 3/13

Pond, Lake, River, 3/13

Train Stations, 3/13

Railroad, 3/13

Roads, 3/13



Privately Owned Open Space

Section 5, Page 66

Protection status of privately owned open space.

Data Sources

Permanent Protection, 3/13

Private Institutions, 3/13

Chapter 61B, 3/13

Chapter 61A, 3/13

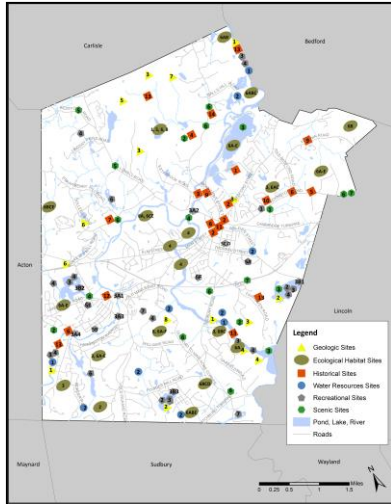
Chapter 61, 3/13

Train Stations, 3/13

Railroad, 3/13

Pond, Lake, River, 3/13

Roads, 3/13



Special Sites

Section 5, Page 72

Resource sites of varying types across town.

Data Sources

Ecological Habitat, 3/13

Water Resource Sites, 3/13

Recreational Sites, 3/13

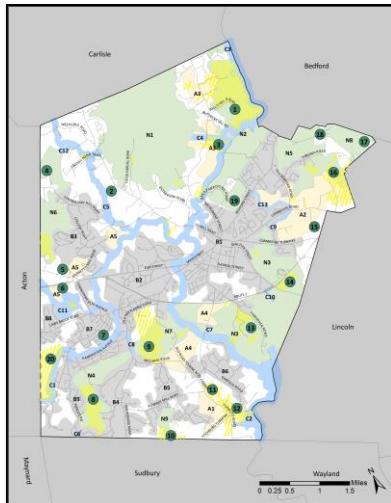
Historical Sites, 3/13

Geologic Sites, 3/13

Scenic Sites, 3/13

Pond, Lake, River, 3/13

Roads, 3/13



Lands of Conservation and Recreation Interest

Section 5, Page 77

Areas and parcels in town recognized as priorities for protection.

Data Sources

Selected 2004 Priority Lands

Unprotected parcels within OSF, Parcels_Patch_Priorities, 3/13

Unprotected areas within OSF, 3/13

Agricultural, Open Space Framework 2013

Natural, Open Space Framework 2013

Built, Open Space Framework 2013

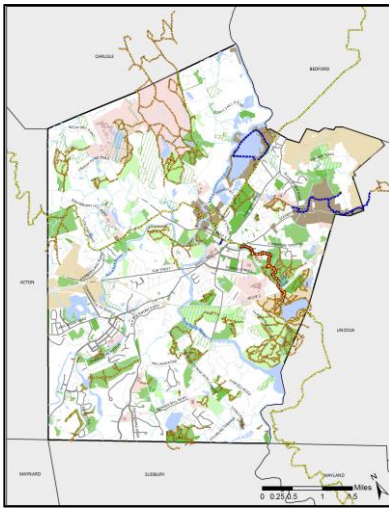
Corridor, Open Space Framework 2013

Pond, Lake, River

Train Stations

Railroad

Roads



Existing Trails

Section 5, Page 78

Current public trail network in town.

Data Sources

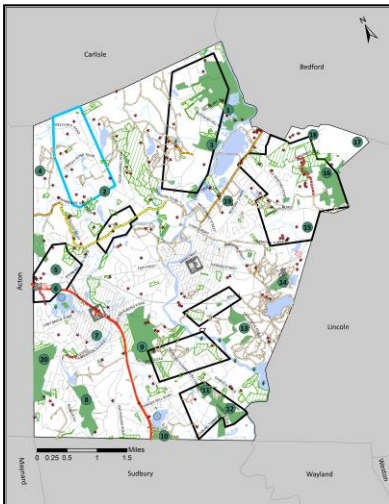
Sidewalks

Trails Public Access Public Land

School Lands

Public Access Public Lands

Roads



Seven-Year Action Map

Section 9, Page 101

Mapped action items from current action plan.

Data Sources

Selected 2004 Lands of Conservation Interest, 3/13

Potential Vernal Pools, 3/13

Bay Circuit Trail Rerouting, 3/13

Proposed Bruce Freeman Rail Trail, 3/13

Proposed Ag Overlay Districts, 3/13

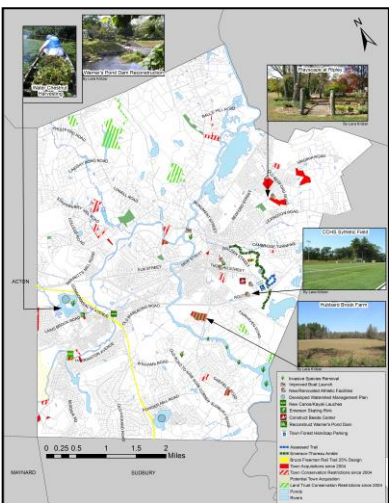
Unprotected Areas within OSF, 3/13

Pond, Lake, River, 3/13

Roads, 3/13

Train Stations, 3/13

Railroad, 3/13



Conservation and Recreation Accomplishments Since 2004

Section 9, Page 109

Mapped conservation and recreation initiatives since last Open Space and Recreation Plan.

Data Sources

Parcels, 3/13

Proposed Bruce Freeman Rail Trail, 3/13

Pond, Lake, River, 3/13

Roads, 3/13



Estabrook Woods Natural Area

Appendix C, Page 161

Illustrates protected and unprotected lands in the Estabrook Woods Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



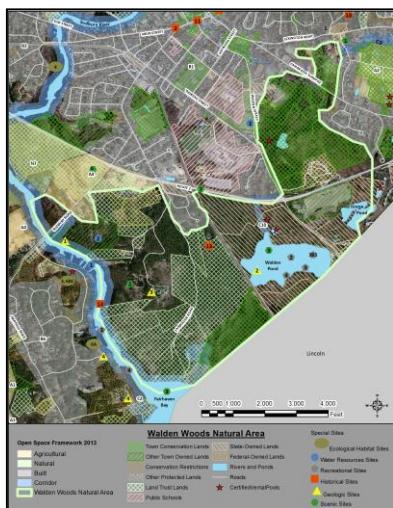
Great Meadows-Ball's Hill Natural Area

Appendix C, Page 163

Illustrates protected and unprotected lands in the Great Meadows-Ball's Hill Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



Walden Woods Natural Area

Appendix C, Page 164

Illustrates protected and unprotected lands in the Walden Woods Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



Second Division Brook Natural Area

Appendix C, Page 166

Illustrates protected and unprotected lands in the Second Division Brook Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



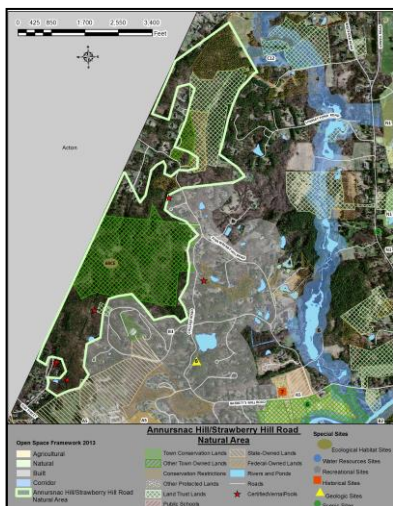
Virginia Road Woods Natural Area

Appendix C, Page 167

Illustrates protected and unprotected lands in the Virginia Road Woods Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



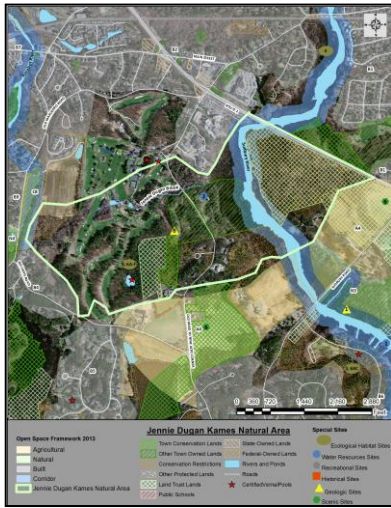
Annursnac Hill/Strawberry Hill Road Natural Area

Appendix C, Page 168

Illustrates protected and unprotected lands in the Annursnac Hill/Strawberry Hill Road Natural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



Jennie Dugan Kames Natural Area

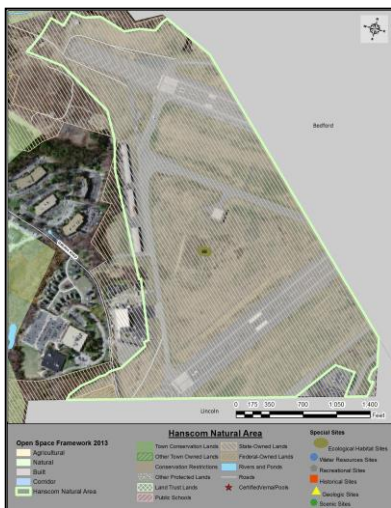
Appendix C, Page 170

Illustrates protected and unprotected lands in the Jennie Dugan Kames Natural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



Hanscom Natural Area

Appendix C, Page 171

Illustrates protected and unprotected lands in the Hanscom Natural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



White Pond Natural Area

Appendix C, Page 172

Illustrates protected and unprotected lands in the White Pond Natural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



Nine Acre Corner Agricultural Area

Appendix C, Page 174

Illustrates protected and unprotected lands in the Nine Acre Corner Agricultural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



Lexington Road Agricultural Area

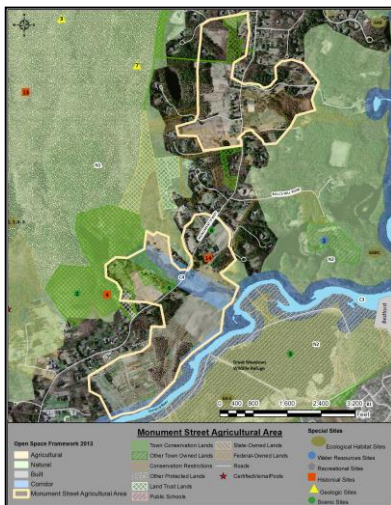
Appendix C, Page 175

Illustrates protected and unprotected lands in the Lexington Road Agricultural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



Monument Street Agricultural Area

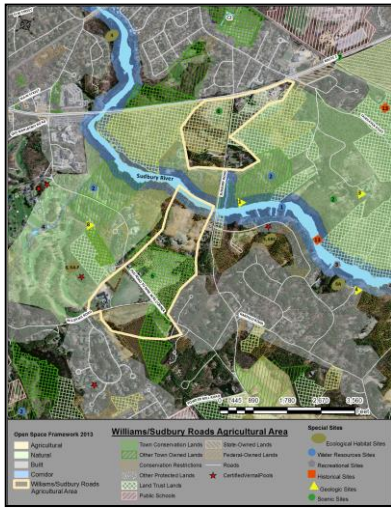
Appendix C, Page 177

Illustrates protected and unprotected lands in the Monument Street Agricultural Area

Data Sources

Permanent Protection, 3/13
 Institutions, 3/13
 Town Owned NRC, 3/13
 State Owned Lands, 3/13
 Federal Owned Lands, 3/13
 Pond, Lake, River, 3/13
 Certified Vernal Pool, 3/13

Agricultural, Open Space Framework, 3/13
 Natural, Open Space Framework, 3/13
 Built, Open Space Framework, 3/13
 Corridor, Open Space Framework, 3/13
 Special Sites, 3/13
 Train Stations, 3/13
 Roads, 3/13



Williams/Sudbury Roads Agricultural Area

Appendix C, Page 178

Illustrates protected and unprotected lands in the William/Sudbury Roads Agricultural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



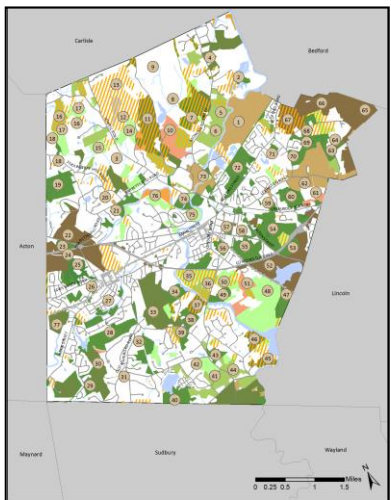
Reformatory/Barretts Mill Road Agricultural Area

Appendix C, Page 179

Illustrates protected and unprotected lands in the Reformatory/Barretts Mill Road Agricultural Area

Data Sources

- | | |
|-----------------------------|--|
| Permanent Protection, 3/13 | Agricultural, Open Space Framework, 3/13 |
| Institutions, 3/13 | Natural, Open Space Framework, 3/13 |
| Town Owned NRC, 3/13 | Built, Open Space Framework, 3/13 |
| State Owned Lands, 3/13 | Corridor, Open Space Framework, 3/13 |
| Federal Owned Lands, 3/13 | Special Sites, 3/13 |
| Pond, Lake, River, 3/13 | Train Stations, 3/13 |
| Certified Vernal Pool, 3/13 | Roads, 3/13 |



2004 Properties of Conservation Interest

Appendix J, Page 246

Priority parcels for protection in 2004 plan.

Data Sources

- | | |
|--|-------------------------|
| 2004 Properties of Conservation Interest, 3/13 | |
| Train Stations, 3/13 | Pond, Lake, River, 3/13 |
| Town Owned, 3/13 | Chapter 61B, 3/13 |
| State Owned Lands, 3/13 | Chapter 61A, 3/13 |
| Land Trust Lands, 3/13 | Chapter 61, 3/13 |
| Federal Owned Lands, 3/13 | Roads, 3/13 |
| Conservation Restriction, 3/13 | Railroad, 3/13 |

Page intentionally left blank

Appendix

B

Transfer of Development Rights

The information contained in this appendix is taken directly from the Smart Growth/Smart Energy Toolkit published by the Executive Office of Energy and Environmental Affairs on behalf of the Commonwealth of Massachusetts.

In Brief: Transfer of Development Rights (TDR) is a regulatory strategy that harnesses private market forces to accomplish two smart growth objectives. First, open space is permanently protected for water supply, agricultural, habitat, recreational, or other purposes via the transfer of some or all of the development that would otherwise have occurred in these sensitive places to more suitable locations. Second, other locations, such as city and town centers or vacant and underutilized properties, become more vibrant and successful as the development potential from the protected resource areas is transferred to them. In essence, development rights are "transferred" from one district (the "sending district") to another (the "receiving district"). Communities using TDR are generally shifting development densities within the community to achieve both open space and economic goals without changing their overall development potential. While less common, TDR can also be used for preservation of historic resources.

The Problem

Conventional zoning has failed to prevent, and is often the cause of, suburban sprawl in Massachusetts. As ideas regarding land use planning have evolved, it has become clear that conventional zoning is an obstacle to the goals of many communities. Even highly valued areas of forest or farmland are zoned for low-density residential or residential/agricultural development - otherwise known as sprawl. At the same time, in existing or potential community centers current zoning often does not allow for density levels appropriate to a vibrant commercial or mixed-use district. Traditional planning techniques to address these situations, such as large land acquisitions in open space areas, whole-sale rezoning of downtown centers, or down-zoning of agricultural areas, are politically sensitive, costly, and often impractical as they reduce the development potential of a landowner's property.



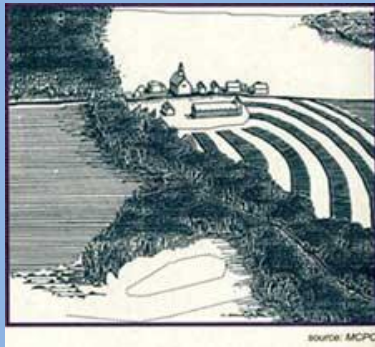
Preservation and revitalization can both be hampered by existing zoning codes that allow for extensive sprawl but do not allow for higher densities in what would otherwise be viable economic activity centers. These pictures illustrate what can happen to conventionally zoned areas. TDR offers an alternative that protects agricultural lands from this type of sprawling growth.

Introduction to Transfer of Development Rights

Transfer of Development Rights (TDR) represents an innovative way to direct growth away from lands that should be preserved to locations well suited to higher density development. Areas that may be appropriate for additional development include pre-existing village centers or other districts that have adequate infrastructure to service new growth.

The approach begins with planning processes that will identify specific preservation areas as “sending areas” and specific development districts as “receiving areas.” In Massachusetts, this level of town-wide or city-wide planning is best addressed in the comprehensive planning process. Once these areas are identified, Zoning Bylaw amendments can be adopted which authorize landowners in the sending areas to sell their development rights to landowners in the receiving areas. The amount of money required to purchase these development rights is influenced by the Zoning Bylaw provisions, but is generally negotiated between the landowners. This approach allows market forces to enter into the transaction and requires land owners to negotiate the final value of development rights.

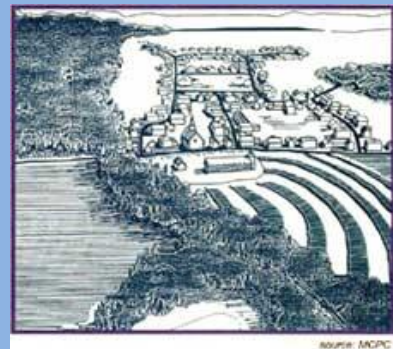
In return for the purchase, landowners in the sending area place a restriction on their property, which is generally recorded as deed restriction. This restriction can be determined through explicit zoning provisions or can be negotiated as part of the permitting process, perhaps via a special permit. Restrictions can limit the level of potential development, the type of development, or some combination of both. Developers who buy development rights are acquiring the capacity to build higher density in a receiving area, which can mean different types of the same use (apartments in addition to single family homes), higher densities of the same use (single family homes on one-quarter acre lots instead of one acre), or different higher intensity uses (commercial or industrial use in addition to residential).



Existing Village



Conventional Development



Development with TDR

TDR can be an effective tool to simultaneously limit development in valuable open space areas while stimulating additional development in areas well suited to higher densities. Although some transfers are based on a “one to one” ratio (one housing unit in the sending area grants one housing unit in the receiving area) in order to provide an incentive, other programs have increased the value of a development right if it is transferred. For example, a single development right in the sending area could provide multiple development rights in the receiving area. This “scaling” process can act as a tremendous economic incentive for both landowners in the transaction.

Characteristics that Support Transfer of Development Rights

Communities that can implement Transfer of Development Rights on a broad scale will generally have the following characteristics:

Clearly Identified Resource Areas for Protection. The foundation of any TDR program is a resource area that requires protection. Sending area communities should clearly identify the resources they would like to protect as these choices will shape many of the TDR program elements such as the method of calculating development rights, the types of incentives that will be offered to developers, and the type of restriction recorded.

Consensus Regarding the Location and Extent of Receiving Areas. Communities must develop consensus regarding which areas will receive higher densities than what is allowed under existing zoning. Higher density development is a difficult, politically charged topic in communities and often requires a significant outreach effort to gain acceptance. Detailed discussion regarding the intensity and types of use should be a part of the TDR planning process.

Infrastructure that can Support Increases in Density. Another critical element to TDR program is the district(s) to which increased growth will be directed. Communities should be able to identify areas where existing infrastructure can accommodate higher densities. Infrastructure concerns include wastewater, water supply, traffic, and other utilities. Market considerations should also be evaluated when residential and/or commercial development rights may be transferred as the market in receiving areas must be able to support increased densities.

A Clearly Written Bylaw. TDR legislation can become very complex as municipalities attempt to create guidelines for market transactions with various incentives to the development community. The goal of a community should be to develop a concise permitting process that does not add unnecessary layers of review for the development community. Bylaws should include an attractive incentive for TDR transactions in the form of density above that otherwise possible in the receiving zone.

Strong Market Conditions. The goal of increased density in receiving areas must be supported by a strong market demand for either residential or commercial development. Communities should consider enlisting the help of a qualified real estate or economic development professional to assess whether the market in receiving areas is strong enough to support increases in growth.

TDR Credit Bank. Due to the complexity of TDR transactions, the timing involved with buying, selling, and developing properties may not always be seamless. In the event that specific elements of a transaction are delayed, it may be beneficial for a community to establish a TDR Credit Bank where development rights can be temporarily stored before being purchased by a developer. Communities can also use these banks to store credits that are purchased by the Town for parcels of high conservation priority.

A Sophisticated Reviewing/Permitting Authority. The permitting authority for a TDR transaction should have a clear understanding of the program guidelines to ensure that development rights and density increases are correctly calculated in permit applications. Reviewing agencies should also be able to prioritize those design elements that are most important to the final project and identify alternative approaches that may simplify the application process.

Open Communication between Local Agencies. The permitting authority for TDR transactions should have access to other agencies that may help to clarify opportunities or constraints associated with either the sending or receiving districts. Inter-agency cooperation can be formally integrated into the review process using the provisions of the TDR bylaw where commentary may be required from other agencies such as the Conservation Commission, the Board of Health or the Town Engineer. Other agencies or groups that could be involved in the review process, formally or informally, include local watershed groups, the local Open Space Committee, or the Agricultural Commission.

Implementation

Background Research: Completion of a real estate market analysis (REMA) is highly recommended. The overall purpose of the analysis is to validate the transfer system prior to the adoption of the implementing bylaw or ordinance. Demand for growth is necessary for TDR to succeed, and a REMA will determine market strength. It will also help a community comprehend land values and the types of growth that the market will support. Knowing the economic value of development rights generated in the sending area and the capacity of the market to absorb that value in the receiving zone is critical. Moreover, a community must ensure that the rate of transfer (the number of development rights generated multiplied by the expected sale price of each right) adequately compensates the landowner in a sending area for forgone development on their parcel. Similarly, an understanding of the value of additional density in the receiving area is important to establishing the amount of additional density permitted per credit acquired. The REMA completed by Woolwich, NJ is an excellent example.

Drafting the Bylaw or Ordinance: The process typically begins with translation of master plan goals into preservation or "sending areas" and specific development districts or "receiving areas." Once these areas are identified, zoning by-law amendments can be drafted and adopted which authorize landowners in the sending areas to sell their development and developers in receiving areas to grow more intensely by purchasing them.

1. Designate sending areas

Sending areas are portions of the community that are ideal for preservation and very limited or no development. These are often areas of agricultural, environmental or historic importance. To preserve these areas, TDR enables landowners to sell the development rights associate with their property, thus transferring development to more appropriate areas.

2. Designate receiving areas

The preservation of agricultural lands conserves prime agricultural soils. The protection of naturally vegetated open space conserves wildlife habitat and maintains recharge to groundwater.

3. Create a formula for allocating rights

The development rights or credits can be assigned in a variety of ways, and can accommodate transfers involving (and between) residential, commercial, and industrial uses. Perhaps the simplest way to calculate the number of credits allocated to landowners in the sending area would be to make them equal the number of potential building lots in the sending area. The resulting number of credits generated could then be used as a starting point for calculating the amount of additional density each acquired credit provides in the receiving area.

4. Determine the value of a credit in the receiving area

After determining the number of credits generated in the sending zone(s) the community should be sure that more density is possible in the receiving zones than the number of generated credits will allow. This will help create demand for credits. Each credit acquired by a developer or landowner in the receiving zone must also have more "value" in additional density than its acquisition cost. In turn, the acquisition cost must be sufficient to compensate the landowner in the sending area. Due to the potential complexity of these calculations municipalities are encouraged to complete and use a REMA to determine credit values.

5. Establish administrative/permitting procedures

Administration of TDR systems requires different permitting procedures than conventional zoning. Communities should be prepared to address the recording of deed restrictions, tracking of credits, and other tasks associated with TDR.

Benefits

Transfer of Development Rights benefits communities by providing a mechanism with which to achieve a municipality's land protection goals without spending local money. Market forces are harnessed to protect land while also encouraging greater prosperity, and tax revenue, in suitable locations of the community. Local governments also spend less for ongoing maintenance, as roads and other infrastructure are reduced and concentrated in city and town centers and other suitable locations as discussed under financial consideration below.

Depending on the design of the program, the benefits of TDR are also evident in how TDR implements many of the Patrick Administration's Sustainable Development Principles including:

- **Concentrate Development and Mix Uses:** TDR is designed to curb sprawl and encourage development in areas with adequate infrastructure.
- **Use Natural Resources Wisely:** The preservation of agricultural lands conserves prime agricultural soils. The protection of naturally vegetated open space conserves wildlife habitat and maintains recharge to groundwater.
- **Protect Land and Ecosystems:** Conservation restrictions that may be placed on sending areas can provide permanent protection for wildlife habitat and significant cultural or historic landscapes.
- **Expand Housing Opportunities:** TDR programs create higher density neighborhoods and can be designed with density bonuses or approval contingencies based on the inclusion of affordable housing in the receiving district.

Benefits



TDR provides several financial benefits to local governments, private developers, and the general community. First of all, limiting development in outlying open space or agricultural areas will reduce municipal infrastructure costs that would result from large scale subdivision development. Preservation of these areas therefore decreases the local tax burden required to keep pace with sprawl. Conversely, because this technique does not limit the overall development potential within a community, the act of preserving land does not translate into a loss for the community's tax base. In addition, TDR allows a community to preserve land without using public funds, a cost that otherwise would be borne by the municipality's taxpayers.

Land owners in sending areas and private developers can realize significant financial gains through TDR programs especially if development rights are increased through density bonuses during the transaction. In these instances, land-owners in the sending areas can actually demand a higher price for their land than if they were to convert it to residential development. Developers in the receiving district can also realize a higher investment on their property when it is developed at a higher density than what was allowed under conventional zoning.

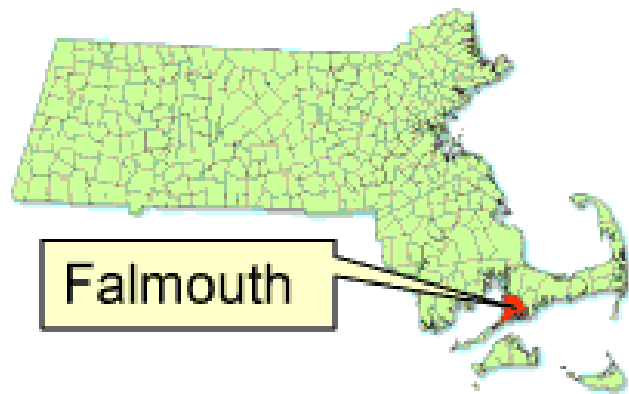
Case Study

The Town of Falmouth is a coastal community rich in natural resources including marine recharge areas, Areas of Critical Environmental Concern (ACEC's), and aquifers for municipal water supply. As with many communities in Massachusetts, local decision makers realized that considerable tracts of open space were zoned for residential sprawl in many of these resource areas. As part of a suite of zoning based tools targeted toward more efficient use of undeveloped land, Falmouth adopted one of the Commonwealth's first TDR Bylaws.

The Program

The Falmouth TDR Bylaw was originally accepted at Town Meeting in 1985 and has been amended several times since then. The Bylaw establishes "donor" and "receiving" districts based on a variety of criteria such as allowable use and the size of the parcel(s) in either district. Donor districts were originally established based upon existing Chapter 61A parcels, recharge areas to sensitive surface waters or the contributing zones to the public water supply. Since then, the Bylaw has been amended to include ACEC's and the Coastal Resources Overlay in the donor district areas. Receiving areas are listed in the zoning bylaw and include those districts already zoned for residential use.

The program can only function as part of a subdivision application and adds a Special Permit requirement. However, this additional requirement is streamlined by having the Planning Board named as the permitting authority for both requirements. Furthermore, incentives are added in the form of density bonuses. These bonuses are awarded according to a detailed schedule listed in the Bylaw. Bonuses vary between 20 to 40 percent depending on which area is sending and which area is receiving.



McKenna Ridge Road

This subdivision is one of several success stories in Falmouth implemented through the TDR Program. The donor parcel identified in this instance was located in the Water Resource Protection District and covered approximately 12.5 acres. Yield calculations developed for the parcel showed that six lots could reasonably be developed under the standard subdivision process. Because the developer was using the TDR Program, he was granted a 20% increase on this base yield value, bringing the yield value up to eight lots.

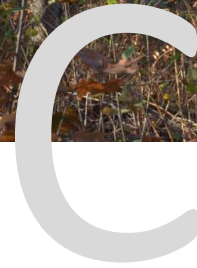


Page intentionally left blank



Emerson-Thoreau Amble by Cherrie Corey

Appendix



Priority Open Space Resources: Status and Concerns

This section takes a closer look at the large intact areas and major corridors of Concord’s Open Space Framework (see Section 2). In the *1992 Open Space Plan*, each area was documented in detail, and its ecological, historical/cultural, recreational and educational/research values discussed. Protection and management objectives were stated for each area. The 2004 Plan built on that foundation (which remains a useful reference) by briefly describing the areas, illustrating them with maps and identifying the primary value of each area. Then key land-protection threats, as well as important land management issues, are highlighted. The 2015 Open Space Framework expands the natural areas to include BioMap2 core habitat, expands the agricultural areas to include adjacent Chapter 61A lands, and adds two additional natural areas and one additional built area. Improved mapping of these areas is also provided to better understand the status and connectivity of these lands. This framework has been found to be a useful tool in evaluating Town decisions and initiatives.

A) Large Natural Areas

The pressure of real estate development and the encroachment of buildings, particularly on the perimeters and occasionally in the cores of the large patches, remain of concern in all of the large natural areas.^{31, 36, 11} Similarly, increased isolation from other large areas due to the loss of corridor connections is a concern. Concord continues to take significant measures to permanently protect many important

parcels, most recently exemplified by the acquisition of the McGrath house lot at 449 Barrett’s Mill Road. But others remain unprotected.

Estabrook Woods Area (N1)

Concord’s largest remaining tract of essentially 1,550 acres of intact woodland extends from Lowell Road on the west to Monument Street on the east, into Carlisle on the north and to the end of pavement on Estabrook Road on the south.^{67, 37, 30, 2} Over half, 900 acres, of the Estabrook Woods area in Concord have been protected – quite an impressive statistic. The biggest single step occurred in 1997 when Harvard University protected its 672 acres as open space by recording a Notice of Public Charitable Obligation in the Middlesex County Registry of Deeds. Neighboring landowners met Harvard’s challenge by placing an additional 250 acres in conservation in Concord alone.

The Estabrook Woods area contains almost all of Concord’s land that is relatively remote from roads. The area not only has the size and form of a large patch of intact forest, but it is known to function as one. Birds and mammals that breed and live only in interior forests, such as the northern goshawk and fisher, are known to exist there. The Massachusetts Division of Fish and Wildlife identified the Estabrook Woods as a “significant wildlife area due to habitat diversity and area size.” Special sites within the Estabrook Woods area include old forest stands, two sites with high biodiversity for plants, and five

Carlisle

Bedford

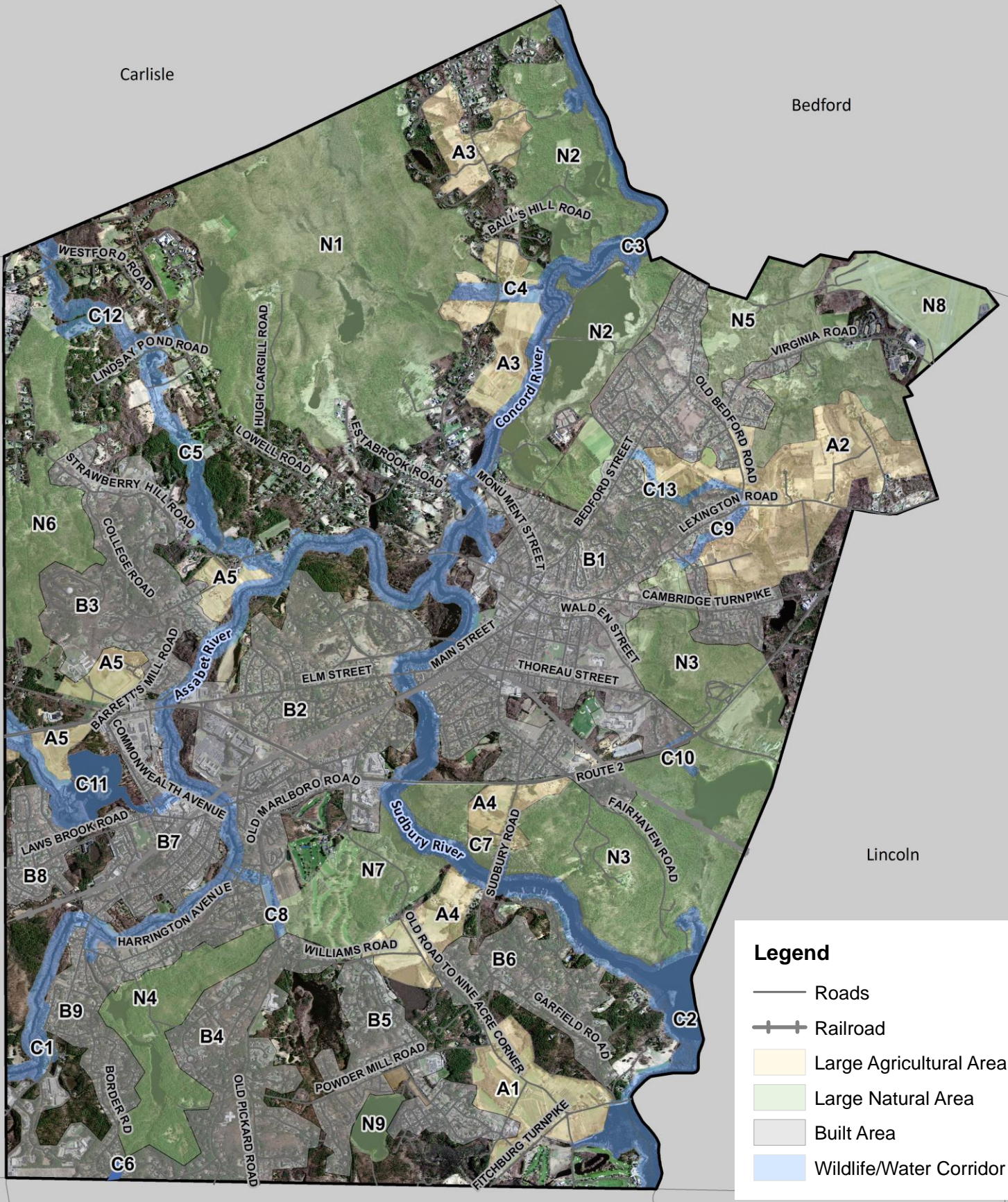
Acton

Lincoln

Maynard

Wayland

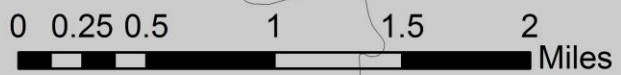
Weston



Legend

- Roads
- +— Railroad
- Large Agricultural Area
- Large Natural Area
- Built Area
- Wildlife/Water Corridor

2015 Open Space Framework





Estabrook Woods Natural Area

Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Estabrook Woods Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites

“areas of ecological significance” as listed by the Massachusetts Natural Heritage and Endangered Species Program. In addition, distinctive geologic features include a siliceous rock outcrop, calcareous rock near the surface, large glacial erratics, and eskers. Compared to the rest of Concord, these woods have a high density of special sites. The area is also of significant archaeological value.³⁷

Walking, cross-country skiing, and horseback riding are recreational values that benefit from a large area, extensive trail system, and scenic beauty. The research and educational value of the Estabrook Woods is important to Harvard University due to its proximity to Cambridge. Continued use of the area for educational purposes by Harvard classes, diverse research projects, and faculty and students from other universities and schools is important.

Lands owned by Harvard University and Middlesex School are the core parcels critical to protect or enhance the essential integrity of this large natural area. For Harvard’s land, vigilant efforts must be maintained so that recreation and other uses do not intrude on research and educational uses, as the essential mission of the University. Some of the Middlesex School land has been protected. This natural area continues to be threatened by development within and adjacent to its boundaries. Continued perseverance in working to reduce or reverse proposed or future development remains important, in order to sustain Concord’s most valuable large natural area.

Additional goals are important for the Estabrook Woods Area. Concord residents and the Town should work to protect parcels at the edges of the natural area, and in reducing impacts of the few houses on the land. Protection wildlife and water-protection corridors linking the Estabrook Woods Area with the Great Meadows/Ball’s Hill Natural Area to the east and the Annursnac Hill/Strawberry Hill Road are crucial to enhance wildlife usage in and between these areas. Expansion of this natural area to the west should be evaluated to protect the Spencer Brook watershed. Finally, since large size is perhaps the most valuable characteristic of the Estabrook Woods Area, land management for the area as a whole, which highlights large-size-related ecological patterns and processes may be especially appropriate.

Great Meadows/Ball’s Hill Natural Area (N2)

This large natural area encompasses a stretch of Concord River – a federally designated Wild and Scenic River. The National Wildlife Refuge mainly lies on the south side, and a large wooded area including Buttrick’s, Ball’s and Davis Hills, a series of kettle-hole ponds, a sliver of refuge land, and floodplain wetlands enrich the north side of the river.^{56, 27, 2} The refuge is well known as a site for a high diversity of wildlife, including quite a list of rare species (USF&WS Records). Water birds thrive there and the large water impoundments are especially important for migratory waterfowl. Rich opportunities for passive recreation, such as walking, canoeing, photography, and nature study are provided. The refuge has sites of archeological importance. The Ball’s Hill side of the river also has many rare species.²⁰ A noted early ornithologist, William Brewster, lived here and made extensive observations on birds and natural history.^{56, 27} The Town has a site for its only water source, the “Brewster Well,” in the northern half of Concord. This large natural area provides major water and ecological protection for the Concord River corridor.

Although the refuge is well protected, scattered parcels on the southern side of the river are not. The U.S. Fish & Wildlife Service has been able to acquire some lands with wetlands along the river in recent years. Refuge management issues have included control of an invasive weed, water chestnut, and reducing impacts due to dogs and human uses. In contrast, the bulk of the Ball’s Hill side of the river remains unprotected and threatened by potential development.

Walden Woods/Town Forest (N3)

This large natural area of about 1,180 acres extends from the Town Forest southward across Brister’s Hill, Route 2, the former landfill, Walden Pond, the Robinson Well site, and Fairhaven Woods. Most of the area has sandy soil, with limited agricultural use; it contains the only fairly large area that apparently remained wooded over history.^{67, 60, 49} The area includes the site of Henry David Thoreau’s cabin and was a setting for his classic, *Walden*. This heritage has resulted in Walden Woods becoming a pilgrimage site, with recognition as a USNPS Natural Historic Landmark and on the National Register of Historic Places. The topography supports a diverse and distinctive collection of habitats and species.²⁰ Walden Woods is also a magnet for a wide range of recreation, from beach swimming to shore-, boat- and ice-fishing,

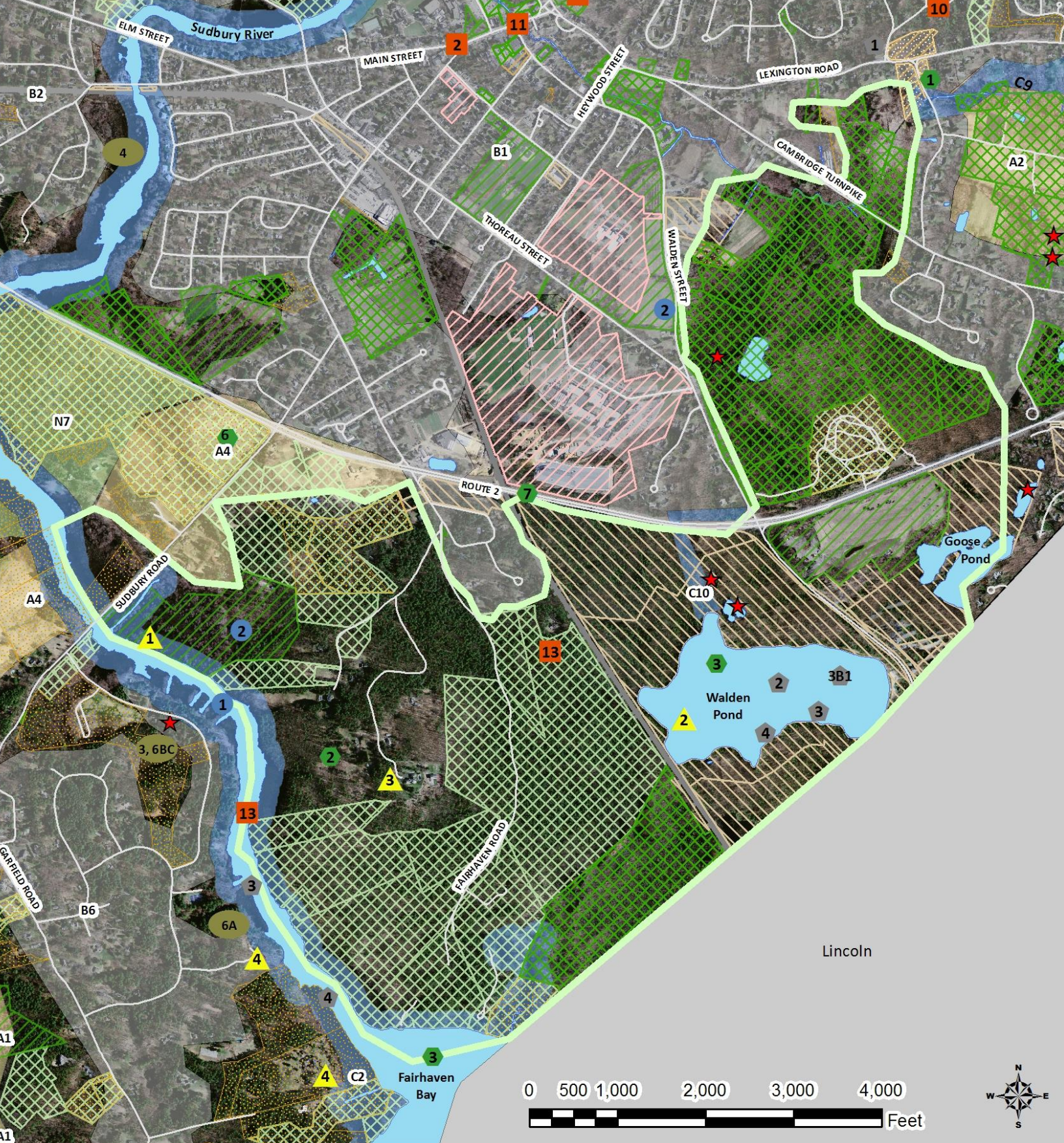


Great Meadows-Ball's Hill Natural Area

- Open Space Framework 2013**
- Agricultural
 - Natural
 - Built
 - Corridor
 - Great Meadows-Ball's Hill Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

- Special Sites**
- Ecological Habitat Sites
 - Water Resources Sites
 - Recreational Sites
 - Historical Sites
 - Geologic Sites
 - Scenic Sites



Walden Woods Natural Area

Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Walden Woods Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites

walking a dense trail network, and reflection on the values and implications associated with Thoreau's life and work.

Four major threats remain: (1) use of the former landfill area; (2) housing development; (3) heavy recreational use; and (4) the effects of Route 2 and Route 126.

Efforts should continue to find a mutually beneficial solution to protect the former landfill site in harmony with existing uses as an important linkage within the internationally significant Walden Pond area.

Housing development in the Fairhaven Hill Road area and perhaps the Goose Pond area remains a long-term concern. Heavy recreational use during warmer months tends to degrade the forest habitat on the Concord side of Walden Pond, as well as the pond margin and water quality. Limiting the total numbers of visitors, and channeling more of their usage to less-sensitive areas, remain a challenge that may require yet another major evaluation.

The manifold effects of Route 2, described in an earlier section, include safety for walkers crossing, a wildlife barrier separating the Town Forest and Walden Pond portions of this large natural area, and traffic noise/disturbance effects. Solutions include working with Mass Highways and others to provide wildlife connectivity across Route 2, perhaps with wildlife underpasses, an overpass, and crossable median barriers. An overpass for walkers by Route 126 would safely get people across Route 2. A realignment of Route 126 away from the pond would reduce the pedestrian safety hazard and potential salt-and-hazardous-chemical threat to Walden Pond. Attractive shrub-covered soil berms along portions of Routes 2 and 126 would significantly reduce the propagation of traffic noise. Depressing the road surface level of Route 2 a bit in this sandy soil would facilitate several of these solutions.

Second Division Brook Area (N4)

This large natural area is centered along Second Division Brook, which enters from Maynard and Sudbury and flows through a series of ponds. It extends eastward across the Old Rifle Range Town conservation land. A fair-sized portion of this woodland on sandy, gravelly soil may have existed as woodland throughout history.⁶⁷ The area contains a small pitch pine stand, various aquatic and stream

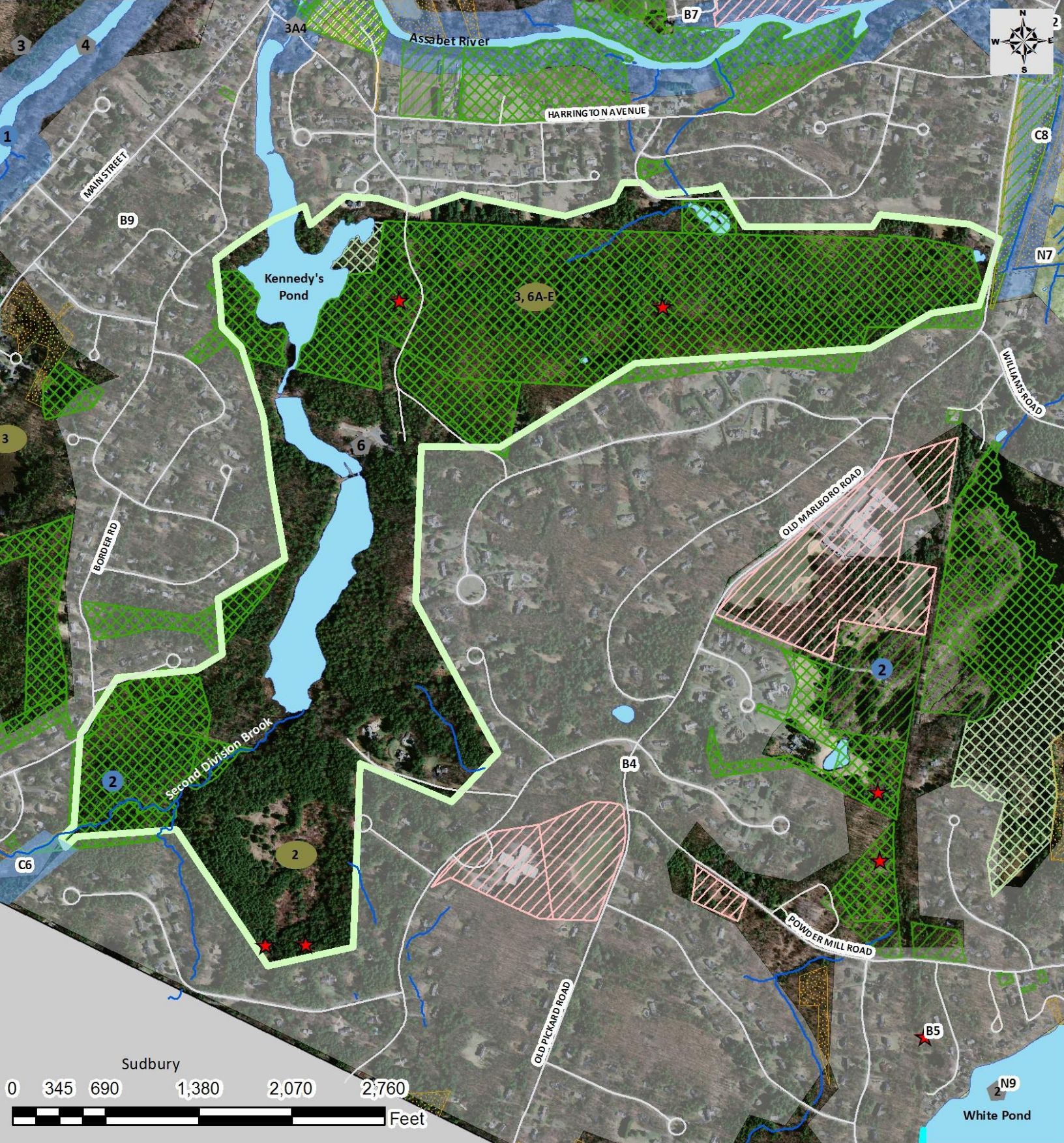
habitats, and some rare species.²⁰ It provides hunting and fishing for a sportsman's club and walking trails for the public. One key unprotected property is needed to protect the essential core of this large natural area. This area is somewhat squeezed by housing on its opposite sides, and the brook outlet to the Assabet River runs through housing lots, so human-related impacts remain as a management challenge. In the long term, connection for wildlife movement to the Jennie Dugan Kames area and eastward is important.

Virginia Road Woods (N5)

Much of this large natural area near Hanscom Airfield is owned by MassPort and is composed of wetlands, woods and fields. The diversity of habitats and species benefits from a relative lack of accessibility and use by the public. The area adjoins undeveloped natural land owned by MassPort to the north in Bedford and abuts the Lexington Rd./Bedford Levels large agricultural area to the south. Massport manages the natural area as an airport buffer, which involves tree cutting (most recently on Pine Hill in 2011) and other activities from time to time. If MassPort decided to dispose of or develop the property, preserving that one unprotected property would be necessary in order to protect the essential core of the large natural area. For the time being, a primary goal is to work with MassPort to ensure that the area continues to function as a "large natural area" for species enhanced by interior conditions and relative remoteness from human activities.

Annursnac Hill/Strawberry Hill Rd. (N6)

This large natural area, split by houses along Strawberry Hill Rd., is composed of two sections: the Town-owned Annursnac Hill conservation land and Baptist Brook to the south, and other protected open-space lands to the north. A wetland system both north and south of the road presumably provides some connectivity for wildlife. In the long term, options for better integrating the two sections with increasing wildlife connections should be evaluated. This large natural area is linked eastward to the Spencer Brook Valley corridor and the Estabrook Woods Area, and provides some wildlife linkage to natural land in northern Acton. Some of the Annursnac Hill/Strawberry Hill Rd. natural area is of archaeological importance.³⁷



- Open Space Framework 2013**
- Agricultural
 - Natural
 - Built
 - Corridor
 - Second Division Brook Natural Area

- Second Division Brook Natural Area**
- Town Conservation Lands
 - Other Town Owned Lands
 - Conservation Restrictions
 - Other Protected Lands
 - Land Trust Lands
 - Public Schools
 - State-Owned Lands
 - Federal-Owned Lands
 - Rivers and Ponds
 - Roads
 - Certified Vernal Pools

- Special Sites**
- Ecological Habitat Sites
 - Water Resources Sites
 - Recreational Sites
 - Historical Sites
 - Geologic Sites
 - Scenic Sites



Bedford



Virginia Road Woods Natural Area

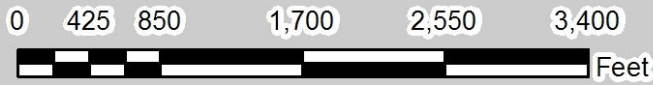
Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Virginia Road Woods Natural Area

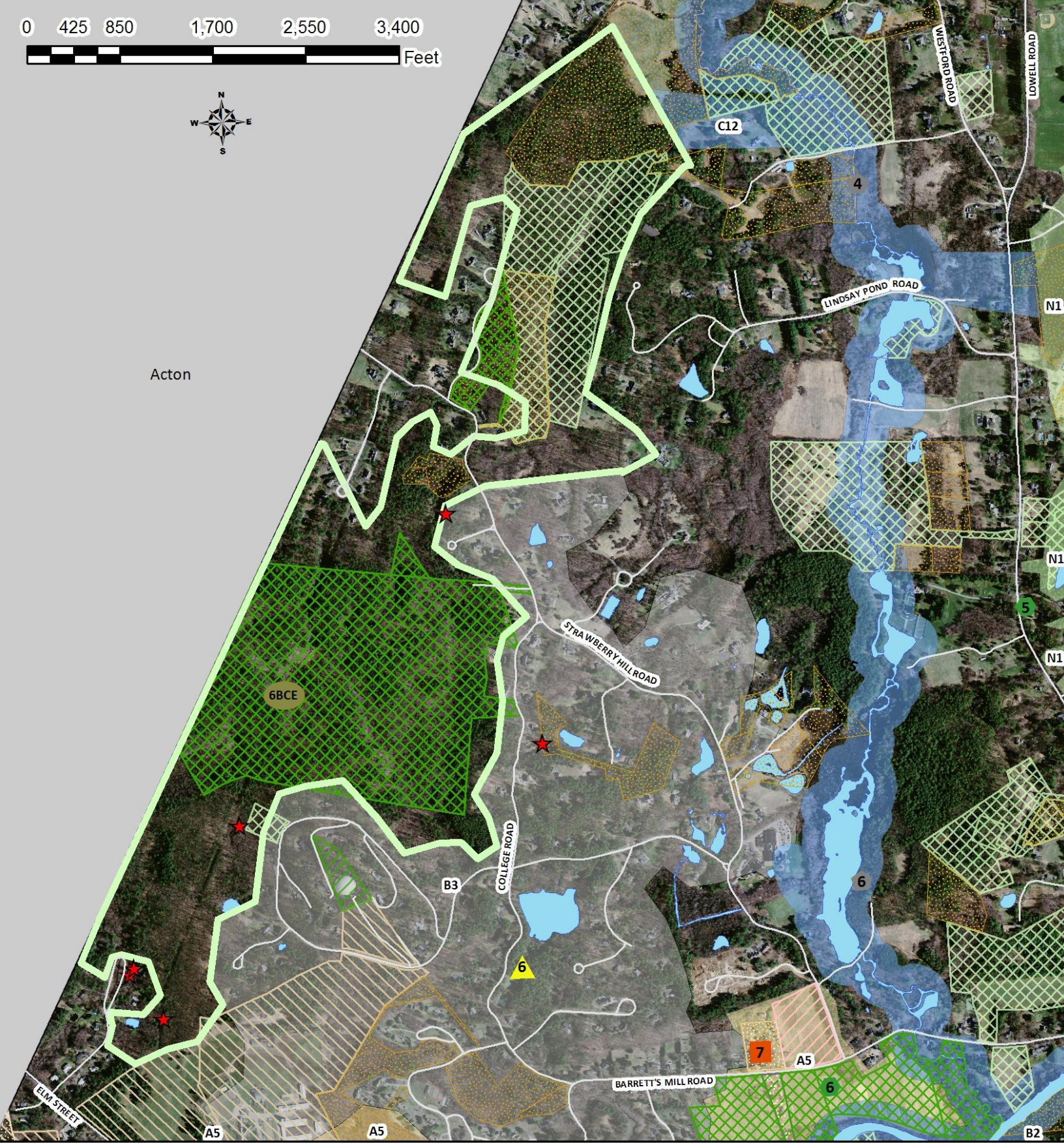
- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites



Acton



Annursnac Hill/Strawberry Hill Road Natural Area

Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Annursnac Hill/Strawberry Hill Road Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites

Jennie Dugan Kames (N7)

The Jennie Dugan Kames large natural area was established in *Open Space and Recreation Plan 2004*. It is the only large natural area in the central portion of Concord. With wildlife and water-protection corridors, it effectively connects the somewhat isolated Second Division Brook natural area with Walden Woods. Jennie Dugan Kames also connects these to the Sudbury River Corridor and the Williams Rd./Sudbury Rd. large agricultural area. The Kames area is an interesting geological area of “kames” (hillocks) alternating with kettle-holes (depressions) and a large vernal pool, together with two forks of Jennie Dugan Brook and associated wetlands. Not surprisingly, habitat diversity is high, and rare species, especially related to the vernal pool, are present in considerable number.^{19, 20, 70} The area is important for protecting both Jennie Dugan Brook and a town well, and it has archeological significance.³⁷ The bulk of the area is a partially forested portion of a private golf course. No expectation exists that the owner in the near term plans to dispose of or develop the property. Identifying the value of this exceptional property to the Town is a long-term look ahead. In the short term, management of the area to protect its biodiversity and natural processes as well as the needs of golfers is important as a challenging but eminently achievable goal.

Hanscom (N7)

The Hanscom natural area was newly created as part of this Open Space and Recreation Plan update to focus on the protection of grassland birds, which represent one of the fastest declining suite of birds in North America. In Massachusetts, grassland birds in general, and State-listed species in particular, have been increasingly confined to a small number of sites, many of which are airports, landfills, and military installations.¹⁰

Two grassland bird species protected under the Massachusetts Endangered Species Act (MESA) have been observed at Hanscom Field: the upland sandpiper and the grasshopper sparrow. Declines in both species are primarily a result of habitat loss, fragmentation, and degradation. In cooperation with the Massachusetts Audubon Society, Massport has traditionally managed airfield vegetation in a manner that maintains aviation safety while protect-



Upland Sandpiper by Peter Trimble

ing the grassland nesting areas of these species.

White Pond (N8)

The White Pond natural area was also created as part of this plan update, as a result of the BioMap 2, to protect this 43-acre sister pond to Walden Pond. White Pond is a sensitive deep glacial kettle pond contained by very steep sandy slopes, highly susceptible to degradation. Concerns have arisen regarding existing impacts to water quality and future potential impacts from increased recreational use associated with the Bruce Freeman Rail Trail. In 2013, the Town commenced development of a Watershed Management Plan for this significant resource.

B) Large Agricultural Areas

The same soil that produces flourishing farms is ideal for septic systems and houses. Not surprisingly, development is a major threat to farmland, especially in a suburb. Indeed, these farmlands are treasures bulging with benefits – yet they are under attack by multiple threats. Although few social forces or government programs aid suburban farmers, the Town has periodically been a strong supporter of its farmers.¹ Ironically, at least in the Minute Man National Historical Park area, Concord is probably one of the few places in the nation where house lots are being replaced by protected farmland (the Park’s reason being to evoke the historic landscape, as opposed to conservation).

Concord’s five large agricultural areas include some private farms, but in many cases farmers lease land from town, state, federal, or private landowners. Good



Jennie Dugan Kames Natural Area

- Open Space Framework 2013**
- Agricultural
 - Natural
 - Built
 - Corridor
 - Jennie Dugan Kames Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

- Special Sites**
- Ecological Habitat Sites
 - Water Resources Sites
 - Recreational Sites
 - Historical Sites
 - Geologic Sites
 - Scenic Sites

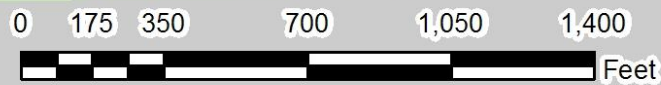


Bedford

VIRGINIA ROAD

6B

Lincoln



Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Hanscom Natural Area

Hanscom Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Rivers and Ponds
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites



White Pond Natural Area

- Open Space Framework 2013**
- Agricultural
 - Natural
 - Built
 - Corridor
 - White Pond Natural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

- Special Sites**
- Ecological Habitat Sites
 - Water Resources Sites
 - Recreational Sites
 - Historical Sites
 - Geologic Sites
 - Scenic Sites

farmland soils underlie the continued strong demand for farmland in Concord and adjacent Lincoln. An abundance of farmstands in town, plus direct market sales of organic and non-organic products (e.g., to local and Boston area restaurants), are important to the local farm economy.

Since the *1992 Open Space Plan*, several small farmland parcels in the Town have “grown” houses. However, significant farmland has also been protected since then in the large agricultural areas of Lexington Road, Nine Acre Corner and Williams Road-Sudbury Road. In the last case, the 76-acre Soutter land of fields and woods (near Route 2) and also the 43-acre Mattison Field at the southern end of the same area have been protected. So has Miller Farm, 52 acres of fields and woods in Nine Acre Corner. Such open-space successes have commonly resulted from partnerships, e.g., among the Town of Concord, Concord Land Conservation Trust, Trust for Public Land, Massachusetts Department of Food and Agriculture, and private citizens. Partnerships will doubtless be important in completing open-space protection for Concord’s five large agricultural areas. Whenever possible, the Town should support agricultural preservation restrictions (APRs) and Chapter 61A reduced property tax assessments to maintain farmland in these areas.

In addition to those areas within the five large agricultural patches, Concord is dotted with precious small and medium sized agricultural fields that are also important to the continued success of local farming enterprises and to the preservation of the Town’s rural character. Protection of these fields as



East Quarter Farm Community Garden by Cherrie Corey

farmland, while not essential to the preservation of the Open Space Framework, would benefit neighborhoods and the entire Town, by helping to keep our agricultural heritage alive.

Nine Acre Corner (A1)

The high quality soils in the Nine Acre Corner area have supported agriculture for at least 3 ½ centuries.³⁷ Today it is one of the two largest agricultural areas in Concord. It includes permanently protected APR land, Town land, and land trust holdings; trails connect it to nearby conservation areas. Rare wildlife habitat, grassland birds, and a special site for high avian biodiversity are present. Three unprotected parcels needed to protect the core of the large agricultural area are the highest priority issue. Encroachment by houses and by a private golf course at the southern end remains a threat.

Lexington Road (A2)

The Lexington Road agricultural area has greatly benefited from the Minute Man National Historical Park activities in restoring a historical agricultural landscape.³⁷ The area includes Town conservation lands and is partially connected internally by established walking trails, but is poorly connected by trails to Concord’s network of open spaces. Grassland birds breed in this large open area.^{20, 33} Otherwise, impacts of some inholdings and heavy recreational usage around the Battle Road trail are concerns for open space protection and native forest wildlife.

Monument Street (A3)

This large agricultural area separated into two sections includes land with permanent APR protection, Town conservation land and properties with conservation restrictions. Organically grown products, hayfields, and horse farms are prominent. A neighborhood farmstand, special site, and important archaeological landscape are present.³³ The large open area has rich biodiversity, rare wildlife habitat, and, in the southern section, breeding grassland birds.^{20, 31} Encroachment by houses and the general economic viability of farming remain as threats. In the long term, opportunities to connect the two sections of this large agricultural area should be considered.

Williams Road/Sudbury Road (A4)

This large agricultural area, also separated into two sections, contains Town conservation land, land trust property and land with conservation restrictions. Walking trails in both sections are connected to other nearby conservation lands. Scenic



Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Nine Acre Corner Agricultural Area

Nine Acre Corner Agricultural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites

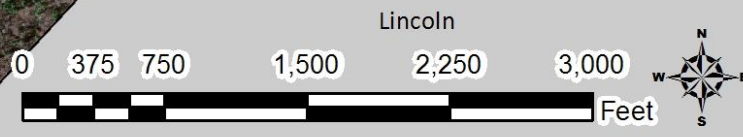


Lexington Road Agricultural Area

- Open Space Framework 2013**
- Agricultural
 - Natural
 - Built
 - Corridor
 - Lexington Road Agricultural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

- Special Sites**
- Ecological Habitat Sites
 - Water Resources Sites
 - Recreational Sites
 - Historical Sites
 - Geologic Sites
 - Scenic Sites



value played a role in protecting two major properties in recent years, and the Soutter land by Route 2 is grazed by cows as both a management tool and to portray an agrarian image of the town for the 50,000 drivers passing daily. Rare wildlife habitat is present and grassland birds breed in the southern section. Otherwise, the encroachment of houses, increased human use, and Route 2 effects are chief concerns for these two limited-size sections of the large agricultural area. In the long term, opportunities to expand farmland between the two sections should be considered.

Reformatory/Barrett's Mill Road (A5)

This large agricultural area is composed of three smallish sections in proximity. The Massachusetts Department of Correction owns and manages the southern two, and the northern section in the Barrett Farm Historic District includes some town land.³⁷ Routes 2 and 2A separate the two southern sections, which, however, provide a scenic entrance to Concord. Traffic disturbance and noise currently limit somewhat the ecological value of the area. The southern section is of archaeological value, and Colonel Barrett's homestead, a special site in the northern section, was acquired in 2004 for protection. The house was renovated by Save Our Heritage and the property was recently gifted to the National Park Service. The agricultural area is connected to the north with the Assabet River and Spencer Brook Valley corridors, and to the south with the Nashoba Brook/Warner's Pond corridor in Concord and Acton.

The land-use policy and management practices of the state, which are subject to an agreement with the Town of Concord, are critical to the future of the two southern sections. Continued livestock farming at the Northeastern Correctional Institution on Route 2A may be critical to its land remaining as open space. The Town has long played a key role in supporting this use of the land for livestock.

Near Route 2, the proposed redesign of the rotary and highway westward by the state should not degrade the large agricultural area or farming viability of this area. The highway project will include provisions for a wildlife corridor and rail trail near the Acton line, which are important for linking the farmland to other open space. Any changes in land management in these sections should be consistent with the conservation values of a large agricultural

area. Nashoba Brook and Warner's Pond both receive agricultural pollution runoff from the fields, and a corridor of natural, woody vegetation perhaps 100 feet wide should separate the water bodies from the fields. Encroachment by houses in the northern section, and human overuse in all three limited-size sections, remain as threats.

C. Wildlife and Water-Protection Corridors

As described in detail in the *1992 Open Space Plan*, these are the essential linkages that tie Concord's open-space pattern together.^{31, 8} Most or all provide for wildlife movement, protect streams or rivers, and provide walking paths. For wildlife movement, interruptions in continuous woody vegetation cover and the difficulty of crossing busy roads, including under existing bridges, are the main planning concerns.

Because of associated wetlands and other floodplain habitats, river corridors are often wider than corridors mapped in the Open Space Framework and the 400-ft. zone designated by the Massachusetts Rivers Protection Act.^{65, 50, 20} All three rivers in Concord (except the Assabet upstream of Damon Mill) are federally designated as Wild and Scenic Rivers. The state attempts to maintain water-quality Class B ("swimmable and fishable") for the three rivers. Mercury effects on fish and aquatic life in the Sudbury, sewage treatment effluent in the Assabet, and warm water in the Assabet and Concord rivers are real challenges. Floodplains and wetlands, especially along the Sudbury and Concord, help to reduce flood levels. Stretches of houses alternating with protected natural lands dominate the river margins, providing ample human access, yet some protection to the water. But it limits wildlife movement and walking trails along the rivers. All three river corridors contain rare wildlife habitat and are rich in biodiversity, including at Egg Rock, where they meet.²⁰ River otter, beaver, Blanding's turtles, trout, unusual birds and plants, and even moose are occasionally seen. All three rivers also have major historical, scenic and recreational value.

All perennially running streams are subject to the limited-new-development-within-200-ft. provisions of the River Protection Act, which aids in establishing unbroken water-protection corridors. The state Wetland Protection Act provides for a 100-foot buffer zone from wetlands, where work is evaluated to minimize adverse impacts from human use. This is especially



Monument Street Agricultural Area

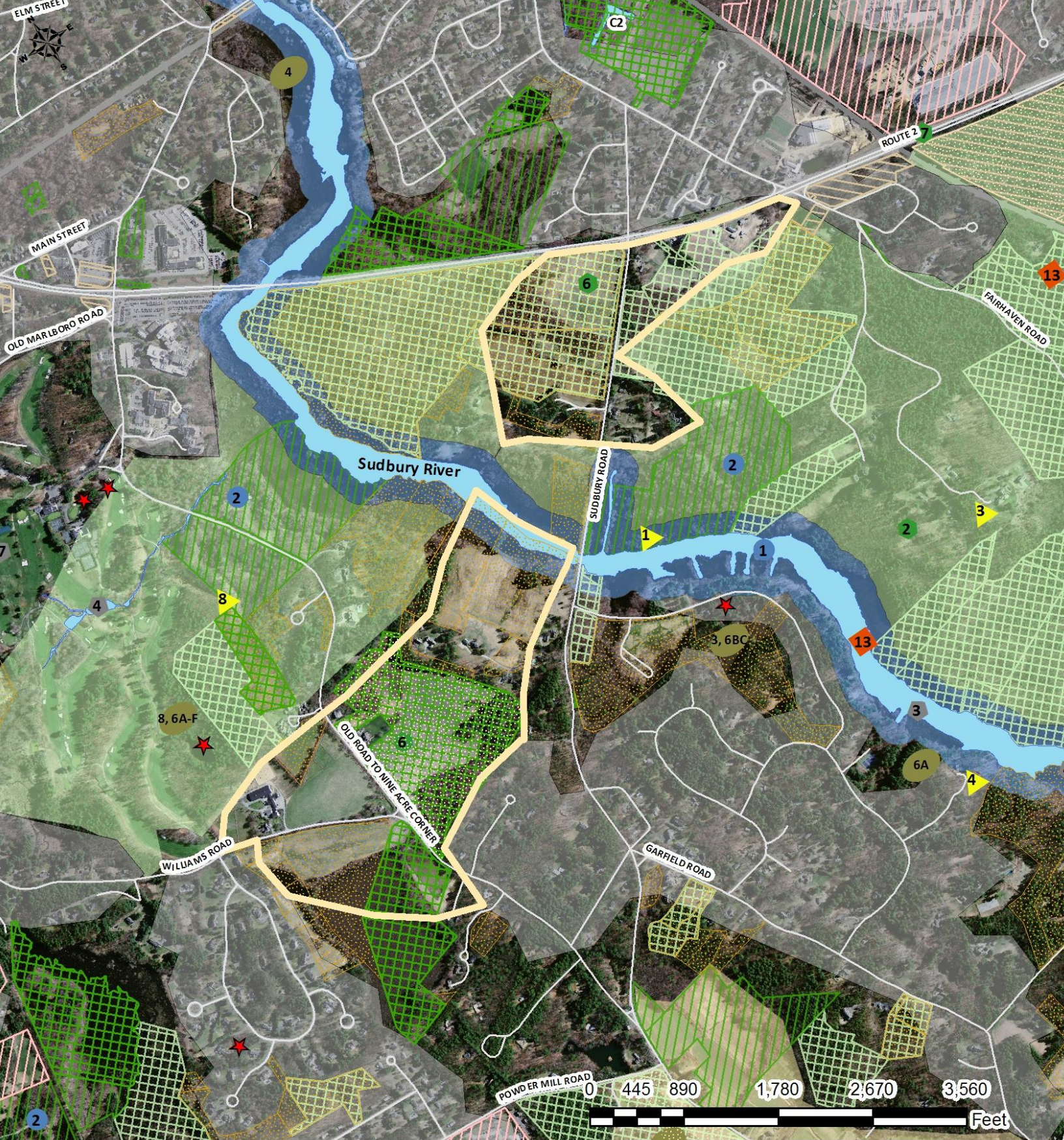
Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Monument Street Agricultural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites



Open Space Framework 2013

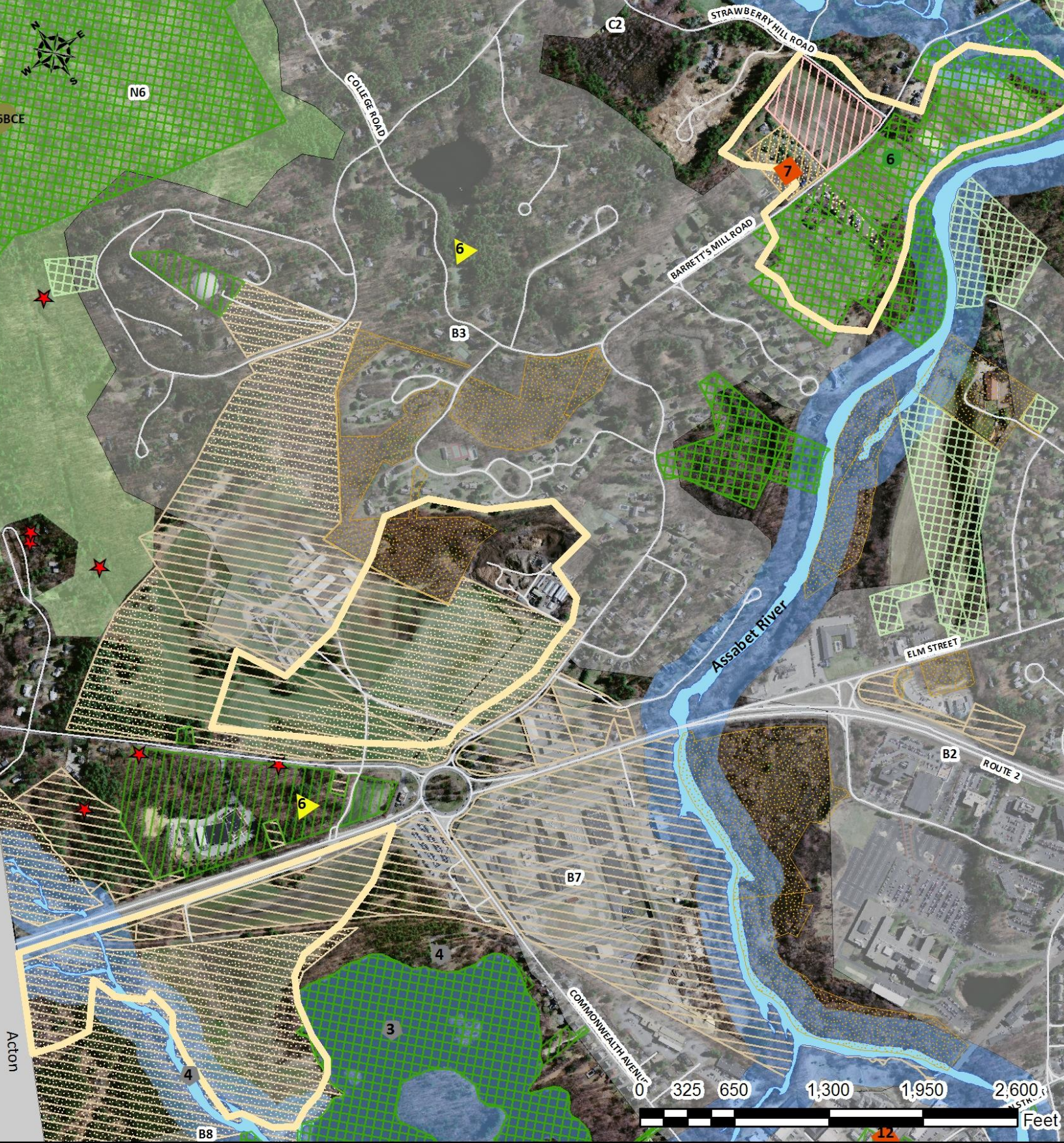
- Agricultural
- Natural
- Built
- Corridor
- Williams/Sudbury Roads Agricultural Area

Williams/Sudbury Roads Agricultural Area

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites



Open Space Framework 2013

- Agricultural
- Natural
- Built
- Corridor
- Reformatory/Barrett's Mill Road Agricultural Area

Reformatory/Barrett's Mill Road

- Town Conservation Lands
- Other Town Owned Lands
- Conservation Restrictions
- Other Protected Lands
- Land Trust Lands
- Public Schools
- State-Owned Lands
- Federal-Owned Lands
- Roads
- Certified Vernal Pools

Special Sites

- Ecological Habitat Sites
- Water Resources Sites
- Recreational Sites
- Historical Sites
- Geologic Sites
- Scenic Sites

important where wetlands are not close to a watercourse. With continued development in Concord and surrounding towns, hard-surface cover, which exacerbates flooding and the run-off of pollutants is an increasing problem in these corridors. Development also means more lawns, fertilizers, other chemicals, and septic leaching of phosphorus and nitrogen, which tend to degrade streams. Continuous strips of woody vegetation separating houses and lawns from streams greatly improve stream conditions, fish, and wildlife movement.

The protection of land parcels needed to preserve the integrity of wildlife and water corridors are a high priority for the Town. These corridors connect the highest-priority large natural areas and agricultural areas to form Concord's fundamental open-space pattern. Special characteristics or issues are encapsulated below for the 13 major corridors.

- C1. The *Assabet River Corridor* includes river water that has largely come through wastewater treatment facilities in upstream towns or the state prison. Surface runoff adds various pollutants from lawns, upstream built areas, and West Concord. Groundwater from nearby Acton and the Starmet hazardous-waste site is of long term concern.
- C2. The *Sudbury River Corridor* contains two Town wells and a regionally important canoe/boat rental site for river recreation. Mercury-contaminated water from upriver means that fish are unsafe to eat. A water chestnut invasion in Fairhaven Bay has been a recent concern, and periodic consideration of water extraction from the Sudbury Reservoir in Framingham bears long term watching. The riverfront area near Keyes Rd. should be evaluated for a canoe launch area for local residents, and should be linked to Keyes Rd. and the Calf Pasture with a Mill Brook trail.
- C3. The *Concord River Corridor* has a regional canoe launch area by Lowell Rd. for river recreation, and the North Bridge area is of major historic and recreational value. Elevated mercury levels are present in the river, and effluent from the Town wastewater treatment facility enters in the Great Meadows area.
- C4. The *Sawmill Brook Corridor* connects two of the Town's most important large natural areas and passes through a large agricultural area. Maintaining a good continuous strip of woody vegetation cover is important for both wildlife movement and stream protection.
- C5. The *Spencer Brook Corridor* is largely protected along its length, though certain key parcels remain unprotected. The corridor provides considerable recreation value, especially for local residents.
- C6. The *Second Division Brook Area to Sudbury Corridor* is a short stretch needing protection for wildlife movement and water quality.
- C7. The *Walden Woods to Jennie Dugan Kames Corridor* is mainly a short stretch of Sudbury River floodplain with wetland.
- C8. The *Second Division Brook /Jennie Dugan Kames to Assabet River Corridor* runs parallel to the abandoned railroad bed proposed to become the Bruce Freeman Rail Trail. A short break exists at the north end.
- C9. The *Virginia Rd. Woods to Walden Woods/Town Forest Corridor* runs across the Lexington Rd. agricultural area and along the Mill Brook, the latter in a wetland area.
- C10. The *Town Forest to Walden Pond Corridor* crosses Route 2 via the railroad underpass, near the high school and on residential land. Proposed changes for Route 2 would allow wildlife to cross the highway in the landfill area and also just west of Route 126, and would allow walkers to cross the highway near Route 126.
- C11. The *Nashoba Brook Corridor* links Acton and its Fort Pond Brook to Warner's Pond and the Assabet River in West Concord. Trails are proposed along the brook both in the downtown area and across Route 2.
- C12. The *Estabrook Woods to Annursnc Hill/Strawberry Hill Rd. Corridor* also connects to the Spencer Brook Valley Corridor across main protected land.
- C13. The *Great Meadows/Ball's Hill to Virginia Rd. Woods Corridor* crosses some protected land but the exact route remains to be worked out. This also is the proposed route to complete the approved Trail of the Concord Militia.



Appendix

D

Walden Pond by Cherrie Corey

Concord's Region

The following towns are linked to Concord by the processes, issues, or organizations indicated:

Immediate surroundings: (a) Minute Man NHP (incl. Battle Road Trail): *Lincoln, Lexington*; (b) Great Meadows NWR: *Sudbury, Wayland, Carlisle, Bedford*; (c) Walden Pond Res. & Walden Woods: *Lincoln*; (d) Hanscom Field (HATS): *Bedford, Lincoln, Lexington*; (e) Estabrook Woods: *Carlisle*; (f) Concord-Carlisle HS: *Carlisle*; (g) Concord water supply: *Acton, Littleton*; (h) Zone II groundwater district: *Maynard, Sudbury, Lincoln*; (i) Carleton-Willard: *Bedford*.

Major corridors (roads, rivers, walking trails, wildlife routes): (a) Route 2 corridor: *Boston, Cambridge, Belmont, Waltham, Lexington, Lincoln, Acton, Boxborough, Littleton, Harvard, Ayer, Shirley, Lunenburg, Lancaster, Leominster, Fitchburg*; (b) Other primary traffic routes: Route 2A to W (*Acton, Littleton*); Route 62 to W (*Maynard, Stow*); Route 117 to W (*Maynard, Sudbury, Stow*); Route 117 to E (*Lincoln, Weston, Waltham, I-95 corridor*); Route 126 (*Lincoln, Wayland, Natick, Framingham, Weston, Waltham, I-95 corridor*); Route 2A to E (*Lincoln, Bedford, Lexington, I-95 corridor*); Route 62 to E (*Bedford, Lexington, Burlington, I-95 corridor*); Lowell Rd (*Carlisle*); (c) Major commuting routes through Concord: From north and west to *Waltham, Cambridge, Boston*; From *Acton, Boxborough to Burlington*; (d) Assabet River basin/valley & Organization for the Assabet River: *Acton, Westford, Littleton, Boxborough, Maynard, Stow, Harvard, Bolton, Hudson, Marlborough, Berlin, Clinton, Boylston, Northborough, Shrewsbury, Westborough*; (e) Sudbury River basin/valley & Sudbury Valley Trustees: Same as the preceding, plus *Carlisle, Chelmsford, Lowell, Billerica, Bedford, Lincoln, Weston, Wayland, Sudbury, Natick, Sherborn, Framingham, Southborough, Ashland, Hopkinton*; (f) Concord River basin/valley: *Bedford, Carlisle, Billerica, Chelmsford, Lowell*; (g) Wild and Scenic Rivers; (h) Rail trail: from Lowell Rd. (*Bedford, Lexington*); from Route 2 (*Acton, Westford, Chelmsford, Lowell*); from West Concord (*Sudbury, Framingham*); (i) Bay Circuit Trail (*Westford, Acton, Lincoln, Wayland*); (j) Major wildlife connection with New Hampshire (for moose, fisher, black bear; potentially for mountain lion, wolf): *Carlisle, Bedford* (Great Meadows NWR, Spencer Brk, Great Brook Farm SP); *Westford, Acton* (Nashoba Brk watershed); *Westford, Littleton* (railroad/powerline crossings of I495); *Westford, Littleton* (Forge Pond-Spectacle Pond area); *Groton* (SE, NE & SW of center); *Dunstable, Pepperell, Townsend; Hillsborough Co., N. H.*; (k) Probable major wildlife corridors connecting Concord and surrounding region: Great Meadows NWR to N (*Carlisle, Bedford, Billerica*); Estabrook Woods (*Carlisle*); Spencer Brk (*Carlisle*); Nashoba Brk. & Pope Rd areas (*Acton, Westford*); Nine Acre Corner & White Pond areas (*Sudbury, Wayland*); Walden Pond & Fairhaven Bay areas (*Lincoln*); Mill Brook (*Lincoln*); Elm Brook (*Lincoln, Bedford*).

Various other planning areas: (a) Metropolitan Area Planning Council (Concord is in the “MAGIC” subregion composed of 12 towns); (b) Ft. Devens Planning Area & Freedom's Heritage; (c) SUASCO River Stewardship Council; (d) Area between I-95 & I-495 & between Rte 9 & Rte 3: *Lincoln, Waltham, Weston, Wellesley, Natick, Framingham, Wayland, Sudbury, Southborough, Marlborough, Hudson, Berlin, Bolton, Maynard, Stow, Harvard, Boxborough, Acton, Littleton, Westford, Carlisle, Chelmsford, Billerica, Bedford, Burlington, Lexington*; (e) Major shopping areas: *Bedford, Burlington, Acton, Maynard, Framingham, Natick*; and (f) Larger regions: *Boston Region, Worcester Region, Eastern Massachusetts, Southern New England, New England, The Northeast, Ecoregions*.

Page intentionally left blank



Appendix E

Proposed Trails To Be Made Accessible for Wheelchair Users

Nature Walk at Great Meadows by Cherrie Corey

Assabet-Nashoba Trail. Because a significant number of the residents of Concord Park in West Concord have mobility impairments, the proposed Assabet-Nashoba Trail should be made at least seasonally accessible to wheelchairs. In addition to grading, such accessibility will require either the removal of certain tracks and cross-ties from the railroad right-of-way or their burial under several inches of gravel, topped by a finer crushed-stone or similar surface. Although many individuals using wheelchairs are capable of crossing the present footbridge (behind Nashoba Bakery), for greater safety the slope of the short ramp closest to the bakery should be reduced.

Town Forest Trail. The trail from the parking lot on Walden Street to Fairyland Pond should be made seasonally accessible to wheelchairs, at least as far as the spillway. The forest is a beautiful centerpiece of the town's woodland environment, and the classic sylvan pond makes an inviting goal for wheelchair travelers, both residents and visitors. Trail accessibility improvements should be included in Concord's Management Plan for Fairyland Pond. The principal accessibility needs are the designation and marking of one or more handicapped parking spaces in the parking lot, and grading to create a more moderate slope in the steepest section of the trail. (Although it appears that the federal guidelines can be met, the federal government recognizes that full compliance is not always possible and discusses alternative solutions, such as steeper runner slopes with more frequent "resting intervals.")

Punkatasset Trail. The trail through Punkatasset Conservation Land from Monument Street, bearing left at the gate, passing between Turtle Pond and Hutchins Pond, and continuing at least as far as the

brook flowing down from Mink Pond, should be made into an accessible three-season trail. The trail runs by the base of historic Punkatasset Hill, where the Colonial Militia gathered before moving toward the battle at North Bridge, and by a beautiful vista of Hutchins Pond. Accessibility requires moderate grading of the trail and designation of a handicapped parking space on Monument Street.

Town Forest and Brister's Hill Trails. As the Walden Woods Project's October 2002 report notes, the interpretive site at Brister's Hill should be accessible "via existing trails from Walden Pond and through the Hapgood Woods." The Town installed a handicapped parking area in 2010, and implemented modifications in 2012 to provide a wheelchair accessible trail from the handicapped-parking area through a portion of Walden Woods Project land, looping back to the HC parking area. One or more proposed trails atop the capped landfill should be considered for seasonal wheelchair accessibility. Additional consideration should be given to providing a wheelchair accessible trail between the potential wildlife-and-walkers overpass across Route 2 and the Walden Pond State Reservation if/when this is constructed.

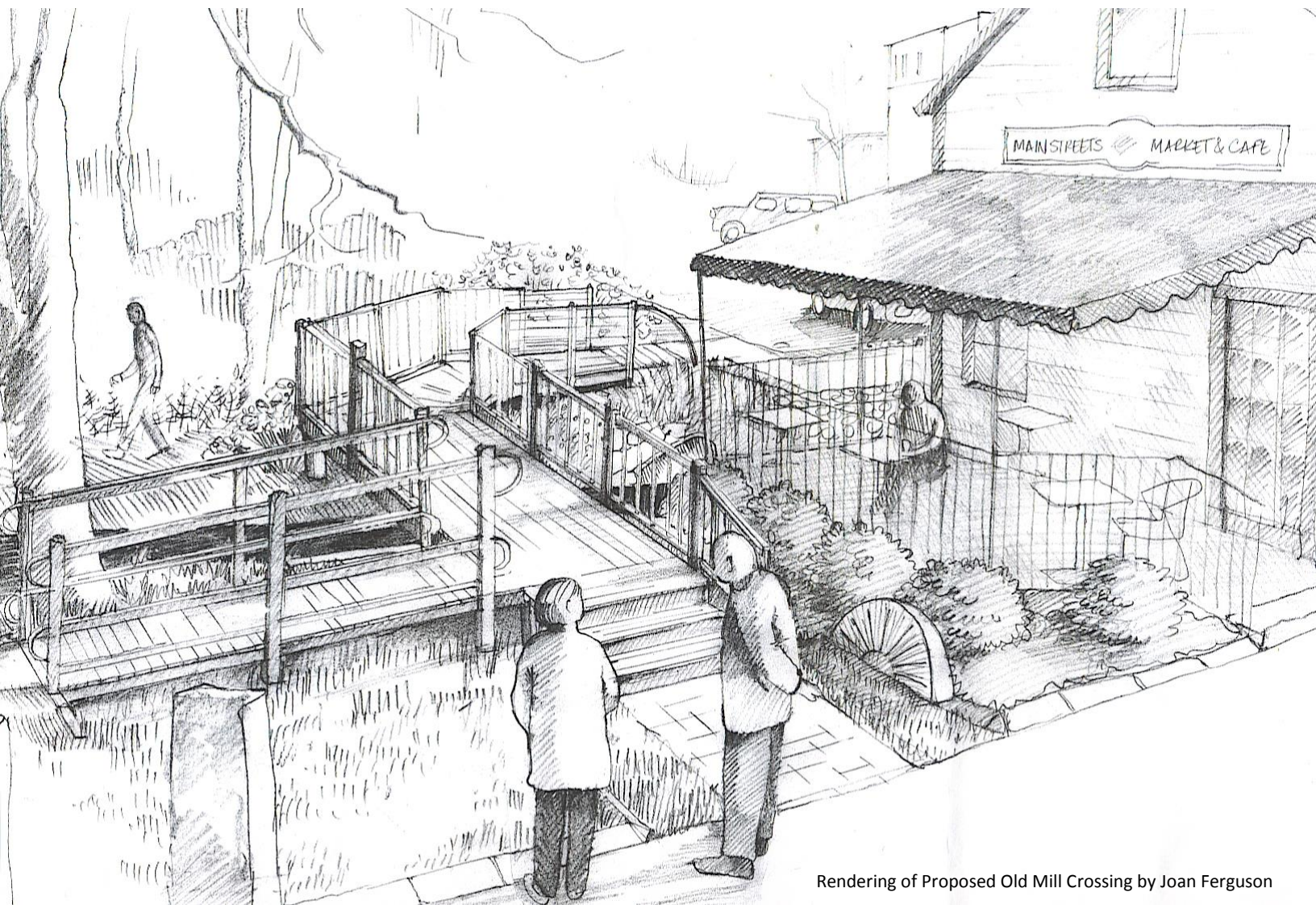
Old Mill Crossing (or Milldam Crossing). The proposed footbridge over the Mill Brook at the site of, and in recognition of, the original 1636 mill at the founding of Concord (by today's Main Streets Market & Café) should be accessible to wheelchair users. This crossing helps connect the visitor center, Town parking lots, and Monument Square.

Hillside Avenue in Sleepy Hollow Cemetery. As Marian Wheeler notes in her 1997 book, *Old Hill Burying Grounds of Concord*, Sleepy Hollow

Cemetery was established as a park for the Town, as well as a burying ground. Although the path up Authors Ridge from the parking lot to the gravesites of Emerson, Thoreau, Alcott, Hawthorne, Lothrop and others is quite steep, the cemetery lane called Hillside Avenue up the ridge's southeastern side, has a more moderate slope. It can be negotiated today by many wheelchair users. The road has been repaved but some slight grading changes and the addition of handrails at critical spots along the road would significantly improve such accessibility. For years, the main barriers to wheelchair access to Authors Ridge were two locked chains across each end of Hillside Avenue. In 2002, Concord Highways and Grounds replaced the chain at Hillside's

western end with a post in the center of the road, permitting wheelchair passage. The gentler slope at the eastern end, however, would provide an even better approach. The Task Force recommends that Hillside's eastern chain also be replaced and the road resurfaced to make this prime tourist attraction accessible to all of Concord's residents and visitors.

Reformatory Branch Trail: The abandoned railroad bed from Lowell Road to the Bedford town line should continue to be improved to assist wheelchair accessibility. In 2014, drainage improvements were implemented to improve the substrate of the trail and better manage drainage washouts occurring from Butternut Circle.



Rendering of Proposed Old Mill Crossing by Joan Ferguson



Playscape at Ripley

Appendix F

Concord's ADA Self-Evaluation Information for Handicap Accessibility

The three parts of the required, self-evaluation provide an outline of how accessible the Town's conservation and recreation properties and programs are to people with disabilities. Conservation and recreation facilities were evaluated using the Facility Inventory form provided in the Open Space and Recreation Planner's Workbook. Shortcomings are identified, and the importance of making comfortable and safe properties, trails, and programs for handicapped residents and visitors is highlighted.

A) Administrative Requirements

See attached documentation regarding the designation of an ADA Coordinator, the Town of Concord's grievance procedures, and public notification requirements at the end of this section.

B) Program Accessibility

The information set forth below provides an inventory and transition plan, as needed, for the buildings, recreation facilities and equipment, programs and services under the jurisdiction of the Conservation Commission (Natural Resources Commission) or Recreation Department. This information has been prepared and reviewed with the assistance of the Town's ADA Coordinator, Assistant Natural Resources Director, Recreation Department Directors, and Harry Beyer and Murray Nicolson (members of the Trails Committee who either have, or work with,

people with mobility impairments). For the 2004 OSRP, Lois Sanford Gallo, a former resident of Concord with a mobility impairment, traveled in her motorized scooter over most of the trails and sites discussed herein. Facilities were evaluated based upon the facility inventory form provided in the Open Space and Recreation Planner's Workbook provided by the State.

People with disabilities have access to a wide range of recreational opportunities in Concord. The recreational resources inventoried are: (a) recreational buildings including the Hunt Memorial Gymnasium, Beede Swim and Fitness Center, Harvey Wheeler Community Center, and 105 Everett Street; (b) recreational field areas including Emerson Field, Rideout Playground, Cousins Field, and South Meadow Playground; and (c) conservation lands. With few exceptions, this inventory does not discuss private recreation facilities (e.g., day care centers, Fenn School, Nashoba Brooks School, Concord Academy and Middlesex School) or various state and federal lands, which together enrich the recreational opportunities in Town.

Indoor Recreational Facilities, Equipment, Services, and Programs

In August 1994, the Town completed an ADA compliance survey and report for all municipal buildings. This survey and report included the Hunt Me-

morial Gymnasium in Concord Center, which is handicap-accessibility compliant and houses the Town's Recreation Department. The Hunt Gym is the center for many of the Town's indoor recreational programs and services. The Harvey Wheeler Center in West Concord is another center for indoor recreation which was evaluated, and with its renovation completed in 2004, is also handicap-accessible compliant.

Concord's recreation programs have long been, and continue to be known for, their inclusion of participants of all abilities. In 1980, the Recreation Department initiated an inclusive Summer Day Camp for children of all abilities, which continues to the present. This program uses the Hunt Recreation Center and adjacent Emerson Field, which are both considered to be handicap accessible. The Concord Little League baseball, Concord Youth Baseball, and Concord-Carlisle Youth Soccer programs are also well known locally for their inclusiveness of participants of all abilities.

In 2005 and 2006 the Town hired a consultant to undertake a comprehensive assessment of Town properties, as well as policies and procedures, to determine compliance with the requirements of the Americans with Disabilities Act and the Massachusetts Architectural Access Board.

In 2006, the Beede Swim and Fitness Center, an indoor community pool and gym located on the Concord-Carlisle High School land was completed. This facility was designed and planned for handicap accessibility compliance.

Self-Evaluation of Buildings:

Hunt Recreation Center:

- *Parking:* Parking provided at the Hunt Recreation Center complies with ADA regulations, providing one handicap (HC) parking spaces for the 16-space parking lot. Street parking is also available. There are no ramps, however, the site access, path of travel, and entrances meet ADA requirements. The sign at the non-accessible entrance indicating direction to an accessible entrance was in disrepair, but was corrected in Spring 2013.
- *Building:* All stairs, doors, sinks, toilets, floors, drinking fountains, signs, and switches were evaluated. The only aspect found to be in non-compliance with ADA requirements was the

height of the coat hook in the bathroom stall which was 63 inches high as opposed to the 54 inch height requirement.

- *Tables:* Tables meet ADA requirements.
- *Transition Plan:* Lower coat hook in the bathroom stall to 54 inches in height.

Beede Swim and Fitness Center:

Since the 2004 OSRP, the Town has constructed an indoor swimming facility and fitness center which was constructed in accordance with ADA requirements.

- *Parking:* Six HC spaces are provided for the 120-space parking lot. A van space is not provided, however a drop-off space is provided at the front entrance. The entrance is at ground level and does not contain ramps. Site access, path of travel, and entrances meet ADA requirements.
- *Building:* The building was constructed in accordance with ADA requirements.
- *Swimming Pool/Showers:* The facility contains four swimming pools. An ADA compliant lift is provided to assist with access to the pool. Showers meet all ADA requirements.
- *Tables:* Tables meet ADA requirements.

Ripley Gym:

Though the Ripley Gym does not fall under the auspices of the Recreation Department, the facility is used to accommodate some Recreation programs and therefore was evaluated for the plan.

- *Parking:* Parking provided at the Ripley Gym complies with ADA requirements, offering four HC spaces in the 60-space parking lot. There are no ramps; however the site access, path of travel, and entrances meet ADA requirements. There are minor ponding areas within the parking lot during heavy rain events.
- *Building:* Entrances to the building, doors, and associated signage are accessible. There is a 1.5-inch interior threshold which should be modified to provide better accessibility. The restrooms meet ADA requirements except that a coat hook was not provided within at least one stall.
- *Transition Plan:* Modify at least one bathroom stall to contain a coat hook 54 inches in height. Reduce the interior threshold to 0.5-inch maximum.

Harvey Wheeler Community Center:

Some recreational programs are held in this facility and therefore was evaluated as part of this plan.

- *Parking:* Four HC parking spaces are provided for the 115-space parking lot, directly adjacent to the main entrance. Five HC spaces are required, though many of the remaining spots are readily HC accessible. Ramps are present from the parking area to the building and meet ADA requirements. Site access, path of travel, and entrances are accessible, however, there is not a sign at the non-accessible entrance identifying direction to the accessible entrance.
- *Building:* Entrances, doors, and stairs within are accessible. Restrooms are generally in compliance with ADA requirements. Items identified that require modification include providing at least one bathroom stall where the door swings out, is self-closing, and contains a pull latch. Floors, signs, and drinking fountains are accessible.
- *Transition Plan:* Create one additional parking space. Modify at least one bathroom stall to contain a door that swings out, is self-closing, and contains a pull latch.

105 Everett Studios:

This facility is owned by Middlesex County; however, this building is utilized for some of the programs provided by the Recreation Department. The upstairs offices are not for public use and are not accessible.

- *Parking:* There are no designated parking spaces. Building users park on the street. A ramp is provided at the facility. One parameter was noted as needing modification: handrails do not extend 12-inches beyond the top and bottom of the ramp. Site access was found to require modifications as the surface is not evenly paved or hard packed and ponding of areas occurs. The path of travel was not found to be stable, firm, or slip resistant and the slope exceeds the maximum thresholds.
- *Building:* The entrance is accessible but does require modification to bring the building into compliance with ADA standards. The primary entrance, though accessible, does not possess the required signage. The door handles do not meet height requirements and are not operable with a closed fist. Additionally, the emergency egress alarm is audible only and does not include flashing lights. The stairs, doors, floors, and restrooms require slight modifications to bring them into compliance.
- *Transition Plan:* The Town should work with

Middlesex County to improve access to the building by extending the handrails on the ramp, pave or regrade the exterior path of travel, reinstall the front entrance handle at the appropriate height, provide the appropriate signage and emergency egress alarms, and adjust the front door to provide the appropriate closing speed.

The Town's outdoor recreational programs and activities take place on playgrounds, outdoor courts and playing fields, which are listed below along with conservation lands and trails.

Playgrounds

Nine playgrounds for children are maintained on public land and at least eight are considered to be handicap accessible. The Harvey Wheeler Center also serves West Concord, and its playground and adjacent land are handicap accessible compliant. Rideout Playground and Emerson Field serve West Concord and Concord Center respectively. Additional athletic fields are located on public school grounds at Alcott, Thoreau, Willard, Sanborn and Peabody schools and the Concord-Carlisle Regional High School.

Though not under the purview of the Recreation Department or the Natural Resources Commission, a new facility known as the Playscape at Ripley, a nature park for all ages and abilities, is under construction. Phase I of the Playscape at Ripley creates an accessible area for play and an accessible woodland path leading to the trailhead for Gowing's Swamp. The long-term vision for the Playscape at Ripley integrates the area currently used for the Concord Children's Center playground with the new, accessible, natural playscape features. Target completion date is 2015.

Self-Evaluation of Playgrounds:

Harvey Wheeler Center:

Located at 1276 Main Street, the Harvey Wheeler Playground contains an ADA compliant path to a sand box. See Harvey Wheeler Community Center above for information on parking and restrooms.

Rideout Playground:

Located on Laws Brook Road, Rideout Playground contains three tennis courts, a 90-foot baseball field, two 60-foot baseball fields, and a handicap playground.

- *Parking:* The parking lot meets all ADA requirements and provides two handicap spaces for the 22-space parking lot. The path from the parking lot to the playground was repaved in the summer of 2013 to meet ADA requirements. There are no ramps; however, the site access and path of travel meet ADA requirements.
- *Bathrooms:* The restroom was found to be in general compliance with ADA requirements. Two items were found to need modifications: the coat hook was 60 inches high instead of 54 inches; and a back wall grab bar is needed.
- *Drinking Fountains/Picnic Area:* The drinking fountain and picnic tables meet ADA requirements.
- *Transition Plan:* Reset the coat hook in the bathroom to 54 inches and install a back wall grab bar.

Emerson Playground:

Emerson Playground is in compliance with ADA regulations, having constructed an accessible path in 2009 from the parking area to the playground which contains handicap accessible equipment. For parking and facility assessment, see Emerson Field below.

Cousins Field:

Cousins Field is an informal playing field located at the end of Brown Street. There is no formal parking area, only street parking. The property is level and there is a hard packed gravel path into the field area. There are no buildings or equipment on site. There is a short trail down to the Assabet River. The grades are extremely steep and are not accessible.

South Meadow Playground:

Located on Pilgrim Road, this playground has an informal parking area. There is no formal marking of parking spaces or proper signage, however, the parking area offers accessibility. There is a drop-off area provided within 100 feet of the entrance that has adequate room to accommodate HC vans. The surface is hard packed gravel with a slope less than 5%. The site access and path of travel meet all other parameters identified. There are no buildings or other equipment on site.

Outdoor Courts, etc.

Basketball, swimming pool, and tennis facilities are all considered to be handicap accessible. The outdoor pool is at Emerson Field, and the tennis courts are located at Rideout and Emerson. Basketball courts are located at Rideout, Emerson, Alcott, Thoreau, Willard, Sanborn, Peabody and Ripley. The Concord-Carlisle High School grounds are presently being reconstructed and fields will be ADA compliant, including a one-half mile ADA walking path around the fields.

Playing Fields

Ten Town playing field areas, primarily designed for soccer/lacrosse and baseball, but also used for diverse outdoor recreation including football and track, are on municipal and school land. At least seven are considered to be handicap accessible: Rideout and Emerson Fields include programs and league play, while Alcott, Thoreau, Willard, Sanborn, and Peabody are on public school land. In addition, Cousins Field serves as an informal playing field.

Self-Evaluation of Playing Fields:

Emerson Field:

Containing a multi-use field, two 60-foot baseball/softball fields, a playground, a ¼ mile track, five tennis courts, a 90-foot baseball field, two basketball courts, and a swimming pool, Emerson Field is ADA compliant.

- *Parking:* Parking is the same as that provided for the Hunt Recreation Center which complies with ADA regulations. One HC parking spaces is provided near the Hunt Recreation Center. An additional HC space is provided on the opposite side of the field (near tennis courts). Street parking is also available. There are no ramps, however, the site access, path of travel, and entrances meet ADA requirements. The sign at the non-accessible entrance indicating direction to accessible entrance was in disrepair but was corrected in Spring 2013.
- *Facilities:* Being a level field with adequate paths of travel, the facility meets ADA requirements. From discussions with the MA Architectural Access Board it was determined

that the only deficiency in was an ADA compliant path to the handicap swing. This was installed in 2009. The swimming pool has stairs with 2 handrails instead of a ramp but does not contain a lifting device to meet ADA requirements. The Town's Accessibility Policy allows for the use of the Beede Center pools, which does have the required lift, to meet ADA requirements.

Conservation Lands and Trails

The Natural Resources Commission oversees approximately 1,300 acres of public conservation land including 24.5 miles of trails. Concord's conservation areas include a mosaic of different habitats including wetlands, ponds, streams, fields, and upland forests. Concord, being at the confluence of three rivers, is rich in wetlands combined with steep slopes making ADA compliance on all trail systems unachievable, though areas are always being evaluated to provide ADA compliant trails where feasible. Trails are found in all parts of Concord, providing residents and visitors alike with opportunities to walk and cycle through habitats on surfaces that range from basic woodland trails to elaborate boardwalks. Most areas provide basic unimproved parking on dirt. With the exception of those referenced below, none of the Concord conservation trails meet ADA requirements.

One parcel of Town conservation land, Chamberlin Park, is considered to be handicap accessible. Being located adjacent to the Town's municipal parking lot provides adequate HC parking and access to the site.

In 2012, the Trails Committee completed an Assessed Trail in the Town Forest. An "assessed trail" is an unpaved hiking trail that has been assessed to determine the degree of difficulty that persons with mobility impairments may have in traveling it. Trail grade, cross-slope, and trail surfaces were identified and mapped for the more robust handicapable individuals or those assisted by an able bodied person. A handicap parking area and kiosk was constructed, in 2010 and 2012 respectively, specifically for this trail. Additional trails will be assessed in the near future. Additionally, the Trail Committee will be working on assessing all Town trails for use with *Other Power*

Driven Mobility Devices.

In addition, Concord is fortunate to have the Battle Road Trail, completed by the U.S. National Park Service, which is handicap accessible, as well as the handicap accessible dike trail at the Great Meadows Wildlife Refuge, facilitating observation of wildlife. A ramp on the State Department of Conservation and Recreation land, and the provision of beach wheelchairs, help to accommodate persons with mobility impairments in the challenging terrain of Walden Pond.

One of the recommendations of the *2004 Open Space and Recreation Plan* was to establish six new trails accessible to wheelchair users in different parts of Town (*section 7A2*): Assabet-Nashoba Trail; Town Forest Trail; Punkatasset Trail; Landfill and Brister's Hill trails; Old Mill Crossing; and Hillside Ave. in Sleepy Hollow Cemetery. Of these, improvements were made to Hillside Ave. by removing chain barriers and repaving the road. Efforts were made to fund the Old Mill Crossing trail and to place a CR on the landfill to develop the Landfill and Brister's Hill Trail, but were not supported at Town Meeting. The Walden Woods Project will be assessing the Walden Woods Interpretive Site which connects to the Town Forest Assessed Trail. Efforts will continue to complete additional accessible trails. In addition to those listed in the 2004 OSRP, the Trails Committee will be working to assess the Reformatory Branch trail and the yellow trail in the Annursnac Conservation Land. The Town will also continue their partnership with the Thoreau Farm Trust to establish a trail connection from the Henry David Thoreau birth house to the Battle Road, which will be assessed but will most likely not meet ADA requirements due to the terrain.

Additionally, the Town is proceeding with the 75% design for the Bruce Freeman Rail Trail, a regional rail trail which will be ADA compliant.

The Division of Natural Resources will also continue the Senior Walking Program in partnership with the Council on Aging. This program identifies and maps trails that are reasonable for seniors to traverse.

In summary, not only are the Recreation Depart-

ment programs handicap accessible when viewed in their entirety, but individual programs, including facilities, equipment and services, also appear to be handicap accessible. No programs are offered by or under the jurisdiction of the conservation commission (Natural Resources Commission). Thus, no structural or other changes are required for programmatic accessibility. Buildings that house the recreation programs are in general compliance with handicap-accessibility requirements. The minor improvements noted in the transition plan will be achieved to bring facilities into compliance. Additionally, each of the six school facilities that include playgrounds, basketball courts, tennis courts, and playing fields for school and general recreation use (not Town programs) are considered to be handicap accessible, in that most, if not all, of an area is accessible to persons with disabilities. When selecting new playground equipment, the Recreation and School Departments are reminded to choose items that can be used by children with a wide range of disabilities.

Concord has a history of being proactive in providing persons with disabilities access to the remarkable range of programs provided by the Town and other entities. This tradition continues to the present. It is recommended that efforts be furthered to increase trail accessibility, establishing more “Assessed” trails where ADA compliant trails cannot be offered.

C) Employment Practices

See attached statement regarding the Town’s compliance with the Americans with Disabilities Act employment practices.

Town of Concord

APP #5
MUNICIPAL GRIEVANCE PROCEDURES
Relating to 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 Concord.

The complaint shall 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 an electronic 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 and/or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to:

ADA Coordinator
Douglas Meagher, Deputy Town Manager
Town House
22 Monument Square
Concord MA 01742
Phone Number: 978/318-3000

The following timeline may be extended by mutual agreement of the grievant and the ADA Coordinator or Town Manager:

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 audio recording. The response will explain the position of the Town of Concord and offer options for substantive resolution of the complaint.

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

Within 15 calendar days after receipt of the appeal, the Town Manager will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting the Town Manager will respond in writing and, where appropriate, in a format accessible to the complainant such as audio recording, with a final resolution of the complaint.

All complaints received by the ADA Coordinator, appeals to the Town Manager and responses from the ADA Coordinator and Town Manager will be kept by the Town of Concord for at least three years.

Distribution: All Departments, Boards, Committees



OLD NORTH BRIDGE

TOWN OF CONCORD

TOWN MANAGER'S OFFICE
22 MONUMENT SQUARE - P.O. BOX 535
CONCORD, MASSACHUSETTS 01742

TELEPHONE (978) 318-3000
FAX (978) 318-3002

May 23, 2014

Lori Capone
Asst. Director of Natural Resources
Re: ADA Self Evaluation for Open Space & Recreation Plan

Dear Lori:

This is to attest that the Town of Concord's employment practices, including recruitment, personnel actions, leave administration, training, tests, medical exams/questionnaires, social and recreational programs, fringe benefits, collective bargaining agreements and wage and salary administration are in compliance with the Americans with Disabilities Act.

Sincerely,

Douglas Meagher, Deputy Town Manager
Municipal ADA Coordinator



PUBLIC NOTICE

Americans With Disabilities Act Requirements

The Town of Concord advises applicants, participants and the public that it does not discriminate on the basis of disability in admission or access to, or treatment or employment in its programs, services and activities.

The Town of Concord has designated the following person to coordinate efforts to comply with these requirements.

Inquiries and complaints should be directed to:

ADA Coordinator

Douglas Meagher, Deputy Town Manager

Town House

22 Monument Square

Concord, MA 01742

(978)318-3000

(E-mail: Dmeagher@concordma.gov)

TOWN OF CONCORD

Americans with Disabilities Act Updated Transition Plan

In 1994 the Town of Concord retained LPBA/Architects, Inc. to complete a compliance survey and report for all municipal buildings. The report included a summary of each facility's compliance, and an estimated cost of removing specific barriers.

In 2005 and 2006 the Town of Concord contracted with Adaptive Environments, then the New England ADA Technical Resource Center and one of ten Regional Disability and Business Technical Assistance Centers funded by the National Institute on Disability and Rehabilitation Research, to undertake a comprehensive assessment of Town properties, as well as policies and procedures to determine compliance with the requirements of the Americans with Disabilities Act and the Massachusetts Architectural Access Board.

The Town of Concord continues to utilize the in-depth 2006 compliance survey as a tool for identifying and prioritizing capital expenditures related to accessibility. With respect to the pedestrian realm, Concord Public Works staff continues to move forward with identification of repairs and improvements needed to ensure sidewalk accessibility. Remediation is carried out within ongoing road/sidewalk program funding cycles.

The Town of Concord recognizes the necessity of complying with the Americans with Disabilities Act in order to properly serve all of its citizens, employees, and customers. Town staff is attuned to the requirements of ADA, and functional staff members take an active role in ensuring the Town's compliance. In addition, the Town of Concord frequently seeks and welcomes technical assistance and guidance from relevant agencies such as the Massachusetts Office on Disabilities and the Architectural Access Board.

The Town of Concord, as a matter of written policy, is an Equal Opportunity employer, and does not discriminate against those with disabilities in its employment practices or in its services.



Wood Duck (male) by Ryan Schain

Town Conservation Lands

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Abbott Field	5A Riverdale Circle Map: 10G, Parcel: 0476-1	3.43	NRC	Passive Recreation	Good	Yes	No	Trails	B	Permanent	
Adams	67X Fairhaven Road Map: 13H, Parcel: 4012	50.7	NRC	Open Space	Good	Yes	No	Trails	AA	Permanent	
Annursnac	57A Strawberry Hill Rd Map: 5D, Parcel: 1981-2	118	NRC	Passive Recreation	Good	Yes	No	Trails	AA	Permanent	Self Help
Arena Farm	38A Fairhaven Road Map: 10G, Parcel: 0387	22.74	NRC	Agriculture	Good	Yes	No	Agriculture	B	Permanent	
Bateman's Ridge	76B Strawberry Hill Rd. Map: 4E, Parcel: 1965-1-6	7.98	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Blue Jay Drive	4A Blue Jay Drive Map: 9C, Parcel 2281-11	0.12	NRC	Open Space	Good	Yes	No	Trails	B	Permanent	
Brewster	131A Monument Street Map: 4I, Parcel: 1406	4.2	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Burke Lot	18Y Old Bedford Road Map: 8J, Parcel 4222	17.9	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Captain Miles Lane	1045 Old Marlboro Road Map: 13D, Parcel 3007-1	11.19	NRC	Open Space (Meadow)	Good	Yes	No	Trails	AA	Permanent	
Captain Miles Lane	53Y Powder Mill Road Map: 13D, Parcel: 3006	4.9	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Center Village	151X Main Street Map: 10D, Parcel: 2397-1	2.63	NRC	Open Space (Forested)	Good	Yes	No	Trails	C	Permanent	
Chamberlin Park	1B Lowell Road Map: 9H, Parcel: 1689-2	0.69	NRC	Passive Recreation (Trail)	Good	Yes	Yes	Trails	C	Permanent	
Channing Street	12X Channing Street Map: 4D, Parcel: 1971-2-15	1.59	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Ciervo	7B Pond Street Map: 9D, Parcel 2109	0.31	NRC	Open Space (Forested)	Good	Yes	No	Trails	C	Permanent	
Ciervo	5B Pond Street Map: 9D, Parcel 2108	0.19	NRC	Open Space (Forested)	Good	Yes	No	Trails	C	Permanent	
Chick Land	33X Walden Street Map: 10H, Parcel: 0249-1	2.61	NRC	Open Space	Good	Yes	No	Trails	A	Permanent	CPA
Comeau	43A Bedford Street Map: 8L, Parcel 1205	8.29	NRC	Agriculture /Pass. Rec.	Good	Yes	No	Open Space	B	Permanent	

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Cousins Park	8A Brown Street Map: 10D, Parcel 2498-1	4	NRC	Active Recreation	Good	Yes	Yes	Playing Field	C	Permanent	
Cousins Community Garden	2A Shirley Street Map: 10D, Parcel 2498-2	6.5	NRC	Community Garden and Trail	Good	Yes	Yes (Garden); No (Trails)	Community Garden and Trail	C	Permanent	
Davis Land (Parcel 1)	37A Lowell Road Map 7G, Parcel 1675-2	0.92	NRC	Open Space (Forested)	Good	Yes	No	Trails	A	Permanent	
Davis Land (Parcel 2)	35A Lowell Road Map 8G, Parcel 1675-1	16	NRC	Open Space (Forested)	Good	Yes	No	Trails	A	Permanent	
Defoe	209Y Main Street Map: 11B, Parcel: 2326-21-1	3.64	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Domino Land	22X Laws Brook Road Map: 9C, Parcel 2256-2	9.48	NRC	Passive Recreation	Good	Yes	No	Trails	B	Permanent	
Domino Entrance	14B Conant Street Map: 9D, Parcel: 2256-10	0.06	NRC	Open Space (Forested)	Good	Yes	No	Trails	C	Permanent	
EDCO Farmland	42A Barretts Mill Road Map: 7E, Parcel: 1986-7	5.22	NRC	Agriculture	Good	Yes	No	Agriculture /Trails	A	Permanent	
Egg Rock	25Y Lowel Road Map: 8G, Parcel: 1735	8	Trustees of Town Donations	Open Space	Good	Yes	No	Trails	A	Permanent	
Forest Ridge Assabet	233X Main Street Map: 12B, Parcel: 2972	3.07	NRC	Open Space (Wet)	Good	Yes	No	Open Space	I	Permanent	
Forest Ridge - 7A	7A Forest Ridge Road Map: 12B, Parcel: 2971-1-1	1.03	NRC	Open Space (Forested)	Good	Yes	No	Open Space	I	Permanent	
Forest Ridge - 8X	8X Forest Ridge Road Map: 13B, Parcel: 2970-1-10	12.2	NRC	Open Space (Forested)	Good	Yes	No	Trails	I	Permanent	
Forest Ridge - 9	9 Forest Ridge Road Map: 12B, Parcel: 2970-1-9	6.5	NRC	Open Space (Forested)	Good	Yes	No	Trails	A	Permanent	
Frye - Harrington	39A Harrington Avenue Map: 11D, Parcel: 2717	10.37	NRC	Open Space (Forested)	Good	Yes	No	Trails	B	Permanent	
Frye - Ministerial	28B Ministerial Drive Map: 11D, Parcel: 2806	0.24	NRC	Open Space (Forested)	Good	Yes	No	Open Space	B	Permanent	
Gaining Ground	38A Virginia Road Map: 7K, Parcel: 4286-1	17.77	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent Protection	
Harrington Park	249 Harrington Avenue Map: 11C, Parcel: 2712	15.22	NRC	Agriculture /Passive Recreation/ Historical	Good	Yes	No	Community Garden	B	Permanent	
Hedberg	64A Cambridge Tnpk. Map: 10J, Parcel: 4067	4.83	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Hemlock Street - 24B	24B Hemlock Street Map: 14E, Parcel: 3336-1	0.72	NRC	Open Space (Forested)	Good	Yes	No	Open Space (Forested)	A	Permanent	
Henderson	47B Concord Turnpike Map: 10F, Parcel: 478	11.91	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Heywood Meadow - Freeman	150 Lexington Road Map: 9H, Parcel: 0239	4.3	NRC	Meadow	Good	Yes	No	Trails	B	Permanent	
Heywood Meadow - Sellors	2B Heywood Street Map: 9H, Parcel: 0110-2	0.46	NRC	Meadow	Good	Yes	No	Trails	B	Permanent	
Heywood Meadow - Freeman	3A Heywood Street Map: 9H, Parcel: 0238	2.03	NRC	Meadow	Good	Yes	No	Trails	B	Permanent	
Heywood Meadow - Sellors	3B Heywood Street Map: 9H, Parcel: 0110	0.78	NRC	Meadow	Good	Yes	No	Trails	B	Permanent	
Heywood Meadow - Sellors	9B Lexington Road Map: 9H, Parcel: 0110-1	0.46	NRC	Meadow	Good	Yes	No	Trails	B	Permanent	

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Heywood Meadow - Ford Park	12A Walden Street Map: 9H, Parcel: 0121	0.26	NRC	Open Space (Forested)	Good	Yes	No	Trails	C	Permanent	
High Pine Circle (4Y)	4Y High Pine Circle Map: 13C, Parcel: 2979	1.5	NRC	Open Space	Good	Yes	No	Open Sapce (Wet)	A	Permanent	
High Pine Circle (5Y)	5Y High Pine Circle Map: 13C, Parcel: 2980-2	2.11	NRC	Open Space	Good	Yes	No	Open Space	A	Permanent	
Irwin	15B Cambridge Turnpike Map: 11J, Parcel: 4062-1	6.48	NRC	Open Space (Forested)	Good	Yes	No	Trails	A	Permanent	
Johnson	47A Cambridge Turnpike Map: 10I, Parcel: 4093-2	15.68	NRC	Agriculture /Open Space	Good	Yes	No	Agriculture /Open Space	A	Permanent	
Kahan	6A Monument Farm Road Map: 2I, Parcel: 1397-19	14.5	NRC	Open Space (Forested)	Good	Yes	No	Open Space	AA	Permanent	
Kaveski	26A Shadyside Avenue Map: 9K, Parcel: 4260	35.36	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent Protection	
Kenney Farm	56Y Lexington Road Map: 9I, Parcel: 4092	39.53	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent	
Kent Farm	10A Sandy Pond Road Map: 7K, Parcel: 4063	8.26	NRC	Open Space (Forested)	Good	Yes	No	Agriculture	A	Permanent	
Lamphier/ Buttrick	15Y Lowell Road Map: 8H, Parcel: 1320	6.2	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	A	Permanent	
Landmark	79B Old Road to Nine Acre Corner Map: 13E, Parcel: 3159-1-4	24.89	NRC	Open Space/ Agriculture	Good	Yes	No	Agriculture	AA	Permanent	
Lantern Acres	10 Wright Road Map: 9C, Parcel: 2082-8	0.46	NRC	Open Space	Good	Yes	No	Trails	B	Permanent	
Lapham	11A Pine Street Map: 10D, Parcel: 2475-1	4.6	NRC	Open Space (Wet)	Good	Yes	No	Open Space	C	Permanent	
Lee	74A Barretts Mill Road Map: 7E, Parcel 1948-22	9.2	NRC	Open Space (Wet)	Good	Yes	No	Open Space	B	Permanent	
Lee	74X Barretts Mill Road Map: 7E, Parcel 1948-23	2.33	NRC	Open Space (Wet)	Good	Yes	No	Open Space	B	Permanent	
Lexington Road (17A)	17A Lexington Road Map: 9H, Parcel: 0023	0.5	NRC	Open Sapce	Good	Yes	No	Open Space	B	Permanent	
Macone Park	9B Lowell Road Map: 8H, Parcel: 1316	2.02	NRC	Open Space	Good	Yes	No	Trails	B	Permanent	
Macone Pond	11B Barnes Hill Road Map: 7G, Parcel: 1339	2.9	NRC	Open Space (Wet)	Good	Yes	No	Canoe/ Kayak Use	A	Permanent	
Macone Pond	51B Lowell Road Map: 7G, Parcel: 1333	1.5	NRC	Open Space (Wet)	Good	Yes	No	Canoe/ Kayak Use	A	Permanent	
Mandrioli Property	5B Commonwealth Avenue Map: 9D, Parcel: 2200-3	0.02	NRC	Open Space	Good	Yes	No	Open Space	WCB	Permanent	
Mattison Field	63A Old Road to Nine Acre Corner Map: 12F, Parcel: 3634-1	43.37	NRC	Passive Recreation/ Agriculture	Good	Yes	No	Trails/Agri culture	AA	Permanent	
Mayfield	12B Barretts Mill Road Map: 6F, Parcel: 1649-1	8.15	NRC	Open Space (Forested)	Good	Yes	No	Open Space	AA	Permanent	
McGrath Lot	52X Barretts Mill Road Map: 7E, Parcel: 1986-10	6.8	NRC	Open Space (Wet)	Good	Yes	No	Open Space	A	Permanent	
McGrath, Frank	52A Barretts Mill Road Map: 7E, Parcel: 1986-9	11.96	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent	
McHugh	18Y Old Bedford Road Map: 8J, Parcel: 4221	19.5	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent	
Megrichian	13B Hemlock Road Map: 13B, Parcel: 3391	1.32	NRC	Open Space (Forested)	Good	Yes	No	Trails	A	Permanent	
Mill Brook Way	18B Monument Street Map: 8H, Parcel: 1271-1	3.68	NRC	Open Space/Bike /Walk Path	Good	Yes	No	Rail Trail	A	Permanent	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Mill Dam Trust	4X Black Duck Road Map: 6J, Parcel: 1033-19	0.34	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Mill Dam Trust	2Y Mallard Drive Map: 6J, Parcel: 1033-8	1.87	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Mill Dam Trust	55X Old Bedford Road Map: 7J, Parcel: 1036-2	0.5	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Ministerial Pond	21A Ministerial Drive Map: 11D, Parcel: 2820-4	2.2	NRC	Open Space (Wet)	Good	Yes	No	Trail Connection	B	Permanent	
Moses Pond	4B Wayside Road Map: 8L, Parcel 0069-4-4	4.98	NRC	Open Space (Forested with Pond)	Good	Yes	No	Trails	B	Permanent	
Nocella/Laws Brook Road	28A Laws Brook Road Map: 9C, Parcel: 2278	11.17	NRC	Open Space (Forested)	Good	Yes	No	Trails	B	Permanent	
Oak View Common Land	15B Virginia Road Map: 7J: Parcel 4268-42	17.9	NRC	Open Space (Wet)	Good	Yes	No	Open Space	A	Permanent	
Old Calf Pasture	20A Lowell Road Map: 8G, Parcel 1677-1	20.8	NRC	Open Space (Pasture)	Good	Yes	No	Trails/ Picnic/ Boating	A	Permanent	
Old Bedford Road (37X)	37X Old Bedford Road Map: 7J, Parcel: 4208-2	1.95	NRC	Open Space (Wet)	Good	Yes	No	Passive Recreation	B	Permanent	
Old Rifle Range	66B Old Marlboro Road Map: 11D, Parcel: 3055	111.7	NRC	Passive Recreation	Good	Yes	No	Trails	AA	Permanent	
Old Rifle Range	25B Old Mill Road Map: 12C, Parcel: 3049-2	7.53	NRC	Passive Recreation/ Trails	Good	Yes	No	Trails	AA	Permanent	
Pond View Lane	47B Lowell Road Map: 7G, Parcel: 1332	1.8	NRC	Open Space (Forested)	Good	Yes	No	Open Space (Forested)	A	Permanent	
Punkatasset Conservation Land	86A Monument Street Map: 4H, Parcel: 1436-1-1	92.1	NRC	Passive Recreation/ Trails	Good	Yes	No	Trails/ Wildlife Viewing	AA	Permanent	
Quail Ridge 2	5Y Quail Run Drive Map: 8K, Parcel: 4262-13	21	NRC	Open Space (Forested with Pond)	Fair	Yes	No	Trails	A	Permanent	
Rogers Land	6A Harrington Avenue Map: 10C, Parcel: 2702	4.74	NRC	Agriculture	Fair	Yes	No	Agriculture Trails/ Community Garden	B	Permanent	CPA
Richardson Farm	33A Barretss Mill Road Map: 7F, Parcel: 1950-2	14.7	NRC	Agriculture	Good	Yes	No	Agriculture	A	Permanent	LWCF (1977)
Richardson Farm	15B Barretts Mill Road Map: 7F, Parcel: 1950	10	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	A	Permanent	LWCF (1973)
Ruggerio	160Y Wright Road Map: 8C, Parcel: 2019	5.3	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
Sanna/Hennings	53Y Lexington Road Map: 9I, Parcel: 4083-2	2.9	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	A	Permanent	
Saw Mill Brook	97A Monument Street Map: 5I, Parcel: 1436-1-5	7.99	NRC	Open Space (Forested/ Meadow)	Good	Yes	No	Trails	AA	Permanent	
Second Division Brook	176X Main Street Map: 10C, Parcel: 2700	0.92	NRC	Passive Recreation	Good	Yes	No	Trails	B	Permanent	
Second Division Brook	177X Main Street Map: 10C, Parcel: 2701	0.71	NRC	Passive Recreation	Good	Yes	No	Trails	B	Permanent	
Second Division Brook	173A Main Street Map: 10C, Parcel: 2693-1-1	0.82	NRC	Passive Recreation	Good	Yes	No	Trails	C	Permanent	
Thoreau Hills (on Kennedy's Pond)	3A Hillcrest Road Map: 11C, Parcel: 2891-82	6.88	NRC	Open Space (Forested)	Good	Yes	No	Open Space	B	Permanent	
Thoreau Hills: Common Land	3Y Robinwood Road Map: 11B, Parcel: 2948	2.73	NRC	Common Open Land	Good	No	No	Open Space	B	Permanent	
Thoreau Hills: Border Rd	189 Border Road Map: 13B, Parcel: 2891-837	0.14	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Thoreau Hills	16B Border Road Map: 13B, Parcel: 2891-67	0.56	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	20A Border Road Map: 13B, Parcel: 2891-8302	13.98	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	2B High Pine Circle Map: 13C, Parcel: 2891-68	0.53	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	3B High Pine Circle Map: 13C, Parcel: 2891-69	0.53	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	4B High Pine Circle Map: 12C, Parcel: 2891-70	0.53	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	5B High Pine Circle Map: 12C, Parcel: 2891-71	0.6	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	6B High Pine Circle Map: 12C, Parcel: 2891-72	0.53	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	10A Border Road Map: 12B, Parcel: 2891-81	6.48	NRC	Open Space (Forested)	Good	Yes	No	Open Space	A	Permanent	
Thoreau Hills	37Y Border Road Map: 13B, Parcel: 2976-2	3.5	NRC	Open Space (Forested)	Good	Yes	No	Open Space (Forested)	A	Permanent	
Thoreau Hills	3Y Pine Circle Map: 13C, Parcel: 2891-8303	0.06	NRC	Open Space	Good	No	No	None	A	Permanent	
Thornton Lane - 8X	8X Thornton Lane Map: 12E, Parcel: 3083-8	7.1	NRC	Open Space (Forested)	Good	Yes	No	Trails	AA	Permanent	
Town Forest	25A Cambridge Turnpike Map: 10I, Parcel: 4118-2	11	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	25X Cambridge Turnpike Map: 10H, Parcel: 0252	5.95	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	20Y Cambridge Turnpike Map: 10I, Parcel: 0256-3	16.22	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	35Y Concord Turnpike Map: 11I, Parcel: 0270-1	24.9	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	28A Cambridge Turnpike Map: 10I, Parcel: 4114	8.1	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	31Y Concord Turnpike Map: 11I, Parcel: 0269-2	9.8	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	27B Cambridge Turnpike Map: 10I, Parcel: 0259-1A	8.7	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Town Forest	26Y Cambridge Turnpike Map: 10I, Parcel: 0258	3.78	NRC	Open Space (Forested)	Good	Yes	No	Open	A	Permanent	
Town Forest (Fairyland)	55A Walden Street Map: 11H, Parcel 0271	78	NRC	Open Space (Forested)	Good	Yes	No	Passive	A	Permanent	
Town Forest (WWP)	53 Walden Street Map: 11I, Parcel: 272-2	9.29	NRC	Passive Recreation	Good	Yes	Yes	Trails	LB4	Permanent	
Warner's Pond	2x Warner Street Map: 8D, Parcel: 2017	77	NRC	Passive	Good	Yes	No	Passive	B	Permanent	
Wheeler Field (Musketaquid Triangle)	10A Attawan Road Map: 8F, Parcel: 1777	3.31	NRC	Open Space	Good	Yes	No	Picnic Area	A	Permanent	
Wheeler Property	24A Sudbury Road Map: 10G, Parcel: 0374-2	5.32	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	Permanent	
White Pond	116 Shore Drive Map: 14E, Parcel: 3412-1	10.1	NRC	Passive Recreation	Good	Yes	No	Trails	A	Permanent	
Williams	4Y Williams Road Map: 12D, Parcel: 3101-1	24	NRC	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	AA	Permanent	

Town Recreation Lands

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
South Meadow Field	10A Riverdale Circle Map: 10G, Parcel: 477	22.5	Recreation	Playing Field/ Open Space	Good	Yes	Yes	Playing Fields/ Open Space	B	Permanent	
Hunt's Recreation Center	90 Stow Street Map: 9H, Parcel: 0154	0.62	Recreation	Gym	Good	Yes	Yes	Gym	C	Permanent	
Emerson Playground	26A Stow Street Map: 10H, Parcel: 0186	14	Recreation	Baseball/ Basketball/ Softball/ Tennis/ Soccer/ Pool/Track/ Playground	Good	Yes	Yes	Baseball/ Basketball/ Softball/ Tennis/ Soccer/ Track/ Playground	C	Permanent	
Beede Center	498 Walden Street Map 11H, Parcel: 0298 (Portion)		Recreation	Fitness Gym/ Indoor Swimming Pools	Good	Members	Yes	Fitness Gym/ Indoor Swimming Pools	A	Permanent	

Town Water Department Lands

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Deaconess Well	363 ORNAC Map: 11F, Parcel: 3646	29.51	W&S	Well	Good	Yes	No	Passive Rec	AA	Permanent	
Deaconess Well	42B ORNAC Map: 11F, Parcel: 3080	14.31	W&S	Well	Good	Yes	No	Passive Rec	AA	Permanent	
Main St Pump Station	1149 Main Street Map: 9E, Parcel: 3789	0.24	W&S	Pump Station	Good	No	No	None	WCB	Permanent	
Nashawtic Reservoir	32B Nashawtic Road Map: 8G, Parcel: 1749	1	W&S	Open Space	Good	Yes	No		A	None	
Robinson Well	647 Sudbury Road Map 12G, Parcel: 3991	40.09	W&S	Well	Good	Yes	No	WWTP	AA	Permanent	
Thoreau Hills	2Y High Pine Circle Map: 13C, Parcel: 2891-8304	0.06	W&S	Well	Good	No	No	None	A	Permanent	
Walden Street (416)	416 Walden Street Map: 10H, Parcel: 220	8.7	W&S	Well	Good	No	No	None	A	Permanent	
White Pond Wells	205 Hemlock Street Map: 15E, Parcel: 3417-2	18.61	W&S	Well	Good	No	No	None	A	Permanent	
Williams	97A Old Marlboro Road Map: 12D, Parcel: 3008-1	13.38	W&S	Well	Good	Yes	No	Passive Rec	AA	Permanent	

Concord Municipal Light

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Border Road (32Y)	32Y Border Road Map: 13B, Parcel: 2891-836	1.47	CMLP	Utilities	Good	No	No	None	A	None	
Forest Ridge Road (3)	3 Forest Ridge Road Map: 12B, Parcel: 2971-3	5.6	CMLP	Utilities	Good	No	No	None	I	None	
Powder Mill Road (32B)	32B Powder Mill Road Map: 13B, Parcel: 2891-8338	0.7	CMLP	Utilities	Good	No	No	None	I	None	
CMLP Building	720 Main Street Map: 10F, Parcel: 3977	2.12	CMLP	CMLP	Good	No	No	None	C	None	
Municipal Light Plant	1175 Elm Street Map: 7D, Parcel: 1999-1	24.17	CMLP	Light Plant	Good	No	No	None	A	None	
J & E Co., Inc.	78X Old Marlboro Road Map: 12D, Parcel: 3011-2	0.23	CLMP	Light Plant Buil	Good	No	No	None	AA	None	

Board of Selectmen

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants
Albree	32B Lexington Road Map: 9I, Parcel: 0093	2	BOS	Open Space	Good	Yes	No	Open Space (Wet)	B	None	
Ammendolia	33X Old Bedford Road Map: 7J, Parcel: 4209	11.83	BOS	Agriculture/ Community Garden	Good	Yes	No	Agriculture/ Community Garden	B	None	
Ammendolia	40A Old Bedford Road Map: 7J, Parcel: 4210-2	0.48	BOS	Agriculture	Good	Yes	No	Agriculture	B	None	
Ammendolia	419 Old Bedford Road Map: 7J, Parcel: 0971	0.17	BOS	Old Road/ Utilities	Good	Yes	No	None	B	None	
Annurnac	40Y Annurnac Road Map: 6D, Parcel: 1979	3.38	BOS	Cell Towers	Good	No	No	Cell Towers	AA	None	
Hill				Water Tower				Water Tower			
Arena Terrace	16B Arena Terrace Map: 11G, Parcel: 4016-1	0.11	BOS	Open Space (Forested)	Good	Yes	No	Open Space (Forested)	AA	None	
Ash Street	9A Ash Street Map: 8J, Parcel: 0957	0.21	BOS	Road	Good	Yes	No	Road	B	None	
Bedford Street	40E Bedford Street Map: 7L, Parcel: 1199	3.2	BOS	WWTP	Good	No	No	None	B	None	
Bedford Street	40S Bedford Street Map: 7L, Parcel: 1198	8.97	BOS	WWTP	Good	No	No	None	B	None	
Bedford Street	49X Bedford Street Map: 7L, Parcel: 1197	3.31	BOS	WWTP	Good	No	No	None	B	None	
Bedford Street	50X Bedford Street Map: 7L, Parcel: 1196	13.37	BOS	WWTP	Good	No	No	None	B	None	
Bedford Street	509 Bedford Street Map: 7L, Parcel: 1195	5.5	BOS	WWTP	Good	No	No	None	B	None	
Benson	26A Balls Hill Road Map: 4J, Parcel: 1374-1	17.12	BOS	Open Space (Forested)	Good	Yes	No	Passive Recreation	AA	None	
Bergemann	13 Tracy Street Map: 14D, Parcel: 3216	0.18	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Bolton Street	3A Bolton Street Map: 14E, Parcel: 3280	0.12	BOS	Open Space (Forested)	Good	Yes	No	Open Space (Forested)	A	None	
Bow Street	2A Bow Street Map: 8H, Parcel: 1290	0.1	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	C	None	
Briggs	18B Hemlock Street Map: 15E, Parcel: 3400	0.14	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Caesar Robbins House	320 Monument Street Map: 7H, Parcel: 1261	1.86	BOS	Historical Museum	Good	Yes	Yes	Historical Museum	A	None	CPA
Church Street	2A Church Street Map: 9D, Parcel: 2209	0.16	BOS	Parking Lot w/ 20-ft Passageway	Fair	Yes	No	Parking Lot w/ 20-ft Passageway	WCB	None	
Clymer	11A Keyes Road Map: 9H, Parcel: 1703-4	0.98	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	None	
Clymer	5B Keyes Road Map: 9H, Parcel: 1701-2	0.25	BOS	Open Space	Good	Yes	No	Open Space	B	None	
Clymer	10B Main Street Map: 9H, Parcel: 1701-3	0.67	BOS	Driveway for Parcel 1703-1	Good	Yes	No		LB7	None	
Commonwealth Avenue	7A Commonwealth Avenue Map: 9D, Parcel: 2210	0.04	BOS	Parking Lot	Fair	Yes	No	Parking Lot	WCB	None	
Commonwealth Avenue	29A Commonwealth Avenue Map: 8D, Parcel 2145	0.06	BOS	Access to Warner's Pond	Good	Yes	Yes	Access to Warner's Pond	C	None	
Commonwealth Avenue	39A Commonwealth Avenue Map: 8D, Parcel 2146-1	0.75	BOS	Warner's Pond	Good	Yes	Yes	Access to Warner's Pond	C	None	
Commonwealth Avenue	21A Commonwealth Avenue Map: 9D, Parcel: 2132	0.09	BOS	Driveway	Fair	Yes	No	Open Space	C	None	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Commuter Rail Parking Lot	6B Commonwealth Avenue Map: 9D, Parcel: 2196-2	0.97	BOS	Parking Lot	Good	Yes	No	Parking Lot	WCB	None	
Conant Street	7A Conant Street Map: 9D, Parcel: 2250	0.07	BOS	Open Space	Good	Yes	No	Access to Rideout	C	None	
Conant Street	8A Conant Street Map: 9D, Parcel: 2251	0.36	BOS	Open Space Some	Good	Yes	No	Public Playground Purposes	C	Deeded For Public Playground	
Concord Landfill	755 Walden Street Map: III, Parcel: 4039	35.41	BOS	Landfill	Good	Yes	No	Passive Recreation	A	None	
Cutting/Bent	30Y Powder Mill Road Map: I3D, Parcel: 3182	3.8	BOS	Open Space	Good	Yes	No	Passive Recreation	AA	None	
Darton Street	2A Darton Street Map: I4E, Parcel: 3298	0.11	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Elm Street (120B)	I20B Elm Street Map: 7D, Parcel: 1998	0.28	BOS	Open Space	Good	Yes	No		A	None	
Fern Street	I2B Fern Street Map: I5E, Parcel: 3390	0.16	BOS	Open Space	Good	Yes	No	Passive Recreation	A	None	
Freeman	2A Lexington Road Map: 9H, Parcel: 0022-3	0.56	BOS	Open Space	Good	Yes	No	Passive Recreation	B	None	
Freeman	6B Partridge Lane Map: 9H, Parcel: 0022-35	0.38	BOS	Open Space	Good	Yes	No	Open Space	B	None	
Harvey Wheeler Community	I276 Main Street Map: I0D, Parcel: 2447	2.74	BOS	Community Center	Good	Yes	Yes	None	WCB	None	
Hayward Court	IX Hayward Court Map: IIC, Parcel: 2873	0.13	BOS	Open Space	Good	Yes	No		B	None	
Hemlock Street (I4X)	I4X Hemlock Street Map: I5E, Parcel: 3418	4	BOS	Open Space (Wet)	Good	Yes	No	Open Sapce (Wet)	A	None	
Hugh Cargill Farm	42A Thoreau Street Map: I0H, Parcel: 0217	3.37	BOS	Meadow	Good	Yes	No		A	None	
Hugh Cargill Farm	24B Walden Street Map: I0H, Parcel: 0222	4.34	BOS	Community Garden	Good	Yes	No	Community Garden	A	None	
Jennie Dugan Road (I4Y)	I4Y Jennie Dugan Road Map: I3D, Parcel: 3101-2	4	BOS	Open Space (Wet)	Good	Yes	No	Open Sapce (Wet)	AA	None	
Junction Park	I22B Main Street Map: 9D, Parcel: 2199	0.12	BOS	Park	Good	Yes	No	Park	WCB	None	
Kenneth Dunn Square	IB Laws Brook Road Map: 9D, Parcel: 2240	0.06	BOS	Traffic Island	Good	Yes	No	None	C	None	
Keuka Road	5A Keuka Road Map: 9F, Parcel: 3835	0.4	BOS	Open Space	Good	Yes	No	Open Space	B	None	
Keuka Road	7A Keuka Road Map: 9F, Parcel: 3836	0.78	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	None	
Keyes Road (I3B)	I3B Keyes Road Map: 8G, Parcel: 1682-1	0.45	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	None	
Keyes Road Parking Lot	7B Main Street Map: 9H, Parcel: 1701-1	4	BOS	Parking Lot/ Wetlands	Good	Yes	Yes	None	CCB	None	
South Burying Place	8B Main Street Map: 9H, Parcel: 1702	0.5	BOS	Cemetery	Good	Yes	No	None	B	None	
Lexington Road (I0IB)	I0IB Lexington Road Map: I0K, Parcel: 4070	0.98	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Lexington Road (I02B)	I02B Lexington Road Map: I0K, Parcel: 4069	0.1	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Lowell Road (6B)	6B Lowell Road Map: 8H, Parcel: I315	1.75	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	C	None	
Main Street (6X)	6X Main Street Map: 9H, Parcel: 0827	0.17	BOS	Parking Lot	Good	Yes	No	None	C	None	
Main Street (7X)	7X Main Street Map: 9H, Parcel: 0826-2	0.09	BOS	Parking Lot	Good	Yes	no	None	C	None	
Main Street (I2)	I2 Main Street Map: 9H, Parcel: 1693	1.12	BOS	Parking Lot	Good	Yes	Yes	None	CCB	None	
Main Street (84B)	84B Main Street Map: 9E, Parcel: 3982	0.34	BOS	Open Space	Good	Yes	No	Open Space	C	None	

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Main Street	89B Main Street Map: 9E, Parcel: 3823	0.27	BOS	Open Space	Good	Yes	No	None	B	None	
Main Street Alley	3Y Main Street Map: 9H, Parcel: 1699-2	0.08	BOS	Passive Recreation	Good	Yes	No	Passive Recreation	CCB	None	
Marshall Farm	141 Harrington Avenue Map: 11C, Parcel: 2709	4.61	BOS	Agriculture	Good	Yes	No	Agriculture	B	None	
Marshall Farm	169 Harrington Road Map: 11C, Parcel: 2710	1.79	BOS	Agriculture	Good	No	No	Agriculture	B	None	
McGrath Farm	449 Barretts Mill Road Map: 7E, Parcel: 1986-6	1.9	BOS	Agriculture	Good	Yes	No	Agriculture	A	APR	
Monsen Road	10A Monsen Road Map: 7J, Parcel: 1082	0.21	BOS	Open Space	Good	Yes	No	Open Space	B	None	
Municipal	133, 135, 141, 157 Keys Road Map: 8G, Parcel 1682	9.71	BOS	Municipal Buildings	Good	Yes	Yes	Passive Recreation	B	None	
Campus Old Hill Burying Ground	7A Monument Square Map: 9H, Parcel: 0010	1.16	BOS	Cemetery	Good	Yes	No	Passive Recreation	C	None	
Old Bridge Road	7X Old Bridge Road Map: 10E, Parcel: 3736	0.33	BOS	Open Space	Good	Yes	No	Open Space	C	None	
Old North Bridge Parking Lot	31B Monument Street Map: 7H, Parcel: 1260	1.5	BOS	Parking Lot	Good	Yes	Yes	Parking for Passive Recreation	A	None	
Old Rifle Range (Adjacent land)	1X Deacon Haynes Road Map: 11D, Parcel: 3015-1	0.62	BOS	Open Space (Forested)	Good	Yes	No	Passive Recreation	AA	None	
ORNAC (6A)	6A ORNAC Map: 10F, Parcel: 3987	0.28	BOS	Open Space	Good	Yes	No	None	B	None	
Peter Spring Farm	40R Bedford Street Map: 7I, Parcel: 1201	11.3	BOS	Agriculture	Good	Yes	No	Agriculture	B	None	
Peter Spring Farm	40W Bedford Street Map: 7L, Parcel 1200	9.1	BOS	Agriculture	Good	Yes	No	Agriculture	B	None	
Peter Spring Farm	49A Bedford Street Map: 8I, Parcel: 1202	3.2	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	None	
Peter Spring Road (13A)	13A Peter Spring Road Map: 7L, Parcel: 1160	0.18	BOS	Open Space	Good	Yes	No	Open Space	B	None	
Pine Street (11X)	11X Pine Street Map: 10D, Parcel: 2475-2	0.95	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	C	None	
Powder Mill Road (41A)	41A Powder Mill Road Map: 14D, Parcel: 3231	0.1	BOS	Open Space	Good	Yes	No	Open Space	A	None	
Public Safety Facility	209 Walden Street Parcel: 9H, Parcel: 240	1.59	BOS	Public Safety Facilities	Good	Yes	Yes	None	A	None	
Quail Ridge (Hebb)	6Y Quail Run Drive Map: 7K, Parcel: 4262-12	16.3	BOS	Open Space (Forested)	Fair	Yes	No	Passive/Active Recreation	A	None	
Reformatory Branch	40X Bedford Street Map: 6I, Parcel: 1249	10.2	BOS	Passive Recreation	Good	Yes	No	Future Rail Trail	B	None	
Reformatory Branch	18A Monument Street Map: 8H, Parcel: 1249-2	2.04	BOS	Passive Recreation	Good	Yes	No	Future Rail Trail	A	None	
Reformatory Branch (adjacent land)	50A Bedford Street Map: 6J, Parcel: 1039	1	BOS	Open Space (Wet)	Good	Yes	No	Open Space (Wet)	B	None	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Revolutionary Road (15A)	15A Revolutionary Road	0.32	BOS	Open	Good	Yes	No	Open	B	None	
	Map: 9I, Parcel: 0089			Space				Space			
Rideout	61 Laws Brook Road	11	BOS	Playground	Good	Yes	Yes	Playground/	C	Yes	
	Map: 9D, Parcel: 2244										
Rideout Playground	51 Laws Brook Road	1	BOS	Residential	Good	Yes	No	Future Parking for Rideout	C	None	CPA
	Map: 9D, Parcel: 2243										
Route 62 Park	214A Main Street	0.22	BOS	Park	Good	Yes	No	Park	B	None	
	Map: 11B, Parcel: 2969										
Seymour Street	1 Seymour Street	0.1	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 4E, Parcel: 3267			Space				Space			
Shore Drive	3A Shore Drive	0.1	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 4E, Parcel: 3310			Space				Space			
Sleepy Hollow Cemetery	34A Bedford Street	95.22	BOS	Cemetery	Good	Yes	No	Passive Recreation	B	None	
	Map: 8I, Parcel: 1213										
South Meadow Ridge	62A Old Marlboro Road	7.1	BOS	Agriculture	Good	Yes	Yes	Agriculture	AA	Permanent Protection	
	Map: 11D, Parcel: 2756-1										
Stow Street	5A Stow Street	0.31	BOS	Parking	Good	Yes	Yes	None	C	None	
	Map: 9H, Parcel: 0816			Lot							
Sudbury River	185X Sudbury Road	7.5	BOS	Open	Good	Yes	No	Open Space	AA	None	
	Map: 16F, Parcel: 3432										
Sudbury Road	96A Sudbury Road	0.04	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 12F, Parcel: 3547-2							Space			
Sunnyside Lane (7B)	7B Sunnyside Lane	0.31	BOS	Open	Good	Yes	No	Open	C	None	
	Map: 9D, Parcel: 2090			Space				Space			
Taranto	20A Fitchburg Turnpike	0.48	BOS	Open	Good	Yes	No		A	None	
	Map: 15F, Parcel: 3439										
The Two Rod	0 The Two Rod Road	1.44	BOS	Open	Good	Yes	No	Trail	AA	None	
	Map: 3I, Parcel: 402-3-1			Space				Connection			
Thoreau Hills	20B Border Road	0.21	BOS	Open	Good	Yes	No	Open Space	A	None	
	Map: 13B, Parcel: 2891-										
Thoreau Street (37B)	37B Thoreau Street	0.14	BOS	Subsurface	Good	Yes	No	None	A	None	
	Map: 10H, Parcel: 301-3			Utilities							
Town Forest	23Y Cambridge Turnpike	3	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 10I, Parcel: 0257							Space			
Town Forest Alden/Johnson	381 Walden Street	0.93	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 10H, Parcel: 0256-2			Space				Space			
Town House	22 Monument Square	0.35	BOS	Town House	Good	Yes	Yes	None	LB3	None	
	Map: 9H, Parcel: 0844										
Tracy Street	1A Tracy Street	0.06	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 4D, Parcel: 3227			Space				Space			
Valley Street	4B Valley Street	0.23	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 15E, Parcel: 3397			Space				Space			
Valley Street	4B Valley Street	0.07	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 15E, Parcel: 3398			Space				Space			
Ventura	2B Hemlock Street	0.11	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 4E, Parcel: 3382			Space				Space			
Wagner	49B Laws Brook Road	3.8	BOS	Open	Good	Yes	No	Open	B	Permanent	
	Map: 9C, Parcel: 2022-1			Space				Space			
Walden Street	1B Walden Street	0.18	BOS	Parking	Good	Yes	No	None	CCB	None	
	Map: 9H, Parcel: 0830-2			Lot							
Walden Street	7X Walden Street	0.32	BOS	Parking	Good	Yes	No	None	C	None	
	Map: 9H, Parcel: 0825-2			Lot							
Walden Street	51 Walden Street	0.35	BOS	Theater	Good	Yes	Yes	None	CCB	None	
	Map: 9H, Parcel: 0008										
Walnut Corp.	11B Chestnut Street	1.24	BOS	Open	Good	Yes	No	Open	B	None	
	Map: 9H, Parcel: 0050-4			(Meadow)				Space			
Warner's Pond Shores	1A Warner Street	0.17	BOS	Open	Good	Yes	No	Open	C	None	
	Map: 8D, Parcel: 2154			Space				Space			
Welsh	2B Paul Street	0.12	BOS	Open	Good	Yes	No	Open	A	None	
	Map: 4E, Parcel: 3240			Space				Space			
White Pond Reservation	48B Fitchburg Road	40.45	BOS	Open Space	Good	Yes	No	Passive Recreation	A	None	
	Map: 15E, Parcel: 3416-1										
Willard	8A Willard Road	0.25	BOS	Cul-de-sac	Good	Yes	No	Passive Recreation	A	None	
	Map: 8G, Parcel: 1748			Island				Recreation			
Willow Guzzle	139A Sudbury Road	27.5	BOS	Agriculture	Good	Yes	No	Agriculture/	AA	None	
	Map: 4F, Parcel: 3479-1			Passive				Passive			

Federal Lands

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Col. Barretts House	448 Barretts Mill Road	3.44	US Dept of the Interior	Historic	Excellent	Yes	No	Historic Museum	A	Permanent Protection	
	Map: 7E, Parcel: 1986-4			Museum							
Daniel Taylor/Clark House	663 Lexington Road	1.97	US Dept of the Interior	Private Home	Excellent	No	No	Passive Recreation	A	Permanent Protection	
	Map: 9J, Parcel: 4184										
Great Meadows Wildlife Refuge	58X Old Bedford Road	4	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 6J, Parcel: 1188										
Great Meadows Wildlife Refuge	170X Old Bedfoed Road	6	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 6J, Parcel: 1189										
Great Meadows Wildlife Refuge	109X Monument Street	5	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 5I, Parcel: 1190										
Great Meadows Wildlife Refuge	1084 Monument Street	8.5	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map 5I, Parcel: 1191										
Great Meadows Wildlife Refuge	107Y Monument Street	2.6	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 5I, Parcel: 1192										
Great Meadows Wildlife Refuge	18X Peter Spring Road	2.95	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 7L, Parcel: 1193										
Great Meadows Wildlife Refuge	19X Peter Spring Road	1.96	US Fish & Wildlife	Wildlife Refuge	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
	Map: 6I, Parcel: 1194										
Great Meadows Wildlife Refuge	39X Silver Hill Road	13.37	US Fish & Wildlife	Open Space	Excellent	Yes	No	Passive Recreation	AA	Permanent Protection	
	Map: 2J, Parcel: 1384-28										
Great Meadows Wildlife Refuge	184Y River Meadow	4.1	US Dept of the Interior	Open Space	Excellent	Yes	No	Open Space	AA	Permanent Protection	
	Map: 16F, Parcel: 3433			(Wet)							
Great Meadows Wildlife Refuge	180X Sudbury Road	3	US Fish & Wildlife	Open Space	Excellent	Yes	No	Open Space	AA	Permanent Protection	
	Map: 16F, Parcel: 3433-1			(Wet)							
Great Meadows Wildlife Refuge	17A Fitchburg Turnpike	8	US Fish & Wildlife	Open Space	Excellent	Yes	No	Open Space	AA	Permanent Protection	
	Map: 15F, Parcel: 3437-1										
Meriams Corner	34 Old Bedford Road	1.77	US Dept of the Interior	Historic House/Passive Recreation	Excellent	Yes	Yes	Historic House/Passive Recreation	A	Permanent Protection	
	Map: 9J, Parcel: 4224										
Minute Man National Historical Park	242 Monument Street	1.25	US Dept of the Interior	House	Good	No	No	None	A	Permanent Protection	
	Map: 7H, Parcel: 1256										
Minute Man National Historical Park	231 Liberty Street	4	US Dept of the Interior	Major John Buttrick's House	Excellent	Yes	No	Historical Preservation	A	Permanent Protection	
	Map: 7G, Parcel: 1457										
Minute Man National Historical Park	3A Great Meadows Road	9.29	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 7H, Parcel: 1257										
Minute Man National Historical Park	35A Monument Street	4	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 7H, Parcel: 1263			(Wet)							
Minute Man National Historical Park	33A Monument Street	3	US Dept of the Interior	Minute Man National Park	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
	Map: 7H, Parcel: 1264										
Minute Man National Historical Park	23A Monument Street	8.7	US Dept of the Interior	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 8H, Parcel: 1269			(Wet)							

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Minute Man National Historical Park	20A Monument Street	4.1	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 8H, Parcel: 1270										
Minute Man National Historical Park	17Y Lowell Road	15	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 8G, Parcel: 1322			(Wet)							
Minute Man National Historical Park	28Y Lowell Road	3	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 7G, Parcel: 1323			(Wet)							
Minute Man National Historical Park	15X Liberty Street	3.76	US Dept of the Interior	Minute Man National	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 7G, Parcel: 1347										
Minute Man National Historical Park	256 Liberty Street	30.01	US Dept of the Interior	Minute Man National	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
	Map: 7H, Parcel: 1348										
Minute Man National Historical Park	3X Bypass Road	16.18	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 10J, Parcel: 4068										
Minute Man National Historical Park	95A Lexington Road	5.34	US Dept of the Interior	Agriculture	Excellent	Yes	No	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4071										
Minute Man National Historical Park	90B Lexington Road	5.3	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 9J, Parcel: 4072										
Minute Man National Historical Park	81B Lexington Road	18	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 9J, Parcel: 4073										
Minute Man National Historical Park	76B Lexington Road	17.5	US Dept of the Interior	Agriculture	Poor	Yes	No	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4075										
Minute Man National Historical Park	71B Lexington Road	3	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive Recreation	A	Permanent Protection	
	Map: 9J, Parcel: 4076										
Minute Man National Historical Park	67B Lexington Road	1	US Dept of the Interior	Open Space	Excellent	Yes	No	Open Space	A	Permanent Protection	
	Map: 9J, Parcel: 4077										
Minute Man National Historical Park	66B Lexington Road	10.77	US Dept of the Interior	Open Space	Excellent	Yes	No	Open Space	A	Permanent Protection	
	Map: 9J, Parcel: 4078										
Minute Man National Historical Park	63B Lexington Road	0.75	US Dept of the Interior	Open Space	Excellent	Yes	No	Open Space	A	Permanent Protection	
	Map: 9J, Parcel: 4079										
Minute Man National Historical Park	44B Lexington Road	0.33	US Dept of the Interior	Open Space	Good	Yes	No	Open Space	A	Permanent Protection	
	Map: 9L, Parcel: 4089										
Minute Man National Historical Park	3B Hawthorne Lane	1.5	US Dept of the Interior	Open Space	Excellent	Yes	Yes	Open Space	A	Permanent Protection	
	Map: 9I, Parcel: 4116			Lot							
Minute Man National Historical Park	1B Hawthorne Lane	1.1	US Dept of the Interior	Parking Lot	Excellent	Yes	Yes	Parking Lot	A	Permanent Protection	
	Map: 9I, Parcel: 4117										
Minute Man National Historical Park	55 Old Bedford Road	2.4	US Dept of the Interior	Historic House/ Agriculture	Excellent	No	No	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4185-2-2							Passive Recreation			

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Minute Man National Historical Park	3A Old Bedford Road	3.02	US Dept of the Interior	Open Space	Good	Yes	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4185-2-3							Recreation			
Minute Man National Historical Park	5B Old Bedford Road	6	US Dept of the Interior	Agriculture	Good	Yes	Yes	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4223-2							Recreation			
Minute Man National Historical Park	737 Lexington Road	0.5	US Dept of the Interior	House	Good	No	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4225							Recreation			
Minute Man National Historical Park	751 Lexington Road	1.22	US Dept of the Interior	Parking Lot	Excellent	Yes	Yes	Parking Lot	A	Permanent Protection	
	Map: 9J, Parcel: 4226										
Minute Man National Historical Park	13A Manuel Drive	8.83	US Dept of the Interior	Agriculture	Good	Yes	Yes	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4227							Passive Rec			
Minute Man National Historical Park	10A Manuel Drive	14.94	US Dept of the Interior	Agriculture	Good	Yes	Yes	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4227-1			Open				Passive Rec			
Minute Man National Historical Park	78 A Lexington Road	7.2	US Dept of the Interior	Passive	Excellent	Yes	Yes	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4228			Recreation				Recreation			
Minute Man National Historical Park	65 Manuel Drive	1.84	US Dept of the Interior	Private Home	Excellent	No	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4229-2							Recreation			
Minute Man National Historical Park	95 Manuel Drive	2.05	US Dept of the Interior	Private Home	Good	No	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4229-3							Recreation			
Minute Man National Historical Park	8B Manuel Drive	0.92	US Dept of the Interior	Open Space	Excellent	Yes	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4229-4-1							Recreation			
Minute Man National Historical Park	831 Lexington Road	1.49	US Dept of the Interior	Private Home	Fair	No	No	Passive	A	Permanent Protection	
	Map: 9J, Parcel: 4229-5							Recreation			
Minute Man National Historical Park	851 Lexington Road	4.57	US Dept of the Interior	Farm Stand	Fair	Yes	No	Agriculture/Passive Rec	A	Permanent Protection	
	Map: 9J, Parcel: 4230										
Minute Man National Historical Park	85A Lexington Road	15.79	US Dept of the Interior	Agriculture	Excellent	Yes	Yes	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4230-E			Passive Recreation							
Minute Man National Historical Park	90A Lexington Road	0.46	US Dept of the Interior	Agriculture	Excellent	Yes	No	Agriculture	A	Permanent Protection	
	Map: 9J, Parcel: 4231										
Minute Man National Historical Park	955 Lexington Road	6.94	US Dept of the Interior	Private Home	Good	No	No	Agriculture/Passive Rec	A	Permanent Protection	
	Map: 9J, Parcel: 4232										
Minute Man National Historical Park	93X Lexington Road	78.27	US Dept of the Interior	Agriculture	Excellent	Yes	Yes	Agriculture/Passive Rec	A	Permanent Protection	
	Map: 9J, Parcel: 4232-E			Passive Recreation							
Minute Man National Historical Park	965 Lexington Road	8.97	US Dept of the Interior	House	Fair	Yes	Yes Trail only	Passive	A	Permanent Protection	
	Map: 9K, Parcel: 4233							Recreation			
Minute Man National Historical Park	96X Lexington Road	7.71	US Dept of the Interior	Open Space	Excellent	Yes	Yes	Open Space	A	Permanent Protection	
	Map: 9K, Parcel: 4233-E										

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Minute Man National Historical Park	102A Lexington Road Map: 10K, Parcel: 4234	4.38	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	104A Lexington Road Map: 10K, Parcel: 4235	0.47	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	105A Lexington Road Map: 10K, Parcel: 4236	3.35	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	107B Lexington Road Map: 10K, Parcel: 4237	3.5	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	1087 Lexington Road Map: 10K, Parcel: 4238	2.05	US Dept of the Interior	Agri & house Passive Recreation	Fair	Yes	Yes Trail only	Agriculture Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	4B Shadyside Avenue Map: 10K, Parcel: 4242	0.65	US Dept of the Interior	Open Space	Good	Yes	No	Open Space	A	Permanent Protection	
Minute Man National Historical Park	3B Shadyside Avenue Map: 10K, Parcel: 4243	0.71	US Dept of the Interior	Open Space	Good	Yes	No	Open Space	A	Permanent Protection	
Minute Man National Historical Park	2B Shadyside Avenue Map: 10K, Parcel: 4244	0.7	US Dept of the Interior	Passive Recreation	Good	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	111A Lexington Road Map: 10K, Parcel: 4245	0.42	US Dept of the Interior	Passive Recreation	Good	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	113 Lexington Road Map: 10K, Parcel: 4246	0.69	US Dept of the Interior	Passive Recreation (w/ House)	Poor	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	1145 Lexington Road Map: 10K, Parcel: 4247	2	US Dept of the Interior	Passive Recreation	Good	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	1175 Lexington Road Map: 10K, Parcel: 4248-2	3.16	US Dept of the Interior	Passive Rec/ Historic House	Excellent	Yes	Yes Trail only	Passive Rec/ Historic House	A	Permanent Protection	
Minute Man National Historical Park	120A Lexington Road Map: 10K, Parcel: 4249-2	2.84	US Dept of the Interior	Passive Recreation/ Parking Lot	Excellent	Yes	Yes	Passive Recreation/ Parking Lot	A	Permanent Protection	
Minute Man National Historical Park	123A Lexington Road Map: 10K, Parcel: 4250	0.61	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	1265 Lexington Road Map: 10K, Parcel: 4251	5.41	US Dept of the Interior	Passive Recreation/ Historic House	Excellent	Yes	Yes Trail only	Passive Recreation/ Historic House	A	Permanent Protection	
Minute Man National Historical Park	122A Lexington Road Map: 10K, Parcel: 4253-2	0.73	US Dept of the Interior	Passive Recreation	Excellent	Yes	Yes	Passive Recreation	A	Permanent Protection	
Minute Man National Historical Park	76B Virginia Road Map: 8L, Parcel: 4255-1	1.29	US Dept of the Interior	Agriculture	Good	Yes	No	Agriculture	A	Permanent Protection	
Minute Man National Historical Park - Wayside	455 Lexington Road Map: 9I, Parcel: 4123-1	3.27	US Dept of the Interior	Historical Museum	Excellent	Yes	No	Passive Recreation	B	Permanent Protection	

State Lands

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Commonwealth	1091 Elm Street Map: 7D, Parcel: 1999	0.34	State	Open	Good	No	No	None	A	None	
Commonwealth	24A Union Turnpike Map: 7C, Parcel: 2007	8.1	State	Open Space	Good	No	No	Passive Recreation	A	Article 97	
Commonwealth	5B Old Road to Nine Acre Corner Map: 10F, Parcel: 3978-3	1.59	State	Parking Lot	Good	Yes	No	None	B	None	
Commonwealth	81A Main Street Map: 10F, Parcel: 3983-2	0.44	State	Open	Good	Yes	No	None	MP	None	
Commonwealth	1A Fairhaven Hill Road Map: 1B, Parcel: 4012-A	1.5	State	Open Space	Good	Yes	No	None	AA	None	
Commuter Rail	17B Sudbury Road Map: 9G, Parcel: 0630-1	0.3	Mass Bay Transit Authority	Commuter Rail	Good	No	No	Commuter Rail	TDB	None	
Mass Bay Transit Authority	44A Main Street Map: 9F, Parcel: 3953	0.5	Mass Bay Transit Authority	Gravel Parking Area	Fair	Yes	No	None	B	None	
Courthouse	305 Walden Street Map: 10H, Parcel: 0248	8.8	State	Courthouse	Good	No	Yes	None	A	None	
Dept. of Environmental Management	48X Fitchburg Turnpike Map: 16E, Parcel: 3429	1.5	DEM (DCR)	Open Space (Wet)	Good	No	No	Open Space	A	Permanent Protection	
Dept. of Environmental Management	70Y Walden Street Map: 11H, Parcel: 4031	43	DEM (DCR)	Open Space	Good	Yes	No	Open Space	A	Permanent Protection	
Massachusetts Correctional Institute	999 Barretts Mill Road Map: 8D, Parcel: 1918	3.5	Dept of Correction	Offices	Good	No	Yes	None	B	None	
Massachusetts Correctional Institute	965 Barretts Mill Road Map: 8D, Parcel: 2013	64	Dept of Correction	Prison	Good	No	Yes and No	None	IP	None	
Massachusetts Correctional Institute	407-9 Commonwealth Ave Map: 8D, Parcel: 2014	18.8	Dept of Correction	Parking/ Prison Farm	Excellent	No	No	None	B	None	
Massachusetts Correctional Institute	123B Elm Street Map: 7D, Parcel: 1999-2	33	Dept of Correction	Prison Farm	Excellent	No	No	None	A	Portion Protected under Article 97	
Massachusetts Correctional Institute	976 Barretts Mill Road Map: 7D, Parcel: 1999-3	83.75	Dept of Correction	Prison Farm	Excellent land Bldgs Good	No	No	None	AA	Portion Protected under Article 97	
Massachusetts Correctional Institute	28A Union Turnpike Map: 8C, Parcel: 2016	67	Dept of Correction	Prison Farm	Excellent	Yes	No	Passive Recreation	B	Article 97	
Massachusetts Correctional Institute	25A Union Turnpike Map: 7C, Parcel: 2015	1.2	Dept of Correction	Open Space	Excellent	No	No	None	B	None	
Massachusetts Correctional Institute	19B Union Turnpike Map: 7C, Parcel: 2009	0.24	Dept of Correction	Open Space	Excellent	No	No	None	A	None	
Massachusetts Correctional Institute	10B Union Turnpike Map: 7D, Parcel: 2010	0.42	Dept of Correction	Open Space	Excellent	No	No	None	A	None	
Mass Highway	936 Elm Street Map: 8D, Parcel: 1917	2.9	Mass Highway	Depot	Good	No	No	None	B	None	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Mass Highway	23A Union Turnpike Map: 7C, Parcel: 2006	10.23	Mass Highway	Open Space	Good	No	No	Passive Recreation	C	None	
Mass Highway	8B Old Road to Nine Acre Corner Map: 10F, Parcel: 3651-1	0.5	Mass Highway	Open Space	Good	Yes	No	None	C	None	
Mass Highway	1733 Concord Turnpike Map: 9E, Parcel: 3668-1	1.32	Mass Highway	Open Space	Fair	Yes	No	None	C	None	
Mass Highway	71B Elm Street Map: 8E, Parcel: 3797-1-1	1.99	Mass Highway	Open Space	Good	Yes	No	None	B	None	
Mass Highway	200B Concord Turnpike Map: 8E, Parcel: 3797-1-2	1.89	Mass Highway	Gravel Pit	Fair	No	No	None	B	None	
Mass Highway	91B Main Street Map: 9E, Parcel: 3821	1.45	Mass Highway	Open Space	Good	Yes	No	None	C	None	
Mass Highway	21B Fairhaven Road Map: 11G, Parcel: 3999	0.93	Mass Highway	Open Space	Good	Yes	No	Passive Recreation	AA	None	
Mass Highway	95A Concord Turnpike Map: 11G, Parcel: 4026-1	5.26	Mass Highway	Open Space	Good	Yes	No	None	AA	None	
Mass Highway	19X Sandy Pond Road Map: 11J, Parcel: 4049-X	2.08	Mass Highway	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection of 2.06 Acres under Art 97	
Mass Highway	15A Concord Turnpike Map: 11J, Parcel: 4054X	2.81	Mass Highway	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection of 0.6 Acres under Art 97	
Mass Highway	10A Concord Turnpike Map: 11J, Parcel: 4057	4.66	Mass Highway	Open Space	Good	Yes	No	Open Space	A	Permanent Protection of 2.83 Acres under Art 97	
Mass Highway	9B Concord Turnpike Map: 10J, Parcel: 4061-1	3.57	Mass Highway	Salt/Sand Sheds	Fair	No	No	None	A	Permanent Protection of 6.2 Acres under Art 97	
Mass Port	711 Virginia Road Map: 8L, Parcel: 4290	251.81	Mass Port Authority	Hanscom Air Field	Good	Yes	Yes	None	A	None	
Mass Port	58B Old Bedford Road Map: 7J, Parcel: 0977	10.11	Mass Port Authority	Open Space	Good	No	No	Passive Recreation	A	Portion Temporarily Protected under CR #41	
Mass Port	120X Lexington Road Map: 10K, Parcel: 4249-1	10.7	Mass Port Authority	Open Space	Good	Limited	No	Passive Recreation	A	None	
Mass Port	126X Lexington Road Map: 10K, Parcel: 4252	5.74	Mass Port Authority	Open Space	Good	Limited	No	Passive Recreation	A	None	
Mass Port	127X Lexington Road Map: 9K, Parcel: 4253-1	20.5	Mass Port Authority	Open Space	Good	Limited	No	Passive Recreation	A	None	
Mass Port	25Y Shady Side Avenue Map: 9K, Parcel: 4254	1.8	Mass Port Authority	Open Space	Good	Limited	No	Passive Recreation	A	None	
Mass Port	75B Virginia Road Map: 8L, Parcel: 4255	11.32	Mass Port Authority	Open Space	Good	Limited	No	Passive Recreation	A	None	
Mass Port	48X Virginia Road Map: 7K, Parcel: 4287-2	5.73	Mass Port Authority	Open Space	Good	No	No	None	A	None	
Mass Port	40X Virginia Road Map: 6K, Parcel: 4291	13.82	Mass Port Authority	Open Space	Good	Yes	No	Passive Recreation	A	None	
National Guard Armory	91 Everett Street Map: 10H, Parcel: 0198	1	State	Armory	Fair	No	No	Active Recreation/ Gym	C	None	

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
State Police Barracks	906 Elm Street	2.94	State	Barracks	Good	No	Yes	None	B	None	
	Map: 8D, Parcel: 1916		Police								
Walden Pond Reservation	90B Walden Street	136.5	DEM (DCR)	Walden Pond	Excellent	Yes	Portions	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4032										
Walden Pond Reservation	93Y Walden Street	18	DEM (DCR)	Passive	Excellent	Yes	No	Walden Pond Reservation	AA	Permanent Protection	
	Map: 13I, Parcel: 4033			Recreation							
Walden Pond Reservation	915 Walden Street	1.5	DEM (DCR)	Access to	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4034			Parking							
Walden Pond Reservation	925 Walden Street	1	DEM (DCR)	Stable for	Good	Yes	No	Walden Pond Reservation	AA	Permanent Protection	
	Map: 12I, Parcel: 4035			Police							
Walden Pond Reservation	90X Walden Street	2.62	DEM (DCR)	Parking/ Bathrooms / Gift Shop	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4036										
Walden Pond Reservation	85X Walden Street	19.94	DEM (DCR)	Parking/ Open Space	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4037										
Walden Pond Reservation	801 Walden Street	6.17	DEM (DCR)	Open Space	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4038										
Walden Pond Reservation	30X Concord Turnpike	26.4	DEM (DCR)	Open Space	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 11I, Parcel: 4041										
Walden Pond Reservation	2Z Pheasant Street	0.52	DEM (DCR)	Open Space	Excellent	Yes	No	Walden Pond Reservation	A	Permanent Protection	
	Map: 12I, Parcel: 4043-4										
West Concord Depot	20 Commonwealth Avenue	0.23	Mass Bay Transit Authority	T Station	Good	Yes	Yes	None	WCB	None	
	Map: 9D, Parcel: 2200-1										

Land Trusts

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Anderson Woods	26Y Garfield Road	9.5	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent Protection	
	Map: 14F, Parcel: 3457-2			Recreation				Recreation			
Assabet Woodlot	20B Squaw Sachem Trail	0.34	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent Protection	
	Map: 8G, Parcel: 1754-1			Recreation				Recreation			
Assabet Woodlot	18B Squaw Sachem Trail	3.5	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent Protection Plus CR to NRC	
	Map: 8G, Parcel: 1754			Recreation				Recreation			
Beharrel Land	20A Commonwealth Ave	0.28	CLCT	Open	Excellent	Yes	No	Passive	C	Permanent Protection	
	Map: 9D, Parcel: 2130			Space				Recreation			
Blanke Land	56X Annursnac Hill Road	1.69	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent Protection	
	Map: 6D, Parcel: 1980-21			Space				Recreation			
Bregle-Ham	20X Squaw Sachem Trail	1.6	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent Protection	
	Map: 8F, Parcel: 1755-3			Recreation				Recreation			
Bregle-Ham	10B Mustfield Road	5.08	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent Protection	
	Map: 8F, Parcel: 1756-1			Recreation				Recreation			
Buttrick Land	44A Hugh Cargill Road	3.67	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent Protection Plus CR to TTOR	
	Map: 4G, Parcel: 1514			Space				Recreation			
Chamberlin Woods	115B Lowell Road	29.26	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent Protection	
	Map: 4G, Parcel: 1509			Recreation				Recreation			

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Chamberlin Woods	113B Lowell Road	29.26	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 4F, Parcel: 1509-1			Space				Recreation		Protection	
Corey Meadow	21A Barretts Mill Road	3.5	CLCT	Open	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7F, Parcel: 1664			Space				Recreation		Protection	
Corey/Bourquin	25B Barretts Mill Road	25.6	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 6F, Parcel: 1656			Space				Recreation		Protection	
Elm Brook	37B Virginia Road	22.4	CLCT	Open	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7K, Parcel: 4261-2			Space				Recreation		Protection Plus CR to	
Elm Brook-Pine Hill	43A Virginia Road	17.3	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7K, Parcel: 4287-1-1			Recreation				Recreation		Protection Plus CR to	
Ferguson Land	7B Garfield Road	2.02	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13F, Parcel: 3480-2-1			Recreation				Recreation		Protection	
Ferguson Land	9A Garfield Road	2.85	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13F, Parcel: 3480-2-2			Recreation				Recreation		Protection	
French's Meadow	8B Nashawtuc Road	29.29	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 9G, Parcel: 1734			Recreation				Recreation		Protection	
Gifford Land	117X Monument Street	2.93	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 8F, Parcel: 1409-1-1			Space				Recreation		Protection	
Gifford	112X Monument Street	6.9	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 4I, Parcel: 1410-1			Recreation				Recreation		Protection	
Go wing's Swamp	525 Lexington Road (portion of)	7.2	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 9I, Parcel: 4176 (portion of)			Recreation				Recreation		Protection	
Hallenbeck Land	89X Lowell Road	12.65	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 5F, Parcel: 1619-3			Space				Recreation		Protection	
Hallenbeck Land	88A Lowell Road	3.16	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 6F, Parcel: 1619-2			Space				Recreation		Protection	
Hallenbeck Land	87A Lowell Road	2.23	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 5F, Parcel: 1619-5			Space				Recreation		Protection Plus CR to	
Hosmer	58Y ORNAC	13.85	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12E, Parcel: 3084			Recreation				Recreation		Protection	
Hubbard Brook Farmfield	69B Sudbury Road	17.73	CLCT	Agriculture	Excellent	No	No	Agriculture	AA	Permanent	
	Map: 11G, Parcel: 3989-1-1									Protection Plus CR to	
Hudson Brooks Meadows	16B Elm Street	2.47	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 9F, Parcel: 1769-3			Recreation				Recreation		Protection	
Hudson Brooks Meadows	11A Musketquid Road	3.63	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 9F, Parcel: 1768-2			Recreation				Recreation		Protection	
Jeans	11B Westford Road	2.73	CLCT	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 3F, Parcel: 1552			Space				Recreation		Protection	
Kazmaier Land	15B Adams Road	0.76	CLCT	Agriculture	Excellent	Yes	No	Passive	B	Permanent	
	Map: 8E, Parcel: 1893-3							Recreation		Protection	
Kazmaier Land	62B Elm Street	8.7	CLCT	Agriculture	Excellent	Yes	No	Passive	B	Permanent	
	Map: 8E, Parcel: 1893-1							Recreation		Protection	
Kazmaier Land	64Y Elm Street	7.24	CLCT	Agriculture	Excellent	Yes	No	Passive	B	Permanent	
	Map: 8E, Parcel: 1893							Recreation		Protection	
Kazmaier Land	65Y Elm Street	0.21	CLCT	Agriculture	Excellent	Yes	No	Open	LB1	Permanent	
	Map: 8E, Parcel: 1894-4							Space		Protection	

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Kazmaier Land	69X Elm Street	1.66	CLCT	Agriculture	Excellent	Yes	No	Open Space	LB1	Permanent Protection	
	Map: 8E, Parcel: 1894-2										
Kennedy Point	8B Old Mill Road	1.5	CLCT	Passive	Good	Yes	No	Passive	B	Permanent	
	Map: 11C, Parcel: 2842-5										
Kingman	83A Sudbury Road	0.38	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 12F, Parcel: 3575										
Kingman	85A Sudbury Road	1.31	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 12F, Parcel: 3576										
Kraetzer	88A Sudbury Road	1.12	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 12F, Parcel: 3577										
Kraetzer	91A Sudbury Road	1.19	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 12F, Parcel: 3578-1										
Miller Farm	9B Powder Mill Road	23.5	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 14E, Parcel: 3477-1										
Miller Farm	134B Sudbury Road	28.48	CLCT	Agriculture	Excellent	No	No	Agriculture	A	Permanent	
	Map: 14F, Parcel: 3477-2										
Nashawtic Hill	19B Squaw Sachem Trail	0.97	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 8F, Parcel: 1745										
Nashawtic Hill	15B Musketquad Road	0.95	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 8F, Parcel: 1761-1										
Newbury Field	115X Lowell Road	34.07	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 4F, Parcel: 1609-1-3										
Off Park Lane	25B Park Lane	5.12	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 7F, Parcel: 1817										
Off Park Lane	27B Park Lane	3.46	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7E, Parcel: 1818										
Piney Woods	37X Westford Road	4.5	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 3E, Parcel: 1573-3										
Schevill Land	57B Garfield Road	9.6	CLCT	Open	Excellent	Yes	No	Open Space	AA	Permanent Protection Plus CR to NRC	
	Map: 15G, Parcel: 3452-1										
Scout Island	90X Tanglewood Drive	2.7	CLCT	Open	Excellent	Yes	No	Open Space	AA	Permanent	
	Map: 15G, Parcel: 3449-6-6										
Shaw Pasture	10Y Simon Willard Road	5.19	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 8F, Parcel: 1761-4										
Sherwood Red Maple Swamp	30A Lowell Road	7.6	CLCT	Open	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 8G, Parcel: 1676-1										
Simon Willard Woods	33B Simon Willard Road	22.59	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7F, Parcel: 1792-1										
Simon Willard Woods	31B Simon Willard Road	4.21	CLCT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7F, Parcel: 1792-4										
Soutter/Bigelow	68B Sudbury Road	76.7	CLCT	Agriculture	Excellent	Yes	No	Agriculture	AA	Permanent Protection Plus CR to SVT	
	Map: 11G, Parcel: 3989-1										

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Spencer Brook Valley	75Y Strawberry Hill Road	12.6	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 4E, Parcel: 1964-2			Recreation				Recreation		Protection	
Spencer Brook Valley	9X Westford Road	17.86	CLCT	Passive	Excellent	Yes	No	Passive	B	Permanent	
	Map: 3F, Parcel: 1576-5			Recreation				Recreation		Protection	
Spencer Brook Valley	78Y Strawberry Hill Road	14	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 3E, Parcel: 1577-2			Recreation				Recreation		Protection	
Spencer Brook Valley	8A Lindsay Pond Road	4.09	CLCT	Open Space	Excellent	Yes	No	Open Space	AA	Permanent	
	Map: 4F, Parcel: 1606-2									Protection	
Spencer Brook Valley	74B Strawberry Hill Road	12.65	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 4E, Parcel: 1964-1			Recreation				Recreation		Protection	
Spencer Brook Valley	28X Westford Road	8.4	CLCT	Open Space	Excellent	Yes	No	Open Space	AA	Permanent	
	Map: 2E, Parcel: 1575-1									Protection	
Spencer Brook Valley	77Y Strawberry Hill Road	10.6	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 3E, Parcel: 1577-1			Recreation				Recreation		Protection	
Sudbury River	14A Elm Street	0.15	CLCT	Open Space	Excellent	Yes	No	Open Space	A	Permanent	
	Map: 9F, Parcel: 3947									Protection	
Thomton Woods	31B Garfield Road	1.71	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 14F, Parcel: 3455-1			Recreation				Recreation		Protection	
Thomton Woods	29B Garfield Road	3	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 14F, Parcel: 3455-2			Recreation				Recreation		Protection	
Two Rod Road	88X Monument Street	16.5	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent Protection Plus CR to TTOR	
	Map: 4H, Parcel: 1436-14			Recreation				Recreation			
Wright Woods	892 Fairhaven Hill Road	24.84	CLCT	Passive	Excellent House Poor	Yes	No	Passive	AA	Permanent	
	Map: 13G, Parcel: 4010-1			Recreation				Recreation		Protection	
Wright Woods	74B Fairhaven Road	30.6	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 14H, Parcel: 4010-2			Recreation				Recreation		Protection	
Wright Woods	742-773 Fairhaven Road	1	CLCT	Two Single Family Houses	Poor	No	No	Passive	AA	Permanent	
	Map: 14G, Parcel: 4010-3							Recreation		Protection	
Wright Woods	70B Fairhaven Hill Road	33	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13H, Parcel: 4010-4			Recreation				Recreation		Protection	
Wright Woods	63B Fairhaven Hill Road	12.9	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13H, Parcel: 4010-5			Recreation				Recreation		Protection	
Wright Woods	63Y Fairhaven Hill Road	25.53	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13G, Parcel: 4010-6			Recreation				Recreation		Protection	

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status	Grants Received
Wright Woods	42X Fairhaven Road	103	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12H, Parcel: 4013			Recreation				Recreation		Protection	
Wright Woods	14B Fairhaven Hill Road	6.98	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12G, Parcel: 4002-2			Recreation				Recreation		Protection	
Wright Woods	64B Fairhaven Road	1.7	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13G, Parcel: 4010-7			Recreation				Recreation		Protection	
Wright Woods	40A Fairhaven Road	10	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12H, Parcel: 4014			Recreation				Recreation		Protection	
Wright Woods	25X Fairhaven Hill Road	11.4	CLCT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12G, Parcel: 4006-3-3			Recreation				Recreation		Protection	
Wright Woods	18A Fairhaven Hill Road	2.77	CLCT	Open	Excellent	Yes	No	Open	AA	Permanent	
	Map: 12G, Parcel: 4002-4			Space				Space		Protection	
Sudbury Valley Trustees	6B Paul Revere Road	5.93	SVT	Passive	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 13E, Parcel: 3106-6C			Recreation				Recreation		Protection Plus CR to NRC	
Sudbury Valley Trustees	9Y Peter Bulkeley Road	20.5	SVT	Open	Excellent	Yes	No	Open	AA	Permanent	
	Map: 13D, Parcel: 3160			Space				Space		Protection	
Sudbury Valley Trustees Gowing Swamp	10X Old Bedford Road	6.97	SVT	Passive	Excellent	Yes	No	Passive	A	Permanent	
	Map: 8J, Parcel: 4186-2			Recreation				Recreation		Protection	
The Old North Bridge	30A Monument Street	0.72	TTOR	Passive	Excellent	Yes	Yes	Passive	A	Permanent	
	Map: 7H, Parcel: 1265			Recreation				Recreation		Protection	
The Old North Bridge	27X Monument Street	0.03	TTOR	Passive	Excellent	Yes	Yes	Passive	A	Permanent	
	Map: 7H, Parcel: 1266			Recreation				Recreation		Protection	
The Old Mansie	269 Monument Street	5.41	TTOR	Historic	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7H, Parcel: 1267			Museum				Recreation		Protection	
The Old Mansie Boathouse	26X Monument Street	1.3	TTOR	Historic	Excellent	Yes	No	Passive	A	Permanent	
	Map: 7H, Parcel: 1268			Museum				Recreation		Protection	
The Trustees of Reservations	873 Monument Street	4	TTOR	Single Family House	Excellent	No	No		AA	Permanent	
	Map: 5H, Parcel: 1434									Protection	
Lincoln Land Conservation Trust	85Y Fairhaven Hill Road	7.31	Lincoln Land Cons Trust	Open	Good	No	No	None	AA	Permanent	
	Map: 14H, Parcel: 4011			Space						Protection	
Walden Woods	641 Walden Street	18.6	Walden Woods Project Inc.	Passive	Excellent	Yes	Semi	Passive	LB4	Permanent	
	Map: 11I, Parcel: 0272-1			Recreation				Recreation		Protection	
Walden Woods Project LLC	64A Sudbury Road	25	Walden Woods Project Inc.	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 11G, Parcel: 3992-4-1			Space				Recreation		Protection	
Walden Woods Project LLC	111A Concord Turnpike	6	Walden Woods Project Inc.	Open Space/	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 11G, Parcel: 3994-1			Agriculture				Recreation		Protection	
Walden Woods Project LLC	106A Concord Turnpike	9	Walden Woods Project Inc.	Open Space/	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 11G, Parcel: 3996-1			Agriculture				Recreation		Protection	
Walden Woods Project LLC	25X Fairhaven Road	17.9	Walden Woods Project Inc.	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12G, Parcel: 4001-1			Space				Recreation		Protection	
Walden Woods Project LLC	21X Fairhaven Road	7.67	Walden Woods Project Inc.	Open	Excellent	Yes	No	Passive	AA	Permanent	
	Map: 12G, Parcel: 4004-1			Space				Recreation		Protection	

Chapter 61 Lands (2014)

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/Deed Restriction
Mary Seton Abele	31B Fairhaven Road Map: 12G, Parcel: 4002-1	38.72	May Seton Abele	Forestry	Good	No	No	Passive Rec. - Connect CLCT lands	AA	None
Jaime Caro & Heidi Hunting	61B Cambridge Turnpike Map: 10J, Parcel: 4068-3	10.19	Jaime Caro & Heidi Hunting	Forestry	Good	No	No	Passive Recreation	A	None
Jaime Caro & Heidi Hunting	39 Bypass Road Map: 10J, Parcel: 4068-6	12.3	Jaime Caro & Heidi Hunting	Forestry	Good	No	No	Passive Recreation	A	None
Concord Rod & Gun Club	31B Barretts Mill Road Map: 6F, Parcel: 1956-2	157	Concord Rod & Gun Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	A	None
Concord Rod & Gun Club	74 Strawberry Hill Road Map: 6E, Parcel: 1956	15.3	Concord Rod & Gun Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Concord Rod & Gun Club	27X Barretts Mill Road Map: 6F, Parcel: 1956-1	8.6	Concord Rod & Gun Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Benedict Koehler	396A Simon Willard Road Map: 7F, Parcel: 1671	39	Marian Korbet & Benedict Koehler	Forestry	Good	Yes	No	Passive Recreation	A	Permanent Protection by CR #103
Musketawid Sportsmen's Club	25A Old Mill Road Map: 12C, Parcel: 3049-1	5.15	Musketawid Sportsmen's Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Musketawid Sportsmen's Club	26X Old Mill Road Map: 12C, Parcel: 2980-1	84.85	Musketawid Sportsmen's Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Neil Rasmussen	39X Estabrook Road Map: 5G, Parcel: 1442-1	120.21	Neil Rasmussen	Forestry	Good	No	No	Passive Recreation	AA	Permanent Protection by CR #22
Neil Rasmussen	15B Hugh Cargill Road Map: 5F, Parcel: 1490	4.13	Neil Rasmussen	Forestry	Good	No	No	Passive Recreation	AA	None
Neil Rasmussen	20Y Hugh Cargill Road Map: 5F, Parcel: 1488-1	4.74	Neil Rasmussen	Forestry	Good	No	No	Passive Recreation	AA	Permanent Protection (CR)
Neil Rasmussen	25A Hugh Cargill Road Map: 5G, Parcel: 1492	8.75	Neil Rasmussen	Forestry	Good	No	No	Passive Recreation	AA	Permanent Protection (CR)
The Pippin Tree Land Trust	47Y Estabrook Road Map: 5G, Parcel: 1438	72.92	Russell and Lee Robb	Forestry	Good	Yes	No	Passive Recreation	AA	Permanent Protection (CR)
Marion Thompson	22X Fairhaven Hill Road Map: 12G, Parcel: 4006-3-1	15.93	Marion Thompson	Forestry	Good	No	No	Passive Recreation	AA	None
Henry Thompson	24X Fairhaven Hill Road Map: 13G, Parcel: 4006-3-2	13.65	Henry Thompson	Forestry	Good	No	No	Passive Recreation	AA	None
Anne Umphrey	3B Red Coat Lane Map: 6H, Parcel: 1451	2.1	Anne Umphrey	Forestry	Good	No	No	Passive Recreation	AA	None

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Anne Umphrey	76 Red Coat Lane	17.61	Anne Umphrey	Forestry	Good	No	No	Passive	AA	None
	Map: 6G, Parcel: 1453							Recreation		
Anne Umphrey	3X Red Coat Lane	4.31	Anne Umphrey	Forestry	Good	No	No	Passive	AA	None
	Map: 6H, Parcel: 1448-1							Recreation		

Chapter 61A Lands (2014)

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
David Anderson	15A Fitchburg Turnpike Map: 15F, Parcel: 3435	5	David Anderson	Vegetables	Good	No	No	Agriculture	AA	None
Arrowhead Homeowner's Trust	41B Williams Road Map: 12E, Parcel: 13107-1	30.02	Arrowhead Homeowner Trust	Agriculture	Good	No	No	Agriculture	AA	Permanent Protection under CR #62
Gordon Bemis	1501 Monument Street Map: 31P, Parcel: 1402-1	9.85	Gordon Bemis	Vegetables	Good	No	No	Agriculture	AA	None
John & Jennifer Bemis	21 Liberty Street Map: 7G, Parcel: 1326	5	John and Jennifer Bemis	Orchards	Good	No	No	Agriculture	A	None
John & Gordon Bemis	820 Monument Street Map: 5H, Parcel: 1365-2	1.36	John and Gordon Bemis	Field Crops	Good	No	No	Agriculture	AA	None
Ardis Bordman	45Y Monument Street Map: 7H, Parcel: 1355-1-2	0.57	Ardis Bordman	Pasture	Good	No	No	Agriculture	AA	None
Flint Farm Realty Trust	418 Monument Street Map: 7H, Parcel: 1352	12.71	John Bordman	Vegetables	Good	No	No	Agriculture	AA	None
Buechner-Vischer	299 Estabrook Road Map: 6G, Parcel: 1469	18.02	Bruce Embry	Field Crops	Good	No	No	Agriculture	AA	Permanent Protection under CR #37
Davol	29B Westford Road Map: 2F, Parcel: 1559	3	Peter Davol	Hay	Good	No	No	Agriculture	AA	None
Davol	310 Westford Road Map: 2F, Parcel: 1560	3	Peter Davol	Hay	Good	No	No	Agriculture	AA	None
Saltbox Farm	155A Lowell Road Map: 3F, Parcel: 1549	6.3	Benjamin Elliot	Till	Good	No	No	Agriculture	AA	None
Hutchins Farm	754 Monument Street Map: 6H, Parcel: 1365-1-1	66.8	Hutchins Land Co LLC	Veg/Fruit	Good	No	No	Agriculture	AA	Permanent Protection under APR
Domenic Infrerra	18A Shadyside Avenue Map: 9K, Parcel: 4240	18.42	Domenic Infrerra	Vegetables	Good	No	No	Agriculture	A	None
Irwin	1767 Lowell Road Map: 2F, Parcel: 1538	6.7	Warren Irwin	Till	Good	No	No	Agriculture	AA	None
Brant Johnson	177 Barnes Hill Road Map: 7G, Parcel: 1461	1.8	Brant Johnson	Forestry	Good	No	No	Agriculture	AA	None
Brant Johnson	19A Estabrook Road Map: 6G, Parcel: 1468	12.2	Brant Johnson	Forestry	Good	No	No		AA	Permanent Protection Under CR #22
Svea Johnson	460 Strawberry Hill Road Map: 5E, Parcel: 1962-2	9.16	Svea Johnson	Orchard/Hay	Good	No	No	Agriculture	AA	None
Kathleen Jorgensen	728 Sudbury Road Map: 11F, Parcel: 3989-4	3.9	Kathleen Jorgensen	Field Crops	Good	No	No	Agriculture	AA	None

Name	Location		Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/Deed Restriction
Kathleen Jorgensen	79B Sudbury Road	2.08	Heath Trust	Field Crops	Good	No	No	Agriculture	AA	None
	Map: 11F, Parcel: 3989-3			Pasture						
Kathleen Jorgensen	76B Sudbury Road	1.86	Heath Trust	Field Crops	Good	No	No	Agriculture	AA	None
	Map: 11F, Parcel: 3989-2-1									
Kathleen Jorgensen	82B Sudbury Road	20.3	Kathleen Jorgensen	Field Crops	Good	No	No	Agriculture	AA	Permanent Protection of 5.69 Acres under CR #96
	Map: 11F, Parcel: 3989-4-2									
Robert Kramer	71 Spencer Brook Road	50.86	Robert Kramer	Till	Good	Yes	No	Agriculture	AA	Permanent Protection of 51.48 Acres under CR #90
	Map: 2E, Parcel: 1571-1									
Joan Litle	115B Monument Street	7.34	Joan Litle	Field Crops	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1371-4									
Joan Litle	9B Buttricks Hill Road	1.95	Joan Litle	Field Crops	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1371-5									
Joan Litle	11B Buttricks Hill Road	2.66	Joan Litle	Field Crops	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1371-6									
Joan Litle	11R Buttricks Hill Road	1.38	Joan Litle	Till	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1371-7									
Joan Litle	108Y Monument Street	5.05	Joan Litle	Till	Good	No	No	Agriculture	AA	Permanent Protection of 3.6 acres under CR #116
	Map: 5I, Parcel: 1371-8									
Thomas Litle	106B Monument Street	7.2	Thomas Litle	Till	Good	No	No	Agriculture	AA	Permanent Protection under CR #116
	Map: 5I, Parcel 1371-9									
Thomas Litle	1080 Monument Street	1.36	Thomas Litle	Till	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1371									
Susan Macone	9A Fitchburg Road	20.2	Susan	Vegetables	Good	No	No	Agriculture	AA	None
	Map: 15F, Parcel: 3434									
Richard Petersen	972 Monument Street	23.16	Richard Petersen	Till	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1367									
William Petersen	1024 Monument Street	23.16	William Petersen	Till	Good	No	No	Agriculture	AA	None
	Map: 5I, Parcel: 1368									
Charles Poutasse	7Y Fitchburg Turnpike	6.71	Charles Poutasse	Vegetables	Good	No	No	Agriculture	AA	None
	Map: 15F, Parcel: 3448-7									
Renfroe	147X Monument Street	12.8	Renfroe	Till	Good	No	No	Agriculture	AA	Permanent Protection under APR
	Map: 3I, Parcel: 1403-2									
Renfroe	1487 Monument Street	0.48	Renfroe	Agriculture	Good	No	No	Agriculture	AA	None
	Map: 3I, Parcel: 1402-2									

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status / Deed Restriction
Robb	635 Monument Street Map: 6H, parcel: 1448	42.83	Russell Robb	Field Crops	Good	Yes	No	Agriculture	AA	Permanent Protection of 38.83 acres under CR # 127
Rowan	101 Fairhaven Hill Road Map: 12G, Parcel: 4009-2	8.71	Courtney Thompson Rowan	Prod Wood	Good	No	No	Passive Recreation	AA	Permanently Protected Under CR # 132
Frank Scimone	51A Old Bedford Road Map: 7J, Parcel: 1040-1	7.4	Frank Scimone	Vegetables	Good	No	No	Agriculture Passive Rec.	B	Portion will be protected under CR to NRC
Frank Scimone	49X Old Bedford Road Map: 7J, Parcel: 1059-1	8.8	Frank Scimone	Vegetables	Good	No	No	Passive Recreation	B	Will be placed under CR to NRC
Frank Scimone	505 Old Bedford Road Map: 7J, Parcel: 1041	2.94	Frank Scimone	Vegetables	Good	No	No	Agriculture	B	None
Grace Scimone	48A Old Bedford Road Map: 7J, Parcel: 1042	0.49	Estate of Grace Scimone	Vegetables	Good	No	No	Agriculture	B	None
Grace Scimone	47A Old Bedford Road Map: 7J, Parcel: 1043	0.49	Estate of Grace Scimone	Vegetables	Good	No	No	Agriculture	B	None
Susan Stafford	126A Lowell Road Map: 4F, Parcel: 1608-2	41.78	Susan Stafford	Vegetables	Good	No	No	Agriculture	AA	None
Taranto	157A Sudbury Road Map: 15F, Parcel: 3443-1	4.43	Richard and Thomas Taranto	Hay	Good	No	No	Agriculture	A	None
Taranto	1571 Sudbury Road Map: 15F, Parcel: 3444-1	31.08	Richard and Thomas Taranto	Hay/ Nursery	Good	No	No	Agriculture	AA	None
Tyler	216 Westford Road Map: 2F, Parcel: 1557	15.72	Victor and Mary Tyler	Till	Good	No	No	Agriculture	AA	Portions Permanently Protected under CRs 121 and 135
Urban	676 Monument Street Map: 6H, Parcel: 1362-1	9.8	Roger Urban	Hay	Good	No	No	Agriculture	AA	None
Urban	712 Monument Street Map: 6H, Parcel: 1363	5.77	Roger Urban	Hay	Good	No	No	Agriculture	AA	None
Urban	712 Monument Street Map: 6H, Parcel: 1363-1	0.16	Roger Urban	Hay	Good	No	No	Agriculture	AA	None
Verrill	43B Plainfield Road Map: 15E, Parcel: 3417-1	29.5	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	None
Verrill	415 Plainfield Road Map: 15E, Parcel: 3441	28.58	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection under APR
Verrill	14B Plainfield Road Map: 15E, Parcel: 3466	13	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection under APR
Verrill	393 Plainfield Road Map: 15E, Parcel: 3467	0.9	Stephen and Joan Verrill	Till	Good	No	No	Agriculture	A	Permanent Protection under APR
Verrill	89 Seven Star Lane Map: 13F, Parcel: 3612	5.11	Stephen and Joan Verrill	Forestry	Good	No	No	Passive Recreation	AA	None
Verrill	39B Fitchburg Turnpike Map: 15E, Parcel: 3424	7.88	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection under APR
White Pond Associates	1A Seymour Street Map: 14E, Parcel: 3268	0.3	White Pond Associates	Till	Good	No	No	Passive Recreation	A	None
White Pond Associates	2B Plainfield Road Map: 14E, Parcel: 3269	10	White Pond Associates	Agriculture	Good	No	No	Agriculture	A	None
White Pond Associates	10B Plainfield Road Map: 14E, Parcel: 3272	5	White Pond Associates	Agriculture	Good	No	No	Agriculture	A	None

Chapter 61B Lands (2014)

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status / Deed Restriction
Hasan Ahmed	33X Garfield Road Map: 14G, Parcel: 3453-3	20	Hasan and Aliya Ahmed	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection under CR #110
Hasan Ahmed	355 Garfield Road Map: 14G, Parcel: 3453-2	18.9	Hasan and Aliya Ahmed	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection under CR #110
Beeuwkes	1360 Monument Street Map: 3I, Parcel: 1378	8.24	Reinier and Nancy Beeuwkes	Recreation	Good	No	No	Passive Recreation	AA	None
Beeuwkes	1392 Monument Street Map: 3I, Parcel: 1378-1	0.9	Reinier and Nancy Beeuwkes	Recreation	Good	No	No	Passive Recreation	AA	None
Richard Churchill	903 Monument Street Map: 5H, Parcel: 1433	5.65	Richard and Maria Churchill	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection of 5.25 Acres under CR #70
Concord Country Club	246 ORNAC Map: 11E, Parcel: 3079	197.24	Concord Country Club	Golf Course	Excellent	Members Only	No	Golf Course	AA	None
Concord Rod & Gun Club	74 Strawberry Hill Road Map 6E, Parcel: 1956	20.59	Concord Rod & Gun Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Concord Rod & Gun Club	27X Barretts Mill Road Map: 6F, Parcel: 1956-1	2	Concord Rod & Gun Club	Sportsman's Club	Good	Members Only	No	Passive Recreation	AA	None
Endsbrick/Kohler	1061 Monument Street Map: 5I, Parcel: 1411	27.86	Endsbrick LLC	Recreation	Good	No	No	Passive Recreation	A	Permanent Protection under CR #65
Chandler Gifford	1123 Monument Street Map: 4I, Parcel: 1410	5.06	Chandler Gifford	Recreation	Good	No	No	Passive Recreation	AA	None
Althea Kaemmer	848 Sudbury Road Map: 12F, Parcel: 3643	12.54	Althea Kaemmer	Recreation	Good	Yes	No	Passive Recreation	AA	Permanent Protection of 13.32 acres under CR #97 and 192 acres under CR #98
Lee's Farm Homeowners Association Tr	5A Tanglewood Drive Map: 15G, Parcel: 3449-6-3	6.2	Lee's Farm Homeowner Ass'n Tr	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection under CR #49
Barbara Littlefield	90 Crowell Farm Road Map: 4E, Parcel: 1963-3	10.44	Barbara Littlefield	Recreation	Good	No	No	Passive Recreation	AA	None
Mattison	64B ORNAC Map: 12E, Parcel: 3085-1	24.7	Mary Mattison and Martha Curran	Recreation	Good	No	No	Passive Recreation	AA	None
Musketawid Sportsmen's Club	26X Old Mill Road Map: 12C, Parcel: 2980-1	21.65	Musketawid Sportsmen's Club	Recreation	Good	Members Only	No		AA	
Nashawtuc Country Club	1844 Sudbury Road Map: 16F, Parcel: 3430	34.87	Nashawtuc Country Club	Golf Course	Good	Members Only	No	Golf Course	A	None
Nashawtuc Country Club	1861 Sudbury Road Map: 16F, Parcel: 3431	78.72	Nashawtuc Country Club	Golf Course	Good	Members Only	No	Golf Course	AA	None

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status / Deed Restriction
Nashawtic Country Club	23A Fitchburg Turnpike Map: 15F, Parcel: 3438	21.36	Nashawtic Country Club	Golf Course	Good	Members Only	No	Golf Course	A	None
Nashawtic Country Club	176X Sudbury Road Map: 16F, Parcel: 3431-1	6.4	Nashawtic Country Club	Golf Course	Good	Members Only	No	Golf Course	AA	None
Nina Nielsen & John Baker	45C Autumn Lane Map: 2G, Parcel: 1531-2	0.94	Nina Nielsen & John Baker	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection under CR # 106
Nina Nielsen & John Baker	1285 Eastbrook Road Map: 2G, Parcel: 1531-1	6.45	Nina Nielsen & John Baker	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection under CR # 106
John Paino	252 Shadyside Avenue Map: 9K, Parcel: 4248-1	5.32	John & Sarah Paino	Recreation	Good	No	No	Passive Recreation	A	None
Andrew Rappoli	19X Old Stow Road Map: 10C, Parcel: 2321	59.04	Andrew Rappoli	Recreation	Good	No	No	Passive Recreation	B	None
Andrew Rappoli	20X Old Stow Road Map: 10C, Parcel: 2320	0.81	Andrew Rappoli	Recreation	Good	No	No	Passive Recreation	B	None
Neil Rasmussen	39X Estabrook Road Map: 5G, Parcel: 1442-1	42.69	Neil Rasmussen	Recreation	Good	On Non Such Lot	No	Passive Recreation	AA	Permanent Protection
Neil Rasmussen	39A Estabrook Road Map: 5G, Parcel: 1442-2	3.42	Neil Rasmussen	Recreation	Good	No	No	Passive Recreation	AA	None
Read Brooks	366 Eastbrook Road Map: 6G, Parcel: 1444-1	19.69	Read Brooks	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection
Renfroe	1510 Monument Street Map: 3J, Parcel: 1379	40	Larue Renfroe	Recreation	Good	No	No	Passive Recreation	AA	None
Renfroe	1516 Monument Street Map: 3J, Parcel: 1379-3	6.17	Larue Renfroe	Recreation	Good	No	No	Passive Recreation	AA	None
Renfroe	1514 Monument Street Map: 3J, Parcel: 1379-4	10.39	Larue Renfroe	Recreation	Good	No	No	Passive Recreation	AA	None
Renfroe	150Y Monument Street Map: 3J, Parcel: 1379-6	3.02	Larue Renfroe	Recreation	Good	No	No	Passive Recreation	AA	None
Renfroe	1470 Monument Street Map: 3L Parcel: 1379-7	16.01	Larue Renfroe	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection
Stephan Swanson	266 Shadyside Avenue Map: 9K, Parcel: 4248-1-5	9	Stephan & Judith Swanson	Recreation	Good	No	No	Passive Recreation	A	None
Tanglewood Drive Trust	30B Tanglewood Drive Map: 15G, Parcel: 3449-6-5	25.4	Tanglewood Drive Trust	Recreation	Good	No	No	Passive Recreation	AA	Permanent Protection
Thoreau Realty Trust	275 Forest Ridge Road Map: 12B, Parcel: 2970-1-5	39.16	Thoreau Realty Trust	Club House	Good	Members Only	Yes	Active	I	None
Thoreau Realty Trust	8 Forest Ridge Road Map: 12B, Parcel: 2970-1-8	15.08	Thoreau Realty Trust	Drainage	Good	No	No	Recreation Passive Recreation	I	None
Thoreau Realty Trust	9X Forest Ridge Road Map: 12B, Parcel: 2970-1-1	0.58	Thoreau Realty Trust	Recreation	Good	No	No	Passive Recreation	I	None
Wayman	116 Estabrook Road Map: 6G, Parcel: 1459-1	12	James Wayman & Roselee Spezio	Recreation	Good	No	No	None	AA	None

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status / Deed Restriction
Walters/ Cadenhead	846 Sudbury Road Map: 12F, Parcel: 3639	22.53	Lauren Walters &	Recreation	Good	Yes	No	Passive Recreation	AA	Permanent Protection of 15.96 acres under CR #97
Woodman	1586 Monument Street Map: 21, Parcel: 1380	5.5	Byron Woodman	Recreation	Good	No	No	None	AA	None

Conservation Restricted Lands

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status / Deed Restriction
Christian	555 Hugh Cargill Rd Map: 3G, Parcel: 1513-2	7.01 21.78	Reflections Farm LLC	Open Space Residence	Good Good	No No	No No	Pass. Rec. None	AA AA	Permanent Protection
Wells	4B Wolf Pine Way Map: 11F, Parcel: 3081-4	2.7	Pine Meadows Estates Trust	Open Space	Good		No	Passive Recreation	AA	Permanent Protection
Wells	3B Wolf Pine Way Map: 11F, Parcel: 3081-2	0.05	Pine Meadows Estates Trust	Open Space	Good		No	None	AA	Permanent Protection
Wells	1A Wolf Pine Way Map: 11F, Parcel: 3081-8	0.84	Pine Meadows Estates Trust	Open Space	Good		No	None	AA	Permanent Protection
Punkasset Hill	775 Monument Street Map: 6H, Parcel: 1436-1-2	1.44	RINET Co., LLC	Meadow	Good	No	No	None	AA	Permanent Protection
Bemis	77 Westford Road Map: 3E, Parcel: 1576-4	2.83	Julian & Bonnie Pelenur	Open Space (Wet)	Good	No	No	None	AA	Permanent Protection
Brown	122Y Lowell Road Map: 4F, Parcel: 1506-3	1.05	Francis Brown & Thomas Valhouli	Meadow	Good	No	No	None	AA	Permanent Protection
Brown	120Y Lowell Road Map: 4F, Parcel: 1506-5	2.99	Francis Brown & Thomas Valhouli	Open Space (Forested)	Good	No	No	None	AA	Permanent Protection
Old Pickard Farms Trust	31A Old Pickard Road Map 14D, Parcel: 2988	9.22	Old Pickard Farms Trust II	Open Space Res. Commonland	Good	No	No	None	AA	Permanent Protection
Old Pickard Farms	17X Stone Root Lane Map: 14D, Parcel: 3415	1.6	Old Pickard Farms Trust II	Open Space (Forested)	Good	No	No	None	AA	Permanent Protection
Old Pickard Farms	3X Stone Root Lane Map: 14D, Parcel: 2991-50	1.96	Old Pickard Farms Trust II	Open Space (Forested)	Good	No	No	None	AA	Permanent Protection
Old Pickard Farms	16A Stone Root Lane Map: 14D, Parcel: 2990-28	0.38	Old Pickard Farms Trust II	Open Space (Forested)	Good	No	No	None	AA	Permanent Protection
Christian/ Hoffman	495 Hugh Cargill Rd Map: 4G, Parcel: 1513	18.5	Mark E. & Marcia M. Thomas	Open Space (Forested)	Good	No	No	None	AA	Permanent Protection
Emerson	366 Estabrook Rd Map 6G, Parcel: 1444	16.73	Brooks S. Read	Residence Open Space	Good	No	No	None	AA	Permanent Protection
Emerson	280 Estabrook Rd Map 6G, Parcel: 1445	187	Marie G. Eaton	Open Space	Good	No	No	None	AA	Permanent Protection

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Ferry	101 Barnes Hill Rd Map 6G, Parcel: 1462	6.7	Gilbert & Susan Roddy	Residence	Good	No	No	None	AA	Permanent Protection
Brown	263 Great Meadows Rd Map: 7H, Parcel: 1259-3-2	18.4	Guido Goldman	Residence Open Space	Good	No	No	None	A	Permanent Protection
Hammond Chase Trust	38Y College Rd Map: 5E, Parcel: 1982-4	7.29	Hammond Chase Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Borden	34A Great Meadows Rd Map: 7H, Parcel: 1259-3-4	2.01	McWalter & Swaim Trs.	Open Space	Good	No	No	None	A	Permanent Protection
Borden	30A Great Meadows Rd Map: 7H, Parcel: 1259-3-3	3.27	Guido Goldman	Open Space	Good	No	No	None	AA	Permanent Protection
Walden Square Trust	8B Walden Square Map: 9H, Parcel: 0003-8	0.15	Walden Sq Homeowners Assoc.	Open Space	Good	No	No	None	C	Permanent Protection
Prendergast	144X Old Marlboro Rd Map 14C, Parcel: 2984-2	1.69	Ju-Tung & Su-May Hsu	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Emerson	39X Estabrook Road Map 5G, Parcel: 1442-1	148.21	Rasmussen/Winters	Open Space	Good	On None Such Lot	No	Passive Recreation	AA	Permanent Protection
Emerson	25A Hugh Cargill Road Map: 5G, Parcel: 1492	7.48	Rasmussen/Winters	Open Space	Good	No	No	None	AA	Permanent Protection
Emerson	19A Estabrook Road Map: 5G, Parcel: 1468	13.37	Brant and Molly Johnson	Open Space	Good	No	No	None	AA	Permanent Protection
Lowell	379 Garfield Road Map 14G, Parcel: 3452	0.28	Alan & Elise Woodward	Open Space	Good	No	No	None	AA	Permanent Protection
Schevill	379 Garfield Road Map: 14G, Parcel: 3452	4.76	Alan & Elise Woodward	Residence Open Space	Good	No	No	None	AA	Permanent Protection
Schevill	57B Garfield Rd Map: 15G, Parcel: 3452-1	9.6	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Evergreen Realty Trust	203 Sudbury Rd Map: 10G, Parcel: 0373	0.73	Sudbury Road LLC	Open Space	Good	No	No	None	TDB	Permanent Protection
Cambridge Savings	22A Silver Hill Rd Map: 2J, Parcel: 1384-18	3.4 0.66	Silver Hill Assoc	Open Space	Good	No	No	None	AA	Permanent Protection
Cambridge Savings	39X Silver Hill Rd Map: 2J, Parcel: 1384-28	9.31	USA: Dept of Interior	Open Space	Good	No	No	None	AA	Permanent Protection
Ridgewood Construction	9X Hill St Map: 9C, Parcel: 2299-35	6.33	Old Stow Road Common Land Trust	Open Space	Good	No	No	None	B	Permanent Protection
Lyon	8X Indian Spring Rd Map 6F, Parcel: 1631-4	5.54	Indian Spring Common Land Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Emerson	299 Estabrook Rd Map 6G, Parcel: 1469	25.23	299 Estabrook Rd Realty Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Kazmaier	261 Park Lane Map: 7E, Parcel: 1819-1	7.75	216 Park Lane Concord Trust	Agriculture	Good	No	No	None	B	Permanent Protection
Sosman	66B Lowell Road Map 6G, Parcel: 1465-4	1.19	Sosman Realty Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Christian	20Y Hugh Cargill Road Map: 5G, Parcel: 1488-1	4.71	Neil & Anna Rasmussen	Open Space	Good	No	No	None	AA	Permanent Protection
Mass Port	58B Old Bedford Road Map: 7J, Parcel: 0977	69.81	Mass Port Authority	Open Space	Good	No	No	None	A	Permanent Protection
Brooks	30B Tanglewood Drive Map: 15G, Parcel: 3449-6-5	25.4	Tanglewood Drive Trust	Open Space	Good	No	No	None	AA	Permanent Protection

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Brooks	900 Tanglewood Drive	19	Barry & Connie Hershey	Open	Good	No	No	None	AA	Permanent Protection
	Map: 15G, Parcel: 3449-6-CD			Space						
Cambridge Savings	25A Silver Hill Road	172	Silver Hill Assoc	Open	Good	Yes	No	Passive	AA	Permanent Protection
	Map: 2J, Parcel: 1384-19			Space				Recreation		
Rosenfeld	8A Seymour Road	0.21	Michael Rosenfeld	Open	Good	No	No	None	A	Permanent Protection
	Map: 14E, Parcel: 3235			Space						
Rosenfeld	38X Garfield Road	172	Naomi Rosenfeld	Open	Good	No	No	None	AA	Permanent Protection
	Map: 15G, Parcel: 3450-4			Space						
Kalmia Woods Cooperation	5B Heath's Bridge Road	32.8	Kalmia Woods Corp	Open Space	Good	No	No	Recreation	A	Permanent Protection
	Map: 12F, Parcel: 3547			Comm Garden						
Brooks	5A Tanglewood Drive	6.21	Lees Farm Homeown Assoc	Open	Good	No	No	None	AA	Permanent Protection
	Map: 15G, Parcel: 3449-6-3			Space						
Renfro	1470 Monument Street	16	H. Larue Renfro	Riding	Good	Yes	No	Riding	AA	Permanent Protection
	Map: 3I, Parcel: 1379-7			Arena				Arena		
Panetta	209A Main Street	4.87	Cranberry Lane Assoc, Inc.	Open	Good	No	No	None	B	Permanent Protection
	Map: 11B, Parcel: 2953-1			Space						
Panetta	213A Main Street	0.31	Cranberry Lane Assoc, Inc.	Open	Good	No	No	None	B	Permanent Protection
	Map: 12B, Parcel: 2953-3			Space						
Peter Springs Farm	7 Greenfield Lane	2.2	Peter Springs Homeown Assoc.	Open	Good	10-foot wide Ped. Access Ease.	No	Passive	B	Permanent Protection
	Map: 8I, Parcel: 0926-CD			Space				Recreation		
Meriam Close PRD	26B Edmonds Road	15.98	Meriam Close PRD Trust	Open	Good	No	No	None	A	Permanent Protection
	Map: 9J, Parcel: 4182-26			Space						
Thornton Lane	59B ORNAC	3.55	Moore Homes, Inc.	Agriculture	Good	10-foot wide Ped. Access Ease.	No	Passive	AA	Permanent Protection
	Map: 12E, Parcel: 3083							Recreation		
Moore Homes	8X Thornton Lane	6.9	Town	Open	Good	Yes	No	Passive	AA	Permanent Protection
	Map: 12E, Parcel: 3083-8			Space				Recreation		
Bemis	7X Westford Road	11.1	Spencer Brook Trust	Open	Good	Yes	No	Passive	AA	Permanent Protection
	Map: 3E, Parcel: 1577-4			Space				Recreation		
Bemis	5X Westford Road	3.22	Spencer Brook Trust	Open	Good	Yes	No	Passive	AA	Permanent Protection
	Map: 3E, Parcel: 1577-5			Space				Recreation		
Clendaniel	139A Monument Street	9.23	Meadow Pond Trust	Open	Good	No	No	None	AA	Permanent Protection
	Map: 3I, Parcel: 1405-2			Meadow						
Clendaniel	1373-1 Monument Street	0.25	Adam & Amy Simon	Open	Good	No	No	None	AA	Permanent Protection
	Map: 3I, Parcel: 1405-3			Space						
Clendaniel	1373-2 Monument Street	0.72	Douglas & Judith Manchester	Open	Good	No	No	None	AA	Permanent Protection
	Map: 3I, Parcel: 1405-4			Space						
Clendaniel	1373-4 Monument Street	0.6	Steven & Linda Cook	Open	Good	No	No	None	AA	Permanent Protection
	Map: 3I, Parcel: 1405-6			Space						
Emerson	39X Estabrook Rd (Lot 1A)	15.92	Neil E. & Anna Rasmussen	Open	Good	No	No	None	AA	Permanent Protection
	Map 5G, Parcel: 1442-1			Space						
Arrowhead	41B Williams Road	17.72	Arrowhead Homeown Trust	Agriculture	Good	No	No	None	AA	Permanent Protection
	Map: 12E, Parcel: 3107-1									
Arrowhead	11 Mattison Drive	1.21	Carl Calabria	Residence	Good	No	No	None	AA	Permanent Protection
	Map: 12E, Parcel: 3106-35									

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Arrowhead	29 Mattison Drive Map: I2E, Parcel: 3106-34	1.14	Katherine and Michael Kobos	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	53 Mattison Drive Map: I2E, Parcel: 3106-33	1.26	Waseem Sheikh and Annalisa Campanile	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	65 Mattison Drive Map: I2E, Parcel: 3106-32	1.5	Wade and Aliza Edwards	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	89 Mattison Drive Map: I2E, Parcel: 3106-31	1.25	Jeffrey and Beverly Backerman	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	105 Mattison Drive Map: I3E, Parcel: 3106-30	1.1	James Shields and Gayle Merling	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	121 Mattison Drive Map: I3E, Parcel: 3106-29	0.96	Harry and Claire Sheldon	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	145 Mattison Drive Map: I3E, Parcel: 3106-28	1.04	Stephen and Janet Lipkin	Residence	Good	No	No	None	AA	Permanent Protection
Arrowhead	27 Alford Circle Map: I3E, Parcel: 3106-27	0.98	Elissa P. Sargent	Residence	Good	No	No	None	AA	Permanent Protection
Metro West Development	64B Main St Map 9F, Parcel: 3855-1	4.3	MetWest Development, Inc.	Open Space	Good	No	No	None	B	Permanent Protection
Martin/Freeman	33 Spencer Brook Road Map: 2E, Parcel: I573-2	3.4	William Midon	Open Space	Good	With Permission	No	Passive Recreation	AA	Permanent Protection
Emerson	1061 Monument Street Map: 5I, Parcel: I411	22.7	Bruce Kohler & Ellen Emerson	Open Space	Good	No	No	None	A	Permanent Protection
Beecher	55 Buttrick's Hill Road Map: 4I, Parcel: I373-I-2	0.77	William Macauley	Open Space	Good	No	No	None	AA	Permanent Protection
Beecher	75 Buttrick's Hill Road Map: 4I, Parcel: I373-I-1	0.73	Charles Banks	Open Space	Good	No	No	None	AA	Permanent Protection
Beecher	3B Buttrick's Hill Road Map: 4I, Parcel: I371-I-2	0.37	Little Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Westvale Meadows	171A Main Street Map: 10C, Parcel: 2692	0.92	Westvale Meadows, Inc.	Passive Rec Canoe Launch	Good	Yes	No	Passive Recreation	C	Permanent Protection
Westvale Meadows	Westvale Meadows Map: 10C, Parcel: 2691-CD	5.38	Westvale Meadows, Inc.	Passive Rec Canoe Launch	Good	Yes	No	Passive Recreation	C	Permanent Protection
Huggins	903 Monument Street Map: 5H, Parcel: I433	5.25	Richard & Maria Churchill	Open Meadow	Good	No	No	None	AA	Permanent Protection
DeNormandie	25X Fairhaven Road Map: I2G, Parcel: 4001-1	17.9	Walden Woods Project	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
DeNormandie	64A Sudbury Road Map: I1G, Parcel: 3992-4-1	7.56	Walden Woods Project	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Newbury	1155 Lowell Road Map: 4F, Parcel: I609-1	2.56	Michael and Sara Schnitzer	Open Space	Good	No	No	None	AA	Permanent Protection
Newbury	116B Lowell Road Map: 4F, Parcel: I609-1-2	1.87	Michael and Sara Schnitzer	Open Space	Good	No	No	None	AA	Permanent Protection

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Walker	114R Lowell Road Map: 4F, Parcel: 1609-1-4	1.45	William & Martha Walker	Open Space	Good	No	No	None	AA	Permanent Protection
Spring	119R Lowell Road Map: 4F, Parcel: 1609-1-1	2.48	William & Barbara Spring	Open Space	Good	No	No	None	AA	Permanent Protection
Tobins	114X Lowell Road Map: 4F, Parcel: 1609-1-5	1.95	Marshall & Barbara Tobins	Open Space	Good	No	No	None	AA	Permanent Protection
Soutter	68B Sudbury Road Map 11G, Parcel: 3989-1	80.55	CLCT	Agriculture	Good	Yes	No	Passive Recreation	AA	Permanent Protection
22nd Middlesex Cooperation	75 Channing Road Map: 4D, Parcel: 1971-2-14	2.9	Paul & Kristen-Carlson Lewis	Open Space	Good	No	No	None	AA	Permanent Protection
22nd Middlesex Cooperation	95 Channing Road Map: 4D, Parcel: 1971-2-13	0.71	Kurt Glitzens tein	Open Space	Good	No	No	None	AA	Permanent Protection
Hogan	19A Westford Road Map: 2F, Parcel: 1575-3	2.34	Schuyler Lance & Linda Merwyn	Open Space	Good	No	No	None	AA	Permanent Protection
CLCT	87A Lowell Road Map: 5F, Parcel: 1619-5	2.24	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
NRC of Concord	86A Lowell Road Map: 5F, Parcel: 1619-4	2.38	Jack Chappell	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Concord Farms Ltd.	50A Virginia Rd Map: 7K, Parcel: 4287-1-2	2.01	Oasis Seven Concord Farms LLC	Open Space	Good	No	No	None	IP	Permanent Protection
Concord Farms Ltd.	477 Virginia Rd Map: 7K, Parcel: 4287-1	0.91	NE Tech Center Assoc.	Business	Good	No	No	None	A	Permanent Protection
Concord Farms Ltd.	490 Virginia Rd Map: 8K, Parcel: 4261-1	2.12	NE Farm LTD	Open Space	Good	No	No	None	IP	Permanent Protection
Concord Farms Ltd.	530 Virginia Rd Map: 8K, Parcel: 4257-1	1.73	Oasis Two Concord Farms, LLC	Open Space	Good	No	No	None	I	Permanent Protection
Concord Farms Ltd.	37B Virginia Rd Map: 7K, Parcel: 4261-2	22.4	CLCT	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection
Concord Farms Ltd.	43A Virginia Rd Map: 7K, Parcel: 4287-1-1	17.29	CLCT	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection
Concord Farms Ltd.	477 Virginia Rd Map: 7K, Parcel: 4287-1	0.71	NE Tech Center Assoc.	Open Space	Good	No	No	None	A	Permanent Protection
Estabrook/ Punkatasset	86A Monument Street Map: 4H, Parcel: 1436-1-1	92.1	NRC of Concord	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Estabrook/ Monument Farm	6A Monument Farm Road Map: 2I, Parcel: 1397-19	14.56	NRC of Concord,	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Estabrook/ Brewster Ridge	131A Monument Street Map: 4I, Parcel: 1406	1.84	NRC of Concord	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Punkatasset/ Saw Mill Brook	97A Monument Street Map: 5I, Parcel: 1436-1-5	7.99	NRC of Concord	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Concord Land Conservation Trust	88X Monument Street Map: 4H, Parcel: 1436-1-4	16.5	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Concord Land Conservation Trust	44A Hugh Cargill Road Map: 4G, Parcel: 1514	3.55	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection

Name	Location	Size (Acres)	Owner/Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/Deed Restriction
Picard	1373-4 Monument Street Map: 3I, Parcel: 1405-6	3.71	Steven & Linda Cook	Open Space	Good	No	No	None	AA	Permanent Protection
Goldlust	1437-3 Monument Street Map: 3I, Parcel: 1404-1	3.26	Jerry Goldlust	Open Space	Good	No	No	None	AA	Permanent Protection
Perry	71 Spencer Brook Road Map: 2E, Parcel: 1571-1	47	Robert Kramer	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Jones	305 Westford Road Map: 2F, Parcel: 1574	3.27	Mary & Robert Jones	Open Space	Good	No	No	None	AA	Permanent Protection
Ferguson	100 Garfield Road Map: 13F, Parcel: 3480-2	1.12	Jeffrey Weand & Janet Silver	Open Space	Good	No	No	None	AA	Permanent Protection
Ferguson	110 Garfield Road Map: 14F, Parcel: 3480-2-3	1.47	Charles Gildehaus	Open Space	Good	No	No	None	AA	Permanent Protection
Ferguson	126 Garfield Road Map: 14F, Parcel: 3480-2-4	1.71	Ferguson Realty Trust	Open Space	Good	No	No	None	AA	Permanent Protection
Campbell	254 Fairhaven Road Map: 12G, Parcel: 4001	3.09	Joan Campbell 1989 Trust	Open Space	Good	On Trails	No	Passive Recreation	AA	Permanent Protection
Fallwell	680 Sudbury Road Map: 11G, Parcel: 3989-2	0.97	Sarah Sharpe	Open Space	Good	No	No	None	AA	Permanent Protection
Fallwell	684 Sudbury Road Map: 11G, Parcel: 3990-1	2.87	Anne Evins	Open Space	Good	No	No	None	AA	Permanent Protection
Jorgenson	82B Sudbury Road Map: 11F, Parcel: 3989-4-2	5.69	Kathleen Jorgensen	Open Space	Good	No	No	None	AA	Permanent Protection
Sudbury Road Trustees	846 Sudbury Road Map: 12F, Parcel: 3639	15.96	Lauren Walters & Karen Cadenhead	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Sudbury Road Trustees	848 Sudbury Road Map: 12F, Parcel: 3643	13.32	Althea Kaemmer	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Sudbury Road Trustees	848 Sudbury Road Map: 12F, Parcel: 3643	1.92	Althea S Kaemmer	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Sudbury Road Trustees	846 Sudbury Road Map: 12F, Parcel: 3639	2.95	Lauren Walters & Karen Cadenhead	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Matheson	342 Sudbury Road Map: 10G, Parcel: 0473	2.65	Ivan R. Burns & Anne W. Hayden	Residence	Good	No	No	None	B	Permanent Protection
Hurley	33 Pond View Lane Map: 7G, Parcel: 1331	0.8	Thomas Wray Falwell, Trustee	Residence	Good	No	No	None	A	Permanent Protection
Hurley	31 Pond View Lane Map: 7G, Parcel: 1330-2	0.25	Thomas J. and Susan R. Miller	Residence	Good	No	No	None	A	Permanent Protection
Hurley	26 Pond View Lane Map: 7G, Parcel: 1330-1	0.3	26 Pond View Lane Realty Trust	Residence	Good	No	No	None	A	Permanent Protection

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Hurley	47B Lowell Rd	1.84	NRC of Concord	Open	Good	Yes	No	Passive	A	Permanent Protection
	Map: 7G, Parcel: I332			Space				Recreation		
Middlesex School	400 Lowell Road	46.82	Middlesex School	Open	Good	Trail	No	Passive	AA	Permanent Protection
	Map: 3F, Parcel: I533			Space		Access		Recreation		
Middlesex School	126-Y Lowell Road	5.17	Middlesex School	Open	Good	Trail	No	Passive	AA	Permanent Protection
	Map: 4F, Parcel: I506-2			Space		Access		Recreation		
Bessier	1352 Monument Street	0.83	Martin E. Beaulieu & Nancy Ireland	Open	Good	No	No	None	AA	Permanent Protection
	Map: 3I, Parcel: I378-3			Space						
Korbet	396A Simon Willard Road	39.88	MKK Realty Trust	Open	Good	Yes	No	Passive	A	Permanent Protection
	Map: 7F, Parcel: I671			Space				Recreation		
Jorgenson	8IX Sudbury Road	2.1	Heath Trust	Open	Good	No	No	None	AA	Permanent Protection
	Map: 1IF, Parcel: 3989-4-1			Space						
Nielson	1285 Es tabrook Road, Carlisle	8.43	John K. Baker Trust	Residence	Good	No	No	None	AA	Permanent Protection
	Map: 2G, Parcel: I531-1									
Nielson	45C Autumn Lane	1.26	John K. Baker Trust	Open	Good	No	No	None	AA	Permanent Protection
	Map: 2G, Parcel: I531-2			Space						
Beimfour	220 Balls Hill Road	7.04	Charlene Engelhard	Open	Good	No	No	None	AA	Permanent Protection
	Map: 4J, Parcel: I374			Space						
Beimfour	154 Balls Hill Road	0.19	Pierce Brown	Open	Good	No	No	None	AA	Permanent Protection
	Map: 4L, Parcel: I373-4			Space						
LeBlanc	47 Old Bedford Road	1.32	Thomas & Cynthia LeBlanc	Open	Good	No	No	None	A	Permanent Protection
	Map: 8J, Parcel: 4186-1-1			Space						
Met Life	16A Baker Avenue	20.53	Normandy Concord Acquisition LLC	Open	Good	Yes	No	Passive	IP	Permanent Protection
	Map: 8E, Parcel: 3794-1-2			Space				Recreation		
Met Life	300 Baker Avenue	17.22	Normandy Concord Acquisition LLC	Open	Good	Yes	No	Passive	I	Permanent Protection
	Map: 9E, Parcel: 3794-1			Space				Recreation		
Fairhaven Bay	33X Garfield Road	27.8	Hassan Ahmed	Open	Good	No	No	None	AA	Permanent Protection
	Map: 14G, Parcel: 3453-3			Space						
Fairhaven Bay	355 Garfield Road	13.3	Hassan Ahmed	Residence	Good	No	No	None	AA	Permanent Protection
	Map: 14G, Parcel: 3453-2									
Elm Brook Condo	93 Elm Brook Lane	8.38	Concord Housing Trust, Inc.	Open	Good	Yes	No	Passive	A	Permanent Protection
	Map: 7K, Parcel: 4261-3-CD			Space				Recreation		
Riverbend	78 Forest Ridge Rd	3.15	Riverbend Realty Trust	Open	Good	Yes	No	Passive	I	Permanent Protection
	Map: 12B, Parcel: 2971-2-CD			Space				Recreation		
Beecher	108Y Monument St	3.6	Joan B. Litle	Open	Good	With	No	Passive	AA	Permanent Protection
	Map: 5I, Parcel: I371-8			Space		Permissi on		Recreation		
Beecher	106B Monument St	7.01	Thomas Litle Jr	Open	Good	With	No	Passive	AA	Permanent Protection
	Map: 5I, Parcel: I371-9			Space		Permissi on		Recreation		
Beecher	106B Monument St	1.07	Thomas Litle Jr	Open	Good	With	No	Passive	AA	Permanent Protection
	Map: 5I, Parcel: I371-9			Space		Permissi on		Recreation		
Acton Water Supply	49B Laws Brook Road	3.8	Town of Concord	Open	Good	No	No	None	B	Permanent Protection
	Map 9C, Parcel: 2022-1			Space						
Squaw Sachem	18B Squaw Sachem Trail	3.58	CLCT	Open	Good	Yes	No	Passive	A	Permanent Protection
	Map: 8G, Parcel: I754			Space				Recreation		
Tyler	216 Westford Road	12.09	Alexander Tedeschi	Agriculture	Good	Yes	No	Passive	AA	Permanent Protection
	Map: 2F, Parcel: I557							Recreation		
Middlesex School CR-2	400 Lowell Rd	66.5	Middlesex School	Open	Good	On	No	Passive	AA	Permanent Protection
	Map: 3F, Parcel: I533			Space		Trails		Recreation		

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Macone Farm	57 Macone Farm Lane Map: 5E, Parcel: 1984-6-3	2.4	James and Lauren Sanger	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Macone Farm	79 Macone Farm Lane Map: 5E, Parcel: 1984-6-4	6.05	Roland Fryer and Franziska Michor	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Macone Farm	35 Macone Farm La Map: 5E, Parcel: 1984-6-2	1.85	Cheryl Carbeau	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Robb	635 Monument Street Map: 6H, Parcel: 1448	38.83	Russell & Lee Robb	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Ferguson	7B Garfield Road Map: 13F, Parcel: 3480-2-1	2	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Ferguson	9A Garfield Road Map: 13F, Parcel: 3480-2-2	2.8	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Thornton	31B Garfield Road Map: 14F, Parcel: 3455-1	1.71	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Thornton	29B Garfield Road Map: 14F, Parcel: 3455-2	3	CLCT	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Hubbard Brook	69B Sudbury Road Map: 11G, Parcel: 3989-1-1	17.7	CLCT	Agriculture	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Lincoln_Booth	85Y Fairhaven Hill Road Map: 14H, Parcel: 4011	7.3	Town of Lincoln	Open Space	Good	No	No	None	AA	Permanent Protection
Rowan	101 Fairhaven Hill Road Map: 12G, Parcel: 4009-2	9.71	Cortney Thompson Rowan	Open Space	Good	No	No	None	AA	Permanent Protection
Finigan Way	14A Strawberry Hill Road Map: 6E, Parcel: 1986-6	11.598	Bentley Building Corp	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Nashoba Brooks	200 Strawberry Hill Road Map: 6E, Parcel: 1955	2.0194	Nashoba Brooks School	Open Space	Good	No	No	None	AA	Permanent Protection
Nashoba Brooks	200 Strawberry Hill Road Map: 6E, Parcel: 1955	6.05	Nashoba Brooks School	Open Space	Good	No	No	None	AA	Permanent Protection
Tyler	216 Westford Road Map: 2F, Parcel: 1557	2.9	Victor and Mary Tyler	Till	Good	No	No	Agriculture	AA	Permanent Protection
Rogers	6A Harrington Avenue Map: 10C, Parcel: 2702	4.73	Town	Agriculture/ Open Space	Good	Yes	No	Passive Recreation	B	Permanent Protection
Concord River Wa	1631 Main Street Map: 10C, Parcel: 2681-CD	1.715	Concord River Walk LLC	Open Space	Good	Yes	No	Passive Recreation	C	Permanent Protection
335 Walden Street	335 Walden Street (Rear) Map: 10H, Parcel: 0249-1	2.607	Town of Concord	Open Space	Good	Yes	No	Passive Recreation	A	Permanent Protection
Old Bedford	506 Old Bedford Road Map: 7J, Parcel: 0974-1	2.55	HK Develop. LLC	Open Space	Good	No	No	None	B	Permanent Protection
Old Bedford	49Y Old Bedford Road Map: 7J, Parcel: 0974-4	2.02	HK Develop. LLC	Open Space	Good	No	No	None	B	Permanent Protection
Pemberwick	455 ORNAC Map: 11F, Parcel: 3644-1	6.7	Pemberwick Holdings LLC	Open Space	Good	Yes	No	Passive Recreation	AA	Permanent Protection
Domini	445 Lowell Road Map: 7G, Parcel: 1670-1	1.38	Sally Brett	Open Space	Good	No	No	None	A	Permanent Protection
Brett	41A Lowell Road Map: 7G, Parcel: 1672	4.33	Robert Brett	Open Space	Good	No	No	None	A	Permanent Protection
Scimone	49X Old Bedford Road Map: 7J, Parcel: 1059-1	15.5754	Frank Scimone	Open Space	Good	Yes	No	Passive Recreation	B	Permanent Protection

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Monsen Farm	9B Monsen Road Map: 7J, Parcel: 1059	18006	Antonio Scimone	Open Space	Good	Yes	No	None	B	Permanent Protection
Mildred Circle	189 Mildred Circle Map: 10I, Parcel: 0259-20	1.5	Eileen Brooks	Open Space	Good	Yes	No	None	A	Permanent Protection
Brisler's Hill CR	641 Walden Street Map: 11I, Parcel: 0272-1	18	Walden Woods Project	Passive Recreation	Good	Yes	Semi	Passive Recreation	LB4	Permanent Protection
CHA - Thoreau Street	282 Thoreau Street Map: 10H, Parcel: 0319-1	7.57	Concord Housing Authority	Open Space	Good	No	No	Passive Recreation	C	Permanent Protection
Hurley	2250-2254 Main Street Map: 12B, Parcel: 2325	3.6	Kevin Hurley	Open Space	Good	Yes	No	Passive Recreation	LIP	Permanent Protection

Agricultural Preservation Restrictions

Name	Location	Size (Acres)	Owner/ Manager	Current Use	Condition	Public Access	ADA Accessible	Recreation Potential	Zoning	Protection Status/ Deed Restriction
Mattison Field	63A Old Road to Nine Acre Corner Map: 12F, Parcel: 3634-1	43.37	NRC	Passive Recreation Agriculture	Good	Yes	No	Passive Recreation Agriculture	AA	Permanent Protection
Hutchins Farm	754 Monument Street Map: 6H, Parcel: 1365-1-1	66.8	Hutchins Land Co LLC	Veg/Fruit	Good	No	No	Agriculture	AA	Permanent Protection
Renfro	147X Monument Street Map: 3I, Parcel: 1403-2	12.8	Renfro	Till	Good	No	No	Agriculture	AA	Permanent Protection
Verrill	415 Plainfield Road Map: 15E, Parcel: 3441	28.58	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection
Verrill	14B Plainfield Road Map: 15E, Parcel: 3466	13	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection
Verrill	393 Plainfield Road Map: 15E, Parcel: 3467	0.9	Stephen and Joan Verrill	Till	Good	No	No	Agriculture	A	Permanent Protection
Verrill	39B Fitchburg Turnpike Map: 15E, Parcel: 3424	7.88	Stephen and Joan Verrill	Vegetables	Good	No	No	Agriculture	A	Permanent Protection



Horned Lark (*Eremophila alpestris*) by Ryan Schain

Appendix

H

Open Space the Last Twenty Years

The following summarizes events and accomplishments affecting water, wildlife, recreation, and open space from 1992 through 2014. It draws heavily from the Annual Reports of the Town Offices of Concord.

1992

- A) Unisys property acquired especially to maintain quality of groundwater and White Pond and task force created to develop management plans.
- B) Landfill issues remain high profile, and now residential trash must be picked up curbside, with some curbside recycling.
- C) “Concord Greenpeople” established as volunteers conducting maintenance activities at Town conservation sites.
- D) Concord’s 1992 *Open Space Plan*, using landscape ecology to outline an Open Space Framework with large natural and agricultural areas, major water and wildlife corridors, and smaller special sites, distributed for review.
- E) During 1985-91 >430 acres protected by various entities, 515 acres developed, and remaining undeveloped land is more fragmented.
- F) Walden Woods project acquires 50 acres around Bear Garden Hill and Boiling Spring, off Sudbury and Fairhaven Hill roads.
- G) Congress authorized National Park to acquire 40 acres of Perry and Fletcher farms off Lexington Rd.
- H) CLCT acquired the Thompson Land, 11 acres on Fairhaven Hill.
- I) CLCT acquired the Ham Land, 1.7 acres on Musterfield Road.

1993

- A) West Concord Study Committee created a master plan for the area.
- B) CLCT acquired the Soutter land, 76 acres by Route 2 and Sudbury Rd.
- C) Improvements at Town’s Keyes Rd. site begun to consolidate Public Works, Light Plant, Natural Resource, etc. activities.
- D) With the specter of increased intensity of Hanscom Field operations, Hanscom Field Advisory Committee appointed.
- E) Middlesex School proposed to expand campus easterly across wetland, which catalyzed a renewed focus on protecting the Estabrook Woods.
- F) Town’s Natural Resources Commission encouraged wildlife surveys of, e.g., spring and winter birds, vernal pools and amphibian breeding sites, and state-listed elderberry-borer beetle.
- G) CLCT acquired the Brengle Land, 4.6 acres on Musterfield Road.

1994

- A) As part of subdivision plans, 24 acres by ORNAC plus acreage off Monument St. protected as open space.
- B) Re-instituted storm-drain cleaning program and cleaned 1200 (65%) of Town’s catch basins.
- C) Landfill no longer accepting solid waste.
- D) Concord Land Conservation Trust (CLCT), The Trustees of Reservation, and Towns of Concord and Carlisle launch campaign to establish permanent protection for as much as possible of

the Estabrook Woods.

- E) Middlesex School files notice of intent to cross significant wetlands.
- F) Natural Resource Commission points out the “extent of impact by the massive size and associated landscaping of the new residences being constructed.”
- G) CLCT accepts a 13-acre Agricultural Restriction on Monument St.
- H) Baseball diamond upgraded and playground equipment installed at Rideout Field.
- I) CLCT acquired the Knight Land, 2.7 acres on Fairhaven Hill.

1995

- A) Town Meeting approved moving Light Plant operations to a Route 2A site, and accommodating all Public Works functions at an improved Keyes Rd. site.
- B) Lot #3 on Heywood St. is proposed for a new visitor information center; a citizens group formed to oppose construction on the site.
- C) Selectmen hold land-use symposium which identifies approximately 575 “developable” parcels left in Town, and compares the effect of proceeding with, versus without, a proactive approach to guiding growth.
- D) Land protected includes 20 acres of river frontage off ORNAC.
- E) Parcels on Virginia Rd. approved for affordable housing.
- F) No action recommended on a proposal to expand the Minuteman Path from Bedford past the wastewater treatment plant into Concord Center.
- G) State presented preliminary plans for Route 2 changes around Crosbys Corner.
- H) Town plays increasingly active role as a commuter service is proposed for Hanscom Field, and the Governor proposes to privatize management and/or development of the Field.
- I) Changes in Title V of State Sanitary Code sparked a significant increase in citizens being serviced by Town’s sewer system.
- J) All 2000 catch basins in public roads and parking lots cleaned, with 825 tons of sand, dirt and debris removed.
- K) A 25-acre wetland next to Sanborn School protected.
- L) Town designated a route, mainly on roads, from Acton through Concord Center to Lincoln as a section of the 200 mi. Bay Circuit Trail

around Boston.

- M) Town Meeting voted to support designation of the SuAsCo rivers in Concord under the federal Wild and Scenic River Program.
- N) Natural Resources Commission created a Mill Brook Task Force to restore important historic, natural resource and other values of the brook.
- O) Land protected includes 53 acres in the Virginia Rd. area, and ca. 20 other acres in the Spencer Brook Valley.
- P) CLCT’s C. Richard Taylor lecture series in natural sciences established to link Harvard University, the Concord community, and three high schools in Town.
- Q) *Historic Resources Masterplan* completed which identifies numerous historic sites of open-space interest; a shorter user-friendly version, *Highlights of Concord’s Historic Resources*, is sold at Town Clerk’s office.
- R) CLCT acquired the Hallenbeck Land, 115.9 acres on Lowell Road.

1996

- A) In exchange for 24-acre Route 2A site, the state was given an option to acquire Goose Pond land for its Walden Reservation.
- B) Concord joined three neighboring towns in taking a stronger approach to Hanscom and Massport issues.
- C) State passed a River Protection Act increasing jurisdiction under the Wetland Protection Act for alterations within 200 ft. of a permanently flowing body of water.
- D) Conservation restrictions were placed on 49 acres in the upper Spencer Brook Valley.
- E) *Concord’s Mill Brook: Flowing Through Time* printed as a linkage of natural resources and cultural history, a walking guide, and a stimulus to restoration activity.
- F) A federal Forest Legacy Grant protected 73 forested acres south of Mink Pond in the south part of Estabrook Woods.
- G) About 100 acres protected in the Spencer Brook Valley area, helping to create a water-protection and wildlife corridor.
- H) Recreation Commission completed installation of Emerson Field playground.
- I) CLCT acquired the Hallenbeck Land, 4.6 acres on Lowell Road.
- J) CLCT acquired the Freeman/Martin land, 14 acres on Westford Road.

1997

- A) Harvard University President recorded a commitment to preservation of 672 acres, matching commitments of other public and private landowners to preserving adjoining 425 acres, making a total of about 1100 acres of Estabrook Woods protected in Concord and Carlisle.
- B) The 19-acre Thoreau Birthplace on Virginia Rd. was protected.
- C) A new soccer field at Peabody School was completed.
- D) William B. Edgerton was appointed Director of Concord Public Works and expressed a strong commitment to the environment.
- E) A voluntary Odd-Even outdoor watering program began and helped Concord weather an extremely dry summer without a watering ban.
- F) Town's Natural Resources Commission and Middlesex School signed an agreement permitting limited wetland alterations, but citizens' representation appealed the decision; CLCT continued to search for an alternative, including offering the School a 2.5-acre lot westward across Lowell Rd.
- G) Planning Board reviewed Starmet's (Nuclear Metals') proposal to remove contaminated materials (including radiological) from a holding basin near Main St. and the Assabet River; Starmet issues became high profile, involving many residents, organizations and agencies.
- H) To address water-quality problems in White Pond, many of the most seriously damaged roads in the neighborhood were repaired with the assistance of the Town.
- I) At a Special Town Meeting and a subsequent election, voters chose to purchase the 43-acre Mattison Field as permanently protected farmland.
- J) CLCT acquired the Ham Land, 0.4 acres on Squaw Sachem Trail.
- K) CLCT acquired the Ferguson land, 4.8 acres on Garfield Road.

1998

- A) After >30 years of Service to Concord and its natural resources, Natural Resources Director Daniel Monahan retired; he had an irreplaceable wealth of knowledge of Concord's natural resources and cultural history, plus a deep commitment to people and the environment.
- B) Following the departure of Al Lima, Marcia Rasmussen was promoted to Director of Land

Planning.

- C) The 10-acre Knoll was dedicated as the newest portion of Sleepy Hollow Cemetery.
- D) A committee recommended no action on a Community Preservation Act to create a fund financed by a real-estate tax to acquire open space, preserve historic places, and develop affordable housing.
- E) The state indicated that funding would be available for jersey barriers along portions of Route 2, and released a draft EIS for Crosby Corner alterations.
- F) Significant renovation of the Town's Keyes Rd. site, including a 150-ft. greenbelt along the river was accomplished.
- G) Shortly after a voter-approved state ban on trapping beavers, populations in town swelled, creating dams and flooding several streets and culverts.
- H) A "Biodiversity Day" in July with residents and many outside specialists reported >1900 species in Concord and Lincoln, including two ant species new to science.
- I) Removal, monitoring, and analysis of radiological and other toxic materials at Starmet increased.
- J) A rash of violations of the Wetland Protection Act required enforcement action, including one case requiring a financial-contribution settlement.

1999

- A) Track and playing field irrigation projects at Emerson Field were completed.
- B) Town acquired a geographic information system (GIS) to aid in planning, public works, and other activities.
- C) Shade-tree planting on Town streets and public land increased (96 planted), but 120 damaged or diseased trees were removed.
- D) The voluntary Greenpeople group for land management activities was reorganized.
- E) A 55-acre conservation restriction was granted by Middlesex School to The Trustees of Reservations.
- F) The "White Row" and "Green Row" of derelict houses surrounding MCI were demolished.
- G) The Robinson Well and pumping station off Sudbury Rd. south of Route 2 went on line and increased Concord's water supply by 20%.
- H) Two recycling, reuse, and oversize material drop-off days for materials not collected

curbside were highly successful; the municipal collection program recycled >94% of materials collected curbside, one of the highest recycling rates in the state.

- I) No new subdivisions, residential clusters or residential compounds were approved, though building permits (722) increased 6% and wetlands permit applications increased.
- J) The Planning Board recommended approval of a 12-unit all-affordable-housing Planned Residential Development off Virginia Rd.
- K) Mill Brook Task Force dispersed a new printing of *Concord's Mill Brook: Flowing Through Time*, and worked with a state grant on improving water quality.
- L) MassPort conducted a second controlled burn to help open up Hanscom Field runway approaches, with the expectation of enhanced habitat for rare grassland species.
- M) Town worked on a management plan with the New England Wildflower Society to protect the largest population in New England of the rare Britton's violet (*Viola brittoniana*).
- N) Development on the former Unisys land on the Sudbury side causes concern about possible impacts on the Concord side including White Pond.
- O) Commuter airline usage of Hanscom was approved by Massport after relatively little public review, so Hanscom Area Towns Committee initiated a lawsuit against Massport.
- P) A demolition delay bylaw is passed to help protect the Town's most important historic structures.
- Q) CLCT acquired the Rustino land, 4 acres on Lindsay Pond Road.
- R) CLCT acquired the Chamberlin land, 29 acres on Lowell Road.
- S) CLCT acquired the Anderson land, 11 acres on Garfield Road.
- T) CLCT acquired Piney Woods, 4.5 acres on Westford Road.

2000

- A) Town recommended Starmet as its first (EPA) Superfund Site, quite close to Acton's Grace Superfund Site across the Assabet River.
- B) For the first time in years more new trees were planted (123) than were taken down (110) by the Town.
- C) A significant wetland violation case occurred along the Concord River west of the Great

Meadows NWR.

- D) A 65-acre woods on the Assabet River below Nashawtuc Hill was protected, and conservation restrictions were placed on an additional 66-acre parcel.
- E) Over 500 public-health water-quality tests were run to assess 145 potential carcinogens in the water supplies (which may also provide insight into surface waters near Town wells); the generally good results were provided to all customers.
- F) Mattison Field was managed for farming (hay), grassland birds (no hay cutting before July 15), walkers (around the perimeter), and historic preservation (fund-raising to protect a rare wooden-stave water tower).
- G) Six miles of sewer pipe (25% of entire system) were inspected via remote-controlled TV camera to identify needed repairs and replacement.
- H) An exotic plant, water chestnut, which earlier had invaded the National Wildlife Refuge, was pulled up in large amounts by a fleet of boats in Fairhaven Bay.
- I) An Outdoor Lighting Committee recommended the use of minimum-intensity illumination, shielded lights to reduce glare, illumination limited to areas of need, and "white" light sources.
- J) Renovations of recreational facilities at Rideout Field were completed.
- K) CLCT acquired the Garth land, 26 acres on Simon Willard Road.

2001

- A) Authorization was given for the Town to acquire property at end of Ball's Hill Rd., which includes a 17-acre potential Town well site valuable natural habitat, and two rare historical buildings.
- B) The state provided updates on proposed Route 2 changes at Crosby Corner, Concord Rotary, and median barriers by the landfill and Emerson Hospital.
- C) Reconstruction of Main St. in West Concord was completed with a significant addressing of neighborhood concerns.
- D) Landfill was capped and planted with warm-season grasses and native trees; the solution implemented was considered not to preclude future land uses.
- E) The Hugh Cargill wellfield on Walden St. was put back in service, with special state dispensation because of nearby houses, and increased the Town drinking water supply by 10%.
- F) A Comprehensive Wastewater Management Plan

- being developed moved into full gear.
- G) Land protection included 40 acres acquired near the Thoreau Birthplace on Virginia Rd., 52 acres along Sudbury and Powdermill roads, and a 41-acre conservation restriction on Garfield Rd. land.
 - H) A Comprehensive Long Range Plan Committee was appointed.
 - I) A sheep-grazing program to control exotic invasive plants was initiated and used on Town, land trust and NPS lands.
 - J) Hanscom Field was changed to a “Commercial Airport” by Massport; significant increase (beginning in 2000) in jet and commercial operations and in associated access-road trips, continued causing increased concern about noise.
 - K) State provided a “build-out” map and analysis for Concord.
 - L) A proposed large capital construction program to rebuild/upgrade Concord schools was rejected by voters, but funding was approved for a new Alcott School.
 - M) The GIS program continued to grow and, after being named one of the best GIS’s in New England in 1999, was ranked third best worldwide in a software-vendor contest.
 - N) CLCT acquired the Poutasse/Miller land, 52 acres on Sudbury/Powdermill Roads.
 - O) CLCT acquired the Spaulding land, 39.7 acres on Virginia Road.
 - P) CLCT acquired the Navaro land, 0.5 acres on Aurora Lane.

2002

- A) A new visitor center and public restroom on the Milldam was constructed, and lot 3 on Heywood St. was transferred to the care of the Natural Resources Commission.
- B) A children’s center at the Harvey Wheeler Community Center was completed, and renovation of the HWCC began.
- C) Improvement to the Ripley fields began.
- D) A revaluation of real estate properties in Town resulted in huge tax increases for conservation-restricted and some other properties, which led to numerous complaints and concerns.
- E) A spraying program began in Sleepy Hollow Cemetery to control the spread of the woolly adelgid blight that has started to infect local hemlocks.
- F) The Comprehensive Wastewater Management Plan recommended provision of sewers or clus-

ter (neighborhood) treatment systems to proximately 979 additional parcels to be accomplished over a decade.

- G) Projects on invasive-species control undertaken on many public and private lands across Town, including water chestnut control in the Sudbury River and intensive sheep grazing in meadow areas.
- H) Mill Brook Task Force attached brightly colored “No Dumping – Drains to Mill Brook” tags at 60 catch basins.
- I) A “Mansionization Committee” report included recommendations for increased yard setbacks.
- J) A Landfill Study Committee recommended formal closure of the landfill, continued discussion with the Walden Woods Project about possible natural land protection, and a possible land swap with the state.
- K) A “2229 Main St. Committee” was created to advise on activities occurring at the Starmer EPA Superfund site, including the approximately 3800 drums of radiological materials (some containing depleted uranium waste and others imported from South Carolina with uranium tetrafluoride), plus fences, holding basins, contaminants moving in groundwater, and aerial contaminants.
- L) CLCT acquired the Keyes Land, 12.65 acres on Strawberry Hill Road.

2003

- A) Capped landfill was seeded with a native grass mixture.
- B) Town Meeting approved a Comprehensive Wastewater Management Plan.
- C) Town added 122 units of affordable housing, much more than in previous years, raising the affordable housing percentage to 4.9%.
- D) A Playing Field Study Committee outlined the need for additional playing fields.
- E) Planning Board recommended approval of a swim facility at high school.
- F) Key invasive plants along roadways were mapped.
- G) Town became one of the top ten recycling communities in the state.
- H) Colonel James Barrett Farm was purchased for open space and historic structure protection.
- I) CLCT acquired the Gifford land, 2.9 acres on Monument Street.
- J) Mill Brook Task Force received the River Stewardship Award.

2004

- A) Opening of skateboard park at the High School.
- B) Groundbreaking for the Beede Swim and Health Center.
- C) Acquisition of the Ammendolia Land near Ripley School for possible playing fields, pumping station, and open space.
- D) Town Meeting affirmative vote for the Community Preservation Act.
- E) Conservation Restriction Stewardship Committee established.
- F) System developed for monitoring compliance of CR lands.
- G) CLCT acquired the Gifford land, 6.9 acres on Monument Street.
- H) NRC acquired the Beecher CR, 1.07 acres on Monument Street.
- I) Thoreau's Path on Brister's Hill created.
- J) Fairyland Pond survey and management plan developed.
- K) Community Preservation Act was adopted at 1.5%.
- L) Warner's Pond Stewardship Committee established.

2005

- A) River access improved at Lowell Road Bridge area.
- B) CLCT acquired the Blancke land, 1.69 acres on Annurnnac Hill.
- C) Acton Water Supply District acquired a 3.8-acre CR on Laws Brook Road.
- D) Town purchased Burke Land, 14.5 acres on Old Bedford Road for municipal purposes.
- E) Comprehensive Long Range Plan completed.
- F) Bruce Freeman Rail Trail Advisory Committee established.
- G) Tennis and basketball courts reconstructed at Emerson Playground.
- H) Wildlife Passages Task Force established.

2006

- A) CLCT acquired the Corey/Bourquin land, 23.6 acres on Barrett's Mill Road.
- B) CLCT acquired the Assabet Wood land, 3.5 acres on Squaw Sachem Trail.
- C) Town acquired a 3.6-acre CR on Squaw Sachem Trail.

- D) Agriculture Committee established.
- E) First Ag Day took place.
- F) Beede Center opens.
- G) Phase 1 of the Emerson Thoreau Amble completed
- H) CPA funded reconstruction of the Warner's Pond Dam.
- I) CPA funded reconstruction of the Emerson Playground tot lot.
- J) CPA allocated funds towards the Bruce Freeman Rail Trail design.

2007

- A) Town Trails Committee established.
- B) The Town conducted a "Big Night" survey to monitor breeding amphibians along the proposed Bruce Freeman Rail Trail.
- C) Phase 2 of the Emerson -Thoreau Amble received DCR grant funding.
- D) CPA funded playing fields at the Concord-Carlisle High School.
- E) CLCT acquired the Tyler CR, 12.09 acres on Westford Road.
- F) The Trustees of Reservations (TTOR) acquired a 39-acre CR on Monument Street.
- G) Walden Woods Project acquired a 9-acre parcel of land along Route 2.

2008

- A) CLCT and the Town jointly acquired Hubbard Brook Farm Field, 17.7 acres on Sudbury Road (CPA funds) with a CR held by the NRC.
- B) NRC acquired a 4.8-acre CR on the Ferguson land on Garfield Road.
- C) CLCT acquired the Thornton land, 4.7 acres on Garfield Road with a CR held by the NRC.
- D) TTOR acquired a 70-acre CR at Middlesex School.
- E) The Lincoln Land Conservation Trust acquired a 7.3-acre CR on Fairhaven Hill Road.
- F) New artificial turf playing fields at CCHS opened.
- G) CPA funds allocated to develop Baseline Documentation Reports for Town Conservation Restrictions.

2009

- A) Wetlands Bylaw passed.
- B) CLCT and Walden Woods Project acquired a 9.71-acre CR on Fairhaven Hill Road.
- C) NRC acquired a 12-acre CR at Finigan Way.
- D) NRC acquired a 2-acre CR at Nashoba Brooks School.

- E) NRC acquired a 15-year term CR on 6.05 acres at Nashoba Brooks School.
- F) Construction of little league field at Ripley School commenced.
- G) CPA funds allocated towards reports and studies for the Bruce Freeman Rail Trail.

2010

- A) CLCT acquired 5 acres of pasture land on Muskettaquid Road
- B) Warner's Pond Watershed Management Plan funded (CPA funds)
- C) NRC acquired 3.61 acres at 33X Walden Street (CPA funds) with a CR held by CLCT
- D) Town acquired 1.8 acres on Harrington Avenue for farming purposes
- E) Restoration efforts at Old Calf Pasture commenced to remove invasives and enhance the rare Britton's violet population
- F) Wetland Bylaw Regulations adopted
- G) Outdoor skating rink constructed at Emerson Field

2011

- A) Right to Farm Bylaw passed.
- B) NRC and CLCT acquired the Rogers Land, 4.7 acres on Harrington Avenue (CPA, Town funds, CLCT donations, CLCT holds CR).
- C) NRC acquired a 1.7-acre CR at Riverwalk on Main Street.
- D) White Pond Watershed Management Plan funded through CPC.
- E) CPA funded restoration of the Heywood Meadow stone wall (west meadow) underway.
- F) Handicapped parking lot at the Town Forest (Tuttle Lane) completed.

2012

- A) CPA funded restoration at the Roger's Land underway.
- B) Trail Stewards Program for town trails established to maintain and improve conditions of established trails.
- C) CLCT acquired Gowing's Swamp (Ware land), 7.2 acres on Independence Road.
- D) CLCT acquired the Gifford land, 5 acres on Monument Street.
- E) Town acquired 1 acre on Laws Brook Road, an addition to Rideout Playground (CPA funds).
- F) Town Meeting authorized the acquisition of 79.5

acres at 214Y Main Street (W.R. Grace land). Negotiations remain outstanding.

- G) Construction of the Playscape at Ripley commenced, a fully accessible nature-based recreation area (CPA funds).
- H) CPA funds Recreation Facilities Plan.
- I) Rideout Playground updated to meet ADA standards.
- J) NRC acquired a 6-acre CR on Macone Farm Lane.
- K) Senior Walking Program developed.
- L) Warner's Pond Watershed Management Plan completed.

2013

- A) Phase 2 of the Emerson-Thoreau Amble completed, including two pedestrian bridge crossings.
- B) Handicap accessible trail completed at Brister's Hill.
- C) An assessed trail at the Town Forest, including an accessible path to the Brister's Hill Interpretive Site completed.
- D) NRC acquired a 1.85-acre CR on Macone Farm Lane.
- E) NRC acquired a 1.38-acre CR on Lowell Road.
- F) NRC acquired a 4.33-acre CR on Lowell Road.
- G) NRC acquired a 1.5-acre CR on Mildred Circle.
- H) Town acquired 1.9 acres on Barrett's Mill Road (CPA funds) for farming purposes.
- I) Junction Park constructed.
- J) CPA funds invasives removal and habitat improvements at Old Calf Pasture to support repopulation of the rare Britton's violet.
- K) CPA allotted additional funds to the Playscape at Ripley.
- L) CPA funds Master Plan for Harrington Park.
- M) CPA funds acquisition of public and farm access easements over 121 and 131 Harrington Road.

2014

- A) CPA funded the 75% design for the Bruce Freeman Rail Trail.
- B) CPA funded the renovations of the Concord-Carlisle athletic fields.
- C) CPA funded Phase II construction for the Playscape at Ripley.
- D) CLCT acquired a CR on 7.21 acres of land at 449 and 52A Barretts Mill Road.
- E) NRC acquired a 7.19-acre CR at 282 Thoreau Street.
- F) NRC acquired a 4.58 CR at 506 and 49Y Old

-
- Bedford Road.
- G) Two CRs (17.7 acres) on Monsen Road (Scimone Farm) underway.
 - H) NRC acquired public and farm access easements over two properties to connect Town lands along Harrington Avenue (CPA funds and CLCT donations).
 - I) NRC acquired a 1.9-acre parcel of land at 36A Baker Avenue for conservation and passive recreation purposes.
 - J) NRC acquired a 1.95-acre parcel at 37X Old Bedford Road.
 - K) NRC acquired a 3.6-acre CR at 2250 Main Street.



Appendix

Status of the 2004 Open Space Plan Recommendations

Marsh Wren by Ryan Schain

The 2004 Open Space Plan listed 15 major recommendations, from high-priority actions to be completed quickly to medium-priority actions that are recognized as necessary ongoing processes. Those recommendations and an update on their status are as follows:

1. **INCORPORATE THE OPEN SPACE AND RECREATION PLAN IN TOWN & COMMUNITY DECISION-MAKING**

All Town boards and committees that deal with open space issues should be briefed about Open Space and Recreation Plan 2004. One member of each group should be designated to be informed about and provide advice on open space issues and opportunities. The Natural Resources Commission should sponsor a meeting of interested persons in the fall to consider open space issues and opportunities.

Status:

Boards and committees present updates to the Board of Selectmen. The OSRP has been used for all major land acquisitions, Chapter land acquisitions, and when assessing major developments. Some recommended committees established in relation to open space planning.

2. **THINK REGIONALLY & WORK COLLABORATIVELY WITH TOWNS IN CONCORD'S REGION**

The Town should join with neighboring towns to request a planning grant to examine the potential benefit of integrating open-space protection efforts in Concord's region. Town leaders should be up to date on land-use changes and protection throughout the region, with appointed representatives meeting annually with those of the other towns, and reporting to the Town and residents on regional land-use changes and open-space protection issues. Neighboring towns should be familiar with and encouraged to use Concord's Open Space and Recreation Plan.

Status:

Concord is a member of the Metropolitan Area Planning Council, Minuteman Advisory Group on Interlocal Coordination, and the Massachusetts Society of Municipal Conservation Professionals. Additionally, the Town has worked with surrounding communities to develop the Battle Road Scenic Byways and Healthy Communities Acton/Carlisle/Concord Regional Accessibility Plan. Regional land management issues have been addressed through collaboration with the Massachusetts Land Trust Coalition, the Massachusetts Association of Conservation Commissions, Sudbury Valley Trustees, OARS, and the SuAsCo CISMA.

3. **PROTECT CONCORD'S LARGE NATURAL AREAS**

High priority should be given to protecting, by conservation acquisition or restriction, the remaining core parcels needed to sustain the integrity of the Town's large natural areas. Ongoing management of these areas and uses adjacent to them should be consistent with the goals of biodiversity, wildlife movement, clean groundwater, flood control and diverse compatible recreational activities.

Status:

Efforts to properly manage and conserve land in the large natural areas are ongoing where feasible. Recent conservation restrictions in the Estabrook Woods area include Pippin Tree Trust and a portion of the Middlesex School land.

4. **PROTECT CONCORD'S LARGE AGRICULTURAL AREAS & FARMING**

High priority should be given to the protection of the remaining core parcels needed to sustain the integrity of the large agricultural areas. Farmers should be supported on issues such as drainage, worker housing, product outlets and ecologically and economically sustainable farming methods. An agricultural committee should be established to provide information for farm programs, regulations, best practices and issues.

Status:

Protection of core agricultural parcels is an ongoing process. Recent acquisitions include Rogers land, Chick land, 335 Walden, Hubbard Brook lands, and McGrath farm. The Agricultural Committee was established. The Right to Farm Bylaw was passed in 2011. The first Agricultural Day took place in 2006 and continues annually. Additionally, *Building Local Food Connections*, a local food systems study, was completed.

5. **PROTECT MAJOR WILDLIFE- & WATER-PROTECTION CORRIDORS**

High priority should be given to the protection,

by conservation acquisition or restriction, of land in the key corridors linking large natural and agricultural areas. Landowners should manage the corridors to enhance wildlife movement, clean water and fish populations. Where possible, a route for walkers should be encouraged.

Status:

Efforts to protect these corridors are ongoing where feasible. Four wildlife underpasses along Route 2 have been constructed and a fifth is in the planning stages.

6. **STRENGTHEN NEIGHBORHOODS IN TOWN**

Neighborhoods should be encouraged and supported in local land stewardship and in efforts to create common protected land conveniently accessible by walking and bicycling.

Status:

Neighborhood improvements include one new community garden, improvements to Rideout Playground and Emerson field, along with creating a Senior Walking Program. A West Concord Master Plan was also completed.

7. **MANAGE WATER-RELATED ISSUES TO PROTECT THE TOWN'S GROUNDWATER & SURFACE WATER**

Conservation of water and the elimination or replacement of septic systems that do not meet current standards should be accelerated, as especially effective ways for residents to protect the Town's groundwater and surface-water systems. For the same reason, the Town should continue to reduce sand and salt applications to roads, increase the use of permeable rather than impermeable surfaces, and, where possible, divert stormwater flows into vegetated swales, etc. Near Town wells, these solutions should be implemented at the highest practical level and combined with continued land acquisition.

Status:

The Comprehensive Wastewater Management plan is under way. An infiltration/inflow control plan was initiated in 2006 and annual reports are submitted to the EPA in accordance

with the National Pollutant Discharge Elimination System issued to the Town. Low Impact Development techniques are employed in construction improvements and upgrades to the stormwater system. A Twenty Year Stormwater/Drainage Management Plan to address backlog of deferred repairs is in place. And efforts are made to collect household hazardous waste and unwanted pharmaceuticals/personal care products.

8. **PROTECT AND MONITOR CONCORD'S STREAMS, RIVERS, PONDS, & WETLANDS**

The Town should adopt its own wetland-protection by-law with criteria and procedures, including increased minimum setbacks, that provide effective protection of Concord's wetland resources. Comprehensive water-quality sampling programs that build on existing programs should be developed throughout the Town, and should be implemented for Concord's ponds, streams and rivers to evaluate the presence of, and establish a baseline for, pollutants that degrade the Town's aquatic ecosystems.

Status:

A Wetlands Bylaw was passed in 2009 and amended in 2013. Efforts are ongoing to certify potential vernal pools. The Town continues to work with OARS and the SuAsCo Community Watershed Council to monitor Concord's major rivers and some streams for pollutants and invasive species. Invasive species management initiatives are in place. The Warner's Pond Watershed Management Plan was completed in 2012 and the White Pond Watershed Management Plan is underway.

9. **MONITOR WILDLIFE & BIODIVERSITY, AND PROTECT KEY HABITATS**

A wildlife and biodiversity committee should be established to accumulate, make available, and highlight information on key species and their distribution in Town and its region. Collaboration with neighboring towns to maintain viable natural connections for wildlife movement across the region should be encouraged. Habitats of state-listed rare species in Town should

be actively protected.

Status:

Four conservation restrictions were established on Monsen and Lowell Roads to protect endangered species habitats, and restoration work has taken place at Old Calf Pasture. Events that celebrate biodiversity such as the Christmas Bird Count and Concord area butterfly count continue. Biodiversity Days took place in 2004 and 2006. And the Spring Migratory Bird Walk receives strong participation.

10. **REDUCE THE MAJOR IMPACTS OF ROUTE 2**

A sequence of carefully designed and located structures that restore frequent crossings by key wildlife, in addition to safe attractive crossings for walkers and bicyclers, should be incorporated in Route 2 planning and construction at the earliest opportunity. Solutions to reduce the propagation of road salt and traffic noise (consistent with wildlife crossing, safety and aesthetics) should be identified and incorporated in planning and construction of the highway

Status:

Four wildlife underpasses have been constructed, with a fifth to be constructed in the near future.

11. **MEET INTENSIVE-USE RECREATIONAL NEEDS CONSISTENT WITH CONCORD'S OPEN SPACE FRAMEWORK**

A number of small informal playing fields convenient by foot or bicycle for children and neighbors, plus a small number of regulation playing fields, should be created in locations where they do not lead to significant impacts on Concord's most important conservation areas.

Status:

The Beede Swim and Fitness Center was completed in 2006. The Ripley baseball field was improved.

12. **SOLIDIFY THE LOCAL/REGIONAL TRAIL NETWORK FOR TRANSPORTATION & NATURE-BASED RECREATION**

Six additional local walking trails should be developed in Town. A trails committee should be formed to evaluate and make recommendations on diverse trail patterns, issues, and policies. Planning should proceed for providing access for residents to walk or bicycle north/south across the Town and to neighboring towns and countryside in Concord's region.

Status:

A Trails Committee was established in 2007. A Trail Stewards program was also developed in 2011. The Emerson-Thoreau Amble was opened in 2013. Efforts are underway to map and blaze all publicly accessible trails. The Bruce Freeman Rail Trail continues to advance. The Town acquired easements over two properties to provide over one mile of trail access along and above the Assabet River. CLCT placed new conservation signs on their properties. Trail conservation efforts include the Riverwalk, 335 Walden, and the Rogers land. And the Bay Circuit Trail continues to be rerouted off of roadways where feasible.

13. **PROVIDE HANDICAP ACCESS TO OPEN SPACE RESOURCES**

Six existing or planned trails should be made at least seasonally accessible to wheelchair users. Also a few special trails should be designated as "Assessed" (i.e., trails offering a more rugged experience for handicapped users), and one or two trails should be made universally accessible to accommodate individuals with disabilities other than mobility impairments.

Status:

A handicap assessed trail was created at the

Town Forest along with a handicapped-parking area. A wheel chair accessible path was created at Rideout Playground and a new ADA path is proposed at the Concord-Carlisle High School.

14. **MANAGE ALL LAND IN TOWN CONSISTENT WITH THE OPEN SPACE OBJECTIVES**

The Town should invest in the management of its open-space resources by dedicating sufficient conservation-land-management funds for personnel and other needs in the annual operating budget. The Town and other interested organizations should maintain and publicize a list of diverse land management techniques and encourage their use by all landowners, which will cumulatively contribute to achievement of Concord's major open-space and stewardship objectives.

Status:

The Conservation Restriction Stewardship Committee was established in 2004. And a system for monitoring these lands was developed. Outreach and education efforts continue with organizations such as CISMA, OARS, and SuAsCo.

15. **SECURE FUNDING & PARTNER WITH OTHER ENTITIES FOR OPEN-SPACE LAND PROTECTION**

The Town should pass the Community Preservation Act to create a funding source for conservation acquisitions, and should partner with land trusts, government entities, and individuals to make full use of available government funds and programs, as well as laws and regulations, to acquire and/or protect important land parcels.

Status:

The Community Preservation Act was passed in 2005 at 1.5% and has since funded many conservation and recreation projects (See Appendix H). A study grant was received for the Healthy Communities Regional Accessibility Plan. Additional funding was allocated in conjunction with Concord Public Works in 2012. And the town continues to partner with regional conservation and protection agencies as discussed in number one above.



Red Maple by Cherrie Corey

Appendix

J

Properties of Conservation Interest

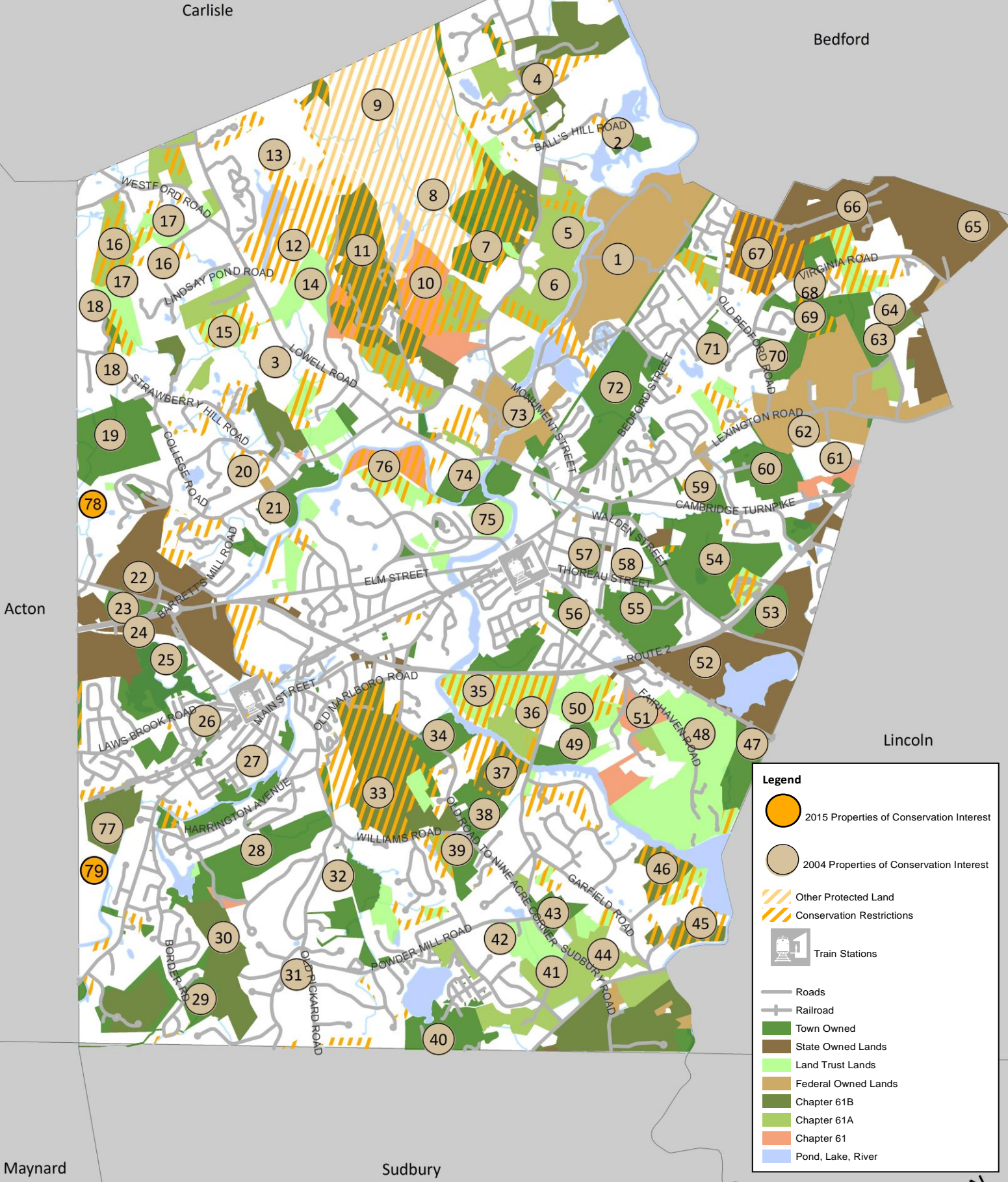
Key to map at back of this Appendix, Properties of Conservation Interest.

- With rare exceptions, only large properties are mapped including protected and unprotected properties in public, nonprofit and private ownership.
 - To protect privacy on this state-required map, no information is listed for private property except the presence of an officially recorded conservation restriction or agricultural preservation restriction.
 - Unless otherwise mentioned for a property: the owner manages the land; property has no public access; no handicap accessibility is recognized; land is zoned residential; no grant was received based on readily available data; property is not conservation land protected against development; no potential for a major near-term change in mainstream recreation type is evident; and the land is in “good” condition.
 - All properties are zoned residential except a portion of property 54 by Route 2, which is zoned for limited business.
 - ** = public land;
 - * = nonprofit land;
 - All others = private land.
 - N, E, S & W = compass directions.
 - CLCT = Concord Land Conservation Trust.
 - TTOR = The Trustees of Reservations.
 - CR = perpetual conservation restriction (properties 33 & 67 with a term restriction).
 - APR = agricultural preservation restriction.
1. ****Great Meadows.** U.S. Fish & Wildlife Service; wildlife refuge managed for conservation; natural land, impoundments & trails (for recrea-

- tion); public access; handicap accessibility; USF&WS conservation protection.
2. **Ball’s Hill area.** Mainly private land.
3. **Spencer Brook Corridor.** Private land.
4. **Beecher Land.** Private land; CR.
5. **NE of Bemis farmland.** Private land.
6. **Hutchins Farm.** Private land; APR.
7. ****Punkatasset.** Town conservation land; natural land, trails & sledding hill; public access.
8. ***Estabrook Woods (S).** Harvard University; natural land, trails, education & nature-compatible recreation; CR (see Estabrook Woods Area in Appendix IA).
9. ***Estabrook Woods (N).** Harvard University; natural land, trails, education & nature-compatible recreation; CR (see Estabrook Woods Area in Appendix IA).
10. ***Pippen Tree Land Trust Land.** U.S. Forest Legacy Program in collaboration with Robb family; natural land & trails; public access; CR monitored by TTOR and CLCT.
11. **W of Mink Pond.** Private land; CR.
12. ***Middlesex School (SE).** Natural land & trails (existing playing fields NW of Bateman’s Pond); CR.
13. ***Middlesex School (NE).** Natural land & trails; not conservation protected.
14. ***Chamberlin Woods.** CLCT; natural wooded land; trails.
15. ***Newbury Land.** CLCT; natural land and meadow; trails.
16. **Perry Land.** Private land; CR.
17. ***Upper Spencer Brook.** CLCT; natural land; trails.
18. **Along & N of Strawberry Hill Rd. near Acton.** Private land.
19. ****Annursnac Hill.** Town conservation land; natural land & trails; public access.

-
20. *Col. Barrett Homestead. Recently purchased for historic preservation.
 21. **Barrett's Mill farmland. Town conservation land; farmland & trails; public access.
 22. **NE Correctional Institution. State land managed by Department of Corrections; farmland & area of buildings; no recreation; not conservation protected.
 23. **Municipal land/light plant. Town municipal land; partly wooded, partly developed; no recreation; public access; not conservation protected.
 24. **Prison farmland. State land managed by Department of Correction; farmland; no recreation; not conservation protected.
 25. **Warner's Pond. Pond & Town conservation land; boating & fishing; public access.
 26. **Rideout Playground. Town municipal land; major playing field area; public access; handicap accessibility; not conservation protected.
 27. **Thoreau School. Town land; public school grounds; public access; handicap accessibility; not conservation protected.
 28. **Old Rifle Range. Town conservation land; natural land & trails; public access.
 29. **Second Division well site. Town conservation land; natural land, trails & water protection; public access.
 30. Second Division Brook area. Private land.
 31. **Peabody School. Town land; public school grounds; public access; handicap accessibility; not conservation protected.
 32. **Sanborn School/Jennie Dugan well site. Town land (W) & conservation land (E); public school grounds (W), natural land, trails & water protection (E); public access; handicap accessibility (W); not conservation protected (W).
 33. Concord Country Club. Private land. CR with term limitation.
 34. **Deaconess well site. Town municipal land; natural land, trail & water protection; public access; not conservation protected.
 35. *Bigelow Field/Soutter Woods. CLCT; natural land (W), farmland (E) & trails; CR.
 36. Field by Bigelow/Soutter land. Private land.
 37. Walters/Kaemmer land. Private land; CR.
 38. **Mattison Field. Town conservation land; farmland & trails; APR.
 39. (W)**(E)Mattison Drive common land/Landmark Field. Private land (W); Town conservation land (E); farmland (W) & farmland and natural land (E); public access (E); CR (W).
 40. **White Pond Reservation. Town municipal land; pond border, fishing, swimming, trails & natural land; public access; not conservation protected.
 41. Verrill farm. Private land; APR.
 42. **(W)*(E)Willard School/Miller Farm. Town land (W) & CLCT land (E); public school grounds (W) & natural land and farmland (E); public access and handicap accessibility (W) & public access (E); not conservation protected (W); CR (E).
 43. **Willow Guzzle. Town municipal land; farmland & trails; public access; not conservation protected.
 44. Nine Acre Corner E of Sudbury Rd. Private land.
 45. Tanglewood Drive. Private land; CR.
 46. McQuillan land. Private land; CR.
 47. **Adams Woods. Town conservation land; natural land & trails; public access.
 48. *Wright/Fairhaven Woods. CLCT; natural land & trails.
 49. **Robinson well site. Town conservation land; natural land, trails & water protection; public access.
 50. *Bear Garden Hill. Walden Woods Project; natural land; trails; public access.
 51. Fairhaven Woods. Private land.
 52. **Walden Pond Reservation. State land managed for conservation; pond, natural land, trails & pilgrimage site; public access; some handicap accessibility; Massachusetts DCR conservation protection.
 53. **Landfill area. Town municipal land; snow dumping & leaf composting (W) & savanna created on capped landfill (E); potential for various recreation types; public access; not conservation protected.
 54. **Town Forest. Town conservation land; natural land & trails; public access.
 55. **High school. Town land; public school grounds; public access; handicap accessibility; not conservation protected.
 56. **Arena Farm. Town conservation land; farmland; public access.
 57. **Emerson Field. Town municipal land; major playing field area; public access; handicap accessibility; not conservation protected.
 58. **Alcott School. Town land; public school grounds; public access; handicap accessibility; not conservation protected.
 59. **Millbrook Meadows. Town conservation land;

-
- natural wetland area; public access.
60. ****Kenny farm.** Town conservation land; farmland and natural land; trails; public access.
 61. **East of Kenny farm.** Private land.
 62. ****Minute Man Park farmland.** U.S. National Park Service; farmland evoking an 18th c. landscape; education & trails; public access; handicap accessibility; USNPS protection, partially for conservation.
 63. ****Kaveski farm.** Town conservation land; farmland; public access.
 64. **East of Kaveski farm.** Private land.
 65. ****Hanscom runways.** State land managed by MassPort; airport runway area; not conservation protected.
 66. ****Hanscom flightpath woods.** State land managed by MassPort; natural land. Trails; not conservation protected.
 67. ****Hanscom woods.** State land managed by MassPort; natural land; trails; term CR.
 68. **Land along Virginia Rd.** Private land.
 69. ****Kenny/Hebb land.** Town conservation land; open space, farmland & wetland; trails; public access.
 70. ****McHugh farm.** Town conservation land; farmland & natural land; public access.
 71. ****Ripley School.** Town land; public school grounds; public access; handicap accessibility; not conservation protected.
 72. ****Sleepy Hollow Cemetery.** Town municipal land; cemetery with natural land, trails & farmland to N; public access; some handicap accessibility; not conservation protected.
 73. ****Minute Man Park headquarters.** U.S. National Park Service; open lawn area, trail & education; public access; handicap accessibility; USNPS protection, partially for conservation.
 74. ****Davis/Old Calf Pasture.** Town conservation land mainly; natural land (especially wetland), boat launch site; limited trails; public access.
 75. ***French's Meadow.** CLCT land; mowed floodplain savanna & limited trails; Concord Academy playing fields on opposite side (E) of Sudbury River.
 76. **(N)*(S)Korbet/Garth land.** Private land (N) & CLCT land (S); natural land with limited trails; CR (N) & CR (S).
 77. **Assabet River corridor.** Private land.
 78. **Baptist Brook Corridor.** Private land. 2015 Addition.
 79. **W.R. Grace.** Private land. 2015 Addition.



Carlisle

Bedford

Acton

Lincoln

Maynard

Sudbury

Properties of Conservation Interest

Legend

-  2015 Properties of Conservation Interest
-  2004 Properties of Conservation Interest
-  Other Protected Land
-  Conservation Restrictions
-  Train Stations
-  Roads
-  Railroad
-  Town Owned
-  State Owned Lands
-  Land Trust Lands
-  Federal Owned Lands
-  Chapter 61B
-  Chapter 61A
-  Chapter 61
- Pond, Lake, River

