

Town of Andover, Massachusetts

Open Space and Recreation Plan 2018



For the first time in two centuries river herring and shad are swimming upstream from the Atlantic Ocean, past Andover Center to spawning grounds on the Shawsheen River. This is due to the dismantling of the Stevens Street Dam in 2017, near the site of the mill that produced gunpowder for George Washington to help win the Revolutionary War. In addition, the Balmoral Dam was taken down in the historic Shawsheen Village.

Cover photograph by Heidi Besen
Ballardvale Mill

Maps by Jeffrey Cary

Principal writers: Alix Driscoll and Ellen Townson

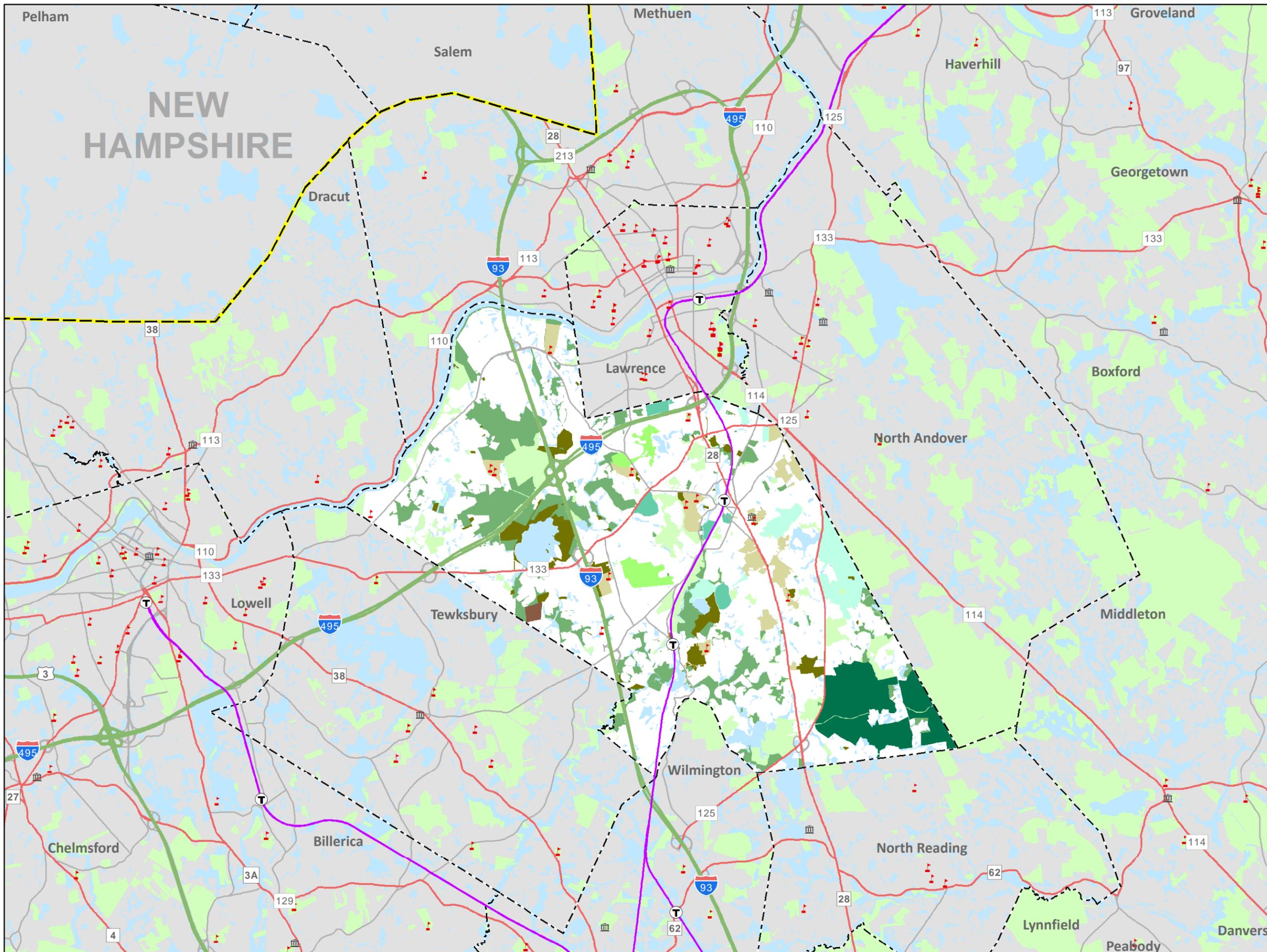
May 2018

**Town of Andover, Massachusetts
Open Space and Recreation Plan 2018**

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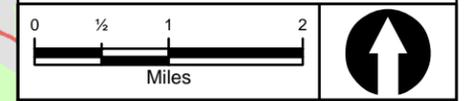


**TOWN OF ANDOVER
MASSACHUSETTS
OPEN SPACE AND
RECREATION PLAN
SECTION 3A
REGIONAL CONTEXT**



Date: 5/26/2017

- Andover Open Space / Recreation**
- Agricultural Preservation Restriction
 - Cemetery
 - Conservation
 - Golf Course
 - Other Town Properties
 - Parks Playgrounds or Fields
 - Private Open Space
 - State Forest
 - Avis
- Other Symbols**
- Schools
 - Town and City Halls
 - MBTA Commuter Rail Stations
 - MBTA Commuter Rail Lines
 - State Boundary
 - Municipal Boundaries
- MassDOT Roads**
- Limited Access Highway
 - Numbered Highway
 - Major Road
- Other Features**
- Open Space in surrounding communities
 - Open Water



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TOWN OF ANDOVER GIS/IT
36 BARTLET STREET
ANDOVER, MA 01810

DATASOURCES:
TOWN OF ANDOVER
MASSACHUSETTS GEOGRAPHIC INFORMATION SYSTEM
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 3C ENVIRONMENTAL JUSTICE POPULATIONS



Date: 5/26/2017

Andover Open Space / Recreation

- Agricultural Preservation Restriction
- Cemetery
- Conservation
- Golf Course
- Other Town Properties
- Parks Playgrounds or Fields
- Private Open Space
- State Forest
- Avis

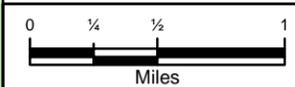
Environmental Justice 2010 Populations

- Minority
- Income
- Minority and Income
- Minority and English isolation
- Minority, Income and English isolation

- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

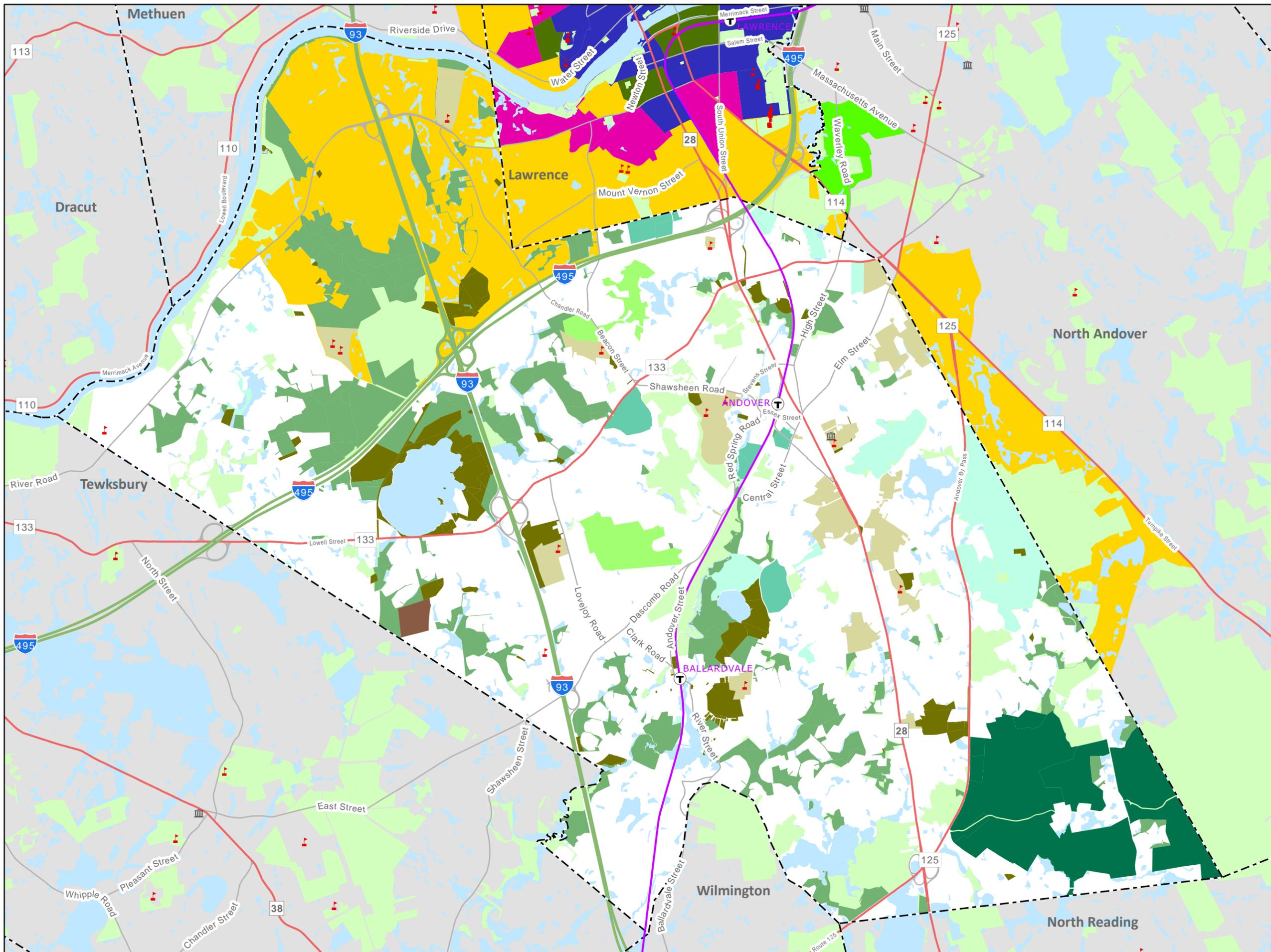
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 3D ZONING



Date: 5/26/2017

Andover Open Space / Recreation

Zoning

Description

- Apartment Zoning District
- General Business Zoning District
- Industrial A Zoning District
- Industrial D Zoning District
- Industrial D2 Zoning District
- Industrial G Zoning District
- Limited Service Zoning District
- Mixed Use Zoning District
- Office Park Zoning District
- Single Residence A Zoning District
- Single Residence B Zoning District
- Single Residence C Zoning District

- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

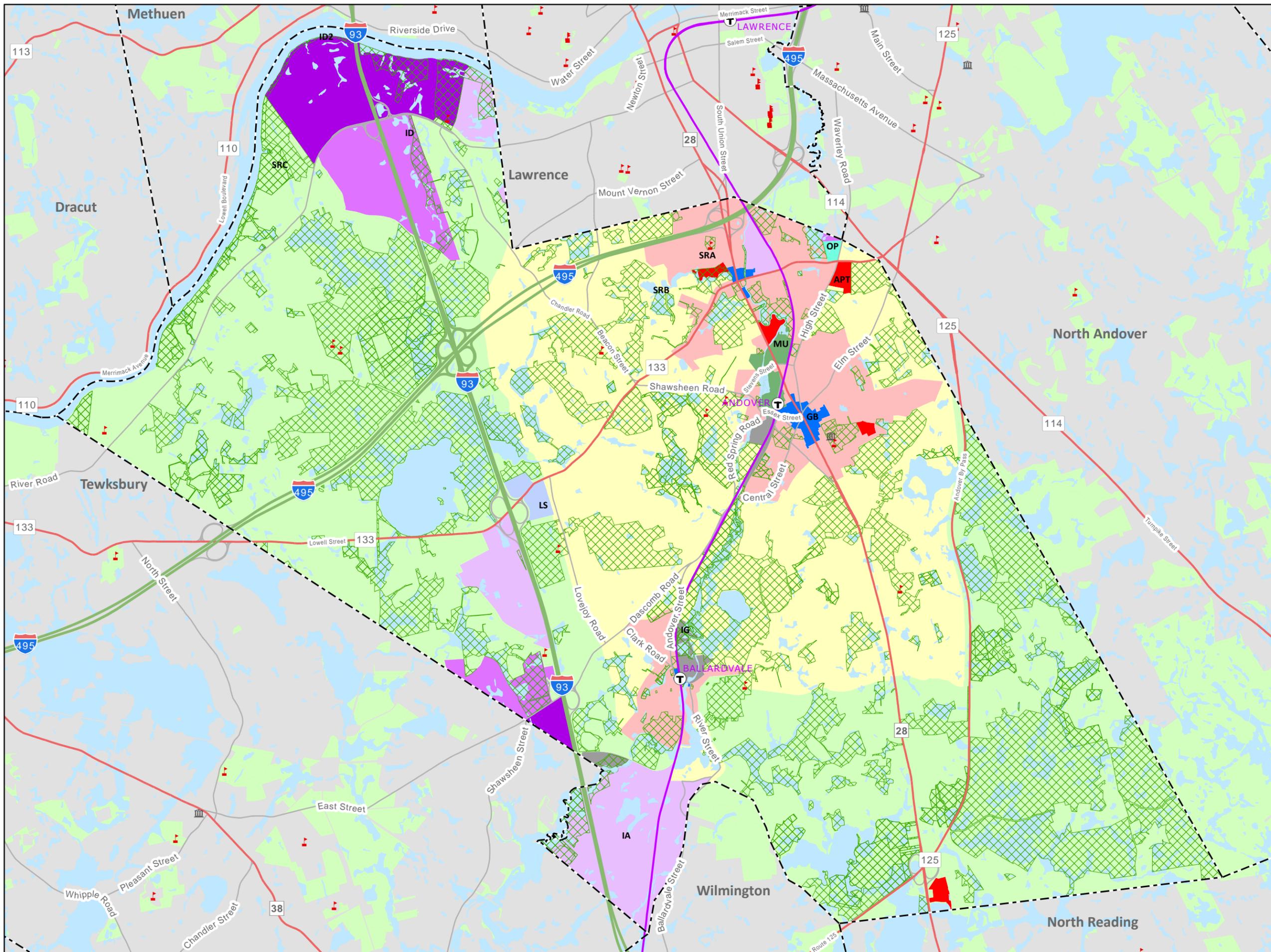
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4A SOILS AND SURFICIAL GEOLOGY



Date: 5/26/2017

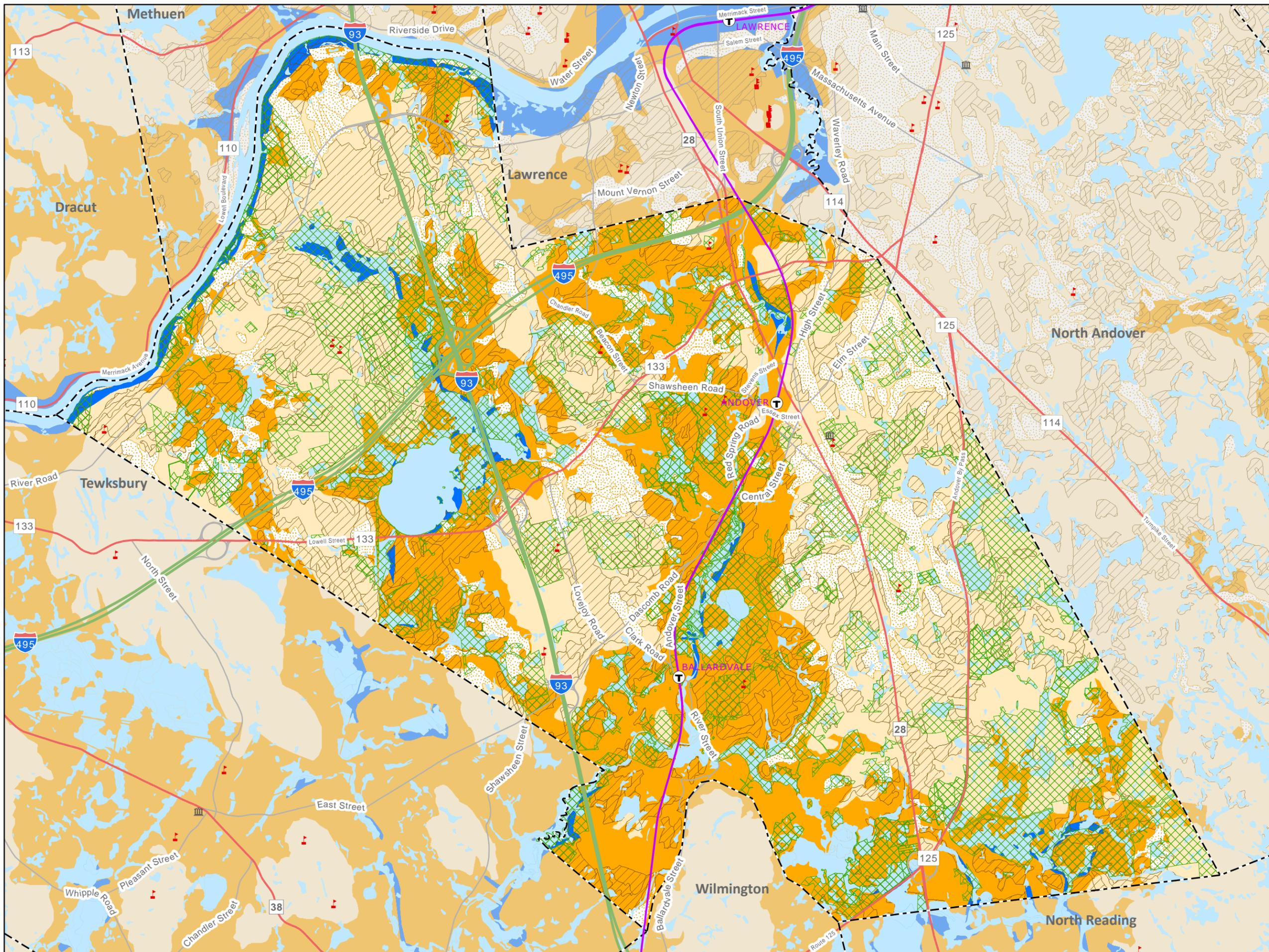
- Andover Open Space / Recreation
- Farmland Soils**
- Prime Soils
- Statewide / unique importance
- Surficial Geology (1:250,000)**
- Sand and Gravel
- Till or Bedrock
- Floodplain Alluvium
- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries
- MassDOT Roads**
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4B SCENIC RESOURCES AND UNIQUE FEATURES



Date: 6/6/2017

Andover Open Space / Recreation

- Agricultural Preservation Restriction
- Cemetery
- Conservation
- Golf Course
- Other Town Properties
- Parks Playgrounds or Fields
- Private Open Space
- State Forest
- Avis

MA Historical Commission Inventory Points

- Building
- Burial Ground
- Object
- Structure
- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

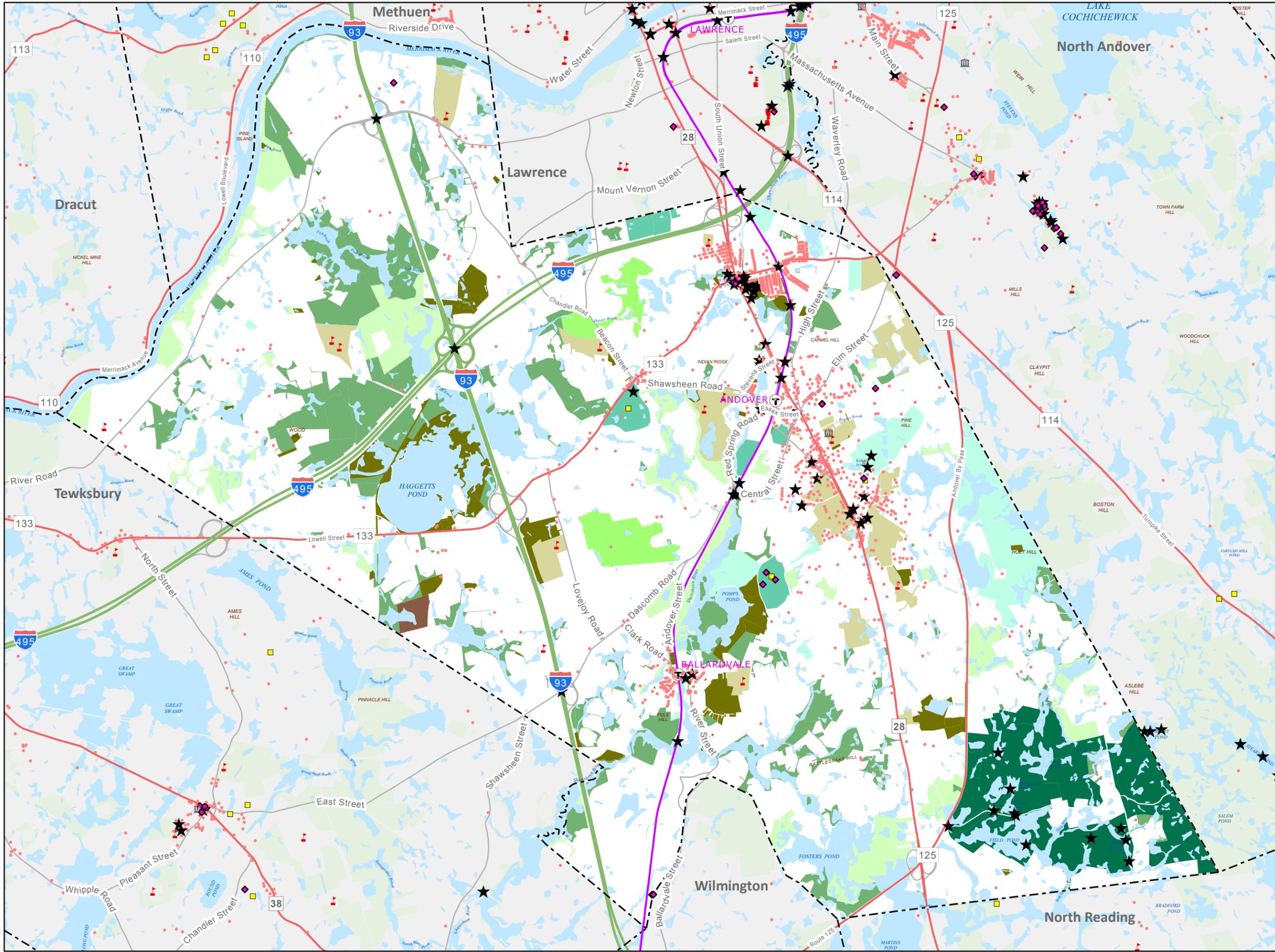
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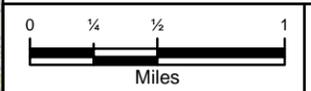


TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4C WATER RESOURCES



Date: 5/26/2017

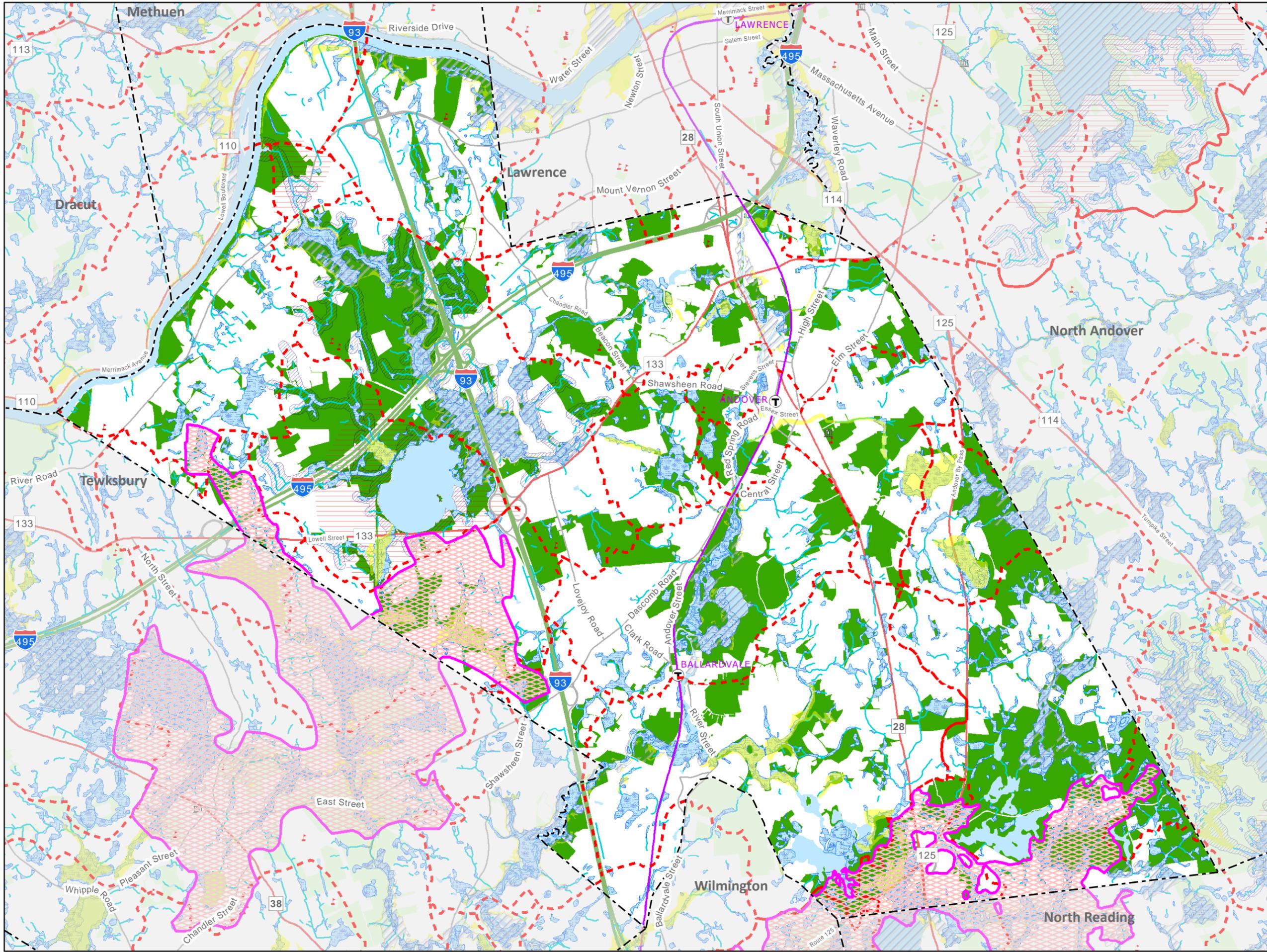
- Andover Open Space / Recreation
- Watersheds
- Sub-basins
- Flood Zones (2014)**
- 1% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding
- DEP Approved Zone II
- Hydrologic Connections
- Wetland
- Surface Water Protection Areas**
- ZONE A
- ZONE B
- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries
- MassDOT Roads**
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**TOWN OF ANDOVER
MASSACHUSETTS
OPEN SPACE AND
RECREATION PLAN
SECTION 4D
NATURAL HERITAGE AND
ENDANGERED SPECIES
PROGRAM**



Date: 5/26/2017

Natural Heritage & Endangered Species Program

- Certified Vernal Pools (2016)
- Potential Vernal Pools (2000)
- Priority Habitats of Rare Species (2008)
- Estimated Habitats Rare Wildlife (2008)
- Natural Communities (2011)

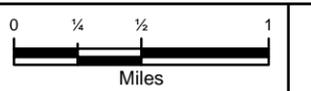
Andover Open Space / Recreation

- Agricultural Preservation Restriction
- Cemetery
- Conservation
- Golf Course
- Other Town Properties
- Parks Playgrounds or Fields
- Private Open Space
- State Forest
- Avis

- Schools
- Town and City Halls
- Municipal Boundaries

MassDOT Roads

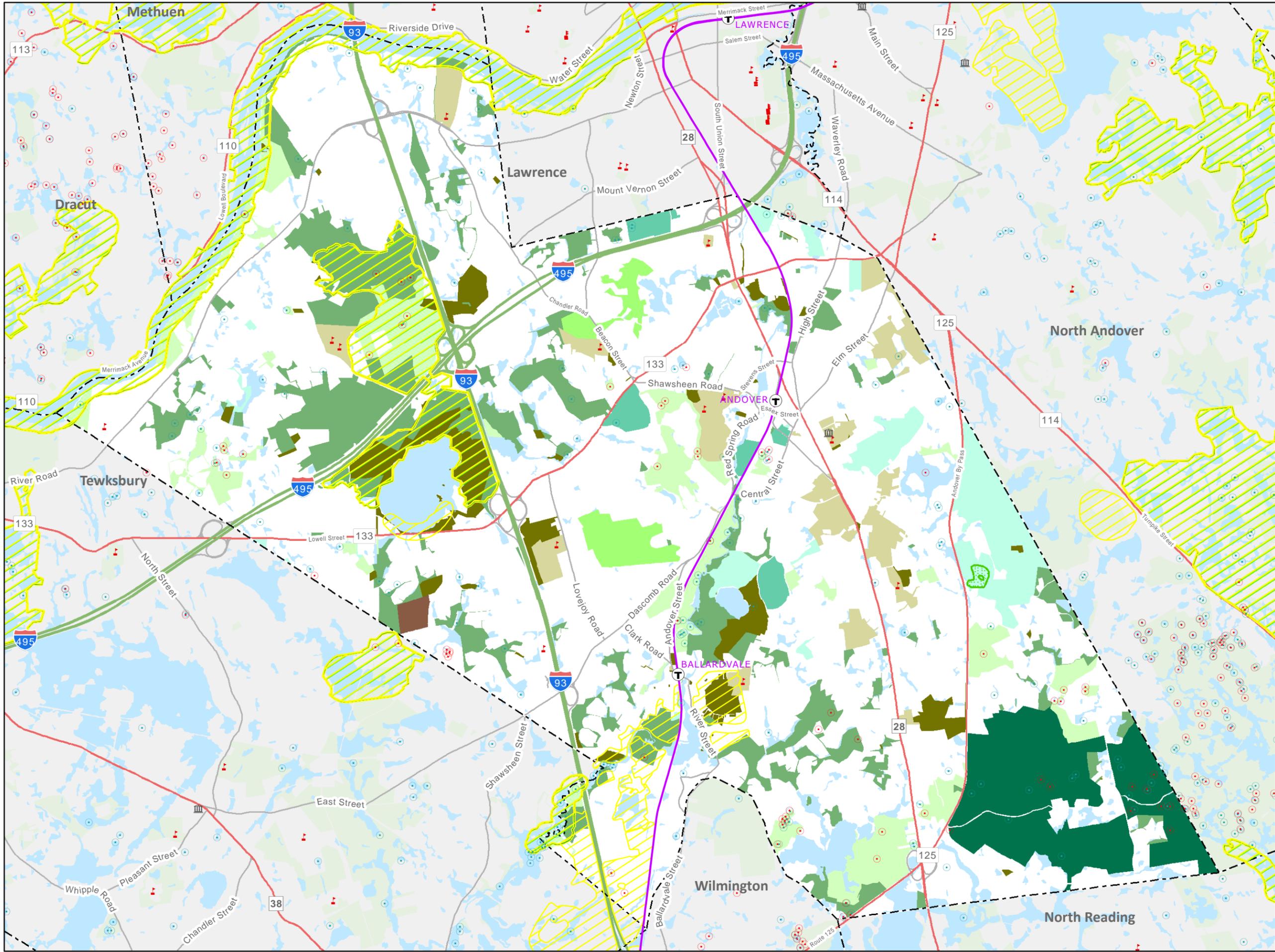
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4E DEP WETLANDS



Date: 11/8/2017

DEP Wetlands (1:12,000)

- Hydrologic Connection
- Open Water
- Wetland

- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

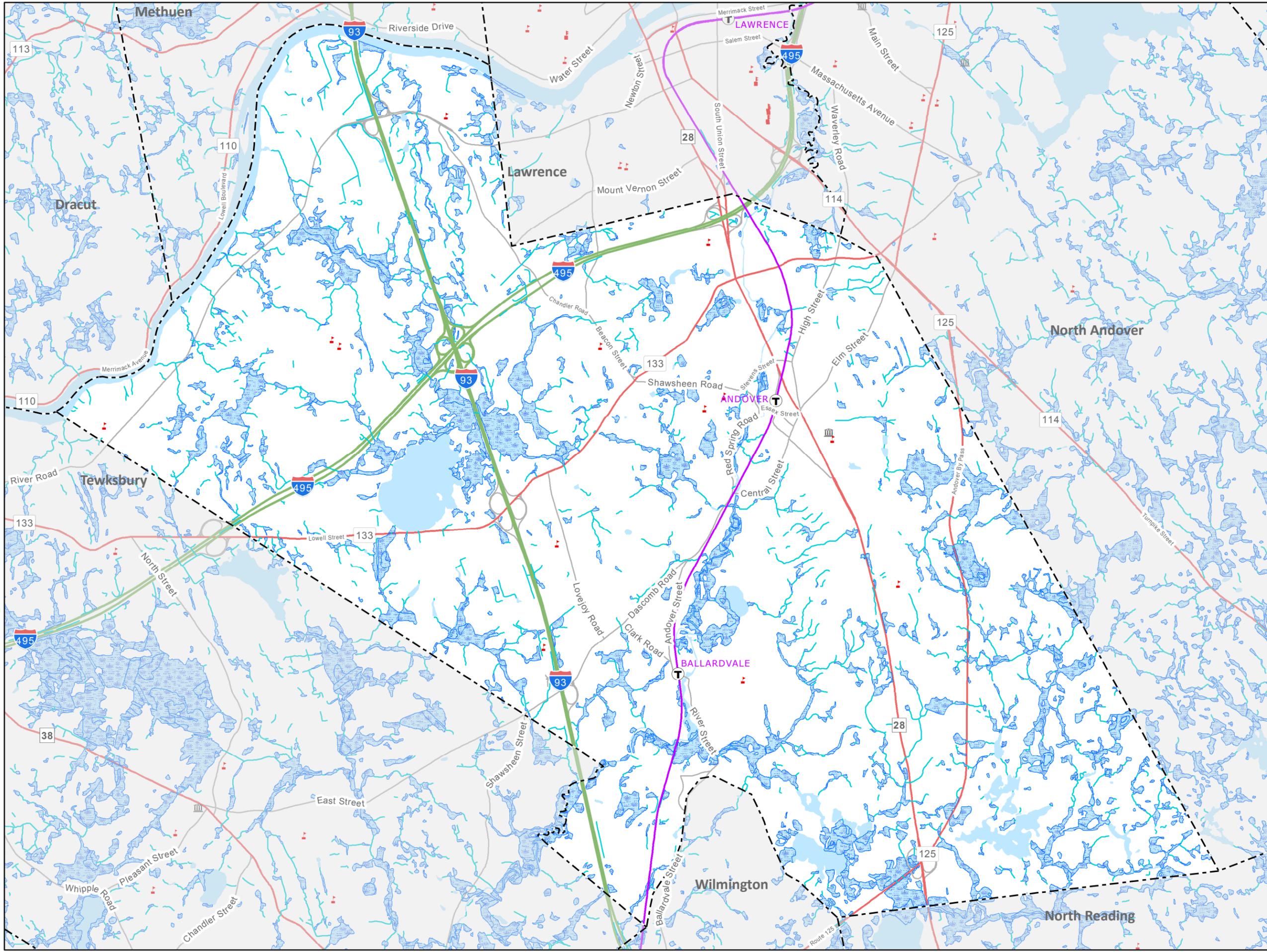
- Limited Access Highway
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4E HYDROGRAPHY



Date: 11/8/2017

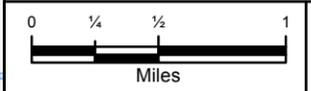
Hydrography

- Hydrologic Connection
- Open Water
- Wetland

- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

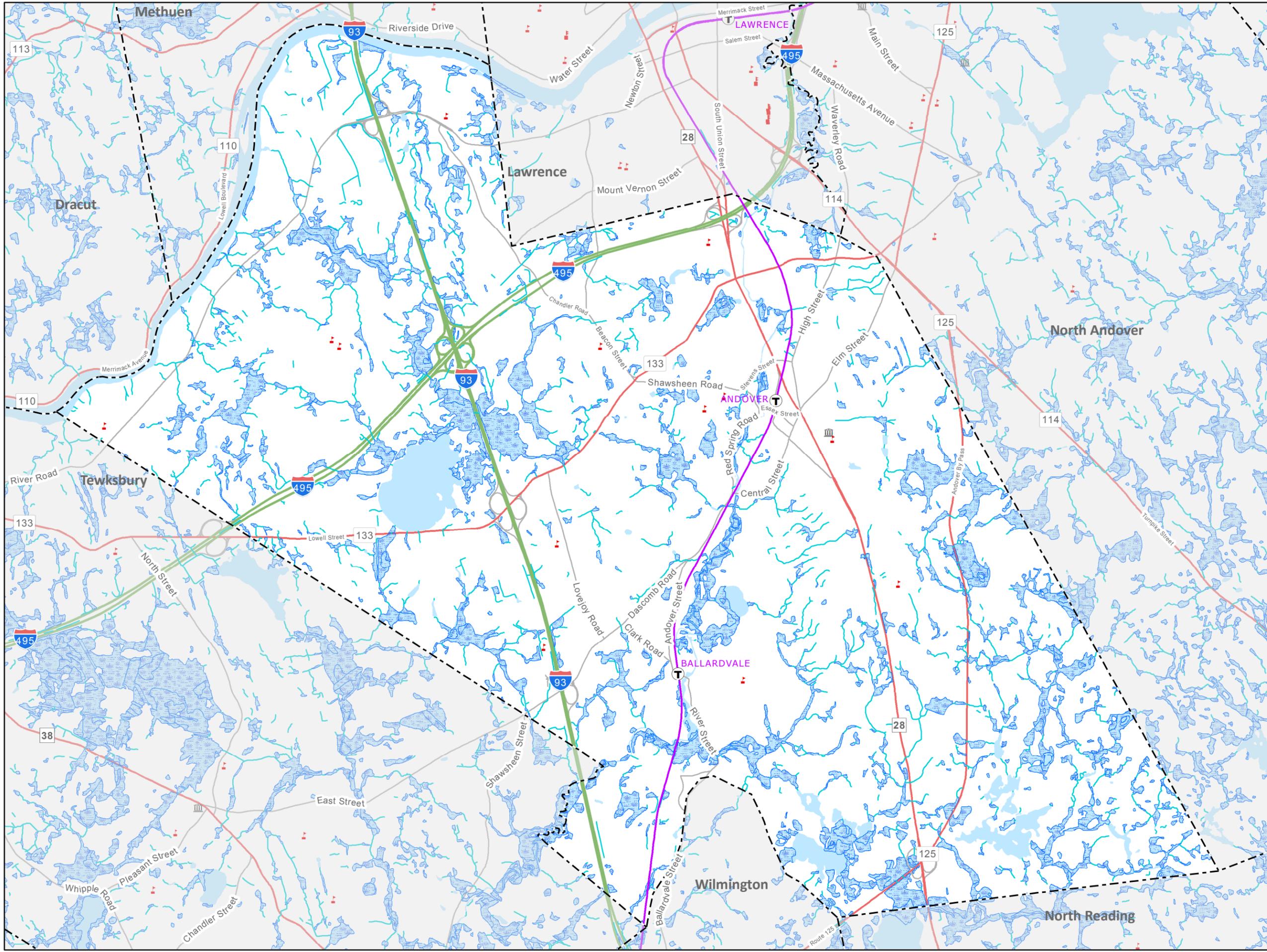
- Limited Access Highway
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- Major Road
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TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 4F SCENIC RESOURCES



Date: 5/26/2017

Department of Conservation and Recreation

The Scenic Landscape Inventory

- Distinctive
- Noteworthy
- Distinctive/Noteworthy

Andover Open Space / Recreation

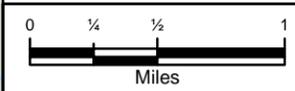
- Agricultural Preservation Restriction
- Cemetery
- Conservation
- Golf Course
- Other Town Properties
- Parks Playgrounds or Fields
- Private Open Space
- State Forest
- Avis

- Schools
- Town and City Halls
- MBTA Commuter Rail Stations
- MBTA Commuter Rail Lines
- Municipal Boundaries

MassDOT Roads

- Limited Access Highway
- Numbered Highway
- Major Road

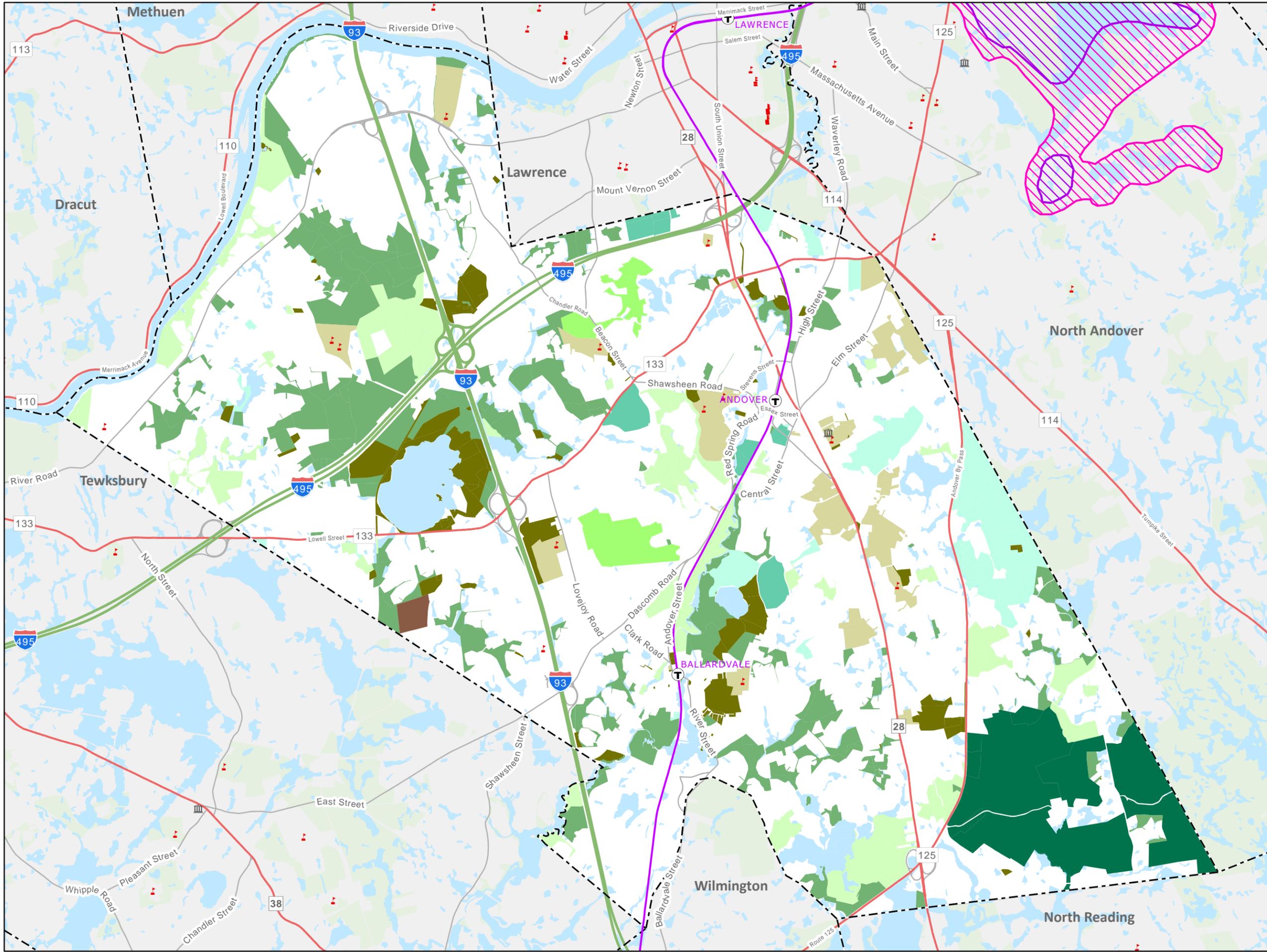
- Open Space in surrounding communities
- Open Water



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SECTION 5

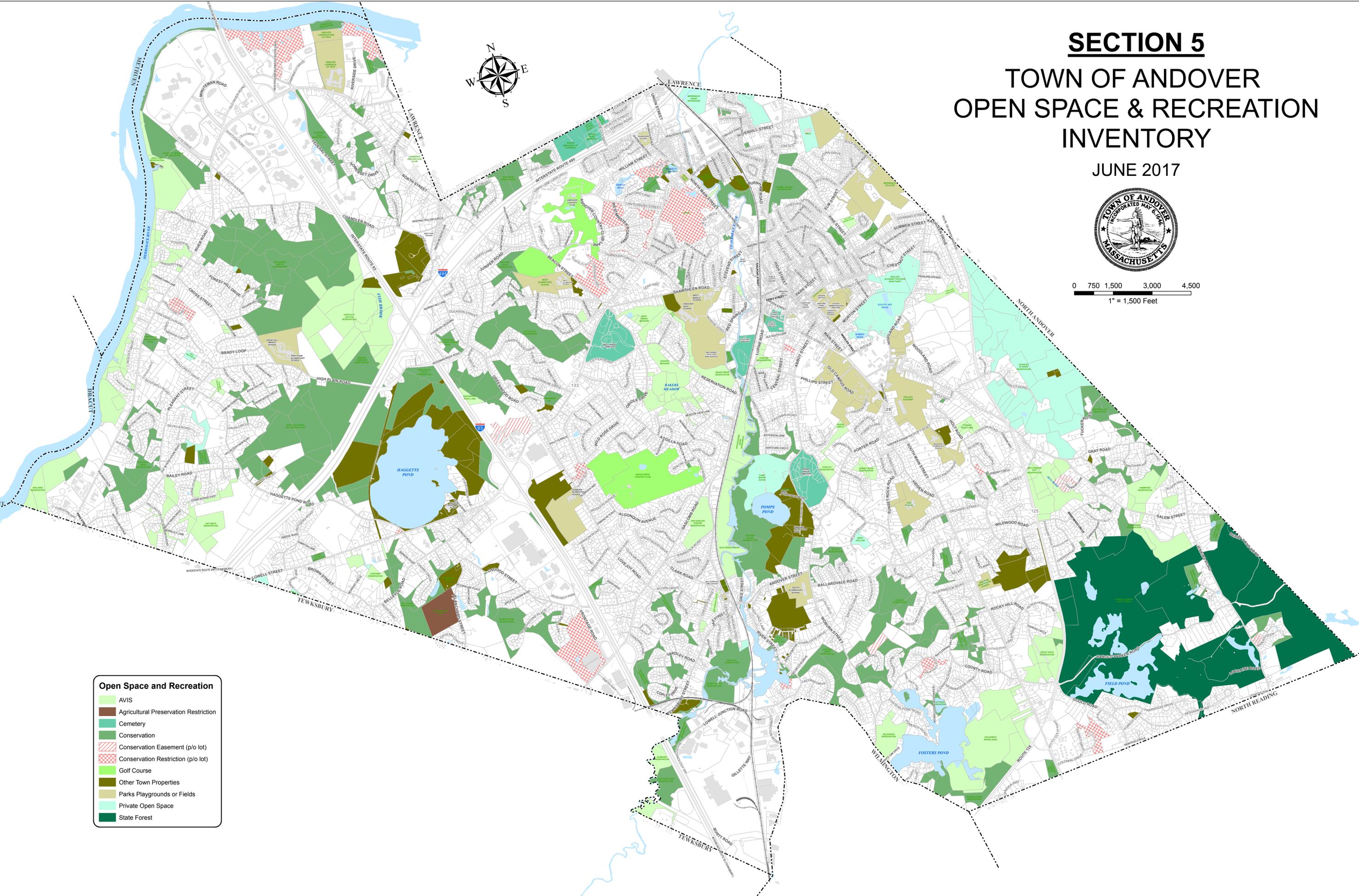
TOWN OF ANDOVER

OPEN SPACE & RECREATION INVENTORY

JUNE 2017



0 750 1,500 3,000 4,500
1" = 1,500 Feet



- Open Space and Recreation**
- AVIS
 - Agricultural Preservation Restriction
 - Cemetery
 - Conservation
 - Conservation Easement (p/o lot)
 - Conservation Restriction (p/o lot)
 - Golf Course
 - Other Town Properties
 - Parks Playgrounds or Fields
 - Private Open Space
 - State Forest

TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN **SECTION 5** OPEN SPACE AND RECREATION INVENTORY



Date: 5/26/2017

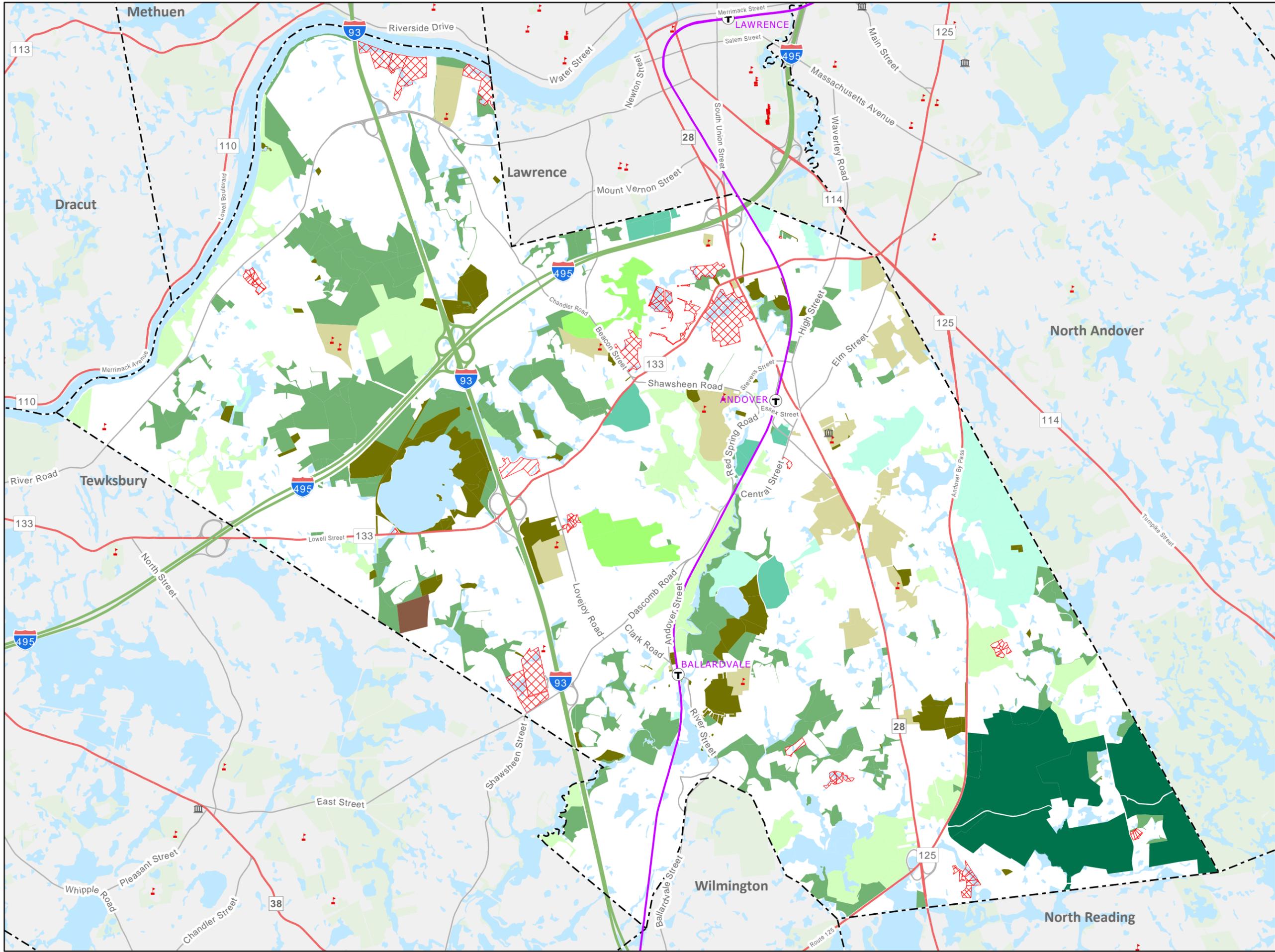
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 - State Forest
 - Avis
 - Conservation Easement (p/o lot)
 - Conservation Restriction (p/o lot)
-
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**TOWN OF ANDOVER
MASSACHUSETTS
OPEN SPACE AND
RECREATION PLAN
SECTION 5A
CAPITAL IMPROVEMENTS
FY2018-FY2022**

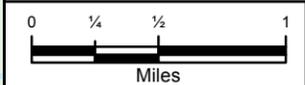


Date: 11/8/2017

Capital Improvements

- 18 FY18 Penguin Park
- 19 FY19 Lower Shawsheen Playground
- 20 FY20 Indian Ridge Playground
- 21 FY21 Ballardvale Playground

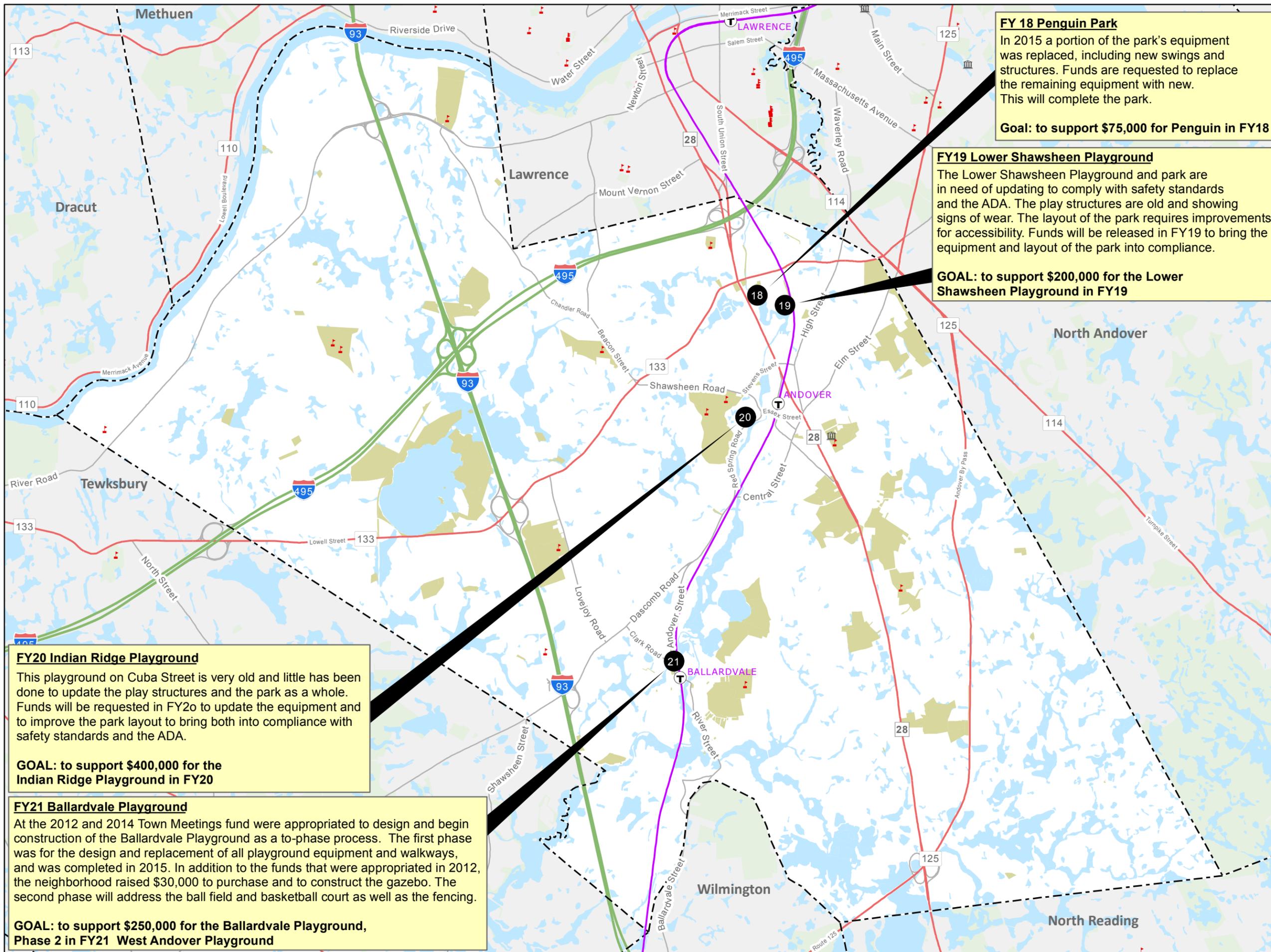
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FY 18 Penguin Park
In 2015 a portion of the park's equipment was replaced, including new swings and structures. Funds are requested to replace the remaining equipment with new. This will complete the park.
Goal: to support \$75,000 for Penguin in FY18

FY19 Lower Shawsheen Playground
The Lower Shawsheen Playground and park are in need of updating to comply with safety standards and the ADA. The play structures are old and showing signs of wear. The layout of the park requires improvements for accessibility. Funds will be released in FY19 to bring the equipment and layout of the park into compliance.
GOAL: to support \$200,000 for the Lower Shawsheen Playground in FY19

FY20 Indian Ridge Playground
This playground on Cuba Street is very old and little has been done to update the play structures and the park as a whole. Funds will be requested in FY20 to update the equipment and to improve the park layout to bring both into compliance with safety standards and the ADA.
GOAL: to support \$400,000 for the Indian Ridge Playground in FY20

FY21 Ballardvale Playground
At the 2012 and 2014 Town Meetings funds were appropriated to design and begin construction of the Ballardvale Playground as a to-phase process. The first phase was for the design and replacement of all playground equipment and walkways, and was completed in 2015. In addition to the funds that were appropriated in 2012, the neighborhood raised \$30,000 to purchase and to construct the gazebo. The second phase will address the ball field and basketball court as well as the fencing.
GOAL: to support \$250,000 for the Ballardvale Playground, Phase 2 in FY21

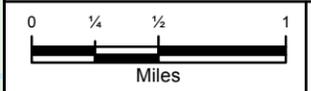
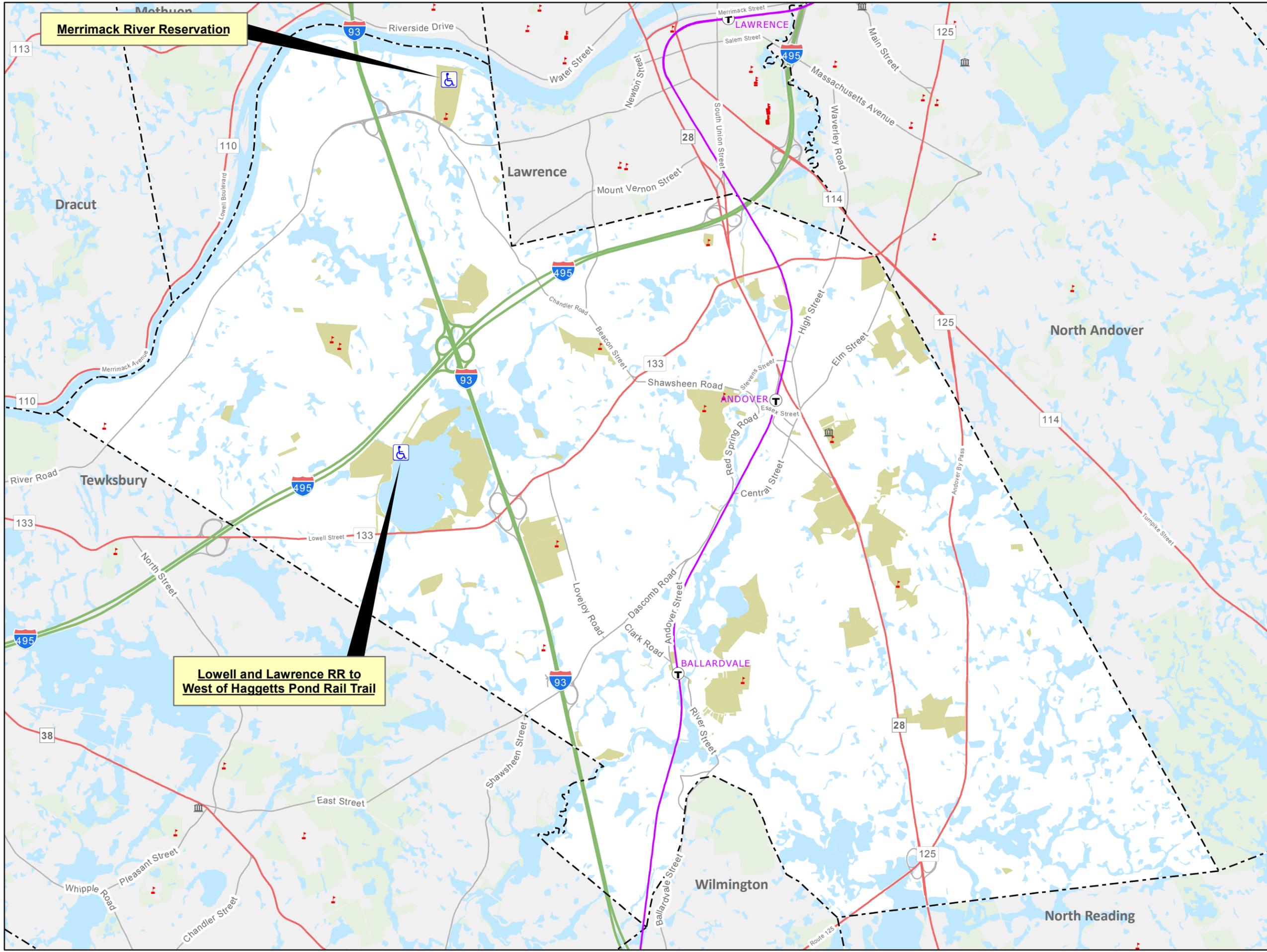
TOWN OF ANDOVER MASSACHUSETTS OPEN SPACE AND RECREATION PLAN SECTION 5B ADA COMPLIANCE



Date: 11/8/2017

ADA Compliance

-  amenities and upgrades soon
-  Schools
-  Town and City Halls
-  MBTA Commuter Rail Stations
-  MBTA Commuter Rail Lines
-  Municipal Boundaries
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MASSACHUSETTS DEPARTMENT OF TRANSPORTATION

List of maps for the Open Space and Recreation Plan 2017

By Jeffery Cary, Andover GIS Specialist, Information Technology Department

SECTION 5 - Town of Andover Open Space and Recreation Inventory - 24" by 36"
In the Plan's front pocket.

All 11" by 17" format:

SECTION 3 A – Regional Context

SECTION 3 C – Environmental Justice Populations 2010

SECTION 3 D - Zoning

SECTION 4A – Soils and Surficial Geology

SECTION 4B – Scenic Resources and Unique Features

SECTION 4C – Water Resources

SECTION 4D – Natural Heritage and Endangered Species Program

SECTION 4F – Scenic Resources

SECTION 5 Open Space and Recreation Inventory 11 x 17

Open Space and Recreation Plan 2018 Summary

ONLINE SURVEY: 1501 respondents.

It is highly significant that nine out of 10 respondents show a strong commitment to acquiring more open space and they are willing to pay for it.

1. Recreation goals: more biking paths, hiking/walking trails, x-country skiing wanted by 3/4ths and half wanted more playing fields.
2. Agricultural priorities: Half support community gardens; one half want dedicated farming.
3. Wildlife Protection: 3/4ths agree wildlife protection and water protection are priorities and half believe wetlands must be protected.
4. Community paths: Three in four want more sidewalks and safe roads to walk to school.
5. Historic, Architectural and Cultural Priorities: 2/3rds voted that these aspects maintain the visible “green character. One half would invest to enhance historic districts and parks.
6. Future purchase of open space: passive rec=45%; active rec = 40%; wildlife protection = 40%
- 7. Are you in favor of purchasing more open space if it becomes available? Yes, 89.21%**
9. Community Preservation Act (CPA): brought to a vote at TM again? 72.9% said “yes.”
10. Importance of climate change? Very important and somewhat important= 83%
12. Adequate signage on town conservation land? Half said “No”. There is much need here.
16. How to learn about open space resources: town website, social media, apps and brochures
17. Child-centered natural playground/s? More than 4/5ths^s agree.
18. Town-wide household composting? Yes, say 72%

Of the 1501 survey responders- 755 were public school families. 455 were library responses and the rest were town email list and social media outreach. The point is YOUNG FAMILIES are a loud voice in the statistics coll.

“For every \$1 invested in land conservation, \$4 in natural goods and service is returned to Mass economy,” Trust for Public Lands.

GOALS and Action Plans

1. Access to the Merrimack River Reservation Access in fee or CR is necessary.
2. To accomplish its long-range plans the Conservation Commission should seek appropriations on a regular basis to be ready to purchase “parcels of interest” approved by Town Meeting 2014 and other important parcels.
3. A Land Stewardship Plan should be developed by a trained ecologist assessing the health of forests, invasive species and insects, habitat improvement, optimal deer hunt and other matters.
4. Resiliency/ Sustainability: The Commission will make decisions about open space with a view to climate change, global warming, river rise, vegetation management and decrease of energy. T
5. More education about the reservations is needed and more signage.
6. Support community gardens.
7. Strengthen the trail system
8. Support listed active recreational needs and especially parks
9. Increase the access to reservations and parks for People with Disabilities/ADA compliance.

10. Continue the Deer Hunt

SECTION 1 – PLAN SUMMARY

The Open Space and Recreational Plan 2018 builds on the work of Andover’s previous plans done in 1970, 1976, 1983, 1989, 1998, 2001 and the most recent 2009 Plan. The plan incorporates the Open Space and Recreation Plan requirements of the Massachusetts Department of Conservation and Recreation found in the *Open Space Planners Workbook* including the following segments:

- Overview of Andover from a regional perspective
 - History of the community, an analysis of demographic changes and growth, including development patterns. The community of Andover is being developed rapidly and there is less protected open space and recreation land per capita than when the last Plan was written. Much development is happening on increasingly marginal land with challenges.
 - Inventory of conservation and recreation lands, both public and private
 - Conservation and recreation goals are detailed. There is need to consider resiliency and a Land Stewardship Plan created by a trained ecologist to assess the health of the Town’s open space.
 - Included are the substantial goals met since the 2009 Plan.
 - This Plan includes the needs related to environmental justice populations and to people with disabilities (ADA compliance).
 - A few sections and maps have been added to the report and sections have been reorganized to comply with the new state format. The plan includes updated statistics based on the Federal Census of 2010.
 - Forest Management Plans for three Conservation Commission Reservations is included.
- Appendices

The Executive Summary

The Open Space and Recreation Plan 2018 Goals and Action Plans focus on protecting the land along the Merrimack and Shawsheen rivers for active and passive recreational opportunities; protecting land for open space when parcels on the list approved by Town Meeting 2014 become available; protecting more greenway corridors for wildlife and trails among neighborhoods and lands about to be developed; providing more recreational opportunities for all residents; considering resiliency, global warming, and vulnerability when making plans and purchases; supporting economic justice opportunities; supporting agricultural projects; improving accessibility for people with disabilities (ADA compliance) on open space and parks; creating a Land Stewardship Plan by a trained ecologist; and continuing the deer hunt.

SECTION 2 – INTRODUCTION

A. Statement of Purpose

The purpose of this plan is stated very succinctly in Andover’s **Conservation and Recreation Plan 1989**: to provide a *“balanced and integrated effort to protect invaluable natural resources while providing active and passive recreational opportunities for all townspeople.”*

Since Andover’s first open space report was prepared in 1970 and subsequent plans in 1976, 1983, 1986, 1989, 1998, 2001 and 2009, the town has experienced enormous development pressure from residential and industrial sources making the need for a new plan crucial as the demands for open space preservation and recreational opportunities have grown. This plan builds on the earlier reports and, in particular, the ***Open Space and Recreation Plan 2009*** and it brings information up-to-date. This is the ninth plan.

- A purpose is to emphasize strongly that the Town will continue its quest to acquire access to the Merrimack River Reservation, a ten-acre parcel under the control of the Conservation Commission, on the Merrimack River. This reservation is in the very neighborhood of substantial Economic Justice populations and abuts The Greater Lawrence Technical School with substantial minority students. A proposed Land and Water grant will be written for enhancements for the Merrimack River Reservation that would include picnic tables, launching ramps for small watercraft, signage about the river, and its history including information about local Native American settlements and opportunities for fishing. This plan proposes amenities at this reservation for people with disabilities, using the ACA standards soon to be up-graded. Signage would include information in other languages too.
- AVIS has acquired 26.6 acres of the former Franciscan land along the Merrimack River with a state Partnership Grant and donations, and is in the process of purchasing eight additional acres in 2018. Trail creation and continuing trail work will follow.
- The Town (and Andover Village Improvement Society -AVIS) will continue to acquire land thus enlarging the Shawsheen River Greenway from Lawrence to Tewksbury lines along the Shawsheen River, which runs directly through the center of Town. There is extensive planning being done at this time to acquire and permanently protect land along the Shawsheen River by a collaboration of Conservation Commission, AVIS and others in town. Town Meeting approved the Historic Mill District in the center of Town focusing on the river.
- The demolition of the Stevens Street Dam and the Balmoral Dam, both on the Shawsheen in winter 2017 is a catalyst to this planning. For the first time in 200 years the river herring swam upstream to spawn. The moving of the Town’s highway department to 5 Campanelli Drive will soon free up land in the Shawsheen River environs for new purposes.

- This plan also emphasizes the purchase or otherwise acquisition of parcels abutting permanently protected land and major parcels of land. These will be detailed in Sections 6, 7, 8 and 9.
- As the Town grows in inhabitants, the amount of open space per individual is shrinking dramatically. This is particularly important for economic justice populations with many inhabitants located in the northern part of Town. This plan urges new protected open space for new growth. In addition, the poorest city in the state, neighboring Lawrence, is just across the Merrimack River and abutting on the south side. It is extremely crowded with few open space areas. Global warming is creating many severe vulnerabilities.
- The Plan will also make recommendations for future major protected land purchases, and recreational enhancements. The Conservation Commission has a list of desired parcels to purchase when they are available; these were approved at Town Meeting.
- This process to create the *Open Space and Recreation Plan 2018* is necessary to be eligible for state funding and foundation grants targeting the acquisition and protection of open space, natural resources, wildlife corridors, endangered species and active recreation sites.
- In addition, the *Open Space and Recreation Plan 2009* has become part of *The Andover Master Plan* to guide officials in prioritizing town spending and gauging citizens' needs in the areas of open space and recreation. This *Open Space and Recreation Plan 2018* will guide the creation of the Town's next *Master Plan*.
The Town has applied for a Municipal Vulnerability Preparedness (MVP) Planning Grant in May 2018 to help research vulnerabilities because of climate change and global warming, especially river flooding, and to make plans to deal with them. The Town will thence prepare for MVP Action grants from EOEEA in the future to deal with these crucial challenges.

“Collaborate with other departments and divisions to identify ways to make our open spaces, recreation lands, and public facilities more accessible. Enhance access to and connections between open space parcels and our waterways, and improve pedestrian and multimodal transportation options. “

By Andrew Flanagan, Town Manager

Updates since the *Open Space and Recreation Plan 2009*

The Fairies of Penguin Park

In the fall of 2017, fairies arrived and have taken up residences at Penguin Park in a neighborhood of miniscule homes and seasonal decorations. The village has been visited by many young admirers and their families, some of whom have been leaving letters for the tiny folk. This settlement on Conservation Commission land has become wildly popular. The Commission is so pleased to have new Andover residents who are reaching out to townspeople to visit and to enjoy this magical protected land.

They live in the woods behind the Penguin soccer field, and they officially live in The Andover Fairy Forest. There are 22 homes as well as a fairy school, a wishing wall, a mailbox (and the fairies write back to kids who leave their address) and Edwin the Gnome's workshop. There was a fairy house class in fall 2017 and there will be more, as well as seasonal festivals for families- the winter one coming up Friday December 8.

1. Lightning Tree Reservation

A major parcel has come to the Town under the care and custody of the Conservation Commission. Lightning Tree Reservation, a 24-acre parcel of virgin land on the west side of Route 93, “orphaned” by the building of the highway many decades ago, came to the Town by the owners of South Street Inc., a developer of solar panel farm. To protect known endangered species on the site, the owner gave the parcel to the Board of Selectmen under the care and control of the Conservation Commission. There is a management plan to protect the endangered species under the direction of MA Fish and Wildlife. The Commission’s Special Projects Manager, Bob Decelle, has built trails and amenities in cooperation with AVIS and Andover Trails.

2. Franciscan land/Deer Jump Reservation

In 2017 AVIS purchased 26.6 acres of the former Franciscan land with eight more acres to come in 2018. Part of the purchase of the 26.6 acres came from a state Conservation Partnership Grant. In addition, the Behrakis Family has donated six acres of land abutting the Spalding Reservation on the Deer Jump Trail. The Town acquired by gift a seven-acre abutting parcel from the Pulte Company to comply with the senior overlay district regulations. In all AVIS has permanently protected more than 200 acres from east to west along the Merrimack River including the major Deer Jump Reservation.

3. Fosters Pond Reservation

Five acres of land on Fosters Pond, a Great Pond, were purchased with a matching **LAND Grant**, adding crucial waterfront access to the Foster’s Pond Reservation and abutting Andover Village Improvement Society (AVIS) 180 acres of Goldsmith Reservation, all open. A trail system has been built.

3. Axelrod Woodlands

As a requirement of the permitting of Rolling Green, (Andover Apartments LLC), the Cormier development, a 224-unit garden style apartment complex under 40B regulations,

26 acres of largely wetlands, **Axelrod Woodlands**, have been deeded to the Town with public access.

4. Deyermont Fields/Blanchard Road

The extensive sports fields on Blanchard Road have been built replacing the sports fields on the now closed landfill. It was a public-private collaboration.

5. Forestry Plan for major reservations

In late 2013, the Town of Andover Conservation Commission received three grants from the Massachusetts Forest Stewardship Program that enabled the Town to hire a Consulting Forester to prepare forest management plans for the Fish Brook North, Virginia Hammond, and Wood Hill – Bald Hill reservations. The grants totaled \$9,000 and covered all the costs developing the plans. These were overseen by Kevin Porter, Vice-Chairman, Andover Conservation Commission. They follow in the Plan.

These properties represent a unique opportunity to develop a set of management plans that cover mostly contiguous areas of woodlands in Andover. The goals are to increase the health and diversity of the woodlands and surrounding animal life through selective thinning or clear-cutting where appropriate, to create early successional habitat, and to set aside undisturbed areas that could be preserved and one day become old growth forest. In addition, specific goals are to maintain or expand existing meadowlands and edge habitat (Hammond), manage for invasive species, and create some hill top clearings that would act as both recreational vistas and provide open areas for migrating species (Wood Hill-Bald Hill). The plans were submitted to the State at the end of June 2014.

6. Deer Hunt

After a study by a State Deer Biologist and a scientific study of forest damage by deer by sixth grade students at Wood Hill Middle School, using deer exclosures, the Conservation Commission began a highly regulated bow-hunting program on several town reservations and AVIS reservations from mid October to the end of each year. There have been no incidents and the hunters have been praised for their respectful behavior. The hunt is overseen by Robert M. Dalton Jr., Volunteer Deer Hunt Coordinator of the Town of Andover, Massachusetts, Andover Village Improvement Society, and The Trustees of Reservations. More sites are being added to the hunt area yearly.

7. Community Garden-

Under the leadership of Ann Knowles and her garden board, a Community Garden was built in the spring of 2016 at the Town's Virginia Hammond Reservation off High Plain Road, using one-fourth of an acre of open meadowland. The four-dozen plots were planted, without raised beds, water was installed and a Boy Scout has built a garden shed. The first growing season has been most successful and the garden expanded in 2017 with raised beds, more plots and a tool shed. A waist-high raised bed for mobility-challenged gardener is being created.

8. Dog Park

The Conservation Commission has given permission to use a small parcel of land to a non-profit group for a fenced dog park, with strict rules. It is off High Plain Road.

9. Links for the Bay Circuit Trail

In a land swap with non-profit Ironstone Farm, brokered by AVIS, the Town acquired an important link for the Bay Circuit Trail on a former railway parcel.

The Cart Path trail is now linking AVIS's Sakowich Reservation and West Parish Meadow. A trail is being created to link a branch of the Andover Bay Circuit Trail to Tewksbury.

10. Former Tisbert parcel/addition to AVIS's Sanborn Reservation

AVIS has also acquired 11 acres of the former Tisbert land abutting the Town's Lightning Tree Reservation and AVIS's Sanborn Reservation along the Shawsheen River.

11. Turtle Mound

In 2017 AVIS acquired the singular Turtle Mound, a prehistoric built-structure, and is enhancing its historic value.

B. PLANNING PROCESS AND PUBLIC OUTREACH

1. The 2017 Open Space and Recreation Online Survey - Spring 2017,

by Commissioner Ellen Townson

Public Outreach

The survey went live over the Town's website starting March 20, 2017 to townspeople for several weeks. The Memorial Hall Library website sent a blast out to its extensive list of patrons to alert them to do the survey. The public schools sent notices to all families to alert them to do the survey. The Andover Mothers with 3,000 members were urged to participate. Many cooperating civic and environmental groups sent e-mail blasts to their members encouraging them to participate, plus much information was posted on social media. In all, there were 1,501 respondents. The author was guided by a university professor who designs surveys and there was much input and guidance from town officials. There were hard copies available. The survey was advertised widely on the Town's website.

Of the 1501 responders- 755 were from public school families. 455 were library patron responses and the rest were from the town's email list and various social media outreaches. Statistics show that young families are a loud voice within all the responses collected. These families are not swayed by being connected to the town as strongly as they are school-connected. Hard copies were available for resident also.

Summary

It is highly significant that nine out of 10 Andover citizens show a strong commitment to acquiring more open space and are willing to purchase more. Please see Question 7 below for context.

Question 7 Are you in favor of Andover purchasing more open space if it becomes available? In all, 89.21 percent said “yes”.

For several decades, the Town Meeting voters have regularly approved sizable amounts of money for the Conservation Commission to have “on hand” so as to be able to purchase important parcels right away when they became available. Usually those Town Meeting votes have been unanimous or nearly so. The Conservation Commission would commonly ask for \$1M at a time for purchase of passive open space.

Those convictions and commitments have continued to run deep for more that five decades now. In addition, townspeople have continually been willing to tax themselves to purchase more land for active recreation. With the conservationist and recreational passions continuing and growing, this analysis examines specific goals of the community.

Question 1 Recreation goals

Biking paths and, hiking & walking trails, cross country skiing, horseback riding were favored by three-fourths of the respondents. About half sought more sports fields. Interestingly, about a third were looking for boating access and fishing access. More than one in four expressed a desire for community gardening.

(The Conservation Commission is continually seeking legal access to the Merrimack River Reservation, abutting the old Phillips Academy boathouse. A fishing spot and trail on the Lowell and Lawrence Railway trail by Haggetts Pond is planned particularly for people with disabilities. The taking down of the Balmoral and Stevens Street dams in the winter of 2017 has seemed to magnify the interest in fishing.)

Question 2 Agricultural Priorities for Future Land Acquisition

About half the respondents support both community gardens and Community-Supported-Agriculture, CSA shares, where members pay the farmer’s cost upfront and then get a share of the harvest. One third were in favor of dedicated farmland.

Question 3 Natural Resources protection

Wildlife protection and water protection are priorities for future land acquisition by three out of four Andover survey participants. Almost half believe wetlands must be protected too.

(It is the policy of the Conservation Commission to purchase open space that protects the drinking water supply and wildlife corridors across the Town.)

Question 4 Community Paths priorities for future land acquisition

Three in four wanted sidewalks and road improvements for safe walking to school. One half of the survey participants advocated for paths to connect neighborhoods.

Question 5 Historic, Architectural and Cultural priorities for future land acquisition

Two out of three voted the cultural and historic aspects of Andover “maintain Andover’s visible ‘green’ character”. One half would invest in places of historic or architectural “interest” and enhance other green factors like parks and historic districts.

Question 6 Ranking parcels for future land acquisition with only one vote allowed

Passive recreation earned the top votes of 45 percent of the survey participants.

Tied at 40 percent each are water/wildlife protection and active recreation (organized sports).

Agriculture earned 35 percent and architectural enhancement at 25 percent.

Passive has been expanded to include: hiking, nature study, outdoor education, cross county skiing, trail bicycling, snowshoeing, hunting, fishing, picnicking, canoeing, ice skating, community garden work in existing fields, swimming, and facilities necessary to support such passive recreation.

Question 7 Are you in favor of Andover purchasing more open space if it becomes available? In all, 89.21 percent said “yes”.

Question 8 included 394 comments to inform this survey.

Question 9 Community Preservation Act

The Community Preservation Act (CPA) is a tool that enables towns to set up a fund for purchasing open space for the benefit of out door recreation and land preservation.

Andover does not currently have CPA. Funding is coursed by an increase of not more that 3 percent of the tax levy on real estate property. Municipalities must adopt CPA at Town Meeting. Do you feel Community Preservation Act should be brought to a vote at Andover’s Town Meeting?

Yes 72.9 percent; no 27.05 percent.

(Although CPA has been defeated twice in Andover, almost three fourths of the participants urged another campaign and vote.

Question 10

How important is climate change to you?

More than 60 percent said it was “very important” and 23 percent agreed it was “somewhat important.”

Question 11

How familiar are you with Andover’s locations and offerings of open space sites?

Less that one-fourth of the participants agrees that they were “very familiar” and half “somewhat familiar”.

Thus, there is much work to be done in educating the public about where Andover’s open spaces are located and what are the particular features of them.

Question 12

Do you feel town conservation properties have adequate signage/mapping?

The participants are about evenly divided on this issue: 51, “yes” to 49, “no”. There is much need here to produce much more signage, especially at trailheads.

Question 13

When visiting open spaces in town, are you satisfied with parking?

Two thirds of the participants agree they are satisfied. (61 percent, versus 37 percent are not satisfied.) More work is needed here.

Question 14

What organized activities would you be interested in attending if held on open space properties? Check all that apply.

More than half (56 percent) desire hiking meet-ups; seasonal themed events are sought by 56 percent; 34 percent seek paddling events; 29 percent desire scavenger hunts; geocaching is sought by 23 percent and 16 percent desire fishing derbies.

Question 15

What would increase your usage of open space properties? (Please check all that apply.) More than half seek informational apps; and a bit fewer than half want both more scheduled programs, and clarified maps and signage.

Question 16

How would you prefer to learn about open space resources and programs? (Please check all that apply.)

The town website was listed as the place of information by two thirds of respondents; Town e-mails by 51 percent; social media by 41 percent; open space apps by 34 percent and brochures by 27 percent.

Question 17

How important is the need for a child-centered natural playground?

More than four-fifths agreed there is a very important need or somewhat important need for a child-centered playground.

Question 18

How important is the need for Andover to dedicate a location and organization for town-wide household composting?

In all, 72 percent or almost three fourths believe there is a very important or somewhat important need.

2. Scholarly Research: *The Andover Town Survey 2012*

***The Andover Town Survey 2012: Final Report* conducted by UMass Lowell, Center for Public Opinion**

In 2012 The Center for Public Opinion, University of Massachusetts, Lowell under the direction of Joshua J. Dyck, Ph.D., Frank Talty, Ph.D. and Jenifer Whittten-Woodring,

Ph.D. with their students conducted a survey regarding quality of life, personal satisfaction in Andover, the value of open space and environmental attributes, *The Andover Town Survey 2012: Final Report*.

The survey scientifically solicited townspeople to give input on open space and recreational needs and quality of life issues. This is in light of the major changes to the town since the 2009 Plan, both in build-out, diminishment of open space and recreational needs as the population has grown. The main reasons to move to Andover are: **open space, conservation land (essential to somewhat important) 86% and then schools (essential to somewhat important) 80% . Thus open space is ranked higher than outstanding schools.**

3. Scholarly Research: *The 2008 Andover Citizens Survey*

The 2008 Andover Citizens Survey: Preliminary Report by The Center for Public opinion, Merrimack College.

This was submitted by Russell K. Mayer Ph.D., director of The Center for Public Opinion Research at Merrimack College with Brittny De Matteo, Jennifer Rando, Michael Salvucci, Jenna Ware and Molly Warren. November 19, 2008.

The survey consisted of 1200 randomly selected residents with 672 returned, a high rate of 56%, Error rate is 5 % plus or minus.

Community characteristics:

Recreational opportunities;	17% excellent, 54% good total excellent/good	71%
Open space/conservation lands	37% excellent , 51% good	88%

Importance in moving to/staying in Andover:

Open space/land conservation:	20% excellent, 42% good	62%
Recreational opportunities:	16% excellent, 39% good	55%

Town Services

Land acquisition/wetland protection:	27% excellent, 55% good	82%
Recreation/program classes:	30% excellent, 57% good	87%

Input from community:

There was close collaboration with the **Andover Village Improvement Society (AVIS)** a private holder of more than 1100 acres in 30 reservations, all open to the public for passive recreation and purchaser of newly protected open space. Many of the AVIS reservations abut Town-owned land and greatly increase the size and importance of large tracts of wildlife habitat.

There was reach-out to The **Merrimack River Watershed Association**, which is currently creating a 30-acre wilderness park along the Shawsheen River in Andover with Conservation Commission direction abutting Den Rock Reservation in Lawrence.

The group consulted with the **Shawsheen River Greenway** with Steve Golden and Mark Spencer, who have added important information to this Plan. The Historic Mill District

(along the Shawsheen River) plans are being formed currently. Two dams have been demolished.

Environmental Justice Initiatives:

“**Confluence**” an environmental and social justice group created by Mark Cutler, Spanish teacher at Phillips Academy, is involving students from Phillips Academy, Andover High School, Lawrence High School, Notre Dame Cristo Rey High School and the Greater Lawrence Technical School creating physical and community links between Lawrence and Andover. These links go through or near substantial Environmental Social Justice neighborhoods. This is a major and ongoing social justice initiative.

There are increasing collaborations planned among the two towns especially creating and enhancing trails along the Merrimack River.

In summer 2017 volunteers from Groundwork Lawrence Green Team made improvements on the parts of Bay Circuit Trail along the Merrimack in Andover, under the supervision of the Appalachian Mountain Club.

As the town enhances outreach to the Economic Justice Populations and neighborhoods, it is recommended that there be a committee created to monitor progress.

Working group for the *Open Space and Recreation Plan 2018*

Linda Cleary, Conservation Agent
Alix Driscoll, Conservation Commissioner
Robert Douglas, Conservation Director, Markus Pinney, consultant
Ellen Townson, Conservation Commissioner

Principal writers

Commissioner Alix Driscoll
Commissioner Ellen Townson
Mapmaker Jeffrey Cary

Consulted experts

Andrew Flanagan, Town Manager:
John Mangiaratti, Deputy Town Manager
Dr. John Honea, Conservation Commissioner
Kevin Porter, Vice Chairman of Conservation Commission
Don Cooper, Chairman of the Conservation Commission
Tom Brady, Conservation Commissioner
Floyd Greenwood, Conservation Commissioner
Linda Cleary, Conservation Agent
Robert Douglas, Conservation Director
Lynn Viselli, Conservation Administrative Secretary
Amy Janovsky, Environmental Expert, AVIS Trustee
Bob Decelle, Special Projects Manager, Land Group for the Commission
Andy Menezes, Land Group, Open space database expert for the Commission
Al French, Bay Circuit Alliance “Godfather”
Paul Materazzo, Planning Director
Jacki Byerly, Town Planner
Lisa Schwartz, Senior Planner
Jeffrey Cary, Andover’s GIS Specialist
Patrick Lawlor, Management Analyst
Dr. Sheldon Berman, Superintendent of Schools
Michael Timko, President, Andover Village Improvement Society (AVIS)
Susan Stott, AVIS Trustee, land acquisition expert
Karen Hermann, Andover Preservation Commission Chair
Steve Golden, Shawsheen River Greenway, Friends of Ward Hill, TTOR
Mark Spencer, Shawsheen River Greenway
Julie Pike, chairman of Andover Disability Commission
Joseph Connolly Director of Community Services
Chris Cronin, Director of Public Works
Marc Fournier, Deputy Director of Public Works
Mark Cutler, Phillips Academy teacher, creator of *Confluence*
Karen Martin, Environmental Compliance Coordinator for DPW
Stephen Surette, General Foreman, Highway Dept.
Ann Knowles, President of Andover Community Garden
Robert M. Dalton Jr., Volunteer Deer Hunt Coordinator

Environmental Justice Populations (EJP), pertaining to one population criteria: minority population, (as shown on the state map for the Northeast Region)

Minority 25% or more of residents population identify as a race other than white

Environmental Justice (EJ) is based on the principle that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. EJ is the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits.

Advancing Environmental Justice in the Commonwealth

Goals in regard to EJ populations include minimizing pollution and health risks, encouraging investment in economic growth, brownfield cleanup and community greening including park development and urban forestry, and enhancing public participation and outreach.

Environmental Growth and Smart Growth/Smart Energy

See Required Map 2, *Environmental Justice Map*

Discussion of the Environmental Justice Populations in Andover

The area shown on the Commonwealth's map concerning Environmental Justice Populations (EJP) for income in the Town of Andover contains several 40B projects. Until a few years ago, there were two substantial older 40B developments, Brookside and Riverside Drive, which have now reverted to market rate at the decision of the owners and have been sold as condos. The Andover Housing Authority negotiated to "save" a handful of units that would have reverted to market rate. A new smaller 40B project has recently opened on nearby River Road, about 60 units. A town house 40B complex on North Street has been built recently.

An "orphaned" area with considerable Environmental Justice Populations for income is sandwiched between Lawrence, the Merrimack River and Route 495 on both sides of Rout 93, consists of small densely packed residential area that was cut off from the main part of Andover six decades ago by the building of the highway.

Profile of the land

The area on the map for EJP for income is mostly unprotected open space with the landfill, the Greater Lawrence Technical School, the Town's Municipal Yard, (to be built in 2018), several high tech industries and Merrimack Riverfront. There are extensive wetlands.

Mitigation for Environmental Justice Populations in Andover:

1. Access to the Merrimack River Reservation on the Merrimack River is the **top goal** of this Plan. Access in fee or conservation easement will allow this highly attractive 10-acre parcel along the river

to be used for passive recreation, especially water sports. This will soon offer many recreational opportunities by area EJP.

This reservation is situated in the EJP section of Andover and is very close to neighboring Lawrence, which has a very large EJP meeting income, minority and English isolation criteria.

2. Enhancement of Deer Jump Reservation along much of the entire Merrimack River (in Andover): This many mile-long Andover Village Improvement Society (AVIS) reservation is a riverbank parcel offers passive recreation, educational opportunities and connections between Tewksbury and Lawrence trail systems as part of the extensive Bay Circuit Trail and the Penacook and Merrimack trails. This trail crosses the EJP areas in the northern part of Andover and extends into Lawrence, which has a very large EJP with income, minority and English isolation criteria.

3. Den Rock Park:

Also located in the area of EJP, this park is shared by Lawrence and Andover, offers hiking and climbing experiences, and protection of the Merrimack River in a densely populated area. It serves as recreational opportunities to all. The City of Lawrence is an important EJC meeting income, minority and English isolation criteria.

4. Chandler Road Landfill mitigation:

The Town permitted the capping of the landfill in 2017 and has DEP approval. This landfill is within the EJP part of Andover.

5. The Andover Community Garden

Under the direction of President Ann Knowles the Andover Community Garden was launched in 2016 at Virginia Hammond Reservation on High Plain Road. Water was brought in and several dozen plots set up; a deer fence erected; plus a shed courtesy of a Boy Scout. It will be expanding in 2017 to 44 raised beds, available to all on a lottery basis for a small fee. Extra produce will be donated to local food pantries.

Special Zoning Provisions

Cluster Development:

The frontage and area requirements for parcels over ten (10) acres may be reduced in Single Residence Districts B and C by Special Permit from the Planning Board, without increasing the number of units allowed by the Zoning District requirements. The resulting extra area (common open space) is required to be conveyed to the town, for a park or open space, to a nonprofit organization for open space, or to a neighborhood association for open space. This section of the bylaw was enacted in 1962 and has been extensively utilized for the residential development which has since occurred, with results that may be characterized as follows:

1. A net reduction in length of streets to serve residential areas;
2. Many short cul-de-sacs, tending to become coherent mini-neighborhoods;
3. A notable increase in the total area of protected open space;
4. Buffering of residential areas from one another;

5. Protection of natural features, notably wetlands and stream frontage;
6. The clustering together of homes and appurtenant on-site sewage disposal systems, sometimes excessively where soils are limited in disposal capability.

Since 1980, several thousand acres have been designated as open space from approved cluster subdivisions. Unfortunately, not all of these open space parcels have been conveyed to the town, but continue to be held in private ownership. To address this issue, since 1997 the Planning Department requires that open space parcels within cluster subdivisions be conveyed to the town prior to receiving a clearance certificate for the construction of a single-family home on any of the lots.

Flood Hazard District:

Any development within this overlay district is subject to the requirements of the underlying zoning district in which it lies. Flood carrying capacity of any watercourse must be maintained with regard to the proposed development. A proposed development cannot result in any increase in flood levels within the town during a flood to the Base Flood Elevation. (Base Flood Elevation is the level of flooding having a one percent chance of occurring in any year, and as designated on the (FIA) Federal Insurance Administration Rate Map.) Construction within the overlay district is in general required to be elevated to or above the Base Flood Elevation.

Flooding

The Town has applied for Municipal Vulnerability Protection Planning Grant in May 2018. There will be facilitated workshops to ascertain vulnerabilities due to climate change and global warming, including extensive flooding, and weather-related problems, to make plans for solutions. The Town will thence apply for MVP Action Grants to help deal with these challenges.

Fish Brook/Haggetts Pond Watershed Protection Overlay District (WPOD):

This Watershed Overlay Protection District, WPOD, was adopted by Town Meeting in April 1986 to protect the town's drinking water supply. The district places restrictions on earth removal; storage; manufacture, and use of hazardous substances, including residential heating oil; disturbance of slopes over 15%; siting of septic systems; distribution of vegetation; erosion and sedimentation impact; prohibits use of the watershed for landfills; road de-icing; chemical storage; development within 50 feet of water bodies and courses; mining (sand and gravel pits); solid waste disposal; gasoline service stations, repair garages, and body shops; dumping of contaminated snow; disposal of hazardous materials.

SECTION 4 -ENVIRONMENTAL INVENTORY AND ANALYSIS

A. Geology, Soils, and Topography

For SECTION 4A Map of **Soils and Surficial Geology** by **Jeff Cary, GIS Specialist**

See Figure 4. 2 *Soil Map and list of Soils Northern Essex County, MA (MA 605) from US Dept. of Agriculture*, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Beneath its mantle of unconsolidated material related to the last advance and retreat of the continental ice sheet some 10,000 years ago; Andover is underlain by hard crystalline rock many millions of years old. The bedrock of the major portion of the town consists of Andover granite. The northerly portion of the town along the Merrimack River is underlain by quartzite, a rock of sedimentary origin that has been hardened by heat and pressure. There are many exposures of these bedrocks throughout the town, but in general the bedrock is masked by the glacial drift deposited either directly by the ice or by debris-laden streams issuing from the melting ice, to an average depth of 20 to 30 feet.

The Merrimack River borders the town for five miles along its northerly edge and follows a course that may be unrelated to its pre-glacial location. The Shawsheen River transects the town from southwest to northeast, following a shallow valley underlain by glaciofluvial material to greater than average depths. The only wells of importance for municipal water supply are located here, and it is presumably the same course followed by the pre-glacial Shawsheen, which, however, may have flowed south instead of north before continental glaciations occurred.

The topography of the town is gently undulating, punctuated by several prominent hills formed by the movement of the glacier in glacial till (unsorted loose material directly deposited by the ice). These are Prospect Hill (421.5 feet), Pole Hill (210.5 feet), Wood Hill (373.3 feet) and Bald Hill (272.0 feet).

As the ice sheet stagnated and melted back (retreated), exposing the higher elevations first, the melt waters deposited sediments along the margins of the ice filled valleys (terraces), and at the ends of the ice sheet ("outwash" deposits). Melt water streams flowing in tunnels or channels in the ice left sinuous ridges of sand and gravel known as eskers. A prime example is Indian Ridge. A few have been altered by gravel removal operations (Andover Country Club; Greenwood Road ridge).

The soils of the community are directly related to the origin of the materials from which they were formed. The most extensive soils were formed from the glacial "till", poorly drained mixtures of sand, clay, and stones. The better drained soils, predominantly sands, are related to glacial melt water, and tend to occupy valleys, or flat areas related to valleys. The rather extensive, flat area of such well-drained soils south of Haggetts Pond was formerly in agricultural use. (See Figure 4-2, - Soil Map and list of Soils Northern Essex County, MA (MA 605) from US Dept. of Agriculture, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Climate¹

The Merrimack River Basin, in which Andover lies, has a variable climate characterized by frequent but short periods of heavy precipitation averaging 41.73 inches at Lowell, a few miles up the river. In the winter, precipitation is sometimes snow and sometimes rain. For Lowell, the average annual snowfall depth in inches is 55.7. Temperatures range from well below freezing during winter months to moderately high during the summer. Average annual temperature (Lowell) is 45 degrees Fahrenheit.

The watershed lies in the path of the "prevailing westerlies," which bring hot dry weather responsible for occasional summer droughts. The basin is also exposed to intense rainfall due to coastal storms of tropical origin that travel up the Atlantic seaboard, and due to protracted storms during all seasons, often called "nor'easters". A declared "severe drought" was declared by the State for summer and fall of 2016.

It is important to recognize the many proposed changes in the future due to the effects of global warming and river rise, and to plan resiliency into the goals for this OSCP plan. The town will be considering a study in the future and a concomitant grant to underwrite the same.

¹A Merrimack Wastewater Management Key to a Clean River", U.S. Army Corps of Engineers, November 1974.

B. Landscape Character, Unique Environments Features and Permanent Protection Policy

Unique Features and Scenic Landscape Character of Andover

The most **scenic landscapes** are the riverbanks of the Merrimack and Shawsheen rivers and the lovely meadowlands of West Parish Meadow, Al Retelle Reservation, Virginia Hammond Reservation, Gardner Meadow in addition to the craggy geologic features of the Keck Reservation and boulder “erratics” plus kettle holes on the Wilkinson Reservation and manmade ponds in the Harold Parker State Forest. The Mary French Reservation, Quaking Bog and the rugged esker of the ancient Indian Ridge Reservation are stunning in their visual variety.

Two **bridges** are particular areas of scenic interest and are listed on the National Register of Historic Places: Lower Shawsheen Railroad Bridge off Lupine Road near Central Street (the Hartwell Abbot Bridge, locally called the Horn Bridge) and Upper Shawsheen Railroad Bridge between Lowell Junction and Ballardvale. The Village of Ballardvale is a National Historic District with the dam and homes being important.

The **historic landscapes** include the Quad of the Phillips Academy campus, established in 1778, Central Street and the “white” and “brick” Shawsheen dwellings, which were homes for the managers of the American Woolen Company owned by William M. Wood are important scenic landscapes.

See Map 4 B Scenic Resources and Unique Features

There are 29 archeological sites in town.

Permanent Protection Policy

The Town has two major rivers, the Merrimack and Shawsheen that have shaped the character of the region for many millennia. Native Americans lived along the Merrimack where they hunted and fished after the retreat of the glaciers. The rivers provided power for the mills in the region. Gunpowder mills on the Shawsheen, near Shawsheen Village, owned by Samuel Phillips provided gunpowder to General George Washington’s Army before independence in the 1770s.

Due to wise decisions made years ago by Town Meeting and AVIS, almost all of the Merrimack River has been **permanently protected**.

A large portion of the Shawsheen River has been permanently protected with plans and goals to **protect the rest by purchase, gift or conservation easements**. The Shawsheen River Greenway is making plans to protect the land through the center of Town and beyond.

The Town Meeting in 2015 approved a Historic Mill District. A Task Force has been set up to recommend design guidelines for the 100-acre HMD set up by Town Meeting. Representatives from the Board of Selectmen, Town Manager, involved citizens, relevant Boards, including the Conservation Commission, comprise the Task Force.

AVIS and the Conservation Commission have permanently protected the eskers on Indian Ridge, Wilkinson Reservation and the land around Fosters Pond. The Planning Board enforces the bylaw regarding the mandatory protection of significant geological sites.

There are only a few working farms in town, whereas there were more than a dozen four decades ago. Most of the land not permanently locked up as open space, privately owned, and is marginal for development, mainly due to wetlands. The 40 acre Dargoonian Farm has an **Agricultural Protection Restriction (APR)** held by DCR.

The Trustees of Reservations and Commonwealth have permanently protected hundred of acres of open space land of the Ward Reservation and the Harold Parker State Forest.

The Conservation Commission holds permanent **Conservation Restrictions (CR)** on hundred of acres of private land.

C. Water Resources and Their Protection, SWAP Map

See attached 4C Map *Water Resources* by Jeff Cary

Source Water Assessment Program (SWAP) map for watersheds, subwatersheds and wetlands - **Required Map 6**

1. Watersheds: Plans for Protection of Merrimack River, Shawsheen River and Their Watersheds and Other Watersheds

1. Merrimack River: The Town and Andover Village Improvement Society (AVIS) have permanently protected as open space almost all the riverfront of the Merrimack River in Andover.
2. Town Meeting 2009 approved a drinking water overlay district (WPOD) to protect the watershed of Haggetts Pond and Fish Brook, a tributary of the Merrimack River from whence the drinking water flows into Haggetts Pond for processing. Building setbacks have been strengthened and certain uses prohibited.
3. Shawsheen River: Much of the Shawsheen River has already been permanently protected by the Town and AVIS. AVIS owns the Vale Reservation, the Shawsheen Reservation, Purdon and Lupine reservations along the Shawsheen River. In the seven-year Action Plans in this

document, SECTION 9, there are plans to purchase remaining parcels along the Shawsheen River when they become available.

4. The Shawsheen River Watershed Association holds regular cleanups of the river itself and riverbanks in Andover and neighboring communities in addition to educational canoe trips for the public.
5. The Andover Conservation Commission is enhancing several reservations along the Shawsheen River including Serio's Grove for camping and nature study. Overseers and Boy Scouts have built fire pits, tables and shelters. The Commission has been publicizing the use of its reservations especially along the Shawsheen River by the public. The Lightning Tree Reservation joins two AVIS reservations near Rt. 93 encompassing 50 acres of permanently protected open space.
6. Under the Town's permission in the winter of 2017 the Balmoral and Stevens Street/Marland Place dams have been dismantled along the Shawsheen River to promote re-establishment of Shad and river herring and to promote water quality, on the last tributary of the Merrimack River below the Lawrence dam/falls to the ocean and to the Gulf of Maine. Herring counts will follow. AVIS conserves substantial riverfront of the Skug River in the east.
7. The Merrimack River Watershed owns Pine Island in the middle of the Merrimack and is actively preserving its lands with resiliency and sustainability. The Shawsheen River Watershed organization is working to make the river a gem for recreation.
8. There are substantial acres of the Harold Parker State Forest permanently conserved surrounding Field Pond and Frye Pond.

2. Surface Water Resources

The table below lists surface water resources within the town. The largest body of water is Haggetts Pond, located in the Fish Brook/Haggetts Pond watershed. A few much smaller ponds are located in the Shawsheen River watershed. A medium sized stream called Fish Brook flows through the major wetlands area in town and into the water supply. The Merrimack River is the northwestern boundary of the town until it flows into Lawrence just north of Andover, and the Shawsheen River runs north through Andover, North Andover and into Lawrence before emptying into the Merrimack River. Several are designated as Great Ponds of more than ten acres. These include Foster's Pond and Haggetts Pond. The Town's water supply includes Haggetts Pond and the extensive Fish Brook wetlands system leading to it. The water comes from the Merrimack River periodically.

Baker's Meadow Pond	Frye Pond Hussey	Rabbit Pond
Bear Pond	Gravel Pit Pond	Rogers Brook
Brackett Pond	Haggetts Pond	Pinnacle Brook
Collins Pond	Hussey's Brook	Pomp's Pond

Field Pond	Hussey's Pond	Shawsheen River
Fish Brook	Lowell Jct. Pond	Skug River
Foster's Pond	Merrimack River	

Extensive Protection of Rivers and Waterbodies

Many of the water bodies of the town are protected by public ownership or private ownership by AVIS. Therefore almost all the Merrimack River frontage is owned by the town or AVIS for conservation purposes; the Town owns most of the frontage around Pomp's and Haggetts ponds; AVIS owns all of Baker's Meadow. Bear Pond is within Harold Parker State Forest and Rabbit Pond is on the campus of Phillips Academy. Much of the Skug River is under the control of the Town, AVIS and Harold Parker State Forest.

The rivers, ponds, streams and abutting lands are used for canoeing, hiking, bird watching, mountain-biking, educational trips by local schools, picnics, and family outings. Several sites along the ponds and rivers are accessible for boats, and a number of trails border the rivers and ponds.

Town residents and the Shawseen River Watershed Association (SRWA), Appalachian Mountain Club, ENEL North America, scout groups and church groups doing "days of service" are frequently involved in clean up campaigns, and classes hike the Bay Circuit Trail system learning about water quality and land use. Employees of Schneider Electric Company are Wardens of AVIS's Rafton Reservation doing extensive trail and cleanup work. The Phillips Academy *Non Sibi Days* make possible substantial work on Conservation Commission reservations by hard-working teen-age volunteers.

3. Aquifer Recharge Areas

The town's drinking water supply is currently all-surficial; the only existing municipal wells are no longer connected to the distribution system. The drinking water supply is a combination of Haggetts Pond, and impounded Fish Brook from the Merrimack River. Groundwater resources are not of sufficient quality and quantity to warrant municipal development in view of the ample surface supply. The town sells its surplus water to North Reading and could soon enter into a long-term arrangement.

The town's public water supply watershed is the subject of several studies:

1. *Source Water Assessment and Protection Report* prepared for the Town of Andover by MA DEP, October 2003
2. *The Fish Brook/Haggetts Pond Watershed: Water Supply in Andover*", prepared for the *Planning Board's Comprehensive Plan* by Frances M. Fink, February 1986.

3. *Resource Inventory and Management Recommendations for Existing Watershed Conservation Land*, prepared for the Conservation Commission by Land Resource Management Associates, February 1986.

The Skug River is a tributary to public water supply well sites in North Reading, and eventually to the Ipswich River via Martin's Pond and Martin's Brook and flow goes into the Ipswich River. A second North Reading well site lies just south of Foster's Pond. North Reading Superintendent of Water, Mark Clark, confirmed that the Massachusetts Department of Environmental Protection has approved a Zone II aquifer, a portion of which extends into Andover.

Topography and River Drainage

The topography of Andover is such that water drains, or sheds, into three significant river basins. Nearly the entire northwestern part of Andover has drainage movement towards the Merrimack River, which flows into Lawrence. The central portion of Andover, containing most of the concentrated residential development, has land area that contributes drainage and flow to the Shawsheen River. The Shawsheen runs north through Andover and into Lawrence before emptying into the Merrimack. Drainage from the eastern portion of Andover flows generally south-eastward to the Ipswich River. Of particular importance is the drainage, flow, and stage height of the Merrimack River since it supplements the town's drinking water supply through a man-made diversion. In 2016 there was a declared severe drought in the State, affecting these rivers.

Changes Due to Development

Development alters the landscape, and causes major effects in drainage, manifested by a lowered groundwater table, and changes how stormwater runoff is introduced into receiving bodies of water. Man-made alterations in water management practices, akin to changes in inputs and outputs, dramatically change the characteristics of a watershed. For example, the Fish Brook/Merrimack River water diversion alters a water budget by taking water from one area and replenishing it into Haggetts Pond via a man-made pathway. Both land and water use can alter natural drainage systems, and alter wildlife habitat through both decreases and increases in the quantity of flows of water, and the pathways water takes to get to its ultimate destination in a watershed.

4. Flood Hazard Areas- Floodplains

Floodplains are mapped on the National Flood Insurance Program Flood Insurance Rate Map (Community Panel Numbers 250076- 0001B-00011B). One hundred-year floodplains are found in the wetlands, as noted in the following section on wildlife, are randomly distributed across some 25% of the town. They are mapped in a series of 183, 1"=100' scale maps prepared by Terrain Investigation, Inc. of Weston, MA in 1978. The Andover Wetlands Maps are periodically amended by more detailed on-site investigations. There is a new FEMA 2012 map series that have been approved.

Climate Change and River Rise

There is much research now about the effects of river rise during weather events and the persistent result of climate change. It is expected that there will be state legislation dealing with this issue soon for both coastal shores and inland riverbanks. The Conservation Commission should watch the research and support it where appropriate. It is a fact that as water is heated it expands. Global warming is causing monsoon type storms too.

A considerable acreage of the Town is along the two major rivers the Shawsheen and Merrimack and their wetlands, and are affected by global warming. Thus it is urgent that as much as possible be permanently protected from development. This must be taken into account by a resiliency study and new Town policies. See Wetlands map, #6 by Jeffrey Cary.

5. Wetlands

Major Wetlands - About 25 percent of Andover is wetlands.

1. Extensive forest and phragmite infestations to the north of Haggetts Pond.
2. Extensive forest and phragmites in the area of Fish Brook.
3. Springs and forestland within the Ledge Road landfill complex and within the to Fish Brook drinking water supply (and the Merrimack River.)
4. Large wetland system of Fish Brook going through the AVIS's Harold Rafton Reservation and Conservation Commission land.
5. Extensive forested wetland area in the northern part of Harold Parker State Forest.
6. Large marshland at Baker's Meadow, once a dammed pond, is now becoming a swamp.
7. Extensive wetland system consisting of the Town's Foster's Island Reservation, Poms Pond (Town recreation area) and Conservation land on the east side of the Shawsheen east of the Vale Reservation.
8. The Town-owned land abutting Technology Drive is mostly wetland, some below water in the Shawsheen River.
9. The Town-owned Hearthstone Reservation has many acres of protected wetlands
10. There is a forested wetland complex on the Ward Reservation off Prospect Street, including a well-studied quaking bog.
11. A large complex of a wetland corridor encompasses the Mary French Reservation with a handsome boardwalk and Hammond Reservations in the northeast part of the town.
12. Where routes 125 and 28 cross in the southern part of town, there is a large wetland shared by North Reading with the water draining into the Ipswich River Watershed.

There are 29 confirmed vernal pools and 27 possible ones.
Please see Jeffrey Cary's Hydrography Map.

D. Vegetation

1. General Inventory

Of the undeveloped open space of the Town, much is heavily wooded. The Harold Parker State Forest maintains a limited wood-cutting program.

Several parcels of land maintained by AVIS are currently mowed to keep as meadows including the West Parish Meadow and Gardner Meadow. The Town mows the Retelle and Pray reservations and Serio's Grove. Meadows are rare; there are only about six.

Forests are under attack by invasives, insects, wildlife, global warming and often abutting land development encouraging invasives The Emerald Ash Borer has been found in North Andover.

The enormous, ancient and venerable Rufus Tree, a very rare white oak, is located by the dog park on High Plain Road, and is the subject of a book by naturalist and arborist, Alfred Retelle.

Probably the best local representation of the local flora is to be found along the Andover side of the Merrimack River from Route 93 crossing to the Tewksbury border. This strip has been protected from destruction by the Essex Company, the developers of the Mill Dam in Lawrence and subsequently by purchase by the Town or AVIS for conservation. Although there is great threat from invasives in the area of Deer Jump Trail by street endings, where land is disturbed, there have been birches, silver maple, both native pines, hemlock, both hornbeams, and American Elm. Mountain laurel is also common along the slopes of the Merrimack.

The most common upland trees to be found throughout the Town are white pines and red oaks. Much understory is missing due to deer. Andover has an extensive and well-run deer hunting program for many years on Town and AVIS land.

Probably the best local representation of the native flora is to be found along the Andover side of the Merrimack River from the Route 93 crossing to the Tewksbury border on the Deer Jump Trail owned by AVIS. This strip had been protected from destruction by ownership of the Essex Company, the developers of the Mill Dam in Lawrence, and subsequently by purchase by the town or AVIS for conservation. Almost all the native trees flourish along this strip including all the birches, silver maple, both native pines, hemlock, both hornbeams and American elm. There is a beautiful stand of native hemlock, white birch and beech in Deer Jump, the AVIS Reservation². Mountain laurel is also common along the slopes of the Merrimack Valley.

Please see *For Love of Forests*, by Walter Kittredge, in the *AVIS Update* spring 2017 about the aesthetics and need for forests.

The most common upland trees to be found throughout the town are white pines and red oaks. Wetlands occupy scattered areas approximating 25 percent of the town's surface, characterized

² Personal Communication, Albert Retelle.

most often as red maple swamps, although there are some open marshes and a few small bogs. The moccasin flower (pink lady's slipper) is common in the town's extensive woodlands.

Andover has been a Tree City for several decades.

2. Three Forest Management Plans: Fish Brook North, Virginia Hammond, and Wood Hill – Bald Hill Reservations

In 2013, the Andover Conservation Commission applied for, and received, Working Forest Initiative grants from the Massachusetts Department of Conservation & Recreation to pay for the evaluation and inventory of three forested properties (Fish Brook North, Virginia Hammond, Wood Hill – Bald Hill), and create Forest Stewardship Plans for the properties. The inventories were conducted in the spring of 2014. Management plans were then submitted to the State and approved.

Leading up to 2013, there were indications that Andover's forested lands were not as healthy as they should be, prompting the study. Of concern: the vegetation, particularly new tree shoots, is subject to heavy browsing by a large deer population; there is a large dense tree canopy limiting the amount of light reaching the ground, which has a negative impact on the growth of new trees; and the forests are very homogenous – even aged, similar size and class of trees - with almost new growth occurring. The lack of understory (new growth) is a major concern.

In addition to forest health, the Commission desires to increase the biodiversity of the lands and the wildlife utilizing them. Prior to European settlement, the landscape was a patchwork of open habitats, young forest and old forest. With urbanization and development we have few open areas in the State today, and there is a movement among environmental organizations to create new open areas because they are so vital to many bird and pollinator species.

In addition, organizations such as Mass Audubon, TTOR, and Massachusetts Department of Fish and Wildlife are proponents of creating another type of habitat - “Early Successional Habitat” - because of its enormous benefit to wildlife. Early successional habitat is characterized by vigorously growing grasses, shrubs and trees that provide excellent food and cover for wildlife.

With these factors in mind, the Commission's hired a licensed forester, Gary Gouldrup of New England Forestry Consultants, to inventory and develop management plans that would meet the Commission's goals for these three properties:

1. Increase the health of the forests
2. Increase biodiversity
3. Create more open space or meadow habitat
4. Create early successional habitat
5. Be self-supporting through sustainable timber harvesting

In addition to our forestry consultant's recommendations, the Commission also consulted with Massachusetts Division of Fish and Wildlife (Rebecca DiGirolomo, Habitat Biologist) for their input on wildlife and habitat creation as related to the Forestry Plans submitted by the forester.

A summary of the management plan for each property follows. Detailed descriptions can be found in the attached Forest Management Plans for each property.

Fish Brook North

The Fish Brook North Reservation is a 337-acre parcel located in west Andover with road frontage on Chandler Road, River Road, Forest Hill Drive, and Interstate Route 93. The land is comprised of mature white pine and mixed hardwood woodlands (22%), mixed oak and hardwood woodlands (41%), open marsh wetlands (20%), red maple forested wetlands (16%), and hemlock-hardwood forest (1%). The hemlock woolly adelgid was found in the mature hemlock trees on the property. Timber resources range from poor to high.

Forest regeneration is a concern at the Fish Brook North Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 15-acres that were harvested approximately 15-20 years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, fragmites, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; biological diversity and invasive species control; recreation enhancement along the trails, and wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat. There are several acres of very large old trees and this acreage is designated as no cut “Old Growth Forest” (i.e. to be left as is, no harvesting).

Please refer to Appendix A - Boundary & Stand Type Map – for Fish Brook North for a detailed color-coded diagram.

Massachusetts Fish and Wildlife suggested that previously cut white pine stands with adequate regeneration could be managed for white pine and could potentially provide future revenue to help support habitat management elsewhere on the property.

Virginia Hammond

The 43-acre Virginia Hammond Reservation is located in a western section of Andover with approximately 1,500 feet of road frontage on High Plain Road. Interstate Route 495 is the property’s southeastern boundary.

The land is comprised of mature white pine and mixed hardwood woodlands (31%), mixed oak and hardwood woodlands (53%), and open meadow (16%). Timber resource quality ranges from poor to high. The red oak timber resources are generally well formed and fair to high in timber quality. A small pocket of hemlock is located east of the parking area.

Forest regeneration is a concern at the Hammond Reservation due to the high white-tailed deer population in the local area. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past. Invasive and non-native vegetation on the property is prevalent in areas and is also

having an effect on native forest regeneration in many areas of the property. Burning bush, buckthorn, honeysuckle, bittersweet, and Japanese barberry are all growing on the property.

The forest soils are productive and capable of producing high quality timber resources. Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; expansion of the open meadow habitat; a proposed clear-cut of several acres to create successional habitat. Massachusetts Fish and Wildlife have urged caution with the proposed cut for conversion to successional forest due to the prevalence of invasives. They strongly suggest that the Town commit to pre-treatment of invasives in these areas and follow up with treatments as needed before moving forward with the cutting.

Please refer to Appendix B - Boundary & Stand Type Map – for Virginia Hammond for a detailed color-coded diagram.

Wood Hill – Bald Hill

The 230-acre Bald Hill and Wood Hill Reservation is located in west Andover with road frontage on High Plain Road, Haggetts Pond Road, and Interstate Route 495 as the properties eastern boundary. The land is comprised of mature white pine and mixed hardwood woodlands (33%), mixed oak and hardwood woodlands (47%), red maple forested wetlands (10%), abandoned field (2%), open power line (4%), and an open transfer station (4%). Timber resource quality ranges from poor to high.

Forest regeneration is a concern at the Bald Hill and Wood Hill Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 25-acres on the east side of Wood Hill Road that were harvested approximately 30-years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, Norway maple, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; cultural resource protection (evidence of old foundations and buildings along Old Wood Hill Road); non-disturb no cut areas designated as “Old Growth”; wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat; clear an area on the top of Wood Hill to create a recreational vista.

Please refer to Appendix C - Boundary & Stand Type Map – for Wood Hill-Bald Hill – for a detailed color-coded diagram.

Massachusetts Division of Fish and Wildlife Recommendations (per Rebecca DiGirolomo, Habitat Biologist): There is historical evidence that a portion of Bald Hill was maintained with fire as a blueberry patch. Given that blueberry is not preferred by deer and is abundantly present in the understory Fish and Wildlife recommends opening the canopy in

this area to increase blueberry production, however, it would be advisable to retain some pitch pine and large crowned healthy oak and hickory trees. This area could be marked for retention, meaning the forester would mark individual pitch pine, white oak, red oak, hickory, etc. to be retained while removing 90% of current forest canopy cover. The blueberry hill could then be maintained with prescribed fire, if feasible, once every ten years or so.

The cost for fire planning and implementation could potentially be paid for from any timber sale revenues. Prescribed burning would also reduce costs associated with periodic mowing to maintain the sparse overstory canopy with shrub understory. In addition, we also discussed extending this treatment area down the adjacent slope, but retaining all hardwood species and removing white pine. This slope had an interesting mix of species typically found on richer sites (sugar maple and hickory) and species found on dryer, well-drained sites (white oak, red oak, and pitch pine). It would be ideal to retain this species diversity while removing the more generalist species (white pine and red maple).

On the Wood Hill Property Mass DFW recommend building off of the shrub habitat provided by the power line and focus on creating openings adjacent to the powerline and in areas that have abundant blueberry cover in the understory. At least two areas are appropriate for overstory removal above the existing blueberry cover extending from the power line to the change in topography, building a narrow strip of heathland alongside the existing shrubland in the power line. DFW also discovered *Aureolaria* (false foxglove) with indications of feeding from the Orange Sallow Moth, a species of special concern in Massachusetts. As for the area that the Town is proposing to clear for vista or habitat on this parcel, DFW would recommend thinning this area instead, and retaining oak and hickory for seed source and wildlife value. However, given the lack of regeneration due to heavy deer browse the Town might consider waiting until they have a better handle on the deer population and a clear reduction in browse of native vegetation.”

More detailed information can be found in the **Forest Management Plans** for each reservation in the *Open Space and Recreation Plan's Appendix*.

Kevin Porter Vice-Chairman Andover Conservation Commission January 2017

3. Public Shade Trees

Friends of Andover Community Trees (FACT) in 2009 formed a subcommittee for developing a tree bylaw. The proposed bylaw could potentially cover a number of areas, such as preventing tree loss during development, charging for the removal of public (street) trees, protecting specimen or heritage trees, pest control, establishing a town-appointed tree committee, duties of the tree warden, etc.

There is an extensive collection of handsome shade trees in West Parish Church Cemetery.

Phillips Academy has an extensive fenced-in forest, the Moncrieff Cochran Bird Sanctuary, and there are plans to develop an inventory, prepare a resiliency plan and execute it in the coming years.

4. Agricultural Land

The Dargoonian Farm, 40 acres off Chandler Road has been continually operating as a farm under an Agricultural Preservation Restriction, held by DCR. It is (in 2017) currently for sale and must continue to be a farm with no change of use. It also has lower taxes due to 61A status. Half of the Dargoonian Farm is wetlands.

In the last five decades almost all the farms have been plowed under for development. Andover lost a 10-acre Strawberry Hill Farm to elderly living/assisted living complex in 2017. There are several parcels under 61 A status. See SECTION 5 for more information.

5. Wetland Vegetation

The banks of the mighty interstate river, the Merrimack River and the Shawsheen River that flows to the Atlantic and the Gulf of Maine have substantial wetland vegetation. Some is being threatened by global warming that is causing river rise and erosion of the banks. Trees are now falling into the rivers as banks become unstable. Haggetts Pond contains the water supply with the extensive wetland complex of Fish Brook routing water to Haggetts.

These are Town water bodies:

Baker's Meadow Pond	Frye Pond Hussey	Rabbit Pond
Bear Pond	Gravel Pit Pond	Rogers Brook
Brackett Pond	Haggetts Pond	Pinnacle Brook
Collins Pond	Hussey's Brook	Pomp's Pond
Field Pond	Hussey's Pond	Fish Brook
Lowell Jct. Pond	Skug River	Foster's Pond
Shawsheen River	Merrimack River	

Major wetland corridors go along the both major rivers.

A major wetland corridor connects Baker's Meadow, West Parish Meadow, Indian Ridge, Shasheen River into Pomps Pond and Foster's Island area.

Another major wetland corridor goes along the southern part of Shawsheen connection with wetlands in Tewksbury and the Wilmington Town Forest. There is an extensive wetland vegetation corridor within Harold Parker State Forest. It is estimated 25% of Town is wetlands. Please see SECTION 4, C 5, Wetlands, for more information.

6. The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth.

Please see the *Massachusetts Natural Heritage: Rare Species by Town mesa (Massachusetts Species Act)_ and Federal Status* in Section 4 E. Andover is home to **14 vascular plants that are endangered, threatened, or of special concern.**

On the west side of Route 93 the entire Shawsheen River in Andover is a Priority Habitat for Rare Species and Estimated Habitat for Rare Wildlife: a freshwater mussel and a moth. Also the entire land area on the west side of Route 93 including the river floodplain is Priority Habitat of Rare Species. On the east side of the Lowell Junction area, the site of Proctor & Gamble and Pfizer is Priority Habitat.

The riverbank of the entire Merrimack River in Andover is Priority Habitat for Rare Species and Estimated Habitat for Rare Wildlife, in addition to land surrounding Haggetts Pond, which is town land protected by the Andover Water Department, and AVIS’s Rafton Reservation. There are two dozen listed Rare Species and Rare Wildlife.

Here is Andover’s MESA list.

ANDOVER	Mussel	Alasmidonta heterodon	Dwarf Wedgemussel	E
ANDOVER	Mussel	Alasmidonta varicosa	Brook Floater (Swollen Wedgemussel)	E
ANDOVER	Amphibian	Ambystoma laterale	Blue-spotted Salamander	SC
ANDOVER	Butterfly/Moth	Apodrepanulatrix liberaria	New Jersey Tea Inchworm	E
ANDOVER	Vascular Plant	Arceuthobium pusillum	Dwarf Mistletoe	SC
ANDOVER	Vascular Plant	Aristida purpurascens	Purple Needlegrass	T
ANDOVER	Vascular Plant	Asclepias purpurascens	Purple Milkweed	E
ANDOVER	Vascular Plant	Calamagrostis pickeringii	Reed Bentgrass	E
ANDOVER	Butterfly/Moth	Calophrys irus	Frosted Elfin	SC
ANDOVER	Vascular Plant	Celastrus scandens	American Bittersweet	T
ANDOVER	Vascular Plant	Elatine americana	American Waterwort	E
ANDOVER	Reptile	Emydoidea blandingii	Blanding's Turtle	T
ANDOVER	Vascular Plant	Eriophorum gracile	Slender Cottongrass	T
ANDOVER	Butterfly/Moth	Euchlaena madusaria	Sandplain Euchlaena	SC
ANDOVER	Reptile	Glyptemys insculpta	Wood Turtle	SC
ANDOVER	Butterfly/Moth	Hemaris gracilis	Slender Clearwing Sphinx	SC
ANDOVER	Butterfly/Moth	Hemileuca maia	Barrens Buckmoth	SC
ANDOVER	Vascular Plant	Liatris scariosa var. novae-angliae	New England Blazing Star	SC
ANDOVER	Mussel	Ligumia nasuta	Eastern Pondmussel	SC

ANDOVER	Butterfly/Moth	<i>Lycia rachelae</i>	Twilight Moth	E
ANDOVER	Dragonfly/Damselfly	<i>Neurocordulia obsoleta</i>	Umber Shadowdragon	SC
ANDOVER	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T
ANDOVER	Vascular Plant	<i>Panicum philadelphicum</i> ssp. <i>philadelphicum</i>	Philadelphia Panic-grass	SC
ANDOVER	Vascular Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale Green Orchis	T
ANDOVER	Vascular Plant	<i>Sabatia kennedyana</i>	Plymouth Gentian	SC
ANDOVER	Vascular Plant	<i>Sphenopholis pensylvanica</i>	Swamp Oats	T
ANDOVER	Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	SC
ANDOVER	Vascular Plant	<i>Trisetum spicatum</i>	Spiked False Oats	E
ANDOVER	Vascular Plant	<i>Utricularia resupinata</i>	Resupinate Bladderwort	T

<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>

Educational Opportunities Utilizing Protected Open Space:

When the ten-acre Merrimack River Reservation on the Merrimack River can be accessed by the public, there are plans to create Americans With Disabilities-compliant roadway and structures, to cut invasives, to upgrade fishing and small boating areas and to document this historic site with extensive educational material about Native Americans and early European people.

The extensive Moncrieff Cochran Bird Sanctuary on the campus of Phillips Academy protects forest, birds and rhododendrons and is a site for environmental, ornithological and biological educational programs and occasional architectural and artistic installations. There are plans to redo this outstanding resource, which is privately owned but open to the public. Phillips Academy employs a certified arborist for its extensive 500-acre campus. Phillips Academy has a systematic program of planting specimen disease-free oaks.

The Conservation Commission has been working with local fairies to create the Andover Fairy Forest at Penguin Park during fall 2017, which has been superbly popular with young families.

The Conservation Commission, Andover Trails Committee and AVIS has recently rewritten its *Andover Trails Guide, Fifth Edition* to include extensive information on major reservations including history, trails and links to other trails, including the Bay Circuit Trail.

7. Unique Natural Features

Quaking Bog

There is a well-documented **quaking bog** near Holt Hill on the The Trustees of Reservations - owned Ward Reservation.

There are about 29 certified **vernal pools** in the Town and about 27 possible vernal pools. .

E. Fisheries and Wildlife

1. General Inventory

Because of the dismantling of the Steven Street and Balmoral dams in the winter of 2017, river herring have come to the Shawsheen River for the first time in more than 200 years. These were strays that swam upstream by Marland Place to spawn, where they were counted. Dr. John Honea, Conservation Commissioner, explains that the river herring will return in three years to spawn.

Deer, coyotes, raccoons, fox and rabbit are some of the most common wildlife in Andover. Beaver, historically ubiquitous but completely trapped out of the entire state before the 1800s, are also recolonizing their historical habitat along the Shawsheen River and its tributaries and other waterbodies in town, with an estimated population in town of about 200 now. Although the dams and lodges for which they are famous increase habitat diversity and thereby increase species diversity and ecosystem health, sometimes the increased flooding has required dam breachings and “beaver deceivers” to lower the levels in ponds to ameliorate flooding of roads and threats to septic systems. This is only done with emergency permission from the town Director of Conservation who receives consent from the Conservation Commission. In 2009 several beaver deceivers were been placed in the Skug River watershed by AVIS under emergency approval by the Conservation Commission and the State. On occasion, when dam breaching or beaver deceivers fail, the town hires trappers to take beaver.

Bird watching is a widespread and popular activity. A number of bird walks are scheduled each year by the Merrimack Valley Bird Club since the area is rich with avian wildlife, especially during spring migration. More than 145 species of birds including heron and migrating ducks have been observed in Bakers Meadow, according to naturalist and bird watcher Al Retelle. Woodcock have been seen around Haggetts Pond and a rare goshawk pair in the Moncrieff Cochran Bird Sanctuary at Phillips Academy. Sparrow hawks, or American kestrel, have been seen in town. Redtail hawks are common, but bobolinks are now quite rare. American eagles are common along the Merrimack River.

Migratory waterfowl are increasingly numerous, especially Canada geese and mallard ducks. Most of these species are increasing regionally, perhaps due to their adaptability to the presence of humans. Waterfowl nest in various ponds and along the Shawsheen and Merrimack rivers. Pheasants and mourning doves are numerous around town and wild turkeys abound.

Regionally, there is much less meadow habitat than there was historically, as fire frequency has declined and abandoned colonial era farms have given way to forests. It is important to keep the remaining meadows open and mowed on both private and town open space lands to encourage the nesting of birds such as woodcock and bluebirds, which live in open meadowlands. Mowing should take place in midsummer to encourage nesting of bluebirds, as has been done along the Shawsheen River in the AVIS Shawsheen Reservation and the Trustees of Reservations Ward Reservation. Local Girl Scouts have played an important role in native bird conservation by building and installing bluebird boxes in large meadows promote nesting.

Fishing is allowed in most town water bodies, including Haggetts Pond, which yields bass and pickerel. Pomp's Pond, at the Andover Recreation Park, is a breeding place for eels and also contains small bass and finfish. The Massachusetts Department of Fisheries and Wildlife stocks the Shawsheen River with trout every spring.

Bow Hunting

By the vote of Town Meeting, Andover does not permit the discharge of firearms in town so there is no hunting with guns allowed except in Harold Parker State Forest, state land. The Town and AVIS have permitted limited but successful bow hunting programs since 2010. The purpose of the hunt is to reduce the density of the local deer population. Inspections of town forestland by state officials concluded that overgrazing is limiting tree regeneration, degrading habitat for other species, and putting the long-term sustainability of the forests at risk. Since 2013, science students at Wood Hill Middle School have been assessing deer impact on plant growth by monitoring several exclosures erected in the forests near their school and presenting their results to the Conservation Commission and state wildlife scientists.

(Please see the Deer Hunting Report by Robert Dalton in the Appendix and in SECTION 8)

2. Vernal Pools

The town has a vigorous and ongoing program for identifying and certifying vernal pools. There are 29 vernal pools that have been certified and there is an ongoing program to certify many more of the suspected 27 vernal pools.

They can be seen on the *Hydrography* SECTION 4E map by Jeffrey Cary.

3. Corridors for Wildlife Migration

The varied topography and presence of numerous corridors of stream channels of the two major rivers, Shawsheen and Merrimack, and their tributaries and associated wetlands in Andover provide a diversity of habitat that supports numerous species of vegetation. It is important to maintain this diversity of vegetation to maintain both aesthetic and functional values of these species.

The weight of scientific evidence supports value of biodiversity. Ultimately biodiversity supports ecosystems by increasing resilience to disturbance and other changes, both natural and human-caused. Because habitat destruction and fragmentation is the main cause of biodiversity loss, it is Town policy carried out by the Conservation Commission to seek to purchase abutting parcels for open space protection to allow for wildlife corridors. AVIS has a similar policy.

There are several wildlife corridors in town. Perhaps one of the most important comprises approximately 1800 acres around the Town's watershed in western Andover and includes the Boloian Reservation under the care and control of the Conservation Commission and contiguous AVIS land and Conservation land to connect to Haggetts Pond, in the care of the Water Department, to create an important corridor.

AVIS's Deer Jump and Spalding reservations plus Conservation Commission lands to the east of Route 93 allow a protected corridor of more than 200 acres in Andover along the Merrimack River. This corridor continues into Lawrence to the east and Tewksbury and Lowell to the west.

Two corridors in the east are the Harold Parker State Forest–Mary French Reservation–Skug River Reservation–Hammond Reservation corridor, and the Peggy Keck Reservation–Goldsmith Woodlands–Conservation Commission lands–Wilkinson Reservation around Fosters Pond wildlife corridor.

Much of the Shawsheen River corridor and the area around Pomp's Pond are preserved permanently under town and AVIS ownership, including the Shawsheen River and Vale reservations and many parcels under the control of the Conservation Commission around the pond. Under the aegis of the Shawsheen River Greenway group there is much focus right now on permanently protecting many more parcels along the river from the Tewksbury line to Lawrence, targeting many hundreds of acres.

In the middle of the town, AVIS's Bakers Meadow, West Parish Meadow, and Indian Ridge reservations and the adjoining West Parish Cemetery act as a valuable wildlife corridor connecting to a large Conservation Commission parcel off Lowell Street.

In the area to the north of Route 495 and to the west of Route 93 there is an extensive wildlife corridor encompassing AVIS's Harold Rafton Reservation (226 acres), Virginia Hammond/Fish Brook Conservation Commission land (235 acres), and about 50 acres of School Department land.

In the southern part of town the Conservation Commission has acquired within the decade 24 acres of open space given due to the presence of several endangered species at the large solar panel site along Route 93. This has become the Town's Lightning Tree Reservation. This is a stunning parcel with proximity to the Wilmington Town Forest to the south and AVIS's Sanborn Reservation and the Shawsheen River to the west. AVIS has recently purchased 10 acres of the former Tisbert land along the Shawsheen, thus creating a large wildlife corridor of more than 50 acres.

There are several conclusions:

The most important habitats are water-related. Therefore, the town's policy regarding the protection of the rivers, streams, ponds, vernal pools and all their environments is reinforced by consideration for wildlife.

A number of areas preserve, relatively undisturbed, habitats for native flora.

Those animals, like coyotes, that adapt readily to the presence of humans are flourishing. Those that do not have disappeared or are declining.

The Town, AVIS and other land trusts, including Trustees of Reservations, plus Harold Parker State Forest, have the option of preserving and even enhancing existing habitat; it is important to keep meadows open and mowed so as to encourage birds to nest there.

4. Rare Species

The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth. Here is Andover’s MESA list.

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<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>

Removal of Dams on the Shawsheen River

Two dams on the Shawsheen River were removed in the winter of 2016-2017: the Balmoral Dam just south of Route 133 and the Stevens Street Dam just north of Stevens Street. Neither dam served the purpose for which it had been built. Both, however, had long cut off the historical habitat of migratory fish such as river herring and American shad, all of which were once abundant in the river. The dams also restricted the downstream movement of sediment, particularly the Stevens Street Dam, thus contributing to coastal erosion. While there are many ponds in Andover and the region, there were no free-flowing rivers.

This, in addition to overfishing, which is now more strictly regulated, is the main reason that most of the eastern US has lost its salmon, shad, and river herring fisheries as well as the marine species that feed on these fish and their young. As a consequence, conservation groups and state and federal agencies responsible for managing fisheries offer funding and other support to remove dams. This funding is attractive to owners of aging dams when faced with the cost of maintenance that can run into the 100s of 1,000s of dollars.”

The waters of Shawsheen River are designated in the Massachusetts Surface Water Quality Standards as Class B. Such waters are intended “as habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation ...” The Shawsheen River is approximately 25 miles in length and flows into the Merrimack River approximately 30 miles from its mouth at the Atlantic Ocean. Until the early 19th century, the Shawsheen River served as essential habitat for the Atlantic salmon. River herring, American shad, and hundreds of other native plants and animals adapted to the riverine habitats of the Northeast. During the industrial revolution, the river was dammed to power textile mills converting it from a free-flowing river into a series of millponds.”

The Shawsheen River is particularly attractive to fisheries managers because there are no dams in the Merrimack River below the point where the Shawsheen joins it. Therefore, migratory fish rearing in the Gulf of Maine, such as river herring and shad, will be able to take advantage of the restored access to their historical habitat, thereby increasing the productivity of these forage fish for the depleted fisheries in the Gulf of Maine.

By Jon Honea, Ph.D. Professor, Emerson College and Andover Conservation
Commissioner

F. Scenic Resources and Unique Environments

Required map 5 by Jeffrey Cary

1. Unique and Scenic Landscapes

The entire length of the Merrimack River in Massachusetts is included in the Commonwealth's *Inventory of Scenic Rivers*. As mentioned in the preceding section on landscape character, the Conservation Commission and AVIS control most of its shoreline in Andover. In 2017 34 acres of the beautiful wooded banks of the former St. Francis Seminary land was purchased by AVIS with six more acres to be purchased in 2018. The land trust is working with National Grid to acquire more than a site license in the future. *An Act Relative for Access to Recreational Trails* has passed and been signed into law in February 2009 would protect NGrid from liability. In addition, George Behrakis has donated several acres to AVIS on the Merrimack riverfront at the Tewksbury line abutting AVIS's Spalding Reservation.

The Conservation Commission also nominated the Shawsheen River, the Skug River, and Fish Brook as *scenic rivers*, but these were not included in the inventory. However, the town and AVIS have been vigorous in protecting their shores by acquiring open space parcels along them.

The Conservation Commission should seek protection of the above three waterways by *Scenic Rivers* designation.

There are no areas in Andover listed in the 1982 Massachusetts Scenic Inventory, nor any officially designated scenic roads. Traffic congestion on the town's older roadways has increased with the rapid development of the last three decades; the Department of Public Works would like the authority to straighten and widen older roads to increase safety where necessary. However, it is important to preserve as many of the curves, hills, trees, and stone walls as possible to preserve the visual appeal of the town's roads and to prevent them from becoming speedways. There are few, if any, long stretches of roadway in town that might be qualified as scenic, except for the roads through Harold Parker State Forest. **The state and town should work together to designate the Harold Parker roads as scenic.**

The 1980 Preservation Plan for the Town of Andover recommends Salem Street and Osgood Street as scenic roads because of their older houses, stone walls, mature trees, and open farmland. Since that time, several subdivisions have occurred along both roads, some farmland has been lost, and the Osgood Street/Frontage Road area has experienced some industrial development.

Some of the best views in town have been preserved on the tops of Bald Hill, Wood Hill, Prospect Hill, and Pole Hill. Other hills that afford views worth preserving, include the hill between Tucker Road and Gray Road (elev. 257') and the wooded hillside above the mill buildings on Stevens Street (elev. 170').

The top of Holt Hill within The Trustees of Reservations-owned, Ward Reservation presents a stunning view of Boston. It is said that the Andover-area residents gathered here to watch the burning of Charlestown during the Revolutionary War.

2. Unusual Geological Features

Most of these sites have been described in the preceding sections on topography and unique features, soils and vegetation, and wildlife. There is an abandoned cranberry bog on private land on Jenkins Road abutting Harold Parker State Forest (Town Map #16, Lot #4A). In addition to the portion of the Indian Ridge esker that has been protected by AVIS, there is an extension of the esker between Shawsheen Street and Lowell Street, along with associated kame and kettle topography. There are also eskers along the south side of Foster's Pond.

These and other sites with essentially unaltered glacial land forms should be considered for protection by the Planning Board and Conservation Commission at the preliminary planning stages of development. Already preserved are the glacial formations on Indian Ridge Reservation, the Greene, Keck and Wilkinson reservations and Harold Parker State Forest.

3. Cultural, Historical and Archeological Areas

Cultural Areas

The cultural area is rooted in the integral New England downtown center. Here are several historic churches, the Memorial Hall Library, Old Town Hall, the town offices, shops and The Park, a downtown green.

A second cultural center is the 500-acre campus of Phillips Academy, founded in 1778. George Washington came to the campus in 1789 to bring his nephews, veterans of the Revolutionary War, and was a friend of Samuel Phillips, the school's founder, who supplied the general with gunpowder for the Revolutionary War Army. The campus once housed a seminary, which later became the Newton-Andover Theological Seminary. Graduates include the two Presidents Bush, ambassadors, MacArthur fellows, a king, Rhodes scholars, Members of Congress, authors, Supreme Court judges, inventors, scientists and humanitarians.

Historic Districts and Historic Areas

Andover has seven Historic Districts and 51 structures outside of these districts that are listed in the National Register of Historic Places. Nominations for the Register were drawn from the Andover Historic Building Survey begun in 1975. The Andover Preservation Commission continues to evaluate buildings for possible inclusion in the National Register of Historic Places.

The seven Historic Districts and the structures in the Register are described in detail in Andover's National Register Multiple Resource Area Nomination approved by the Massachusetts Historic Commission and the National Park Service in 1982. These are also described in detail in A Preservation Plan for the Town of Andover, by Wendy Frontiero (1980).

Seven Historic Districts

1. Academy Hill - including Phillips Academy, Abbot Academy, and the Andover Theological Seminary;
2. Andover Village Industrial District - a complex of factories and associated residences clustered around two waterfalls on the Shawsheen;
3. Ballardvale - the first of Andover's planned mill communities, on the upper Shawsheen;
4. Central Street - the social and religious core of Andover including fine residences and three churches;
5. Main Street/Locke Street - a harmonious mixture of fine residences representing a number of architectural styles just south of the town's central business district;
6. West Parish Center - a residential neighborhood around West Parish Church;
7. Shawsheen Village - a planned community built around the American Woolen Company mills in the 1920's, which included housing, post office, drug store, school, restaurant, creamery, railroad station, garages, laundry, and recreational facilities.

The seven Historic Districts contain several areas of open space including four cemeteries, several stretches of Shawsheen River frontage, and the open spaces of the Phillips Academy campus.

Archeology and the Prehistoric Native American People

Eric S. Johnson³ of the Massachusetts Historical Commission considered six factors most likely to have attracted prehistoric settlements in Andover, including:

1. The Merrimack and Shawsheen Rivers, where migratory fish (salmon, shad, eels) provided a very productive and labor-efficient food source. The rivers also would have provided transportation routes, non-migratory fish, birds, game, and water and shore plants;
2. Lakes and open swamps where migratory fowl, small game, and useful plants would be found;
3. Areas with a diversity of soil types that would support a diversity of plant and animal species;
4. After 1200 A.D., areas with arable land to grow corn, beans, and squash;
5. Areas with useful stone deposits;
6. Areas with soils suitable to build on.

Johnson mapped the distribution of the six natural resources in Andover, combined the maps, and produced a map of sensitivity, which is included in the 1982 report entitled, *Prehistoric*

³See "Prehistoric Archaeological Resources of Andover, MA A Preliminary Study of Sensitivity", October 11, 1982, by Eric S. Johnson, MA Historical Commission.

Archaeological Resources of Andover, MA, A Preliminary Study of Sensitivity. Areas of greater sensitivity are those more likely to contain prehistoric remains.

Records of known archaeological sites in Andover are kept at the Andover Historical Society, the Peabody Museum of Archaeology, and at the Massachusetts Historical Commission. The sites tend to cluster along the town's water bodies. Perhaps the most important is a campsite on the Merrimack River at I93, with remains spanning the past 7000 years. Before the site was developed as an industrial park in the late 1970's, the site was extensively studied and described in *The Camp at the Bend in the River, Prehistory at Shattuck Farm Site*, by Barbara Luedtke, published by the MA Historical Commission, December 1985.

Several dozen other sites have been explored, including hunting and fishing camps and villages, food gathering/processing stations, burial grounds, an eighteenth century black servant's homestead, a nineteenth century pottery factory, and a soapstone quarry and stone dressing factory, and ditches dug to mark property boundaries. A new archaeological evaluation of the Shattuck Farm site occurred in 1996 by the state and the University of Massachusetts at Amherst. One recommendation of the evaluation is the preservation of stonewalls as pedestrian pathways.

There are undoubtedly many more sites that remain as yet undiscovered, and it is important to conduct impact assessments, including review of archeological site files for the area, at the Massachusetts Historical Commission, whenever ground disturbances are planned.

A number of Indian fishing campsites have been found in the vicinity of Foster's Pond, the Shawsheen, and the brook connecting the two. Eugene Winter of the Robert S. Peabody Museum of Archeology speculated that Indians may once have traveled from the Shawsheen to Foster's Pond, overland to Martin's Pond, and down Martin's Brook to the Ipswich River, pulling canoes on ropes where the brooks were too shallow for paddling. These waterways still exist and would make an interesting addition to the Bay Circuit trail ways.

The Jenkins Road Quarry Reservation entrance on Douglass Lane was the site of a station on the Underground Railroad and a gathering place for abolitionists Frederick Douglass, Harriet Beecher Stowe and William Lloyd Garrison.

National Register of Historic Places

Two bridges are listed on the National Register of Historic Places:

Lower Shawsheen Railroad Bridge off Lupine Rd, near Central Street (the Hartwell Abbott Bridge) and

Upper Shawsheen Railroad Bridge between Lowell Junction and Ballardvale.

A full list of buildings for each district is located at the Andover Historical Society, Memorial Hall Library or town offices. It's about 800 buildings in total.

4. Unique Environments for Endangered and Rare Species

On the west side of Route 93 the entire Shawsheen River in Andover is a Priority Habitat for Rare Species and Estimated Habitat for Rare Wildlife: a freshwater mussel and a moth. Please

see the *Massachusetts Natural Heritage: Rare Species by Town mesa (Massachusetts Species Act)_ and Federal Status* in Section 4 E.

Also the entire land area on the west side of Route 93 including the river floodplain is Priority Habitat of Rare Species. On the east side of the Lowell Junction area, the site of Proctor & Gamble and Pfizer is Priority Habitat.

The riverbank of the entire Merrimack River in Andover is Priority Habitat for Rare Species and Estimated Habitat for Rare Wildlife in addition to land surrounding Haggetts Pond, which is town land protected by the Andover Water Department, and AVIS's Rafton Reservation.

There are no Areas of Critical Environmental Concern in Andover.

G. Environmental Challenges

1. Hazardous Waste - Major initiative: the Town's landfill closure

The Town has permitted the closing of the landfill, a filled quarry, called the Andover Ledge Road Closure Project. It was used as an open landfill from the end of World War 11 and ceased operations in 1972 with some waste from Raytheon accepted in 1980s. The Town has been working since 1995 to do a landfill closure and capping of the 26-acre site.

Extensive monitoring has been conducted at the site; leachate from the landfill has been found to contain arsenic, iron and other heavy metals plus 1, 4 dioxane. In 1988, the Town capped the landfill with one foot of clay and five feet of loam fill and is required to complete the capping. In the spring of 2017 the Conservation Commission permitted the capping and the project by Camp Dresser & McKee (CDM) and it has been permitted by the Department of Environmental Protection. Arsenic filled soil will be removed and water level containing liquid pollutants flowing through the landfill will be lowered. The goal is drinking water level leachate, says CDM.

2. More Environmental Challenges

Andover faces environmental challenges similar to those of other communities in the area, along with a few unique to the town:

- High levels of mercury are showing up in fish throughout the state, and testing shows that fish from our local ponds are affected. DEP estimates that solid waste combustors (incinerators) are the largest source contributor of mercury to our water bodies with pollution from Midwestern power plants have been a cause of the problem; also there are two waste incinerators within a 15-mile radius of Andover, and there used to be four.
- Spills from vehicle accidents, along with environmental impacts from highway de-icing salts are a concern since two major transportation corridors (I-93 and I-495) cross through Andover. Many issues associated with roadway pollution are addressed in detail in Andover's *Stormwater Management Plan*.

Andover has a significant industrial base, and has several large and small businesses that use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in storage tanks.

Andover has two golf courses, as well as many large properties using pesticides and herbicides, posing additional concerns for potential pesticide runoff into the watershed of the Town water supply.

Residential use and disposal of household hazardous chemicals and other environmentally damaging products widen community challenges. There are Town collections each year.

The Department of Environmental Protection's list of reportable release sites in Andover is available. The list represents the cumulative record of reportable releases in the Town of Andover ranging from very small releases of oil to larger releases requiring extensive remediation. For the most part, Andover's required hazardous waste remediation efforts are the responsibility of private parties.

Reichhold Chemical Cleanup

Regarding the Reichhold Chemical Company's property on Lowell Junction Road, two of the three parcels of land available from Reichhold have been purchased by the Town after cleanup. The third parcel was purchased by a developer and the Town will take action to protect the Shawsheen River.

Highway Runoff and Noise Pollution

With two major highways, Andover's extensive forested areas play an important role in enhancing Andover's livability by offsetting some of the resulting traffic noise and air pollution. Proposed developments along the highways will remove a portion of this living buffer. A noise barrier has been constructed north of Dascomb Road on Route 93 by Mass Highway.

3. Erosion

The Conservation Commission uses the powers given by the MA Stormwater Regulations. Andover also has a strong Wetlands Protection Bylaw regarding permanent setbacks from wetlands and protections during construction. The Commission is watching likely state legislation dealing with coastal flooding and inland flooding from water level rise due to global warming.

The Conservation Commission will be writing additions to its own bylaws to help with erosion and flooding. Of course, the top goals of this plan are the permanent protection of more parcels along the Shawsheen and Merrimack rivers and their tributaries to deal with erosion.

4. Flooding

Occasional flooding has occurred in the mixed-use Shawsheen Plaza area and the Shawsheen Village region due to spring run-off and to the hard fortification of riverbanks and extensive building as the river flows through those areas.

The dismantling of the Balmoral and the Stevens Street/Marland Place dams in 2017 should greatly help with chronic flooding in the densely packed Andover Center and the Shawsheen Center. With global warming the rivers will be rising during rain events and spring flooding.

5. Sedimentation

Strong Conservation Commission and Building regulations regulate building practices and the prevention of silt into the waterways and wetlands. There are required periodic inspections of building sites at sensitive sites.

6. New Development

Because most of the flat land has already been built upon, the developers are now developing marginal land with wetlands, ledges and other physical constraints.

The cluster bylaw protects some open space but it could go to private homeowner associations. It is important to work for a change to the Planning Board rules to have the required open space to go to the Town, AVIS or to a land trust that protects land and required open access.

Because of the development growth during the last decade, especially the building of several 40B complexes, townhouse projects and large apartment buildings, the per capita amount of protected open space has greatly shrunk. Therefore it is important to acquire more open space for all to enjoy.

7. Ground and Surface Water Pollution: Mercury Pollution of Andover's Ponds and Rivers

It is an unfortunate side effect of our demand for electricity that mercury is accumulating in our freshwater fish, and in some marine species as well. State emission standards for mercury have been tightened in recent years, and local waste disposal facility operators have put programs in place to help keep mercury out of the waste stream. Yet mercury continues to accumulate throughout much of Massachusetts, prompting the MA Department of Public Health to issue guidelines for safe consumption of fish. Samples were taken in 121 locations in the Commonwealth; 64% show significant mercury contamination.

As Table 4-2 shows, the mercury levels of fish from all of Andover's ponds and rivers is too high to allow fishermen to rush home to enjoy their catch. Please see the table below with cautions.

Table 4-2

Public Health Fish Consumption Advisory for Andover (Advisory issued by Massachusetts Department of Public Health, July, 2008) For more information call: 617-624-5757 NOTE: This advisory does not apply to fish stocked in lakes and ponds			
Location	Town	Fish Advisory	Hazard
Ballardvale impoundment of Shawsheen River	Andover	P1 and P3 (large mouth bass & black crappie)	Mercury
Fosters Pond	Andover	P1 (all species), P5	Mercury
Haggetts Pond	Andover	P1 (all species), P4, P2 (Largemouth bass)	Mercury
Pomp's Pond	Andover	P1 (all species), P4, P2 (Largemouth bass)	Mercury
Merrimack River	Andover	P1 and P3 (Largemouth bass, White Sucker)	Mercury

P1 (all species): Children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant, and nursing mothers should not eat any fish from this water body.

P1 (species): Children younger than 12 years of age, pregnant women, women of childbearing age who may become pregnant, and nursing mothers should not eat any of the fish species (in parenthesis) from this water body.

P2 (species): The general public should not eat any of the fish species (in parenthesis) from this water body.

P3 (species): The general public should limit consumption of affected fish species (in parenthesis) from this water body to two meals per month.

P4 (species): The general public should limit consumption of non-affected fish from this water body to two meals per month.

P5: The general public should limit consumption of all fish from this water body to two meals per month.

P6: No one should consume any fish from this water body.

Source: Massachusetts Department of Public Health

http://www.mass.gov/Eeohhs2/docs/dph/environmental/exposure/fish_consumption_advisory_list.pdf

8. Impaired Water Bodies

Part of the Shawsheen River in the Rogers Dell area in Andover has experienced fecal coliform bacteria in the *Shawsheen River Watershed 2000 Water Quality Assessment Report*. Since that time Andover has undertaken a large extension of its sewer system including the Rogers Brook area, Ballardvale and portions of South Main Street environs. This is an ongoing process.

<http://www.mass.gov/dep/water/resources/83wqar.pdf>

Severe Drought

The Shawsheen, Merrimack (and the Skug river flowing into the Ipswich River) have experienced “severe drought” as determined by DEP, lowering the water levels in 2016. The Ipswich River almost ran dry in the summer of 2016. The Merrimack River has drinking water intakes for Andover, Lawrence and the Methuen.

9. Invasive Species

AVIS and the Conservation Commission have an ongoing program to educate about and eradicate invasive species. This is done by AVIS wardens, Conservation Commission overseers and teams of volunteers from Andover Youth Services, Scouts groups, church groups doing Days of Service, Phillips Academy *Non Sibi* students and volunteers from local industries. The Memorial Hall Library has sponsored workshops about invasive species, for the general public. With the global warming in this region, the summers are warmer and longer, and this benefits invasive species to grow more vigorously than previously.

AVIS has recently gotten several LIP State grants to deal with the invasives on the Shawsheen River. The land trust hired a licensed herbicide professional to apply herbicides on the proper schedule after cutting them down extensively.

10. Environmental Equity Issues

As presented on the state’s website, *Mass.Gov*,

“the Commonwealth’s Executive Office of Energy and Environmental Affairs (EEA) established an Environmental Justice Policy to help address the disproportionate share of environmental burdens experienced by lower-income people and communities of color who, at the same time, often lack environmental assets in their neighborhoods. The policy is designed to help ensure their protection from environmental pollution as well as promote community involvement in planning and environmental decision-making to maintain and/or enhance the environmental quality of their neighborhoods.”

As shown on the Environmental Justice Populations map for the Northeast Region, based on the 2010 Census, the census tract comprising the northeastern corner of Andover has Environmental Justice Populations (EJP) meeting two state criteria: 25% or more of residents belong to a minority group, and 25% or more of the residents are foreign-born.

In addition, just over the border to the north and to the east is the poorest city in the Commonwealth, the City of Lawrence, where there are large Economic Justice Populations: poor folk, foreign born residents, minorities and non English language speakers.

Economic Justice Populations

Profile of the land Showing EJC Populations

The area on the map showing Environmental Justice Populations in Andover is mostly unprotected open space, bounded by two major highways--Routes 93 and 495. Within the industrially zoned area abutting Rt. 93, is Federal Street, a long road paralleling the highway with campus-type clean high-tech industries. There are extensive wetlands in the industrial area.

However, within this area, there is also public riverfront access, several playing fields, and land protected by the Andover Conservation Commission with trails for use by the public. (See attached map of the area showing open space amenities.)

The Conservation Commission is developing several tools to increase public knowledge of Open Space and Recreation opportunities throughout the community. Through outreach to the EJP community, the Commission will ascertain whether some of this information should be presented in a multi-lingual format to make it more accessible to foreign-born residents.

AVIS and *Confluence* are making connections with the Lawrence community through trail cleanups, trail forging and cultural exchanges.

Mitigation for the Environmental Justice Populations in Andover:

The EEA guidelines list major targets for Environmental Justice action, in addition to improving access to open space and recreation:

1. Access to Open Space

As detailed below, there are several current initiatives that will provide additional recreational opportunities for EJP residents, as well as people from nearby towns such as Lawrence that have substantial Environmental Justice Population people.

2. Public Access to the 10-acre Merrimack River Reservation for all

The Conservation Commission is trying to gain public walking access and vehicular access to a highly attractive 10-acre parcel along the Merrimack River for passive recreation, including kayaking and canoeing, hiking, and enjoying scenic vistas. This will soon offer many

recreational opportunities by area Environmental Justice Population. It is the top goal of this Plan.

3. Enhancement of Deer Jump Reservation along the Merrimack River

AVIS has purchased 26.6 acres in April 2017 of former Franciscan land, Land along the (Deer Jump) and will purchase eight more acres in 2 George Behrakis has donated six acres to complete the trail west into Tewksbury. The Merrimack and Penacook trails connect Andover and Tewksbury with Lawrence neighbors. The Conservation Commission will be given seven+ acres of Pulte land that abut the AVIS land soon.

Andover Village Improvement Society (AVIS) Deer Jump Reservation along the river is being continually enhanced by cleanups and trail-clearing by wardens, scout groups and members of local churches undertaking “days of service,” and Appalachian Mountain Club teen trail crews. The Penacook Trail runs the length of the river into Lawrence.

4. Den Rock Park

Also located in the area of the Environmental Justice Population, this park shared by Lawrence and Andover, offers hiking and climbing experiences, and protection of the Shawsheen River in a densely populated area. It serves as a buffer and a recreation site for a very large apartment complex on the Andover and North Andover lines in Lawrence.

5. AIR: Reducing Diesel Emissions

Andover’s Plant and Facilities Department is phasing in the use of biofuels in heating and in vehicles. The town has implemented an anti-idling policy for buses and cars at all schools.

6. Energy

Clean Energy Technology and Efficiency: Andover was a recipient of the *EEA’s Leading by Example* award for its pioneering efforts to improve energy efficiency, increase recycling and reuse, and conserve resources. The long-standing commitment to open space preservation is an important complement to these efforts.

7. Brownfields Revitalization

One of Andover’s most recent major Open Space acquisitions was one large brownfield (the former Reichhold industrial property) Serio’s Grove, that Town Meeting approved for purchase to increase riverfront access.

8. Capping of the Ledge Road Landfill

In addition, the town’s municipal landfill on Ledge Road is about to undergo final closure and capping. Documented arsenic-laden leachate and 1.4 dioxane from the landfill has affected gone into wetlands. Please see more information in Environmental Hazards in SECTION 4, G, 1.

9. Greenspace

Greening the Urban Environment: Andover is constantly partnering with community groups such as AVIS and the Boy Scouts to create and maintain new trails and recreational spaces.

10. Tree City awards

Andover continues to earn the title of Tree City USA status. Extensive replanting of street trees has been a major component of the Main Street project. The Deer Jump Trail and Pennacook and Merrimack trails offer very attractive hikes through forests along the mighty Merrimack.

11. The Andover Community Garden Project Serves EJC Population

Under the direction of Ann Knowles and her volunteers with the support of the Andover Conservation Commission, a community garden has been built off Haggetts Pond Road in 2016. This provides outdoor recreation, strengthens community and most importantly provides a source of locally grown organic produce, especially for EJC populations. The gardeners donate produce to appropriate agencies to help others. There are goals to encourage the building of other community gardens in other sites across town to serve a variety of populations.

Low and Moderate Income housing

Within the Census tract shown on the EJP map is Riverview Commons, is a 220 former rental apartment community located along River Road along the Lawrence border. It was built in 1989 as an affordable housing complex and remained so until 2005 when the affordability provision expired. The 220 units are now ownership. The demographics of the apartment community were over 25% minority or foreign born at the 2000 census.

There are also several other 40B housing developments in the area shown on the Commonwealth's map. Brookside has now reverted to market rate at the decision of the owners and units have been sold as condos. The Andover Housing Partnership negotiated to "save" 18 units that are still rented as affordable.

A new smaller 40B project of about 60 units has recently opened on nearby River Road.

Under construction are 40B townhouses off North Street. This "orphaned" area sandwiched between Lawrence and Route 495 consists of small densely packed homes, which were cut off from Andover six decades ago by the building of the highway. In addition, scattered around the center of town are six sites of long-standing housing for the elderly, veterans and moderate and low-income people. There are two new 40B housing complexes across from the Internal Revenue Service on Route 133, with 224 units in the former Rolling Green complex and the 200+ to the south of them.

Andover Community Trust has built several single-family homes with income limits. They have often been constructed by students from the Greater Lawrence Technical School.

Andover is currently **compliant with the ten percent requirement** of the law dealing with creation of 40B housing. The affordable units created now are in perpetuity.

SECTION 5 - INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

This section refers to “protected open space land” as written in the *Open Space and Recreation Planner’s Workbook*. Protected open space is land purchased in fee or given to the residents of the Town of Andover under the care and custody of the Conservation Commission. It is protected by Article 97 of the Massachusetts Constitution.

Open space protects the quality of life of Andover and serves economic benefits. Mass Audubon writes that for every one dollar spent on acquiring open space \$4 are reaped by the Commonwealth.

VALUE OF OPEN SPACE

Why is open space important?

Open space is crucial to the quality of life of the Andover community. It is largely these lands that define the open character of the town and provide areas of natural beauty and visual relief from spreading suburbanization. Earlier planning documents referred to preserving the “open, semi-rural character” of Andover as an important goal of the town and the *2008 Andover Citizens Survey*, conducted by Russell K. Mayer, Ph.D., discussed in Section 2, indicated that citizens continue to regard it as important to them. If the visual quality of Andover’s landscape is to be preserved, these lands must be safeguarded and added to whenever possible.

It is well known that preserving open space permanently saves a town money due to no need to build roads, school and hire more fire and police offices.

On a social level open space and trails unite neighborhoods and villages in Andover.

On a psychological level open space and even the knowledge of open space nearby gives peace and contentment to all members of a community and its neighbors.

On an educational level open space provides continual sources of knowledge and engenders protection for the gifts of nature.

On a historical level open space protects the “rocks and rills” marshes and meadows and all who dwell therein in the Town where “America” was written in 1832 by Samuel Smith.

In a sustainability and resiliency sense open space allows the townspeople to limit their footprints upon the land and to cherish its wonders

TOWN-OWNED PERMANENTLY PROTECTED OPEN SPACE OVERVIEW

Please see the printout of the **292 town-owned properties** owned by the inhabitants of Andover under the care and custody of the Conservation Commission in fee of **2,082** acres and open to all for passive recreation uses. All are permanently protected under Chapter 97 of the Massachusetts Constitution.

Total: 2,082.89 acres

Parcels: 292

Notes About The Database of Conservation Commission parcels.

Please see the Town of Andover Open Space database.

Land Deeded to the Inhabitants of the Town of Andover – Care and Custody of the Conservation Commission Appendix L

1. The degree of protection is permanent under Article 97 of the Massachusetts Constitution, protecting land, water and air.

The public may access every parcel (except the land-locked Merrimack River Reservation at this writing) but none of the Conservation Commission reservations are American with Disabilities compliant under the about-to-be new rules.

2. The Commission plans to get expert help to analyze reservations for access by people with disabilities and then to prepare grants and seek Town appropriations to fund the creation of ADA-compliant reservations soon.

a. There are plans to build ADA compliance on the Lowell and Lawrence Railway/Haggetts Pond Reservation, which borders the town water supply.

b. There are plans to build **ADA compliance** into the roadway, trails, furniture, amenities and fishing sites on the Merrimack River Reservation, 10 acres, behind the Greater Lawrence Technical School, off River Rd. when the public can get to this land. A main goal of this plan is to make the access open and permanent

3. The recreation potential is good on many sites with trail creation necessary on many and amenities too. All sites are singular and unique.

4. Current rules do not allow the Commission or Recreation Division to apply for the LAND and PARC grants until this Plan obtains final approval.

Since the *Open Space and Recreation Plan 2009*, Foster Pond Reservation, five acres, was purchased with a LAND matching grant. It abuts about 200 acres of AVIS reservations and Conservation Commission land.

Maintenance of Land under the care and control of the Conservation Commission

There are increasing expenses to maintain the open space properties. The Town's CIP has included funds to support maintenance projects, with \$12,00 included in 2018 FY budget. It is expected that funds will be included yearly.

The appointed Overseers under the direction of Bob Decelle, the Conservation Commission Special Projects Manager and Vice Chairman, Kevin Porter conserve the properties, blaze the trails and undertake repairs and build extensive boardwalks. They are aided by Scout groups doing Eagle Scout projects, (to which the Commission often gives small amounts of money for supplies) and youth and church groups, and increasingly, employees of local firms doing "days of service." Phillips Academy students serve annual Non Sibi Days working on Commission land. These projects include cutting trails, building campsites, benches and picnic tables, and constructing sign kiosks and boardwalks.

Andover's Cluster Bylaw Produced Many Major Open Space Reservations

Included in the acres that the Andover Conservation Commission is entrusted with for permanent protection and for passive recreation are many small parcels of land that abut subdivisions, which were acquired by the town as a part of the cluster subdivision bylaw, which has been in place for several decades. This bylaw allows a percentage of the cluster development to remain permanent open space. The Conservation Commission is the major recipient, but some parcels have gone to Andover Village Improvement Society (AVIS), a non-profit trust that controls 1300 acres, all open to the public for passive recreation. Hunter's Ridge open space has recently gone to a private homeowners association, which does not allow public access.

Current Use

All lands under the care and custody of the Conservation Commission are open to the public for passive recreation at all times except the Merrimack River Reservation behind the Greater Lawrence Technical School and one other.

Conditions

Many are in good to fair shape and some poor, under increasing pressure by the geometrically increasing invasives, especially bittersweet. With global warming the invasives are hardier, more virulent and spreading furiously, a major challenge

Under the direction of Special Projects Manager Bob Decelle, work parties from the community periodically tackle erosion problems by relocating trails and rebuilding steps and bridges. Boy Scouts construct fire pits, picnic sites, camping areas and bridges/boardwalks for Eagle Scout projects. Members of churches in the community, service groups, company groups doing days of service construct trails, battle invasive plants and build bridges for annual events.

Potential for recreation and connections

All reservations have the potential for recreation for passive recreation. There are plans to develop the Merrimack River Reservation (off River Road, behind the Greater Lawrence Technical School) when there is legal access for fishing, water sports, ADA compliant amenities and scenic viewing. Several Shawsheen River reservations allow for boat launching and picnic sites. There is a plan to develop a Shawsheen Riverwalk along the entire river in Andover. Much of this riverbank is already permanently protected by Town and AVIS ownership.

There are plans to connect Tewksbury and Lawrence through AVIS's Deer Jump Trail, the Penacook and Merrimack trails, and the Bay Circuit Trail along the Merrimack River. The route is almost complete, except for access to the 10-acre Merrimack River Reservation.

Creation of the Historic Mill District

The creation of the Historic Mill District through the Town's center will offer enhanced access via a proposed bridge, riverbank trails and launching sites along the Shawsheen River.

Town Meeting has voted to create a historic Mill District in the downtown area focusing on the access to the Shawsheen River and new land uses. A major undertaking involving most boards and policy makers, the site involves re-use of the land vacated by the town yard on a hill sloping to the river. River herring have returned to the river for the first time in 200 years.

The Shawsheen flows by the historic water-powered mills of the eighteen and nineteenth century for cotton, flax, thread and gunpowder. It is enclosed by concrete walls through the downtown area. Public access will be by a trail system called Shawsheen River Greenway with boat put-ins and other amenities. There are plans being created for form-based zoning for about-to-be vacant land. This is a major undertaking for the Town of Andover.

Zoning

Almost all of the open space reservations are in residential zoning, some in very crowded parts of town. Within the Mixed Use Areas, near the business district there are several small parcels of protected open space. (Zoning districts: SRA = 1/2 acre; SRB = 3/4 acre; SRC = 1 acre.)

Degree of Protection

All of the open space owned by the Town under the control of the Conservation Commission is owned in fee. In the database all the parcels owned by the Town under Care and Custody of the Con Com are listed.

There are 26 parcels with Conservation Restrictions that have been submitted to the State; some are open to the public and permanently protected, but some parcels with CRs do not give public access. Some may be permanent but other may only be for 30 years.

ANDOVER'S MAJOR OPEN SPACE RESERVATIONS- all permanently protected

Reservation Name	Acres	Zone	Condition and recreational potential	Protection	Comments
Robert A. Pustell Reservation- chair and member of Con Comm. meeting for 25 years	84	SRC	hiking trails, views of Boston, ledges	fee and conservation easement	purchased by Town Meeting and with donated Conservation Easements
Mary French Reservation		SRC	wetlands flooded by beavers, extensive boardwalk	fee	came through cluster subdivision bylaw- extensive boardwalk
Cardinal Lane Green	6.43	SRC		fee	came through cluster subdivision bylaw
Garabedian	33.3	SRC		fee	DCS Self Help Dept. of Community Service
Alfred Retelle	52.18	SRC		fee	DCS Self Help
Davidelt (Davidson?)	18	SRC		fee	DCS Self Help
Fosters Is.-Pomps Pond	59	SRB	great potential for nature study on the island	fee	DCS Self Help
Davidson-High Plain Realty	50.82	SRC		fee	DCS Self Help
Carmel Woods	20.4	SRA		fee	valuable open space in congested area
Serio' Grove	19	SRC	potential for canoe launch	fee	purchase by Town Meeting
Pond- Hussey Brook	7	SRA	already developed as fishing pond	fee	fishing pond for children in densely congested area
Merrimack River Res.	10	SRC	great potential for canoe launch and boating	fee	town purchased farmland-potential for riverfront access- needs permanent access

Reservation Name	Acres	Zone	Condition and recreational potential	Protection	Comments
Haggetts Hill	35.9	SRC		fee	DCS Self Help
Disbrow	12	SRC		fee	DCS Self Help
Juniper Rd. Conservation	15.7	SRB		fee	came through cluster subdivision bylaw
Fish Brook	12.4	SRC		fee	DCS Self Help
Bolton/Wood Hill	10	SRC		fee	DCS Self Help
Hoyt	17.8	SRC		fee	DCS Self Help
Doyle Link	73.9	SRC	extensive trails connecting center to west part of town-part of Bay Circuit	fee	DCS Self Help (49 acres)
Lowell and Lawrence Railway Res.	About 1				In a land swap with Ironstone Farm in 2016, Con. Com. acquired an acre of rail trail land, facilitated by AVIS.
Bald Hill	109.9	SRC		fee	purchased by the Town and DCS Self Help (75 acres)
Sacred Heart School land	24.6	SRA	open fields in congested area-proposed bridge over the Shawsheen River	fee	purchased by Town Meeting
Forest Hill Wetlands	35	SRC		fee	came through cluster subdivision bylaw
Belmont Park Green Area	24	SRC		fee	came through cluster subdivision bylaw

Reservation Name	Acres	Zone	Condition and recreational potential	Protection	Comments
Pole Hill	34	SRC	being developed for camp sites	fee	DCS Self Help
Pheasant Ridge Green	30.49	SRC		fee	Came through cluster subdivision bylaw
Cross Street Conservation	70	SRC		fee	land abutting school
Granli Estates Green Area	11.8	SRC		fee	came through cluster subdivision bylaw
Haggetts Pond Watershed	13.5	SRC	outstanding views for bird watching	fee	purchased by Town Meeting
Spencer Ct. Green Area	2.9	SRB		fee	came through cluster subdivision bylaw
Boloian Reservation	58	SRC		fee	Purchased by Town Meeting for watershed protection
Fish Brook Wetlands	34.2	SRC		fee	DCS Self Help
Glenwood Road Extension	50	SRC		fee	abuts Fosters Pond, a "Great Pond"
Hearthstone Village Greenway	26.86	SRC	trail system connecting neighborhoods	fee	came through cluster subdivision bylaw
Gray Road-Tucker Road	9	SRB		fee	gift
Sherbourn Park	7.04	SRC		fee	came through cluster subdivision bylaw
Wyncrest Circle 6.17	6.17	SRC		fee	came through cluster subdivision bylaw
Belknap Estates Green Area	10.1	SRC		fee	came through cluster subdivision bylaw
Golden Oaks Green Area	7.45	SRC		fee	came through cluster subdivision bylaw

Reservation Name	Acres	Zone	Condition and recreational potential	Protection	Comments
Haggetts Pond Conservation	7.58	SRC	potential for extensive nature watching	fee	Purchased by Town Meeting for watershed protection
Federal Street Conservation	26.79	SRC		fee	came to town via major Industrial zone campus style development
Mary French Reservation	75	SRC	potential for bird watching-has trail for people with disabilities	fee	came through cluster subdivision bylaw- with Skug River, Hammond and Jenkins Quarry reservations, Mary French Reservation is 75 acres
Mill Dame Estates	47.2	SRC	wildlife viewing	fee	came through cluster subdivision bylaw-
Summer St. Elm St/ Dearborn Lane	5.38	SRA	vest-pocket park in crowded neighborhood	fee	land swap
Lightening Tree Res. on west of Rt. 93 Abutting AVIS's Sanborn	24.07	SRC	Trails for hiking on high land by the Shawsheen River	fee	Came to the Town by donation of 24 acres by the solar panel project due to endangered species.
Serio's Grove	19	SRC	potential for canoe launch and overnight camping	fee	on Shawsheen River -several public camping sites have been built by volunteers
Quailcrest Green Area	22.96	SRC		fee	came through cluster subdivision bylaw
Evelyn Axelrod Circle	19.1	SRC		fee	Came through cluster subdivision bylaw and came in fee with the creation of the 224 unit 40B apts. on Rolling Green golf course.
Irongate Green Area	6.84	SRC		fee	came through cluster subdivision bylaw
Fosters Pond	42.48	SRC	extensive protection to a "Great Pond"	fee	abuts 170 acres AVIS Goldsmith Woodlands
Jenkins Road- parcel	20	SRC		fee	came through cluster subdivision bylaw

Reservation Name	Acres	Zone	Condition and recreational potential	Protection	Comments
Beacon Street	12.30	SRC		fee	Came through cluster subdivision bylaw

TOWN-OWNED LAND Under the control of the Water Department at Haggetts Pond Water Supply:

SRC C4

The pond is shallow with muddy bottom and swimming is prohibited because this is the Town's water supply. Fishing is allowed and rowboat permits are issued. The high lands of this area are suited almost exclusively to passive recreation and then only if carefully restricted and supervised.

0 Lowell St. .50 acres	SRC	C-3
0 Lowell St. 5 acres	SRC	C-3
5 Evergreen Lane 18 acres	SRC	C-3
14R Geneva Rd. .63 acres	SRC	C-3
6 Evergreen Lane 3.10 acres	SRC	C-3
0 Haggetts Pond Rd. .89 acres	SRC	C-3
51R Haggetts Pond Rd. 12.50 acres	SRC	C-3
397 Lowell St. 3.19 acres	SRC	C-3

Total acres 43.81 Acres

Other Water Department parcels: 90.25 acres

1. Fish Brook Pumping Station: 2.25 acres	SRC	A2
2. Top of Wood Hill: 3.5 acres	SRC	B4
3. Holt Hill Reservoir: 2.7 acres	SRC	F1
4. 58 Andover St. Abbot Well Site: 11.4 acres	SRB	E3
5. Bancroft Reservoir: 7 acres	SRB	F2
6. Ballardvale Wells: 23.1 acres	SRC	E-3
7. 138 Andover St. .25 acres		E-3
8. 0 River Rd, pumping sta. 2.25 acres	SRC	
9. 160 Andover Street 1 acre	SRC	E-
10. 173 Andover St. 1.38 acre	SRC	E-3
11. 164, 168 Andover St. 1.20 acre	SRC	E-3
12. 0 High Plain Rd. 3 parcels, 34.22 acres	SRC	

Other Water Department parcels 90.25 Acres; Water dept. land is Article 97 land.

2. OPEN SPACE OWNED and PERMANENTLY PROTECTED BY OTHER PUBLIC AGENCIES OR LAND TRUSTS

HAROLD PARKER STATE FOREST

SRC

G-3, H-3

888.4 acres in the Andover portion

Access to Harold Parker State Forest is via routes 114/125, Salem Street and Jenkins Road. The Forest totals 3400 acres, extending into the towns of Middleton, North Andover, and North Reading. It has a system of dirt roads built many years ago by the Civilian Conservation Corps (CCC) and a small wooden headquarters building. The Forest is characterized by rough terrain, many outcrops of bedrock, numerous wetlands, and streams. It includes two natural ponds, (Bear and Berry) and nine manmade ponds. The Skug River flows through parts of the forest in Andover and there is stonework of an old mill site on the river. Nearby, and also within the forest, is an old soapstone quarry.

Almost all of the forest is heavily wooded; some of it is old CCC plantings of red pine. Occasionally the Department of Environmental Management allows the selective cutting of wood under contract.

Since it is so readily accessible and so attractive a "wilderness" area, the forest is heavily used for outdoor recreation, such as hiking, skiing, horseback riding, hunting (east of Jenkins Road, with license), camping (in camp area only), fishing (with license), and more; however, no motorized recreation of any kind is allowed and no person shall consume or possess alcoholic beverages on forest property.

A new day-use area was completed at Berry Pond consisting of an enclosed building housing rest room, changing areas, and a warming room with fireplace for winter use. There are picnic facilities, a small swimming beach, and an open pavilion for bad weather or group use. All are accessible for people with disabilities.

CHARLES W. WARD RESERVATION (THE TRUSTEES OF RESERVATIONS) 341 acres in Andover portion , SRC F1, F2

This property belongs to the Trustees of Reservations and has access via Route 125 and Prospect Road. The area includes an excellent parking lot for approximately a dozen vehicles, where a kiosk with trail maps and pamphlets.

The Reservation is actually 695 total in Andover and North Andover. It includes the entire crest of 420-foot Holt Hill, which commands a view all the way to the Boston skyline and extends to the top of Boston Hill to the rear of the former downhill ski area off Route 114 and Shrub Hill. It includes both open fields and woods and an excellent example of a quaking bog, on which a boardwalk for nature study has been constructed. There are numerous trails for hiking, nature study, skiing, and horseback riding. Recreational vehicles are excluded. The Reservation is held under permanent trusteeship for public use for passive recreation activities only.

ANDOVER VILLAGE IMPROVEMENT SOCIETY (AVIS)

About 1,200 acres in 2018 including 11 additional acres at Sanborn and 34 additional acres of Deer Jump, six acres of new Behrakis Reservation and 20 acres of new Bonier Reservation.

This plan uses 2016 figures of 1,149 acres

There are 32 reservations. All are open to the public for passive recreation. AVIS is the second oldest land trust in Massachusetts, founded in 1894. See the trail guide.

Protection of more land on the Shawsheen River – Earth Day 2016 Celebration

In the spring of 2015 AVIS acquired 11 riverfront acres of the former Tisbert land abutting the Conservation Commission’s Lightning Tree Reservation and AVIS’s Sanborn Reservation on the Tewksbury line on the Shawsheen River. AVIS volunteers with David Dargie and Dave Doub, and Conservation Commission volunteers working with Bob Decelle created trails, and organized an major cleanup of the two reservations

To mark Earth Day 2016, AVIS with the Andover Conservation Commission held a major opening of the reservations and trail network, including the handsome Meg’s trail. The Town Manager and Board of Selectmen joined major environmental groups and many townspeople to enjoy the about 50 acres of permanently protected open space.

This is a major wildlife corridor extending into the Wilmington Town Forest and Tewksbury and the Shawsheen River upstream and downstream through Andover Center and the burgeoning Shawsheen River Greenway.

Expansion of the Deer Jump Trail

In 2017 AVIS purchased the 26.6 acres along the Merrimack River and upland as part of the Franciscan land development with eight acres to be purchased in 2018 with two State/EOEEA Partnership Grants. In addition, with the development of the Pulte land for 200 units, seven+ acres of land has come to Conservation Commission as part of the Senior Housing Overlay District in 2017. George Behrakis has generously donated a parcel along the Tewksbury line to AVIS abutting the Spalding Reservation, called the Behrakis Reservation.

Goal: to obtain a Conservation Restriction or land in fee permitting public access to the 10-acre Town-owned Merrimack Reservation and to allow hikers to walk on the Penacook and Merrimack trails along the Merrimack River from Tewksbury to Lawrence

One of the joys of Andover open space is the ability to walk the full length of the river in Andover from the Tewksbury line to the City of Lawrence. This trail system is also part of the 150 mile Bay Circuit Trail.

Part of the Lowell and Lawrence Railway Trail was obtained by a land swap with Ironstone Farm, facilitated by AVIS.

AVIS has acquired the possibly prehistoric “Turtle Mound” off Haggetts Pond Road.

Several dozen Wardens care for “their own reservations” with trail clearing, cleaning, and lead “days of service” for school groups, folks from local industries and religious groups. The elite AVIS Rangers do extensive maintenance and trail creation work on all the AVIS reservations.

Please see AVISandover.org for detailed descriptions of the AVIS reservations

1. PRIVATE PARCEL WITH AGRICULTURAL PRESERVATION RESTRICTIONS

DARGOONIAN AGRICULTURAL PRESERVATION RESTRICTION

40 acres former State Forest, bought for agricultural use SRC-

This land was sold to an LLC in Tewksbury in 2018 and the permanent APR designation should remain with the land. .

GOAL: this APR is currently held by the State and should come under the care and custody of the Andover Conservation Commission.

2. PRIVATE PARCELS WITH CONSERVATION RESTRICTIONS IN MA DATABASE

These are the Conservation Restrictions on private land in Andover that are in the State EEA database.

“Just because they are in the EEA database does not mean that they were recorded. It is necessary to look at the Registry to confirm whether these CRs were actually recorded. Our database only tracks CRs in a given municipality that were submitted to the CR Reviewer for review. “

Martha Reichert, Massachusetts Conservation Reviewer, October 2016.

Note: Unsigned ones may only be for 30 years.

Note: Andover Village Improvement Society, a private non-profit land trust, is AVIS.
TTOR is Trustees of Reservations.

CR #	Reference	Date received.	Acres	Grantor	Grantee	Secretary Signed
001	10958	5/16/72	5.49	H. N Farnsworth	AVIS	7/11/1972
002	10959	7/23/1980	2.00	J and A Jacobson	Inhabitants of Town	12/3/1981
Note: This is the Conservation Restriction along the Merrimack River over the Andover/Merrimack companies property and is recorded.						
003	10960	10/11/1984	2.99	American Heart Assn.	Town	12/20/1984
005	10961	9/12/1985	8.60	Robert P. Sullivan	Town	12/13/1985
006	10962	9/15/1985	1.38	Castle Green Develop. Assn.	Town	12/15/1986
007	10963	12/11/1987	9.05	Digital Equip.	Town	3/3/1988

008	10964	3/4/1988	2.30	Andover Business Pk.	Town	
009	10965	3/4/1988	7.30	Andover Business Pk.	Town	6/18/1995
010	10966	9/17/1990		Foxwood Realty Trust	Town	
011	10967	5/28/1991		Andover Country Club	Town	
012	10968	11/2/1994	4.80	Hunter's Ridge Condo Trust	Town	
013	10969	11/25/1997	1.06	Ila A Cox	Con Com	12/30/1997
014	10970	12/23/1997	19.10	Harry Axelrod	Town	
015	10971	7/26/1999	22.58	Cormier Andover Greenbelt Corp.	Town	
016	10972	11/8/1999	4.40	John W. Kimball	TTOR	3/10/2000
017	10973	12/4/2000	1.10	N. G. MacNaughton	AVIS	12/20/2000
018	10974	12/4/2000	1.10	Deborah Warren	AVIS	12/20/2000
Note: this CR and the one above have been recorded.						
019	10975	8/11/2006	49.88	Stirling Woods LLC	Town	8/11/2006
020	10976	8/2/2007	52	Arden (Wood and Nagle)	TTOR	11/19/2007
021	10977	11/27/2007	1.55	Raymond Cormier Trustee	Town	12/26/2007
021A	10982	5/6/2010	12.70	Raymond Cormier Trustee	Town	8/4/2010
022	10978	11/3/2008	10.20	Sellers Farm Realty Trust	Town	2/2/2009
c/o Gilbert and Renton) This has been recorded and land owned by AVIS.						
023	10979			Andover Country Club		
024	10980	9/8/2010	1.10	Mary Marshall and Kenneth St. Pierre	Town	2/25/2011

025	10981	9/18/2012	13.27	AVIS	Town	8/8/2013
026	10867	10/23/2014	1.00	AVIS	Town/	6/26/2015
				(Atty. Andrew Caffrey)	Con Com	
Reviewer was Irene Del Bono				(Off Newport Circle & Lowell Street		

Total Private Conservation Restrictions 234.95 Acres

GOALS –

It is important that these Conservation Restrictions all be signed by the Secretary of EEA with the help of Martha Reichert, the Massachusetts Conservation Reviewer, and then recorded at the Registry.

In addition, there may more Conservation Restrictions than have been submitted to the EEA for approval and signing. These Conservation Restrictions for the benefit of the Conservation Commission must be examined for legal accuracy and completeness, and sent to the Reviewer for signing, and then recorded at the Registry as soon as possible. Unsigned Conservation Restrictions may only be for 30 years.

CONSERVATION RESTRICTION HELD BY TRUSTEES OF RESERVATIONS

Arden (William Wood’s land) off Lowell and North Main streets) **52 acres.** No access.

PRIVATE LAND WITH CONSERVATION EASEMENTS HELD BY THE TOWN

Map parcel	Acres			book and page
121-35	6.79	CE	Powers Road	3282 241
28-6E	.10	CE	Ashley Place Coventry Lane	4043 69
28-CF	.10	CE	Ashley Place Coventry Lane	8997 180
28-6G	.10	CE	Ashley Place Coventry Lane	10814 325
28-6H	.10	CE	Ashley Place Coventry Lane	3907 152
28-6J	.10	CE	Ashley Place Coventry Lane	9854 49
28-6K	.10	CE	Ashley Place Coventry Lane	10159 330
28-6M	.10	CE	Ashley Place Coventry Lane	4743 4
151-14	40.92	CE	Axelrod, CE14 public access	4200/4409 75/319
16-4C	1.05	CE	Deering Estates Piper’s Glen	104 393
16-4D	.84	CE	Deering Estates Piper’s Glen	5192 343
16-4E	.82	CE	Deering Estates Piper’s Glen	5162 283
16-4F	.74	CE	Deering Estates Piper’s Glen	5040 264

Total 51.86 acres

One baseball field, two soccer fields, basketball court, playground equipment.

4. West Elementary: 32 acres SRB C2
 Two baseball fields (the outside fields form a soccer field), large grass area, two basketball courts, and playground equipment.

5. Sanborn: 67 acres SRB/SRC D4
 Two baseball fields, two soccer fields, playground equipment, large paved area, grassy fields.

6. Bancroft: 20 acres SRB F2
 Large grassy areas for practice fields, playground equipment.

7. Shawsheen: Grass flat area, playground equipment, 4 acres SRA D1

8. High Plain Elementary School and Wood Hill Middle School 24.6 acres SRC B3
 Playing fields, heavily wooded sloping land; Fish Brook Watershed

9. Future School Site (Rocky Hill Road): 35 acres SRC G3
 Heavily wooded; part deep peat swamp

2. UNPROTECTED Recreation Properties controlled by the Recreation Department

There is a comprehensive description of recreation properties in **SECTION 7**, with facts about each property and notes about features and needed improvements. Some of these recommendations are included in the Capital Improvement Plan each year or included in the Department of Community Services budget and voted on at Annual Town Meeting. These properties are **NOT** permanently protected.

Recreation Site	Acres	Description
Andover Recreation Park - Poms Pond	190 acres	swimming area, lighted softball fields, 4 lighted tennis courts, group shelter, picnic areas, inline rink, bathhouse, boathouse, sliding hill, playground areas, parking area
Blanchard Road Field: baseball	3 acres	Town Meeting purchased 61B land on Blanchard Rd. in 2008 to construct fields to replace fields to be closed when the landfill is capped.
Ballardvale Playground	1 acre	Newly rebuilt in 2015 with playground equipment, small playing fields and parking -SRA
Cuba Street Playground	1 acre	Off Shawsheen Road; playground equipment, two-court basketball court, SRA
Shawsheen fields and playground	22.5 acres	Upper Field: large grass area soccer fields Lower Field: paved track, soccer field, open space areas, playground equipment, SRA

Recreation Site	Acres	Description
Raytheon area	2.7 acres	undeveloped
(Deyermund Field –(abandoned)	6.5 acres	Two ballfields- will be abandoned with closing of landfill. The Blanchard Road sports fields have been developed.
school gyms		Nine schools have gyms for sports use, including a field house and gym at the High School
Youth Center indoor space	Half acre	A multi-purpose youth center has been built for indoor sports and other teen-age programs, behind Doherty Middle School
Total	227.2	
		.
		.

3. UNPROTECTED OPEN SPACE Recreation Areas Controlled by other Town Departments -

Recreation Site	Acres	Description
Hussey's Pond	3.8 acres	fishing pond for children under 12
The Park	4 acres	green area in the town center with memorials
William M. Wood Memorial Park	1.6 acres	350th anniversary perennial garden and newly constructed stone and wood wall, new tree plantings
Former Giles property	6 acres	vicinity of Poms Pond/swimming/ recreation
Ballardvale Green	1.6 acres	green in the center of Ballardvale

Recreation Site	Acres	Description
Abbot's Pond	.6 acres	pond with ducks-attraction for little children
Total	17.6 acres	

4. UNPROTECTED LAND CONTROLLED BY GREATER LAWRENCE TECHNICAL SCHOOL

In addition, the Great Lawrence Technical School, in Andover offers residents use of its playing fields, track and indoor pool by arrangement. The 55.2 acre school complex abuts the 10-acre Merrimack River Reservation, a potential site for boat launching. **52 acres**

5. UNPROTECTED PRIVATELY-OWNED OPEN SPACE- Major Parcels

A. Andover Country Club: 121.8 acres SRB C2

Open to members and guests only. Clubhouse, hotel, and 18 hole golf course.

Note: There is an unsigned Conservation Restriction for unspecified acres (5/28/1991) and an unsigned Conservation Restriction for 22.58 acres for the Cormier Andover Greenbelt (7/26/1999) to be held by the Town.

B. Indian Ridge Country Club: 155 acres SRB D4

Open to members and guests only. Club house, full golf course, swimming pool, and 4 tennis courts. (The club has a 61A designation.)

C. Camp Maude Eaton: 50.0 acres SRB E3

Wooded tenting area abutting Pomp's Pond is owned by the Girl Scouts of America.

D. Phillips Academy: 450 acres SRB E2, F2

Includes former Abbot Academy; 90 acres comprise the Moncrieff Cochran Bird Sanctuary. There are numerous athletic fields of a large independent coeducational secondary school. There are two indoor skating rinks with artificial ice, several dozen tennis courts, swimming pool, cage, gymnasium, squash courts, football, baseball, softball, soccer, lacrosse fields and other facilities. Some of the facilities are available on a limited basis to local residents. The Academy is a National Historic Site.

E. Pike School: 33.9 acres SRB F3

F. St. Claire Monastery: 459 River Rd., 6 acres Not open for public use. SRC A5

H. Andover Montessori School, 400 South Main St. 7.58 acres F-3

I. Melmark School, 461 River Rd, 6 acres SRC A-4
Melmark School has also purchased additional land from the Franciscans in 2016.

J. Camp Evergreen, Jenkins Road, 9 acres SCR K3

K. Challenge Unlimited/Ironstone Farm, Lowell Street	11 acres	SRC	C-4
L. Merrimack College, Elm Street	6 acres	SRB	E-1
M. Roman Catholic Archdiocese of Boston, Cemetery, 80 Corbett Rd.	10 acres		C-1

Total: 866.28

Agricultural Preservation Restriction

199 0 5 Dargoonian, Thomas/Dargoonian, Dena Jt
0 Blanchard St. 712 40 acres \$207,046 appraisal by Town
However this land is also under a permanent Agricultural Preservation Restriction that is PERMANENT in addition to a Chapter 61A protection. This parcel was sold in 2018 to an LLC in Tewksbury.

6. AGRICULTURAL LAND UNDER MASSACHUSETTS AGRICULTURAL ASSESSMENT ACT (CHAPTER 61A AND B)

Map –lot	owner	location	LUC-	Acres	Total Value
199 0 2A	Dargoonian Brothers Realty Trust/Garabed	30 Blanchard St.	720	2.92 acres	\$117
(All 2.92 acres are Chapter 61A land related to agriculture)					
147 0 4	Park Family Trust/	138 Chandler	718	38.88 acres	\$10,022
(All 58.7 acres are Chapter 61A pastureland)					
146 0 8	Sarkisian Realty Trust/	153 Chandler	0137	12.67 acres	\$632,116
(11 acres are in Chapter 61A)					
134 0 73	DSM II Realty LLC	73R Lovejoy Rd.	805	29 acres	\$659,582
c/o DeMoulas Supermarkets (All 28 acres are in Chapter 61B as golf/recreation lands – New Indian Ridge Country Club.)					
135 0 21A	DSM Realty	73 Lovejoy Rd.	805	126 acres	\$4,306,049
c/o DeMoulas Supermarkets (All 125 acres are Chapter 61B as golf/recreation land. New Indian Ridge Country Club)					
184 0 3	Eliates, M/Denise	1329 South Sr.	017	9.88	\$426,021
128 0 28	Lawrence Rod and Gun Club	9 Webster St.	807	13.12 acres	\$220,128
(These 13.12 acres are Chapter 61B as hunting/recreational land.)					

There are eight parcels with a land value of \$1,321,542 and building value of \$3,047,700.

Some parcels are mixed use with several classifications: for example: 0137 means I = single family

residential, 3=commercial and 7=Chapter land, that is land that is in special classification for tax purposes MA Chapter 60, 61A or 61B: forest, agriculture or recreational land. Therefore, the part of the land that is in Chapter classification must be offered first to the town should the owner wish to sell for conversion to another use.

The total acres are 272.47 acre

7. AGRICULTURAL LAND WITHOUT SPECIAL TAX CLASS

Konjoian Greenhouse operation: Classified: residential commercial-2.73 acres.

8. PRIORITY HABITAT FOR PROTECTION OF RARE SPECIES

“There are **88.9** acres of unprotected private lands on the west side of Route 93 in Andover.” Source: Natural Heritage Endangered Species Program Biomap dated October 2008.

This is all of the land in Andover along the Shawsheen River on the west side of Rout 93. Most of the land the Sanborn is owned by AVIS and Lightning Tree Reservation protected by the Conservation Commission. The designation is both *Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife*. A rare moth and a rare freshwater mussel have been found at the site. The land is currently is 88.9 acres of unprotected open space with about ten acres owned by a private owner.

In addition, several hundred acres on the east side of Route 93 are *Priority Habitat for Rare Species* in the moderately developed industrial space at the Lowell Junction area of Andover, an industrially zoned area, the site of Pfizer, and Proctor & Gamble and many other industries. Only small parcels of land are permanently protected by the Conservation Commission and these are mainly along the Shawsheen River.

Haggetts Pond environs are the site of both *Priority Habitat for Rare Species* and *Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife*. The environs are permanently protected as Conservation Commission land and Water Dept. land.

Please see *Massachusetts Natural Heritage: Rare Species by Town*)MESA (Massachusetts Endangered Species Act) and Federal Status listing in SECTION 4-E. There are 27 species on this list.

SUMMARY: PROTECTED AND UNPROTECTED OPEN SPACE IN ANDOVER

	ACRES	% OF TOWN
A. PROTECTED LAND:		
TOWN OF ANDOVER -		
1. CONSERVATION COMMISSION	2082.89	9.83%
2. WATER DEPARTMENT	134.06	
Total	2,216.95	10.82%

3. LAND TRUSTS		
A. Harold Parker State Forest	888.4	
B. Charles W. Ward Reservation	341	
C. AVIS (using 2016 figures)	1,149	
Total	2,378.4.	11.61%
4. PRIVATELY OWNED LAND		
Agricultural Preservation Restriction – Dargoonian Farm	40	
Conservation Restrictions held by Town	234.95	
Con. Restrictions held by Trustees of Reservations	52	
Conservation Restrictions held by AVIS	7.69	
Conservation Easements	51.86	
Total	378.5	
SUB-TOTAL: PROTECTED LAND	4,973.85	24.28%
B. UNPROTECTED LAND:		
1. TOWN OF ANDOVER-SCHOOLS	353	
2. DEPARTMENT OF COMMUNITY SERVICES	227.2	
3. OTHER TOWN DEPARTMENTS	17.6	
Total	597.8	
4. OTHER PUBLICLY OWNED FACILITIES	52	
Greater Lawrence Technical School		
5. PRIVATELY OWNED INSTITUTIONAL FACILITIES	866.28	
cemeteries	117.5	
Total	983.78	

6. CHAPTER 61A, 61B LAND (AGRICULTURAL USE and RECREATIONAL USE) –	272.47	
7. AGRICULTURAL LAND (NON-61A)	2.73	
8. PRIORITY HABITAT FOR RARE SPECIES AND ESTIMATED HABITAT FOR RARE SPECIES on the west side of Route 93 – privately owned open space (by three owners) along the extensive floodplain of the Shawsheen River. About 16 acres is protected AVIS land and is not included here.	88.9	
SUB-TOTAL: UNPROTECTED LAND	1997.18	9.79%
TOTAL LAND AREA IN ANDOVER: 20,480 ACRES OPEN SPACE IN ANDOVER GRAND TOTAL:	6,971.03	34.03 s%

COMMENTS ON THE INVENTORY

The preceding Inventory and Summary have grouped the open space and outdoor recreation land into two major categories: Protected Land and Unprotected Land.

According to The Open Space Planners Workbook, “Land is considered protected if it is owned by the Town’s Conservation Commission or Water Department, one of the state’s conservation agencies (thereby covered by Article 97), a non-profit land trust, or if the town received state or federal funds for the purchase or improvement of the property. Private land is considered protected if it has a deed restriction in perpetuity, if an Agricultural Preservation Restriction has been placed on it, or if DEP has placed a conservation restriction on it as part of the Wetlands Conservancy Program.”

Land owned by school department and playgrounds, is not protected; it can be sold with relative ease.

Analysis of Protected and Unprotected Open Space

Thus this grouping reveals that approximately of Andover’s area, **5,098** acres, is **protected** open space and outdoor recreation land; this is 24.89% of the town, . Of this, **10.77%** is owned by the Town. In addition **2, 341.21 acres, 11.43%** are privately owned by local land trusts. Also, 378.5 acres are under some form of permanent restriction that keeps it as open space but may not permit public use. Most of the Conservation Commission holdings were acquired for such conservation goals as watershed protection, preservation of wetlands and wildlife habitat, and preservation of forested land, and many were purchased with State self-help funds. The intent of the land is to keep them in their natural state as far as possible. Only passive use is allowed.

The Water Department, under the DPW, manages 134 acres, most of which include the town’s surface and subsurface water supply and surrounding wetlands with small areas around town wells and small reservoirs. The Haggetts Pond water supply is almost entirely protected by the Water Dept. or Conservation Commission.

Harold Parker State Forest, the Charles W. Ward Reservation, and AVIS holdings comprise most of the rest of the land in the protected category and together amount to 11.2% of Andover's land. Harold Parker and the Ward Reservation extend into neighboring communities and therefore have a regional impact. Both have well developed trail systems and other amenities and are open to the public. (See Inventory in this Section 5, part 2- a, b and c for complete descriptions.

AVIS properties are entirely in Andover and are scattered throughout the Town; there is scarcely a neighborhood that does not have an AVIS reservation within walking distance. AVIS has no staff; the properties and trails are maintained by wardens for each reservation and by other volunteers. The properties are open to the public and AVIS publishes a map of Andover showing the location of each reservation and the trail systems on the larger properties. AVIS protects 1104 acres permanently. (See Appendix C for detailed listing.)

Privately owned protected land consists of one 40-acre (Dargoonian Farm) Agricultural Preservation Restriction, which provides that the land will always be used for farming, and several permanent Conservation Restrictions that protect the land from building and preserve it in a natural state. Since the land remains in private ownership, public access may not be permitted.

UNPROTECTED OPEN SPACE

There are some **2,005.98 acres of land, or 9.79%** of land in Andover, in the unprotected open space and recreation categories. These are the public lands considered most vulnerable to change in use. Of this, 597.8 acres belong to the town: Schools, Community Services, and other town departments. (See Section 5, B) Fifty-two acres comprise the Greater Lawrence Technical School. Another **983.78** acres are **privately owned**: Phillips Academy, the country clubs, Merrimack College, and Camp Maude Eaton account for most of this category.

It is important to note that the public school grounds, including Department of Community Services lands account for all of the land or facilities under public control available to the public for active recreation: ball fields, tennis courts, tracks, playgrounds, for example. Traditionally, school playgrounds have been neighborhood recreation areas. It is imperative that these "neighborhood parks" as defined by the National Recreation and Parks Administration, should be maintained - whether or not schools are closed, renovated, or change occupants. Each active recreation area that is not maintained or is eliminated reduces the quality of the town's recreation facilities and causes overuse for practice or league play. The Community Services Department programs activities and schedules league games at all the school grounds, when facilities are not in school use, as well as at Recreation Park and Pomp's Pond. The Deyermont Fields are closed because the landfill will be completely capped. An approved Warrant Article at 2009 Town Meeting supported the construction of playing fields at the newly purchased Blanchard Road parcel and this has been done.

Regarding public active recreation land, the enlargement of a school or transfer to other uses reduce the potential for recreational uses and should be a matter of careful consideration by the town, particularly as it becomes more difficult to find suitable replacement sites.

About **4.80%**, or **983.78 acres** are **privately owned institutional holdings with open space but with**

no or limited public use. Many of these institutional holdings represent valuable open space to the neighborhoods in which they lie and they add immeasurably to the visual quality of the town. Development or changes in use could have a major impact on open space or recreational potential. In all, **272.47** acres, or **1.33%** are in Chapter 61A and 61B with 11 acres as non-61A land. It is therefore in the town's interest to evaluate carefully any such properties that may come on the market.

Goal

Protection should be sought for the 89 acres on the west side of Rt. 93, as Priority Habitat for Rare Species and Estimated Habitat for Rare Species.

Summary

To date, 34.03%, 6,971.03 acres, of Andover is currently open space.

Of this 24.28% of the Town, 4,973.85 acres is considered **permanently protected** conservation and passive recreation land.

It is largely these lands that define the open character of the town and provide areas of natural beauty and visual relief from spreading suburbanization. Earlier planning documents referred to preserving the "open, semi-rural character" of Andover as an important goal of the town and the *2008 Andover Citizens Survey*, conducted by Russell K. Mayer, Ph.D., discussed in Section 2, indicated that citizens continue to regard it as important to them.

Goal

If the visual quality of Andover's landscape is to be preserved, these lands without permanent protection must be more strongly protected when possible.

Goal

Because the population of the Town is continually growing, the per capita space is shrinking. Thus the preserved open space must be added to continually to preserve the greatly valued quality of life whenever possible.

Accessibility Compliance

The Open Space Planners Workbook states that public park, recreation and conservation lands (unless under the jurisdiction of the school department) must be inventoried according to the federal guidelines: Handicapped Accessibility Self Evaluation. The guidelines indicate that not every existing facility or part of it has to be made accessible.

"Perhaps your park and recreation department offers swimming, hiking, picnic areas, and play equipment. Not all facilities may be accessible but some pools, trails, picnic areas and play equipment must be made accessible within your system."

The Andover Commission on Disability, Plant and Facilities and Department of Community Services are continually working to improve ADA compliance in the town's parks and playgrounds. The Town has recently completed the following accessibility projects:

1. Penguin Park added an accessible path in 2006.
2. Bancroft School, rebuilt in 2014, has **ADA** handicapped accessible playground equipment.

3. Lower Shawsheen Playground, off Balmoral Street, added **ADA compliant play structure** in 2008
4. Lower Shawsheen Playground, off Balmoral Street, ADA compliant walkway completed.
5. Ballardvale Playground: The playground has been rebuilt in 2015 with handicapped accessible equipment and is a major achievement.

Community Services Department

1. Pomp's Pond is the Town's only swimming facility. There are two designated handicapped parking places near the bathhouse and the bathhouse has accessible restrooms. There is a paved handicap accessible walkway. Two sand-ready wheelchairs are provided.

2. Ballardvale Playground: The playground has been rebuilt in 2015 with handicapped accessible equipment and is a major achievement.

3. Indian Ridge Playground on Cuba Street: The playground itself is a flat grassy area and there is a short upward slope from the level of the street. It does not require the use of any stairs. Both Cuba Street and Ballardvale playgrounds were meant to serve neighborhoods within walking distance. The playground is **second in line for a complete overhaul** in the next three years. It will focus on the 2-9 age range and will be **ADA compliant** as well as offering addition features for children in the 2-9 range with disabilities.

4. Lower Shawsheen Park, located off Balmoral Street, is accessible without handicap accessible ramps. The park offers a playground, field, and multipurpose track. All park entrances and walkways are accessible. Parking is accessible and playground equipment is accessible. No restrooms are present. **ADA compliant play structure was added in 2008.**

Penguin Park Playground is accessible with ADA compliant path and playground equipment. Handicapped parking has not yet been designed, but the park has ample parking. The Andover fairies live in the Andover Fairy Forest at Penguin Park.

6. The Town has determined that there is need for an additional playground to service the area of West Andover. Location is under review, and includes town land near West Fire Station. This playground will not only meet ADA compliance but will offer multiple play structure opportunities for children in the 5-12 range with disabilities. The focus of this playground is to be the most inclusive playground in town.

7. The Town has installed a Downtown Playground behind the Town Offices. This playground will be built in phases, and will include areas for 2-5 ages and 5-12 ages, as well as areas for seniors from the nearby Center at Punchard, the senior center, to enjoy park space. This park has ADA parking and pathways, as well as ADA compliant play areas.

Conservation Commission reservations and ADA compliant areas

To date none of the 81 Conservation Commission reservations are ADA compliant.

However, Con Com will work with the Andover Commission on Disability to design amenities and access for people with disabilities to the **Merrimack River Reservation** when the Town gets permanent legal access to the 10-acre parcel. The river is particularly lovely in this spot and there is room for adequate parking, tables, seating and requisite engineering for ADA compliance. Grants will be sought.

The Commission is currently focusing on making the **Haggetts Pond Rail Trail ADA compliant**. The level trail goes along the banks of the Town's water supply pond with opportunities for fishing, picnics, and enjoying nature at this peaceful spot.

The Conservation Commission owns a small parcel of land on North Main Street, which has Shawsheen River frontage and is across the river from other conservation land. There has been a proposal for many years to build a handicapped accessible pedestrian bridge across the river at this point, giving access to the Conservation land, the adjacent Shawsheen playing fields, and Penguin Park. The topography of the area is such that paths that could be negotiated with strollers, baby carriages, walkers and wheelchairs could be constructed to connect these properties.

The location of the bridge would be almost directly across Main Street from Frye Circle, an elderly housing complex, which would give elderly residents access to an extensive, park-like area. When the bridge is built, it is proposed to ask the Washington Park complex to designate several handicapped parking spaces on their property near the Main Street sidewalk, as off street parking would be essential. This is not in the immediate future.

Other Public Sites That May Require Changes To Make Accessible to People with Disabilities

1. William Wood Memorial Park is a small memorial area that is to remain a community park. It is located at the corner of Lowell Street and North Main Street. There are benches facing a central flowerbed. There are gravel paths with minimal slope. There is no parking lot associated with the park.
2. Ballardvale Green is a memorial park with two flagpoles, a stone plaque, and plantings. The young children's playground is ADA compliant.
3. Hussey's Pond has a small grassy area overlooking the pond. It has one sitting area and one sign, both needing improvement. There is a curb that needs to be overcome in order to enter on to the green area. It is a fishing pond for children under 12.
4. Abbot Pond has a small grassy area with picnic benches that are not handicapped accessible. There are no ramps or marked parking lines.
5. Access to Poms Pond along the rail trail from Andover Street.
6. The Town Park is a flat green area with paved walkways that are handicap accessible. All areas with ramps are handicap compliant. There are benches that have both backs and arm rests.

Future ADA Compliant Developments By Private Land Trusts

The Trustees of Reservations are currently evaluating their lands, with the help of a consultant, with the goal of creating and maintaining handicapped accessible and compliant sites. It will be a several-year process.

The Historic Mill District Overlay District

The zoning and building rules for the newly created Historic Mill District (approved by Town Meeting 2016) are being written now. Amenities will be included for people with disabilities.

SECTION 6 - COMMUNITY VISION

A. Description of Process

The Deputy Town Manager, John Mangiaratti, under the direction of Town Manager Andrew Flanagan, kicked off the beginning of the *Open Space and Recreation Plan 2018* project in July 2016. The core steering committee was Conservation Director Robert Douglas, Conservation Agent Linda Cleary, Conservation and Conservation Commissioners Ellen Townson and Alix Driscoll. The core group has been assisted in the project by many town officials, environmental experts and leaders of local land trusts, the leaders of the Andover Deer Hunt, Trails Committee, Bicycle Committee and Community Garden, plus many Merrimack Valley official agencies and non profit land trusts. Please see SECTION 2 for names.

The purpose of the core committee was twofold: a) to update the *Open Space and Recreation Plan 2009* to satisfy the state's requirements for Open Space and recreation plans, and hence be eligible for state for the acquisition and protection of more open space, and b) to update the Recreation and Natural Resources element of the Town's *2012 Master Plan*, which serves as a guide for town officials and the public.

The contributing committee members are listed in detail in SECTION 2, and represent various town boards, recreation and environmental organizations, civic groups, neighborhoods and others from the community. Throughout the process, the goals and objectives were reflected upon, as needs were analyzed and recommendations formed.

Open Space and Recreation Online Survey 2017

Analysis of The Open Space and Recreation Online Survey - Spring 2017

The two-week long survey went live over the Town's website from March 20 to April 3, 2017. The Memorial Hall Library and the schools e-mail lists sent blasts out to their extensive lists to alert them to do the survey. Many groups sent e-mail blasts to their members encouraging them to participate, plus information was posted on social media. There were hard copies available too. In all, there were 1,501 respondents.

Summary

It is highly significant that nine out of 10 Andover citizens show a strong commitment to acquiring more open space and are willing to purchase more. Please see Question 7 below for context.

Question 7 Are you in favor of Andover purchasing more open space if it becomes available?

In all, 89.21 percent said “yes”.

For several decades, the Town Meeting voters have regularly approved sizable amounts of money for the Conservation Commission to have “on hand” so as to be able to purchase important parcels right away when they became available. Usually those Town Meeting votes were unanimous or nearly so. The Conservation Commission would commonly ask for \$1M at a time for purchase of passive open space.

Those convictions and commitments have continued to run deep for more than five decades now. In addition, townspeople have continually been willing to tax themselves to purchase more land for active recreation. With the conservationist and recreational passions continuing and growing, this analysis examines specific goals of the community.

Question 1 Recreation goals

Biking paths and, hiking & walking trails, cross country skiing, horseback riding were favored by three-fourths of the respondents. About half sought more sports fields. Interestingly, about a third were looking for boating access and fishing access. More than one in four expressed a desire for community gardening.

(The Conservation Commission is continually seeking legal access to the Merrimack River Reservation, abutting the old Phillips Academy boathouse. A fishing spot and trail on the Lowell and Lawrence Railway trail by Haggetts Pond is planned particularly for people with disabilities. The taking down of the Balmoral and Stevens Street dams in the winter has seemed to magnify the interest in fishing.)

Question 2 Agricultural Priorities for Future Land Acquisition

About half the respondents support both community gardens and Community-Supported-Agriculture, CSA shares, where members pay the farmer’s cost upfront and then get a share of the harvest. One third were in favor of dedicated farmland.

Question 3 Natural Resources protection

Wildlife protection and water protection are priorities for future land acquisition by three out of four Andover survey participants. Almost half believe wetlands must be protected too.

(It is the policy of the Conservation Commission to purchase open space that protects the drinking water supply and wildlife corridors across the Town.)

Question 4 Community Paths priorities for future land acquisition

Three in four wanted sidewalks and road improvements for safe walking to school. One half of the survey participants advocated for paths to connect neighborhoods.

Question 5 Historic, Architectural and Cultural priorities for future land acquisition

Two out of three voted the cultural and historic aspects of Andover “maintain Andover’s visible ‘green’ character”. One half would invest in places of historic or architectural “interest” and enhance other green factors like parks and historic districts.

Question 6 Ranking parcels for future land acquisition with only one vote allowed

Passive recreation earned the top votes of 45 percent of the survey participants. Tied at 40 percent each are water/wildlife protection and active recreation (organized sports). Agriculture earned 35 percent and architectural enhancement at 25 percent.

Passive has been expanded to include: hiking, nature study, outdoor education, cross county skiing, trail bicycling, snowshoeing, hunting, fishing, picnicking, canoeing, ice skating, community garden work in existing fields, swimming, and facilities necessary to support such passive recreation.

Question 7 Are you in favor of Andover purchasing more open space if it becomes available? In all, 89.21 percent said “yes”.

Question 8 included 394 comments. Many valuable comments were written to inform this survey.

Question 9 Community Preservation Act

The Community Preservation Act (CPA) is a tool that enables towns to set up a fund for purchasing open space for the benefit of out door recreation and land preservation. Andover does not currently have CPA. Funding is coursed by an increase of not more that 3 percent of the tax levy on real estate property. Municipalities must adopt CPA at Town Meeting. Do you feel Community Preservation Act should be brought to a vote at Andover’s Town Meeting? Yes 72.9 percent; no 27.05 percent.

(Although CPA has been defeated twice in Andover, almost three fourths of the participants of this survey urged another vote.

Question 10

How important is climate change to you?

More than 60 percent said it was “very important” and 23 percent agreed it was “somewhat important.”

Question 11

How familiar are you with Andover’s locations and offerings of open space sites?

Less that ¼ of the participants agrees that they were “very familiar” and half “somewhat familiar”.

Thus, there is much work to be done in educating the public about where Andover's open spaces are located and what are the particular features of them.

Question 12

Do you feel town conservation properties have adequate signage/mapping?

The participants are about evenly divided on this issue: 51, yes to 49, no.

Question 13

When visiting open spaces in town, are you satisfied with parking?

Two thirds of the participants agree they are satisfied. (61 percent, versus 37 percent are not satisfied.)

Question 14

What organized activities would you be interested in attending if held on open space properties? Check all that apply.

More than half (56 percent) desire hiking meet-ups; seasonal themed events are sought by 56 percent; 34 percent seek paddling events; 29 percent desire scavenger hunts; geocaching for 23 percent and fishing derbies, 16 percent.

Question 15

What would increase your usage of open space properties? (Please check all that apply.)

More than half seek informational apps; and a bit less than half want both more scheduled programs, and clarified maps and signage.

Question 16

How would you prefer to learn about open space resources and programs? (Please check all that apply.)

The town website was listed as the place of information by two thirds of respondents; Town e-mails by 51 percent; social media by 41 percent; open space app by 34 percent and brochures by 27 percent.

Question 17

How important is the need for a child-centered natural playground?

More than four-fifths agreed there is a very important need or somewhat important need for a child-centered playground.

Question 18

How important is the need for Andover to dedicate a location and organization for town-wide household composting?

In all, 72 percent or almost three fourths believe there is a very important or somewhat important need.

2. Scholarly Research regarding the value of open space, by UMass Lowell, Center for Public Opinion

The Andover Town Survey 2012: Final Report.

In 2012 The Center for Public Opinion, University of Massachusetts, Lowell under the direction of Joshua J. Dyck, Ph.D., Frank Talty, Ph.D. and Jenifer Whittten-Woodring, Ph.D. with their students conducted a survey regarding quality of life, personal satisfaction in Andover, the value of open space and environmental attributes, *The Andover Town Survey 2012: Final Report*. The survey scientifically solicited townspeople to give input on open space and recreational needs and quality of life issues.

This is in light of the major changes to the town since the *2009 Plan*, both in build-out, diminishment of open space and recreational opportunities as the population has grown.

Open space ranks higher than fine schools in the UMass Lowell survey.

The main reasons to move to Andover are **schools (essential to somewhat important), 80%** and **open space, conservation land (essential to somewhat important) 86%**; thus ranking **higher** than outstanding schools. **This is an important statement, and must be heeded.**

Goal: as the Town grows in population, there must be a concomitant continuing growth in permanent acquisition of open space for passive recreation and active recreation sites too. The per capita amount of open space continues to decline.

3. 2008 Andover Citizens Survey: Preliminary Report by The Center for Public opinion, Merrimack College.

This was submitted by Russell K. Mayer Ph.D., director of The Center for Public Opinion Research at Merrimack College with Brittney De Matteo, Jennifer Rando, Michael Salvucci, Jenna Ware and Molly Warren. November 19, 2008.

The survey consisted of 1200 randomly selected residents with 672 returned, a high rate of 56%, Error rate is 5 % plus or minus.

Community characteristics:

Recreational opportunities;	17% excellent, 54% good total excellent/good 71%	
Open space/conservation lands	37% excellent, 51% good	88%

Importance in moving to/staying in Andover:

62%

Recreational opportunities:	16% excellent, 39% good	55%
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Town Services

Land acquisition/wetland protection: 27% excellent, 55% good 82%
Recreation/program classes: 30% excellent, 57% good

Many of the goals and objectives from the town's earliest plans are still included in the updated 2018 plan. The committee acknowledged the impact that development has had on the town's character, natural resources, and open space and recreation opportunities, and found that it was imperative that the goals continue to focus on resource protection, regional planning, open space and recreation programs/facilities, and the sharing of limited resources.

These **general goals** were identified as critical to the successful implementation of *The Open Space and Recreation Plan 2018*:

- protect river corridors
- protect land abutting existing reservations and wildlife corridors
- protect the town's water supply and the integrity of other water bodies
- develop an action plan to acquire the parcels voted at Town Meeting 2014 for purchase and other desirable parcels. See below for information on these parcels.
- assess realistically with regard to limited funding
- consider regional plans and opportunities
- develop plans and execute them to make more sites accessible for people with disabilities
- identify resources the town wants to protect especially wildlife and open space corridors
- provide for agricultural protection (61A and 61B and agricultural preservation restrictions) and a community garden)
- plan for the needs of the economic justice populations re. open space, recreation and amenities.
- refine the land management plans for the more than 2,000 acres owned by the Town under the care of the Conservation Commission.
- educate the public about the town's open space and recreational opportunities
- seek to replenish the Commission's Land Acquisition Fund to purchase open space as it becomes available
- protect natural resources through zoning regulations
- plan for new recreation programs and maintenance for existing sites and facilities
- preserve the town character
- plan for pedestrian and bicycle pathways
- develop new deer hunting sites
- plan for sustainability, resilience due to climate change and rising sea/river levels

Parcels for purchase as approved by vote of 2014 Town Meeting

These are not rank-ordered. Other desirable parcels could also be purchased with the preceding goals as guidance.

Assessors Map	Lot	Address	Acreage
183	11	83 Lowell Junction Road	3.08
123	30	25 Willard Circle	1.48
123	31	23 Willard Circle	.90
125	2	57R River Rd.	7.80
184	3	1320 South St.	20.00
Has been purchased by AVIS and a homeowner after Town declined.			
211	4	12 Woodland Rd.	35.46
24	7	22 Woodland Rd.	24.60
24	8	28 Woodland Rd.	9.40
24	9	Woodland Road	8.93
24	10	Woodland Road	7.67
25	12	50 Woodland Road	14.67
25	30	74 Salem St.	18.00
25	44	Route 125	1.88
25	45	Route 125	10.60
25	45A	Route 125	3.56
95	1	141 Abbot St.	53.04
229	5A	445 River Rd.	6.00
229	5	459 River Rd.	69.00
228	4	River Road	7.80

In particular, a major goal to protect the Merrimack River includes the additional eight acres to be purchased from Melmark by AVIS in the future.

Confluence: A new, broad and collaborative vision for youth and the Merrimack River and the Shawsheen River

*“Mission of Confluence: To engage youth in exploring the intersections of **culture and environment**, and to **empower them to take action** toward a more **sustainable, just, and united future**.*

Look at a map of any watershed and you see rivers large and small, some tributaries to others, and all meandering their way toward a larger body of water. Rivers flow unaware of political borders separating municipalities but intent on carving out their niche in the bioregion that they help to create. In the case of the Shawsheen River, observe its serpentine path that links diverse communities, from its headwaters in Bedford to its terminus in Lawrence. Along its 25-mile route, it makes a northerly sweep through Andover, North Andover, and Lawrence, until it meets the Merrimack River, opposite the Spicket River. These three rivers, in turn, flow into the great Atlantic Ocean, thus connecting our local habitat to the world’s ecosystems and the global society. Just as rivers become one in their convergence with other bodies of water, so too do the communities through which these rivers flow find themselves inextricably linked geologically, historically, culturally, economically, and ecologically.

Confluence denotes the intersection of two or more forces as they come together in a cohesive bond. In this collaboration, youth, educators, and community agents from throughout the Shawsheen and Merrimack River watersheds will contribute their individual talents and interests, personal world visions, and unique senses of place in pursuit of community understanding and societal enhancement. As rivers transcend artificial boundaries, the youth participants in Confluence also will break down barriers that otherwise tend to inhibit communication and collaboration among diverse groups, such as culture, language, ethnicity, gender, sex, class, race, etc. In working collectively toward a common, overarching goal of social, environmental, and economic sustainability, these growing leaders will

- coalesce around their individual and collective identities;
- develop a commitment to one another as humans;
- address real-world local and global issues through on-going projects; and
- gain practical skills that will help them become more engaged citizens.

Overview of Confluence

Confluence launches with a five-day orientation before the start of school in August with students and educators from a diversity of schools: Andover High School, Lawrence High School, Notre Dame Cristo Rey High School, and Phillips Academy. Participants will spend the first two days exploring the Shawsheen and Merrimack River watersheds, bonding through physical and mental challenges, and learning about the projects they will work on throughout the upcoming school year. From September thru May, each student will partner with another student from a different school to collaborate on a project related to Confluence themes. Students will report their progress monthly--alternating every other month between online forums and in-person explorations. The program concludes at the end of the school year with our “watershed moment”--a culminating, public presentation of projects and one final adventure.”

By Mark Cutler, Spanish Instructor, Global and Local Engagement, Phillips Academy, 2017

A Vision for the Shawsheen River Greenway

Description of Topography Pertinent to the Shawsheen River Greenway Written for Andover's Open Space and Recreation Plan 2018 by Mark Spencer

Why a Greenway?

If there is a heart to Andover it is the Shawsheen River. The river literally helped power the Industrial Revolution right here in town. Few people are aware of the scenic beauty and recreational opportunities afforded by the river. Most of it is obscured from view and lacks the trails that would enable people to simply walk along its banks. Fewer are aware that, less than a century ago, the river was a recreational centerpiece of the town—complete with walkways and boating.

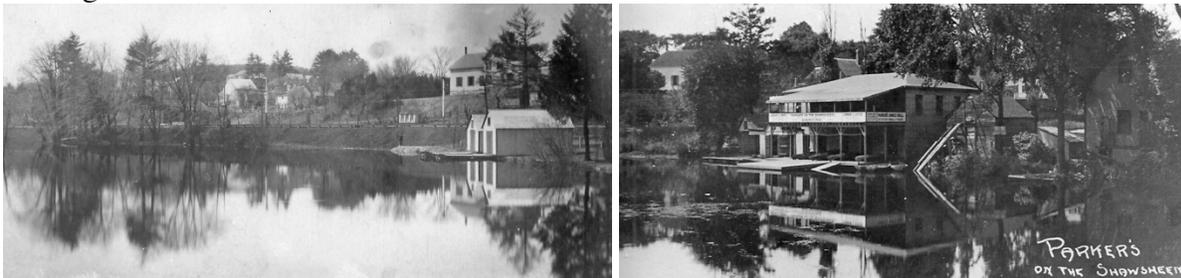


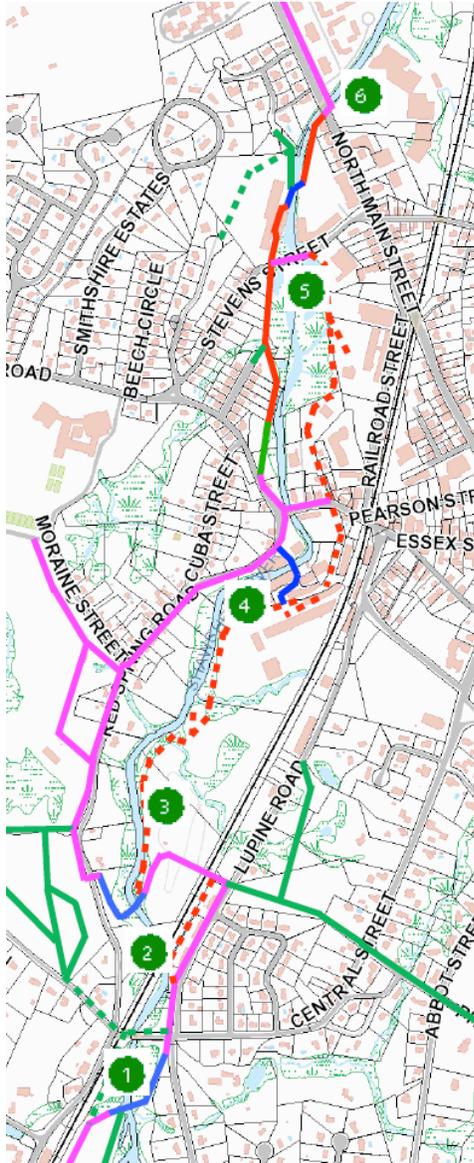
Figure 1 - Two historic photos, ca. 1920, showing boathouses in the Ballardvale district.

The picture above shows the river in Ballardvale approximately 100 years ago. In this section of Andover are two boathouses that actively served an enthusiastic boating community. Today the boathouses are gone, vegetation completely obscures this view boating is rare on the Shawsheen. The goal of the Shawsheen River Greenway is to create a continuous network of paths that follow the Shawsheen River from its southern border with Tewksbury to its northern border with Lawrence. There are already large sections served by paths. We seek to connect these developed paths with new ones that will allow walkers, hikers, runners, and bicyclists to travel the entire Shawsheen from south to north. The completed Shawsheen River Greenway will restore this hidden gem to its rightful place as the heart of the Andover community.

In all greenway projects some property owners have reservations about pathways going through their properties. Stakeholders need to understand that under Mass GL Chapter 21, Section 17C, private property owners who allow public access to their property are not liable for any injury or property damage incurred by a person using the pathway. Signage will point to parking availability and notify passersby that they are on private property. Lastly, recent studies have shown that greenways actually increase property values of abutters¹.

The following sections describe the history and topography of selected sites of interest. The common theme in all of them is that they once provided recreational sites for an Andover one hundred years prior but that are now totally hidden from public view and access.

¹ National Association of Realtors, <http://www.realtor.org/library/effects-of-trails-and-greenways-on-property-values>, 2015.

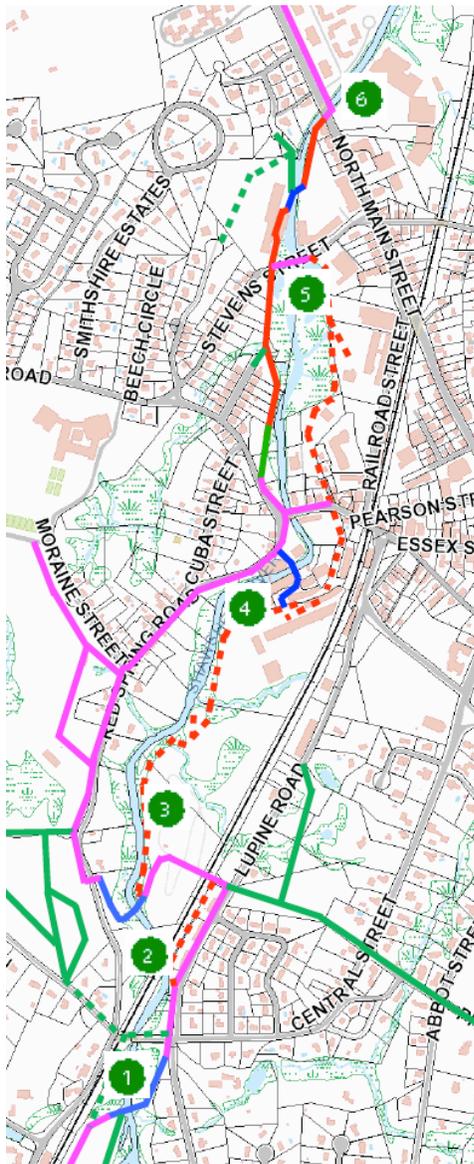


Sites of Interest Along the Greenway

The Shawsheen flows from the Tewksbury border on the south to the Lawrence border on the north. Figure 2 shows most of the river and potential routes for the Greenway. The map is split into two halves, with the southern half on the left and northern half on the right. The proposed trail is color-coded:

- Red—solid and dashed—lines denote the proposed trail.
- Green lines show existing trails.
- Blue lines denote river crossings (i.e. bridges)
- Purple lines denote sidewalks that can form part of a continuous trail system when a pathway along the river may be problematic.

Green circles with numbers point out sites of interest. The numbered sections below refer to these sites.



1. The trail along the river starting at this point and extending south already exists. The trail is contained within the Shawsheen Reservation extending south from this point and Vale Reservation extending to the Ballardvale MBTA station. Because of the latter trail development can be assisted by transit oriented development funding.



Figure 2 - River behind St. Augustine cemetery

2. Just north of the Vale Reservation is a railroad crossing that sits upon a stone bridge. The left side of the bridge was recently renovated vegetation has cut off all access to the bridge.



Figure 3 - Stone bridge between former cricket fields and Dundee Park. The photo on the left is ca. 1920. The photo on the right shows the amount of overgrowth that has completely obscured

3. The region between the river and Lupine Road is arguably one of the most scenic and least visible parts of the river. Access to the river is largely obscured by St. Augustine's cemetery, the latter of which is accessed by Austin Way. This was once a cleared area that was owned by the St. Augustine church and served as a Cricket field. Figure 2 shows the cricket fields around 1930. The photo on the right shows the river just upstream (south) of the fields. It's apparent isolation from the town makes it an ideal part of the river on which to build a path. Two Eagle Scout doing Eagle projects built a trail from the cemetery down to the river and approximately 200 yards downstream and with the blessing of Father Gori of St. Augustine's Parish.



Figure 4 – Left: Old Cricket Fields between Lupine Rd and the river ca. 1930. Right: River just upstream from the former fields.

4. The former Smith and Dove Mills are now renovated office space — Dundee Park. A steep embankment on the rear of the property leads down to the river. The period postcard shown in Figure 5 reveals a footbridge that connects Dundee Park on the east to the Redman Card building, the latter of which is being renovated into a microbrewery and shops. Though the bridge is no longer there the owner of both buildings, Ozzy Properties, has plans to rebuild it. Doing so will provide a connection to the trail on the west bank as shown in the map.

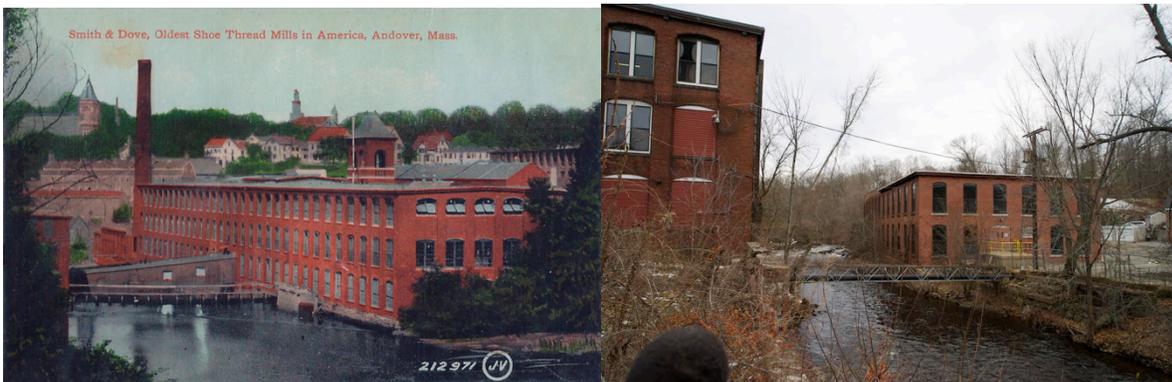


Figure 5 – Former Smith and Dove Mills (now Dundee Park). The recent photo on the right is taken from the opposite side as the postcard on the left. The bridge in the historic photo is gone but Dundee Park owners (Ozzy Properties) plan to restore it.

5. Figure 6 shows the former Marland Mills, a worsted wool factory. Marland Place is now an assisted living complex owned by Atria Senior Living. The part of the river is especially note worthy as the dam that powered the mill buildings has been taken down in stages starting this past January. The dismantlement of Mill Pond Dam will drain most of the wetlands shown on the map and will make it easier to construct a pathway along the river. Upon the upcoming dismantlement of the Balmoral dam in 2017 boaters will be able to canoe or kayak from Andover all the way to the Merrimack River.

Marland Place offers a unique opportunity for a greenway to bring together the Andover community at large and the elderly population of Marland Place. Figure 6 includes a current photo of Marland Place and an artist’s rendition of what the complex might look like with a walking trail and boat launch. These facilities would bring together the greater Andover community and the elderly population at Marland Place. The original Shawsheen River Greenway Committee met with the management team at Marland Place on several occasions

between 2014 and 2016 and the latter made verbal commitments to partner with the town in order to realize this possibility.



Figure 6 - Marland Place. The right side shows a rendering of pathway that includes boating and a place for seniors to gather.

Across the river on the east side is Powder Mill Square. Though the property bordering the river is private a permanent easement allows residents to walk through the property along the river.

6. North of the Mill Pond Dam (Stevens Street) the river crosses under North Main Street and borders several private properties. This area of the Shawsheen neighborhood is at a low elevation and has suffered major floods throughout history.

The planning of trails along the route undertaken by Dave Doub and the original Greenway committee (Dave, John Hess and Mark Spencer) extends only to Stevens Street. Figure 7 is a map of the Shawsheen River north of Route 133. The entire section from northward to the Lawrence border remains mostly obscured from the public. There is one point of interest.

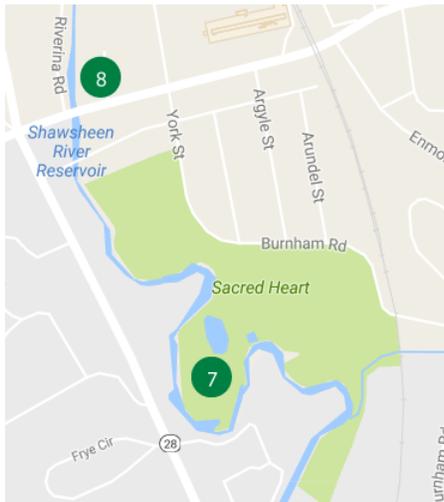
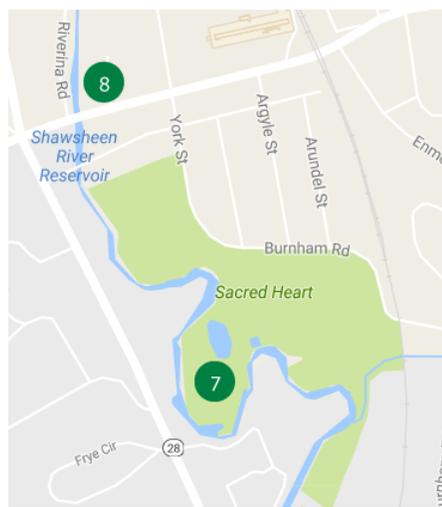


Figure 7 - Section of the Shawsheen north of the crossing of the river over Main Street and south of Route 495. North of this figure the river is mostly hidden all the way to the Lawrence border.



7.

The Shawsheen

River crosses Main Street on the north side of the Shawsheen Plaza. It wraps around Washington Park Apartments and then meanders through recreation fields. The left side of Figure 8 shows a boat launch

near the former Balmoral Spa, the southernmost building of the American Woolen Company (built by William Wood). The building today is known as the Tactician Building. The embankment walls on both sides of the river on both sides of the boat launch are still intact but the once landscaped banks are now completely overgrown with vegetation.

To be clear, stone wall embankment walls such as these are no longer considered a best practice for watershed protection. Today the importance of a bordering area contiguous with the river helps to buffer the river from flooding in large storms and helps absorb nutrients (nitrogen and phosphorous) before reaching the river. The point is that opportunities for recreation and areas of scenic beauty that existed 100 years ago are no longer available to a modern population struggling with the health effects of a sedentary lifestyle and largely cut off from natural landscapes.

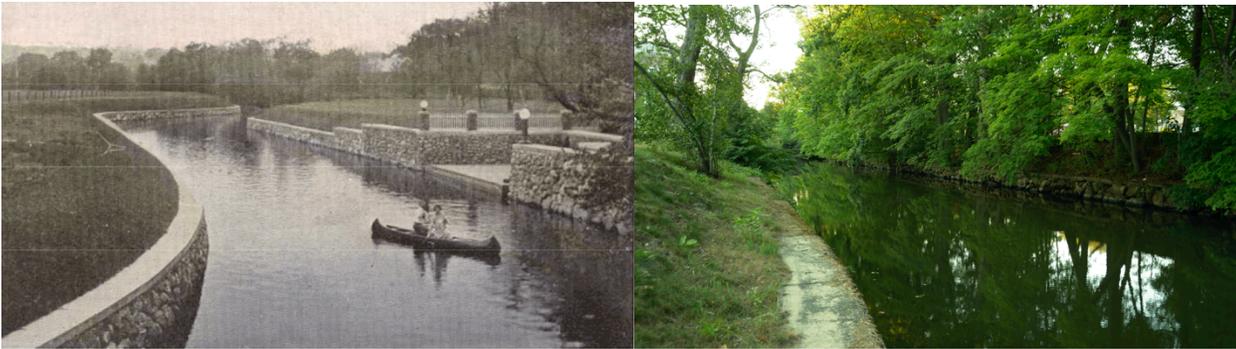


Figure 8 – Shawsheen River adjacent to the Balmoral Spa. The picture on the left, ca. 1920, shows a boat landing

8. Further downstream (north) from the former Balmoral Spa is the Balmoral Dam, shown in Figure 9. Unlike other dams in the area this one served no other purpose other than an ornamental one. It was demolished in 2017. As in other sections, the banks of the river are overgrown and impassable to hikers and walkers. The left side of Figure 9 shows the same section from the opposing, south side. Landscaping and walkways on the west side of the river have given way to overgrowth. The walkway on the right is now a sloping grassy area.

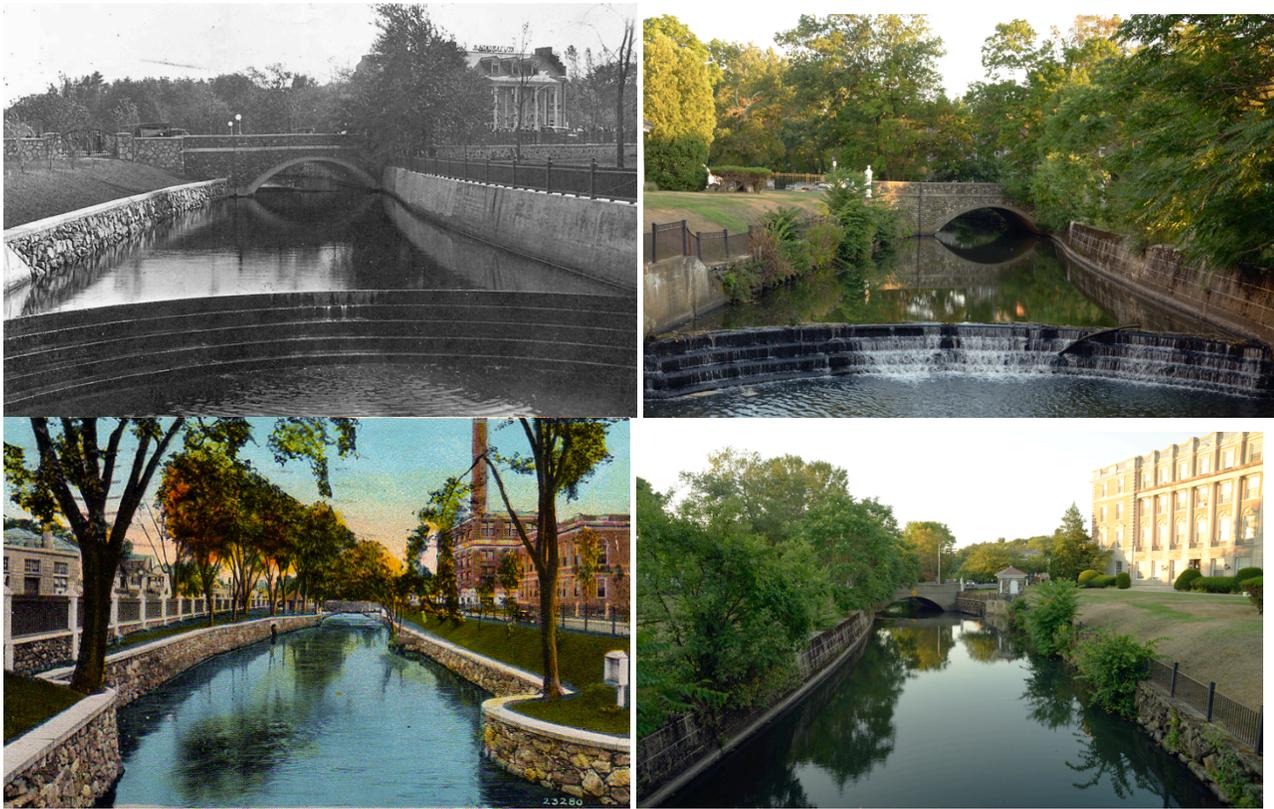


Figure 9 – Top left: Photo from ca. 1920 shows the Balmoral dam looking south. Top right: Same section today. The landscaping and trails have been covered by uncontrolled growth. Bottom left: Postcard of the south of the dam looking north. Bottom Right: In this recent image the pathways that bordered the river are now overgrown on the west.

The river follows Riverina Road, an isolated side road and crosses Kenilworth Street and flows through a wooded section south of Route 495. The river crosses into Lawrence where the first accessible point is Den Rock Park. In the winter of 2017, the Balmoral Dam was demolished.

SECTION 7 – ANALYSIS OF NEEDS

A. SUMMARY OF RESOURCE PROTECTION NEEDS

The value of land in Andover has become so high and the rate of development so fast that even marginal parcels in private hands are vulnerable to development. The amount of land per capita town residents has shrunk dramatically recently. The Town must act to complete easements, restrictions, and/or acquisition agreements before or as parcels appear on the market to save critical parcels for conservation, for active and passive recreation use. The Conservation Commission has proposed and Town Meeting has approved a list of several dozen parcels that it would like to acquire.

The town continues to place emphasis on these policies regarding acquiring lands:

1. Protection of all river frontages;
2. Protection of the Fish Brook/Haggetts Pond watershed
3. Development and enlargement of wildlife, riparian and upland corridors to expand and enhance the town's "green infrastructure" and wildlife corridors
4. Protection of endangered species'; there are more than two dozen in town
5. Adding to already existing abutting reservations either by the Conservation Commission or local land trusts
6. Close monitoring of large private parcels, semi-public land, agricultural land, and 61A and B lands and initiate negotiations with owners in the event of the need to sell the properties. Be ready to move quickly when desirable land that is on the list approved by Town Meeting and meets the goals set forth in this PLAN becomes available.

1. MERRIMACK RIVER

The last remaining gap in the ribbon of protection along the Merrimack needs to be closed. All of the river frontage is under permanent conservation restriction, sewer easement or is owned by the Conservation Commission or by the Andover Village Improvement Society (AVIS) except for one parcel.

There is one parcel without legal access, the former Phillips Academy Boathouse land, now owned by the Andover/Merrimack companies at the end of the Heffron Right of Way. It closes access to the land-locked Merrimack River Reservation and to the trail along the river.

Access would allow hiking the entire length of the Penacook and Merrimack trails in Andover from Tewksbury to Lawrence, and beyond. Access to the Merrimack River Reservation also allows small watercraft to be launched from two ramps, and for amenities added for people with disabilities, in addition to opening this stunning parcel for all to enjoy.

Economic Justice and the Merrimack River Reservation

The Merrimack River Reservation is besides the Greater Lawrence Technical School, a school with more than 90% students of color and a mapped region of Economic Justice population. It is possible that

collaborative programs can be created with the school. Already existing is a plan to bring a road across the reservation, to allow the public access to two existing small boat ramps for water sports, areas for picnics and scenic views. To fulfill the plan will require a possible Land and Water federal grant from the EPA, plus other possible State grants.

Americans with Disabilities Act and the Merrimack River Reservation

The Merrimack River Reservation Plan will follow as best it can, the “Best Practices” of the Americans with Disabilities Act (ADA) incorporating the changes to go into effect in the next 3-5 years adopting best practice standards. “Addressing disability as a broad range and growing issue around social/emotional and program inclusion and not just mobility challenges is the best practice recognizing that separate is not equal.”

Goal: The Con Com needs to own a right of way over the Andover/Merrimack companies land in fee or by Conservation Restriction or some other means to get to the abutting Merrimack River Reservation. This is the top goal of the OSRP 2018.

Protection of the Merrimack River from problems

Cleanup of the river to Class B status was accomplished as a result of a huge expenditure of public funds (The Clean Water Act) decades ago, so it is certainly in the public interest to protect that investment by controlling the entire Andover riverfront to the greatest extent possible.

In 2016 the river was designated “the fourth most endangered US river” due to increased building along the shores and silting up of the river as it rises and riverfront trees die, plus other vulnerabilities.

Accomplishments along the Merrimack River since the Open Space and Recreation Plan 2009

1. AVIS has acquired 34 acres of the former Franciscan land at the Tewksbury line from the ridge line to the riverfront along the Deer Jump Trail Another eight acres will be purchased in several years.
2. Six acres of land along the Merrimack River at the Tewksbury line was given by Mr. George Behrakis to AVIS in Nov. 2016.
3. NGrid owns a large parcel of land running from River Road to the river with extensive river frontage. AVIS leases a strip of land on an annual basis for the purpose of continuing the Deer Jump Trail along the river and for access. AVIS is working with NGrid for a more permanent arrangement to access the part of the Deer Jump Trail on its land now that *An Act Relative for Access to Recreational Trails* was signed into law in February 2009, (See Tax Map 228, Lots 3 and 3A). That law was specifically written to help the utilities to deal with liabilities across their land on trails.

4. *The Confluence Project* comprised of students from Phillips Academy, Andover High School, Notre Dame Cristo Rey High School and Lawrence High School (plus the Greater Lawrence Technical High School) is planning to extend the trail system along the river into Lawrence to encourage all area people to walk and enjoy the trail. It will extend into the middle of Lawrence and to its train station. This is an important riparian corridor on an interstate river, with endangered species onsite.

2. SHAWSHEEN RIVER GREENWAY IN ANDOVER

“The mission of the Shawsheen River Greenway is to make the River corridor a vital recreational, cultural, transportation, and educational resource for the entire community and region. By working with the landowners and a broad array of community groups and Town government the Greenway will act as the catalyst for building land and water trails, access points for walking, pedaling, paddling, fishing, and passive recreation while promoting economic and conservation values of the adjacent lands. It will link the community to its past, neighboring communities, and promote appropriate new uses and enjoyment of the corridor.

There is renewed interest in the river corridor spurred by a rezoning of the Historic Mill District, the relocation of the Town Yard, removal of two dams along the River, and a growing appreciation of the economic, recreational, and cultural values that it provides the Town. A new organization is being established to facilitate projects and serve as a public/private partnership with the Town.

Proposed projects include improved access to the River for canoes and kayaks in Ballardvale, and in the vicinity of the location where the dams are being removed. Trails will be developed in the same locations including new bridges for multi-use paths largely on Town property. Both physical and visual access to the River will be enhanced in the downtown area as well as the less developed section upstream. Connection to adjacent towns will also be enhanced.

Programs and events will be arranged to build a broad constituency for the River.”
Steve Golden, Chair – Shawsheen River Greenway

Accomplishments along the Shawsheen River since *Open Space and Recreation Plan 2009*

- a. There are several small river front parcels near Pole Hill in Ballardvale that have been acquired.
- b. The Serio's Grove Reservation, the site of the popular Miami Boathouse decades ago, is now protected by the Conservation Commission and there is much recent publicity to encourage public use.

c. The demolition of the Stevens Street dam – winter 2016-2017

A portion of the Marland Place/Atria parcel will allow public access to the river with a public Riverwalk, as a part of the reconstruction project. The owner has agreed to a kayak area to the north and is currently discussing a perpetual easement for a trail connection between the riverfront near Castle Heights and Stevens Street along the high, forested ridge that overlooks Atria's facility. This ridge is an important viewscape needing permanent protection.

d. The demolition of the small Balmoral dam – winter 2017.

e. Acquisition of the Shawsheen ID area west of Rt. 93

Most of the industrially zoned Shawsheen River floodplain west of I-93 has been acquired (the east bank of the river) for permanent protection. AVIS purchased the riverfront part of the former Tisbert land, already owned its Sanborn Reservation and the Town was given the 24-acre Lightning Tree Reservation as a result of finding "several endangered species" at the solar panel site.

In addition, there are extensive wetlands and "priority habitats for rare and endangered species" on the Andover land on the east side of Route 93, much of the wetlands is controlled by the Conservation Commission now.

There is a proposal for a walking passage via suspended bridge under the I- 93 to the Shawsheen River and protected land to the west of the highway..

f. Historic Mill Overlay District:

Planning Board and the members of the Historic Mill Overlay District Committee are currently writing rules and guidelines as the district is being developed. Various entities including Ossy Properties, and other Dundee Park owners are expecting much redevelopment on both sides of the Shawsheen in the historic mills on both sides of the Shawsheen River as it goes through Town. The river frontage owned all along the Shawsheen should be protected. This area has an overlay district rezoned by Town Meeting in 2016.

Goal: to permanently protect as much of the riverbank as possible in the Historic Mill overlay District and the Shawsheen River Greenway.

3. THE SKUG RIVER

The Skug River is part of the Ipswich River watershed. Several downstream communities rely on the Ipswich River for their municipal water supply and the river is also an outstanding regional recreational resource. There have been severe problems in recent years with low water levels adversely affecting water quantity and quality, and preventing recreational uses. Most of the length of the Skug River through Andover is now on conservation land, but, because it is a major tributary to the Ipswich, which is under great stress during droughts, it is important that the remaining frontage be protected.

Recommended Options:

- a. Negotiations should be made for conservation restrictions or easements along the Skug River bank for key parcels south of Harold Parker Road.
- b. If properties are subdivided for future residential development near the Skug River frontage, protected open space should be encouraged along the river, particularly between Salem Street and Harold Parker Road.
- c. There should be negotiations to acquire a large key wetland area of about 100 acres east of Route 125 off Prospect Street, which abuts both AVIS and Conservation Commission lands. It is in private hands.

4. ANDOVER'S WATER SUPPLY PROTECTION

Andover needs to increase its protection of its water supply. Much of the water comes from the Merrimack River and the river is under stress. The plan's top goal is to acquire all land along this river, (with the premier goal of legal access to the Merrimack River Reservation.) All the undeveloped lowlands within the watershed of Fish Brook not already owned by AVIS or the Town should be acquired to protect this water supply resource, to add to the extensive greenbelt and wildlife corridor already permanently protected, and to preserve the existing trail along the water line.

Recommended Options for the protection of the water supply:

- a. Undeveloped portions of the sides of the watershed of Fish Brook between I-495 and River Road should be acquired if possible. Conservation restrictions or easements, and land acquisition should be pursued for properties with extensive frontage on Fish Brook.
- b. The proposed widening of Route 93 up to the Merrimack River will affect a large area of Town-owned and AVIS-owned Fish Brook wetlands. The Conservation Commission and AVIS should watch this issue and protect Fish Brook and wetlands where possible.

- c. Lands within the Water Protection Overlay District, (WPOD) created by the Zoning Board will need added protection regarding the use of pesticides and herbicides.
- d. Wood Hill/Haggetts Pond area. This area serves the vital needs of the community to maintain the quality of its drinking water and also provides a large area of open space usable for passive recreation. Much of this area is now in town ownership for conservation purposes, but several important parcels remain to be acquired in the Watershed Protection Overlay District (WPOD).
- e. The Conservation Commission should have conversations with owners of land with 61 A & B restrictions well before their parcels come on the market, with a possible goal of purchasing for open space or protection of the Watershed Protection Overlay District (WPOD).

5. HUSSEY'S POND AND BROOK WATERSHED

The potential exists for better use of the downstream portion of this watershed. The Town should use all means possible for protecting its integrity; purity upstream should be pursued and preservation of the wetlands that feed its base flow. There is extensive use of these lands and flooding potential.

Recommended Options:

- a. Should any abutting watershed lands in Shawsheen Center area become available, the Town should pursue steps to protect the town's already considerable investment and valuable wetlands on the stream to prevent flooding.
- b. The Town should pursue the Shawsheen River Greenway connections in this watershed, which will provide vital links to several town parks and recreation areas, such as Wood Park, Penguin Park, and the soccer fields on the east side of the river.

6. OPEN SPACE BUFFER ALONG THE SOUTHERLY BORDERS

The *1976-77 Open Space and Recreation Report* made recommendations for open space protection on Andover's borders with its neighbors four decades ago. Unfortunately decisions have now preempted these opportunities in many areas. However, with the impetus of the Commonwealth's Bay Circuit Program, the town should continue to pursue this desirable objective. See subsection 10 below on Andover's Bay Circuit strategy.

7. EASTERLY BORDER

To continue to provide for local and regional recreational and open space needs, and to enhance the Bay Circuit Trail, the local community should promote, wherever feasible, extension and enlargement of the belt of open space along its easterly margin. The Holt Hill/Ward Reservation (the Trustees of Reservations), the Hammond Reservation, (AVIS), Skug River (AVIS), Mary French Reservation, Jenkins Quarry Reservation and the Harold Parker State Forest are all permanently protected areas. If possible, connections should be established between them where they do not exist especially at/through

the extensive more than 100-acres private parcel that borders the North Andover border to the east. **This is an extensive important wildlife and biodiversity corridor extending through parts of Essex County.**

Recommended Options:

- a. Acquire when possible the Skug River wetlands along the easterly border of Andover. These wetlands are not suitable for development. It is important to protect the river watershed.
- b. An easement for trail use should be negotiated in the upland adjacent to these wetlands.

Goal: The privately owned more than 100-acres parcel, mainly wetlands between Route 125 and the North Andover line should be permanently protected by the town, AVIS, or similar groups or a combination when possible.

8. ANDOVER and REGIONAL TRAIL SYSTEM

The Bay Circuit Trail system cuts across the Town from east to west, from Harold Parker State Forest to and along the Deer Jump Trail, at the Merrimack River with a total of 16.7 miles within the Town.

The extensive existing community trail network on both public and private lands can be substantially improved. Much remains to be done in acquiring by fee, easement or permission areas that link existing trails and neighborhoods together particularly when new subdivisions are built. The “community paths” initiative should be expanded, both as an important neighborhood enhancement and as a natural and important compliment to the trail network. Many town trails are in need of marking and better maintenance.

Recommended Options:

- a. The Conservation Commission should continue to work with the Andover Trails Committee and the Community Paths Committee both for planning trails and for coordinating volunteer efforts at establishing and maintaining trails; there is great enthusiasm to do so.
- b. Signs should be posted at trail access points and trails should be clearly marked; kiosks are encouraged and a posting of information electronically at trailheads.

Goal: promote the use of electronic markers that can be read by cell phone to alert hikers to the trail systems and connections.

- c. More parking areas should be developed with the aid of the Department of Plant and Facilities.
- d. More trail maps should be made and their availability to the public publicized. See the *Andover Trail Guide*, fifth edition published by AVIS and the Andover Trails Committee in 2015, found at the Andover Bookstore and other sites.

- e. A paid land manager for the extensive Conservation Commission holdings, now more than 2200 acres, is needed to oversee adult volunteers, church groups, Scouts, trained high school students and corporate volunteers to perform maintenance on the trails and major projects including building camping sites and boardwalks. There is an ambitious and hard-working group of several-dozen group of Conservation Commission Overseers managing major reservations.

Goal: A paid and manager for Con Com protected lands

9. REGIONAL RESOURCES

The Penacook and Merrimack trails.

There is now public access along a trail, (part of which is Bay Circuit), and Penacook/Merrimack Trails, to view the river via AVIS and Con Com lands, along most parcels from Tewksbury to Lawrence.

When the Town gains public access to the Merrimack River Reservation, now land-locked, behind the Greater Lawrence Technical School, two paved small boat ramps will be available to the public for kayak and canoe put-ins. Passive water-based recreation by the public is very important as all cherish the river as a prime resource for the Merrimack Valley and all of its citizens. A boater can then travel up stream to Lowell and into New Hampshire and downstream to the Lawrence dam.

Goal: to open the Merrimack River Reservation to public access especially for watersports via the existing two ramps.

Goal: to add amenities to the Merrimack River Reservation for people with disabilities including proper paving, parking, seating, tables, kiosks and other needed structures.

The site is suitable for a kiosk explaining the history of the Native American people who lived here more than 12,000 years ago. There is much opportunity for educational uses for river study and environmental education along this extraordinary wildlife corridor.

Goal: Andover should work with the Bay Circuit, Appalachian Mountain Club, the Merrimack River Watershed Council, AVIS and the *Confluence Project* at Phillips Academy as appropriate to ensure a continuation of the Penacook and Merrimack trails along the Merrimack River to downtown Lawrence to the train station. This is especially important to a very sizable economic justice community. Links with Lawrence Groundworks should be included and Merrimack Valley school communities.

b. The Regional Bay Circuit Trail

1. Regional Planning: Andover must establish closer liaison with North Reading, which is a Bay Circuit Community, perhaps through the Bay Circuit Alliance with the objective of a coordinated biology and wildlife corridor plan to secure state funding for trails and open space acquisition. It should establish closer links via wildlife corridor and trails with abutting North Andover land, especially by the Harold Parker State Forest.
2. The town has successfully supported the regional initiative to preserve substantial portions of Tewksbury State Hospital land and to complete remaining Bay Circuit sections in Andover. In the Crystal Circle neighborhood in Andover, Phillips Academy students doing Non Sibi Day service have cut a trail from the Blanchard Street fields to the Tewksbury border.
3. Alternate trails: The town should establish alternative linkages and spur trails that coordinate with the adopted Bay Circuit Route and to pursue protection of remaining critical properties. These connections would not only bring the trail closer to residents but would also serve as potential alternative main routes since many portions of the current route lack permanent protection.

c. Den Rock Trail Area

Andover should continue to actively participate in the management plan for the Den Rock area with North Andover and Lawrence, and the Merrimack River Watershed, which owns land in the area. There needs to be regional support of a link across the North Andover trail near Market Basket for the Bay Circuit network.

d. Shawsheen River

Andover is cooperating with North Andover and Lawrence in planning for a Shawsheen River Greenway through the three communities. Andover is giving high priority to completing plans for its section of the Greenway, evaluating the feasibility of establishing a bike path in the corridor, as well as a new hiking path along the river's banks. In the downtown Historic Mill Overlay District this is a major focus.

Goal: The town should continue to support these regional initiatives and continue efforts to protect and secure public access to remaining Shawsheen River sections in the town center and all along the river.

10. REGULATORY NEEDS AND EDUCATION

Accomplishments Since *Open Space and Recreation Plan 2007*

Town Meeting 2009 has passed the Watershed Protection Overlay District Amendment to the Zoning Bylaw to further strengthen protections for the watershed.

Recommended Options: New Regulations

The town needs to continually review and amend when necessary the bylaws to provide more regulatory controls over the development of sensitive lands as well as create zoning incentives to encourage the set aside and protection of open space and wildlife corridors. Bylaws should be written to reflect the predicted effect of river rise, global warming and other effects of climate change.

The cluster bylaw could be tweaked with regards to the disposition of open space that must be given away: to have open spaces given to the Conservation Commission, AVIS, **or to an organization whose purpose is to protect with access to all.**

B. SUMMARY OF COMMUNITY NEEDS

1. Statewide Comprehensive Outdoor Recreation Plan (SCORP)

Statewide Comprehensive Outdoor Recreation Plan SCORP 2012 - <http://www.mass.gov/eea/grants-and-tech-assistance/grants-and-loans/dcs/grant-programs/scorp-2012-final.pdf>

Statewide there are four goals and objectives in the SCORP publication.

1. All kinds of trails for variety of people –

Please see references above to the extensive Bay Circuit, Merrimack/Penacook and neighborhood trail systems in use and constantly being expanded. There are proposals to create two major trails for people with disabilities reflecting changes to come in the ADA law. They will be at the Haggetts Pond Rail Trail and at the Merrimack River Reservation.

2/ Water-based sports:

The access to the Merrimack River Reservation will open up two launching ramps on the river for water-based sports. In addition, the Con Com seeks to purchase a parcel along the Shawsheen for a small boat put-in near the Tewksbury line and abutting town-owned Ch. 97 land. With the destruction of the Stevens Street/Marland Place dam, a kayak/canoe launching area will be created downstream.

3. Recreation and open space close to home:

The Town continues to seek open space and recreational land as the Town grows in population. The per capita amount of protected land is not keeping pace with population growth. It should be noted that one may camp within 10 minutes of the Center on land akin to state parks and to Northern New England sites at Serio's Grove, Conservation Commission land.

4. Diverse and minority neighborhoods open space and recreation.

Andover and the Conservation Commission abuts Lawrence, the poorest city in the Commonwealth and shares a trail system with these neighbors.

In addition, there are many economic justice people in Town especially served by reservations along the Merrimack River. Signage and extensive outreach information must be done in Spanish and other languages.

In the spring of 2017 there began a herring count by the public, counting herring that swam upstream to spawn for the first time in two centuries.

Social Justice: *Confluence* program created by Mark Cutler of Phillips Academy is now bringing together students from Andover High School, Lawrence High School, the Greater Lawrence Technical School, Notre Dame Cristo Rey High School (Lawrence) and Phillips Academy to study the mighty Merrimack and the Shawsheen rivers and to work on projects with a strong **social justice** component.

*“Mission of Confluence: To engage youth in exploring the intersections of **culture and environment**, and to **empower** them to take **action** toward a more **sustainable, just, and united future**... the students are *working collectively toward a common, overarching goal of social, environmental, and economic sustainability*...*

Protection of the Merrimack River

In the **SCORP** 2012 report, there is note that the “Merrimack River is one of the largest, least protected riverine systems in New England.”

In 2016, it was designated by the U.S. Department of Environmental Protection as # 4 on their list of Most Endangered Rivers.

Fortunately, most of the Merrimack River in the Town of Andover has been permanently protected in fee and by conservation restrictions. Most of the riverbank has long been owned by Andover Village Improvement Association (AVIS) or by Town under the control of the Conservation Commission. AVIS has recently purchased 34 acres of the Franciscan riverine land plus uplands and was given six acres more by the Behrakis family. There are several more acres to be purchased from Melmark School in the future.

In the winter of 2016-2017, two private dams were taken down on the Shawsheen River. In spring 2017 there began a count of herring swimming up river from the Atlantic Ocean.

Protection of the Shawsheen River

Goal: to permanently protect more parcels along the Shawsheen, by Town appropriations gifts and grants.

The Northeast Region of the State and Essex County show “ a strong concentration of protected open space and recreation lands...”pg. 79. This is the case in Andover.

Funding Priorities:/Accessibility for People with Disabilities

“In the Northeast, residents support improving access for people with disabilities more strongly (96.1%) than any other region...”

Andover has made accessible to people with disabilities the outstanding Mary French Reservation in the Skug River Watershed and is planning to make accessible the Haggetts Pond Rail Trail for hiking, strolling, and fishing.

The Merrimack River Reservation will be made ADA compliant using the about-to-be new state standards when access is achieved. The town will be seeking grant money to make this happen. The Poms Pond Recreation site needs ADA upgrades. Several playgrounds have been made handicapped accessible recently and work is spelled out in the Capital Improvement Projects for projects for several years. . See SECTION 8 for information.

Need to Improve Bikeways from the SCORP Report

Andover needs more and safer bikeways connecting parts of Town and connecting to the greater Essex County. Please see the extensive report from Andover Bike Trails Committee is found in the Appendix.

Bike pathways were included in the 2010 completed redesigned Andover Center project, and redesign of Main Street. There is a need for more such pathways.

Deer Management Program

In 2010 after a few years of meetings, collaboration between town boards and presentations by biologists, the Andover archery hunting program was implemented. The hunt was instituted to aid in controlling a White-tailed deer population that had started to grow out of control. At the time, the deer population in Andover was estimated by Mass-Wildlife to be over 30 per sq. mile.

A deer population that is in synch with the environment should be around 8-12 per sq. mile. An excessively high deer population leads to poor forest health, a loss of wildflowers, diminished water quality, an increase in motor vehicle accidents and landscape damage. Lyme Disease is also associated with high densities of deer.

The Andover Village Improvement Society (AVIS) was approached to allow hunting on their reservations as part of the program. After much discussion, they decided to join the program as they share the same land management goals with the town in regards to forest health. Residents seem to agree with this decision as membership and donations to AVIS have risen since the hunt began. This joint cooperation is a great example of public and private entities coming together for a common cause. This has been very important as AVIS is the largest private landowner in town and many of their properties abut town forests. After the completion of the first successful season, the hunt was discussed and voted upon at Town Meeting. The well-publicized hunt was passed by a wide margin. Modeled after the archery hunt conducted by the Trustees of Reservations on the Ward Reservation in Andover, we have now become an example that other communities point to when starting their own programs.

The state reviewed our program and has given us approval. Non-resident hunters are chosen by a random lottery. As of now, non-resident hunters are capped at 40 on town lands. We had an additional 40 residents participate in the hunt last season. All hunters must pass a shooting test

before admittance to the program. Mass-Wildlife requires that all hunters graduate from a hunter safety program. In addition, all hunters must obey state fish and game laws, and hunt with bow and arrow only. The program is run by volunteers.

Mass-Wildlife is the ultimate authority on White-tailed deer management in Massachusetts. Mass-Wildlife takes the work of monitoring and managing the deer population out of our hands. This job would be too time consuming and is better left to professionals who have the expertise and tools to get it done. Mass-Wildlife divides Massachusetts into deer management zones. Andover is in deer management zone 10. In our zone, the deer population has exceeded the biological carrying capacity of the forests and the cultural carrying capacity of many of the residents. In short, too many deer compromise forest health by overbrowsing the understory thus changing the forest structure and eliminating the habitat that many birds and animals depend on. Over browsing of vegetation by deer also contributes to the spread of invasive plants.

According to Mass-Wildlife, the deer population of Massachusetts is at desirable levels throughout much of the state. It is only in the more suburban areas such as ours, where the deer numbers have exceeded levels than what is to be desired. A common theme of the deer management zones with higher deer population levels is a lack of hunting access. Man has been barred from preying on deer in these areas due to local and state ordinances. Just like wolves were reintroduced to Yellowstone Park to bring back ecological balance, Andover has brought back the apex predator “Homo Sapiens”.

It took decades of no hunting to get us in the predicament we are in and it is going to take a long while to improve. Each deer harvested is a step in the right direction and takes some pressure off our forests and wildflowers as one deer eats an average of 8 pounds of vegetation per 100 lbs of bodyweight a day. Each deer harvested is also one less that could possibly be hit by a vehicle.

Since the programs start, illegal hunting has almost entirely been eliminated. During the first year, fifteen illegal tree-stands were confiscated. Last year, we only found one. Our hunters have been the eyes and ears of the forest and there is not much illegal activity that goes unnoticed during the three-month deer season. Illegal camping, fires and squatters have been reported by those in the program and shut down.

Hunters have become a new pool of volunteers for the various conservation commission and AVIS projects. Many hunters pick up trash and aid in the clearing of hiking trails. Some have become conservation land overseers and aid on the land committee. Steve Cooper has volunteered countless hours to the town with construction projects and anything else that needs to be done on conservation lands. Hunters have kept some of the parking areas plowed of snow. In a few instances, hunters aided lost hikers. When a girl was reported missing, many in the program volunteered to aid in the search because of their intimate knowledge of the land.

Hunting has been proven popular with many residents. Those participating have thoroughly enjoyed the experience of hunting on their conservation lands. Resident hunters have enjoyed the camaraderie and many new friendships have been forged. All are thankful for the free-range organic meat they harvest. The ability to procure healthy meat for your family from town lands is a huge cost savings for a family and there is no “greener” food source. This is a common theme of why residents hunt. Many of the hunters I know also grow a good portion of their families vegetables. This self-providing lifestyle is what attracts many to hunting and all are fortunate that they can now do this without traveling great distances. Andover is fortunate that the hunters are providing a free service to the town through the culling of deer.

Andover High School students that have interned with Conservation Director Robert Douglas have been involved with the hunt. Two of these students witnessed the qualifying shoot for the hunting program. One student intern, Rachel Schnakenberg worked with USDA scientist Mr. Thomas Rawinski on a Mapleleaf Viburnum study that Mr. Rawinski developed. This study is setup to determine whether deer browsing on plants is increasing or decreasing over time. Andover is this first town to study this, and this particular analysis could end up being the model for others to follow. Rachel helped choose the sampling sites, collected most of the data and entered the data onto forms. Rachel then presented her results at the Massachusetts Land Coalition Conference. Amy Janovsky (MLTC Outreach Coordinator and AVIS trustee) was instrumental in setting this up and both she and Kevin Porter of the Conservation Commission handled the Q&A period at the end. Rachel has also spoken with AVIS management, scientists with the Mass-Wildlife Natural Heritage Program, local hunters and others to formulate the opinion that the newly acquired Lightning Tree reservation be opened to hunting in part, to help with the plight of a rare moth whose favorite food was eaten by deer on that particular property,

The implementation of the hunt and the plight of our forests got the attention of Wood Hill Middle School teacher Jane Anthony. Ms. Anthony, with the help of Conservation volunteer and hunter Craig Liversidge, constructed deer exclosures on one of the hunting properties. The exclosures are built to keep deer from eating the plants within. These exclosures are part of a project based learning program that Jane is spearheading for the students. The students have been conducting vegetation monitoring both inside and outside of the exclosures and comparing the results. This program has received considerable attention by Massachusetts conservationists.

We were one of the first towns in what has become a regional effort of northeastern Massachusetts to reduce the deer population through regulated hunting. Mass-Wildlife claims that a regional effort is critical to limit deer population growth and supports our efforts. Over the past six seasons, we have been contacted by officials in towns such as Dracut, Weston, Burlington plus many others. We will continue to mentor other towns as they open up their lands to hunting and create programs such as ours. All have been thankful for the information that we are able to provide.

The Andover hunt is a semi permanent program that needs to continue for perpetuity. I say semi permanent because Mass-Wildlife could and would shut the deer harvest down if some unforeseen circumstances such as disease lowered the deer population down to dangerously low numbers. If the deer population remains healthy however, hunting must continue. Once the deer harvest stops, they will bounce right back. The modern day hunter has replaced the wolves, cougars, and Native Americans as the white-tails main predator. We get help from coyotes, disease, natural mortality, injuries, motor vehicle collisions and weather conditions in reducing numbers, but as shown by the increasing number of deer in our zone it is not enough. Continued hunting pressure and more lands open to hunting are also needed if we are to accomplish our long term goal of restoring healthy forests to Andover.

“Gifford Pinchot wrote about the greatest good. Yes, it is the height of human existence, me thinks, to rise above one’s wants-the pretty doe eyed deer, big bucks galore-and think more broadly about one’s role and responsibility in society, to strive for what is best for all. Empathy for children afflicted with Lyme disease, for farmers losing their crops, for landowners who are no longer able to practice sustainable forestry, for homeowners who see their landscape denuded, and for every driver and passenger traumatized and/or injured by deer vehicle collisions. This empathy must be foremost in our minds lest we end up siding with the pestilences. Ultimately we must have empathy for the deer-that they don’t suffer tragic, wasteful ends.” -Thomas Rawinski, USDA Forest Service Botanist, Wildlife Biologist.

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” Aldo Leopold, A Sand County Almanac.

Robert M. Dalton Jr.
Volunteer Deer Hunt Coordinator
Town of Andover, Massachusetts
Andover Village Improvement Society
The Trust for Public Lands

Summary of Forest Management Plans

Fish Brook North, Virginia Hammond, and Wood Hill – Bald Hill Reservations

Background

In 2013, the Andover Conservation Commission applied for, and received, Working Forest Initiative grants from the Massachusetts Department of Conservation & Recreation to pay for the evaluation and inventory of three forested properties (Fish Brook North, Virginia Hammond, Wood Hill – Bald Hill), and create Forest Stewardship Plans for the properties. The inventories were conducted in the spring of 2014. Management plans were then submitted to the State and approved.

Leading up to 2013, there were indications that Andover’s forested lands were not as healthy as

they should be, prompting the study. Of concern: the vegetation, particularly new tree shoots, is subject to heavy browsing by a large deer population; there is a large dense tree canopy limiting the amount of light reaching the ground, which has a negative impact of the growth of new trees; and the forests are very homogenous – even aged, similar size and class of trees - with almost new growth occurring. The lack of understory (new growth) is a major concern.

In addition forest health, the Commission desires to increase the biodiversity of the lands and the wildlife utilizing them. Prior to European settlement, the landscape was a patchwork of open habitats, young forest and old forest. With urbanization and development we have few open areas in the State today, and there is a movement among environmental organizations to create new open areas because they are so vital to many bird and pollinator species.

In addition, organizations such as Mass Audubon, TTOR, and Massachusetts Department of Fish and Wildlife are proponents of creating another type of habitat - “ Early Successional Habitat” - because of its enormous benefit to wildlife. Early successional habitat is characterized by vigorously growing grasses, shrubs and trees that provide excellent food and cover for wildlife. With these factors in mind, the Commission’s hired a licensed forester, Gary Gouldrup of New England Forestry Consultants, to inventory and develop management plans that would meet the Commission’s goals for these three properties:

1. Increase the health of the forests
2. Increase biodiversity
3. Create more open space or meadow habitat Create early successional habitat Be self-supporting through sustainable timber harvesting

In addition to our forestry consultant’s recommendations, the Commission also consulted with Massachusetts Division of Fish and Wildlife (Rebecca DiGirolomo, Habitat Biologist) for their input on wildlife and habitat creation as related to the Forestry Plans submitted by the forester. A summary of the management plan for each property follows. Detailed descriptions can be found in the attached Forest Management Plans for each property.

Fish Brook North

The Fish Brook North Reservation is a 337-acre parcel located in west Andover with road frontage on Chandler Road, River Road, Forest Hill Drive, and Interstate Route 93. The land is comprised of mature white pine and mixed hardwood woodlands (22%), mixed oak and hardwood woodlands (41%), open marsh wetlands (20%), red maple forested wetlands (16%), and hemlock-hardwood forest (1%). The hemlock woolly adelgid was found in the mature hemlock trees on the property. Timber resources range from poor to high.

Forest regeneration is a concern at the Fish Brook North Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 15-acres that were harvested approximately 15-20 years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in

some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, phragmites, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources. Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; biological diversity and invasive species control; recreation enhancement along the trails, and wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat. There are several acres of very large old trees and this acreage is designated as no cut “Old Growth Forest” (i.e. to be left as is, no harvesting).

Please refer to Appendix A - Boundary & Stand Type Map – for Fish Brook North for a detailed color-coded diagram.

Massachusetts Fish and Wildlife suggested that previously cut white pine stands with adequate regeneration could be managed for white pine and could potentially provide future revenue to help support habitat management elsewhere on the property.

Virginia Hammond

The 43-acre Virginia Hammond Reservation is located in a western section of Andover with approximately 1,500 feet of road frontage on High Plain Road. Interstate Route 495 is the property’s southeastern boundary.

The land is comprised of mature white pine and mixed hardwood woodlands (31%), mixed oak and hardwood woodlands (53%), and open meadow (16%). Timber resource quality ranges from poor to high. The red oak timber resources are generally well formed and fair to high in timber quality. A small pocket of hemlock is located east of the parking area.

Forest regeneration is a concern at the Hammond Reservation due to the high white-tailed deer population in the local area. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past. Invasive and non-native vegetation on the property is prevalent in areas and is also having an effect on native forest regeneration in many areas of the property. Burning bush, buckthorn, honeysuckle, bittersweet, and Japanese barberry are all growing on the property.

The forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; expansion of the open meadow habitat; a proposed clear-cut of several acres to create successional habitat.

Massachusetts Fish and Wildlife have urged caution with the proposed cut for conversion to successional forest due to the prevalence of invasives. They strongly suggest that the Town commit to pre-treatment of invasives in these areas and follow up with treatments as needed before moving forward with the cutting.

Please refer to Appendix B - Boundary & Stand Type Map – for Virginia Hammond for a detailed color-coded diagram.

Wood Hill – Bald Hill

The 230-acre Bald Hill and Wood Hill Reservation is located in west Andover with road frontage on High Plain Road, Haggetts Pond Road, and Interstate Route 495 as the properties eastern boundary. The land is comprised of mature white pine and mixed hardwood woodlands (33%), mixed oak and hardwood woodlands (47%), red maple forested wetlands (10%), abandoned field (2%), open powerline (4%), and an open transfer station (4%). Timber resource quality ranges from poor to high.

Forest regeneration is a concern at the Bald Hill and Wood Hill Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 25-acres on the east side of Wood Hill Road that were harvested approximately 30-years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, Norway maple, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources. Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; cultural resource protection (evidence of old foundations and buildings along Old Wood Hill Road); non-disturb no cut areas designated as “Old Growth”; wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat; clear an area on the top of Wood Hill to create a recreational vista.

Please refer to Appendix C - Boundary & Stand Type Map – for Wood Hill-Bald Hill – for a detailed color-coded diagram.

Massachusetts Division of Fish and Wildlife Recommendations (per Rebecca DiGirolomo, Habitat Biologist): There is historical evidence that a portion of Bald Hill was maintained with fire as a blueberry patch. Given that blueberry is not preferred by deer and is abundantly present in the understory Fish and Wildlife recommends opening the canopy in this area to increase blueberry production, however, it would be advisable to retain some pitch pine and large crowned healthy oak and hickory trees. This area could be marked for retention, meaning the forester would mark individual pitch pine, white oak, red oak, hickory, etc. to be retained while removing 90% of current forest canopy cover. The blueberry hill could then be maintained with prescribed fire, if feasible, once every ten years or so.

The cost for fire planning and implementation could potentially be paid for from any timber sale revenues. Prescribed burning would also reduce costs associated with periodic mowing to maintain the sparse overstory canopy with shrub understory. In addition, we also discussed

extending this treatment area down the adjacent slope, but retaining all hardwood species and removing white pine. This slope had an interesting mix of species typically found on richer sites (sugar maple and hickory) and species found on dryer, well-drained sites (white oak, red oak, and pitch pine). It would be ideal to retain this species diversity while removing the more generalist species (white pine and red maple).

On the Wood Hill Property Mass DFW recommend building off of the shrub habitat provided by the power line and focus on creating openings adjacent to the powerline and in areas that have abundant blueberry cover in the understory. At least two areas are appropriate for overstory removal above the existing blueberry cover extending from the power line to the change in topography, building a narrow strip of heathland alongside the existing shrubland in the power line. DFW also discovered *Aureolaria* (false foxglove) with indications of feeding from the Orange Sallow Moth, a species of special concern in Massachusetts. As for the area that the Town is proposing to clear for vista or habitat on this parcel, DFW would recommend thinning this area instead, and retaining oak and hickory for seed source and wildlife value. However, given the lack of regeneration due to heavy deer browse the Town might consider waiting until they have a better handle on the deer population and a clear reduction in browse of native vegetation.

More detailed information can be found in the *Forest Management Plans* for each reservation in the Appendix.

Kevin Porter Vice-Chairman Andover Conservation Commission, January 20, 2017

C. RECREATION DIVISION

COMMUNITY NEEDS

1. ANDOVER RECREATION PARK

This 190 acre-tract is located near the geographic and population center of the town. It contains some of the few lighted softball field and tennis courts in town, and the only public bathing area (Pomp's Pond). Many town program and group outings take place here. Forty acres, including the ball field, tennis courts, and beach, are under the management of the Recreation Division.

The Conservation Commission controls the Foster's Island area and the now sandy gravel pit, the home of many turtles and extensive wildlife. Foster's Island is mostly wetland and is best suited for passive recreation.

Pomp's Pond is an aging and fairly fragile ecosystem.

Recommended Options:

a. Water quality:

Protection of the water resources in Recreation Park is important. If the well site located at Recreation Park is not needed and could be taken "off line" this would aid in the development of fields. Pomp's Pond has been protected from more rapid eutrophication by the relative absence of development around it. Fertilizer application should be held to an absolute minimum, as the vegetation can take up fertilizer rapidly. Pesticides should not be used. Erosion should be checked and prevented throughout the park.

b. Upper parking lot: If it is determined to be environmentally appropriate, the parking area should be widened and paved, with marked parking spaces (completed spring of 1997). Night lighting and bike racks should be installed to improve security;

c. Landscaping in the entire area needs to be improved;

d. Tennis courts: The fence should be straightened and repaired.

e. Inline rink/Pickleball Courts: The rink should be improved with the addition of a water fountain, and benches. The perimeter of the court should be paved to reduce the risk of ankle injury. A new court with boards and fence was completed in fall 1997.

f. Basketball court: A new court should be added to the park.

- g. Pomp's Pond Bathhouse: The bathhouse could be improved by installing changing stalls. Ventilation should be improved. The shelter could be winterized for use by skaters and cross-country skiers.
- h. Beach area: Where the hillsides above the beach are eroding; they should be stabilized. Access to the play area in the woods above the beach should be improved, and the equipment there should be maintained. The town should consider installing a sliding board, more play equipment, a fitness course, and a picnic shelter;
- i. Boathouse and docks: storage is needed for canoes, kayaks and life jackets.
- j. Splash Pad/Spray Feature: The addition of a splash pad and water spray feature would be attractive to residents of all ages as well as add to the summer programming experience for individuals participating in Recreation and Poms Pond programming.
- k. Security System and Audio System: The entire facility is in need of a security system so that afterhours use can be monitored. Both the security monitoring system and audio system will allow for a safer experience for all beach and park users.
- l. **ADA Upgrades: An accessibility study of the entire Recreation Park and Poms Pond site should be completed to create a master plan for accessibility upgrades for the entire recreation complex.**

2. PLAYFIELDS AND PLAYGROUNDS

The public school sites provide the opportunity for participation in organized sports such as football, track, soccer, baseball, basketball, softball, field hockey, and lacrosse. It is at these locations that parking can be found, labor and maintenance is available, and sufficient policing to discourage vandalism is most easily provided. At present, many organized sports sponsored by the town or its schools are held on school properties or on the town-owned properties. The increasing demand for active recreation has created a shortage of playing fields. Meeting this demand in a fair and fiscally responsible manner, particularly given the number of the town's citizens who utilize these playing fields on a regular basis, should be an important goal for the town in the years ahead.

Recommended Options:

- a. The town should continue to refurbish each playing field as needed;

- b. The town should continue to update and maintain playground apparatus at recreational areas. Special emphasis should be placed on providing play equipment for toddlers and preschool-aged children;
- c. The town should build and maintain the following additional fields, as soon as possible, in the following numbers, in order to meet the needs of the thousands of its citizens who pursue these forms of active recreation on a regular basis, and to serve the needs of these citizens and other for the near future: 3 softball fields (regulation size); 3 Little League baseball fields (60- ft. base paths); 1 baseball field (90-ft. base paths); 4 soccer fields (full, regulation size)
- d. Soccer and Baseball Fields: These should be developed at this location as the town’s organized sports needs require, as funds allow, and traffic and parking considerations permit. This site should be effectively utilized, to the extent possible, to meet many of the town’s active recreation needs.
- e. Ever increasing need for their fields by their own students, and the fields also occasionally need to be “rested”. The limited number of the town’s soccer fields also prevents the formation of more travel soccer teams, which would travel and compete within Essex County, thereby restricting developmental opportunities for many able players.
- f. Baseball and softball need more fields so that the teams might practice more regularly and adequately, and so that more games might be played. Suggested locations for the above-named fields are as follows: a) at Andover Recreation Park; b) behind South School and c) behind Sanborn School
- g. Clustering these playing fields in groups of three or four or more, wherever possible, offers many advantages. First, to some degree parents could bring more than one child to one location. Next, economies of scale and cost create efficiencies in having one parking area for multiple fields. The cost of building the fields is eased by having a several in just two or three single locations. Single fields could be built on other smaller sites where appropriate and convenient.
- h. There are activities where night lighting would increase the availability of the area for night usage. In areas where night lighting has been installed, a marked decrease in vandalism has been noted.
- i. Sections of town with no nearby school site, as well as newly developed areas, should have large parcels of land set aside for active and passive recreation, including regulation-sized playing fields.

3. INDOOR SPACE

The needs of the town for indoor daytime activity space and for equipment storage space have remained unmet for years. There is a growing demand for day care and extended day programs for all ages by single parents and dual-career families. The construction of a new day care center by Shawsheen

Extended Day (SHED) on Phillips Academy property off Phillips Street has helped somewhat in solving community daycare problems. There continues to be great need for indoor space.

Recommended Options:

- a. The Recreation Division should actively pursue space within schools and other town-owned buildings.
- b. The Recreation Division should work with the School Department and other entities, public and private, to increase the town's day care and extended-day facilities;
- c. The Youth Center could include as many of the following facilities as the town can afford:
 4. an indoor, Olympic-sized pool with locker rooms and team rooms;
 5. multi-purpose rooms might include dance facilities, art rooms, wood-working rooms, classrooms and supply closets;
 6. a kitchen facility;
 7. a weight room;
 8. bowling lanes;
 9. a small theater with dressing area;
 10. a youth/parent and tot multipurpose area;
 11. a lighted, locked storage area;
 12. administrative offices;
 13. a registration/information counter;
 14. maintenance areas;
 15. computer sites
 16. basketball courts
 17. cafeteria/ballroom

In addition, the best solution to the need for a multi-purpose gymnasium is the new field house at the high school, which should be open to the general public when not being used by school teams for practices or events.

4. TENNIS COURTS

The town does not have enough tennis courts to meet the demands of the adult public and students of middle school or high school age. Several actions need to be undertaken at the tennis courts to fulfill the needs of younger children and to guarantee the upkeep of the courts. The courts adjacent to West Middle School became a skate park, which is maintained by Andover Youth Services.

Recommended Option:

Lights at the High School courts should increase the availability of the area.

5. WINTER SPORTS

There are many ways in which the town could improve winter sports opportunities, chiefly through making better use of facilities already owned.

Recommended Options:

- a. Low-lying marshy areas both on school sites and elsewhere on town-owned lands could be improved to provide shallow, safe natural areas for ice. Full consideration should also be given to developing the “bowl” area in front of the Balmoral condos for ice skating. Adding lights for night skating would be desirable.
- b. Construction of multi-purpose slabs at carefully selected locations for ice skating and other uses, should be investigated;
- c. Snowplowing, a skate house, and night lighting to permit ice-skating on at least one of the town's natural ponds should be considered.
- d. Finally, each school site should be carefully examined to determine what winter sports it can reasonably offer, including skating, sledding, ski practice runs, and perhaps toboggan chutes.

6. BOATING

Andover has a wealth of natural resources suitable for small craft recreation. However, substantial access and facility improvements are needed to realize this recreational potential.

Recommended Options:

- a. Facilities for organized boating instruction and recreation sailing programs on the Merrimack River already exist through the Greater Lawrence Community Boating program in Lawrence and a similar program in Lowell, but the river and ramps on the Merrimack exist to allow a sailing program for students and the general public in the future. The primary unmet need is informal canoe, kayak and rowboat launching sites on Andover’s Merrimack River frontage.
- b. The Shawsheen River is well suited for this sport. The town should increase public awareness of existing canoe/kayak launching sites along the river. This could include making maps readily available and posting signs at each location, plus information on the town’s website.
- c. Foster's Pond is also an excellent location for canoes and kayaks. The Conservation Commission controls a peninsular of land on Foster’s Pond to the west of AVIS’s Goldsmith Reservation.
- d. Finally, when opportunities arise, the town should encourage the establishment of appropriate commercial rental and launching facilities where zoning permits.

7. SENIOR CITIZENS

The majority of programs are offered in the Senior Center located in the School Administration portion of the Town Offices building. The growing senior population has increased the demand for more space at the Senior Center. In addition to indoor space needs, one of the continuing concerns is the provision of outdoor recreational facilities specially suited to the needs of senior citizens. Such facilities should include benches, paved pathways, outdoor tables for card play, etc. Existing parks, particularly those near high-density areas such as The Park, should have sections designed for senior citizen usage including areas for sitting out of direct sunlight. Special senior recreational opportunities, such as morning bird walks or Boomer walking programs are popular.

9. BICYCLING

Bicycling for sport, recreation, and commuting to work and school is important to town residents. The town, through volunteer efforts, has recently made some headway in encouraging and developing a town-wide bicycle system linking neighborhoods, schools, recreational sites, and commercial centers. The Andover Bicycle Committee is strongly supportive of these efforts.

In 1995, the town was awarded a grant from the Governor's Highway Safety Bureau to purchase bicycle route signs and bicycle crossing signs to establish a cross-town route from River Road to the Harold Parker State Forest. In addition to meeting the goal of providing transportation to the town's commercial centers and recreation sites, the routes also serve as a regional bicycle route to abutting communities.

The formation of a new volunteer bike committee could reactivate action on these important non-motorized resources. In bike planning it is important to distinguish among several related but distinct biking activities, each requiring different facilities: off-road cycling for recreation; on-road cycling for recreation; on-road cycling for commuting and local transportation to school and other community locations. It is also important to provide for both local and regional needs.

Bicycle racks have been installed in the center of town and should be added to other appropriate destinations.

Recommended Options:

- a. The town should continue to direct its efforts toward providing safe bike paths or routes that will serve both commuters and recreational users, and to develop connecting links to nearby communities. Bike lanes or paths should be planned and constructed in conjunction with road, highway, or sidewalk improvement.

- b. Sections of the Shawsheen River Greenway should be expanded for bicycling among Andover, Lawrence and North Andover,

c. Review and implement the plan to create a regional network of bicycle routes that link the seven communities of Wilmington, North Reading, Reading, Stoneham, Wakefield, Andover, and Lynnfield.

10. SUPPORT SERVICES

In addition to its recreational facilities, the Department of Community Services should have certain support services, including the use of a small truck as needed.

11. Accessibility to People with Disabilities

There is need for more communication among town organizations so that planning for appropriate facilities for people with varying levels of disabilities are considered early on when plans are made.

Accessibility to new Andover's active recreation facilities in a manner thoroughly consistent with ADA guidelines and regulations is an important part these recommendations. Andover should take part in best practices in facility design and programming that encourage inclusion for all Andover's residents. There is much attention being paid to making several parks accessible to people with disabilities over the next five years. There are plans to make the rail trail off Haggetts Pond Road accessible to people with disabilities including the about-to-be upgraded standards, and the Merrimack River Reservation.

12. NEIGHBORHOOD PARKS

Andover should pursue the development of small "pocket" parks in West Andover, southeast Andover, and the downtown area. The parks should include play lots, picnic benches, bicycle racks, and pedestrian amenities such as benches, shade trees, and walkways where the site can feasibly be linked to town-owned land or other nearby recreation opportunities.

D. MAINTENANCE NEEDS AND POTENTIAL CHANGE OF USE

1. MAINTENANCE AND MANAGEMENT OF TOWN LAND

It is crucial that the Conservation Commission create management plans for major conservation reservations.

2. PRIVATELY OWNED LAND

Almost 1,000 acres of Andover's reserved open space are in private ownership, and thus subject to change of ownership and possible development. An additional 1,351 acres are in Chapter 61 status and

11 acres are non-Chapter 61A status with almost 90 acres on the west side of Route 93 as *Priority Habitat for Endangered and Rare Species*. As Andover has done in the past, it should be prepared to react to changes in the circumstances of these properties and to take appropriate action to preserve them if feasible in advance of possible sale.

This means there must be a continuing ability to bond money for acquisition of open space by means of Town Meeting warrant articles as has been the policy and custom for several decades. There is a list of acquisitions passed by Town Meeting to guide the purchase of preferred parcels.

Recommended Options:

- a. The Conservation Commission should work with landowners of the acquisition list parcels to make arrangements to purchase before or as the parcels come onto the market. The Conservation Commission should consider purchasing 61 A and B parcels as they come to market.
- a. If there is any change in status of Camp Maude Eaton (50 acres) bordering Pomp's Pond is contemplated, the town should acquire it in its entirety or purchase a Conservation Restriction.
- b. The town should seek the acquisition of any undeveloped parcels now owned by Phillips Academy and not needed by the Academy; this includes more than 100 acres of land, mainly wetlands, on the east side of Route 125.
- c. The town should attempt to secure the Fish Brook frontage.

3. ACQUIRE ADDITIONAL OPEN SPACE REGULARLY

Recommended Options:

Occasional appropriations by Town Meeting for open space funds are required to allow the Conservation Commission to purchase land when it becomes available. Studies show that the preservation of open space saves the town money due to no need for town services.

- a. It is an Andover value to protect open space. In the recent past, Town Meeting has approved more than \$3.5 million for both specific parcels as well as general funds to be available when properties come on the market. The Commission should be purchasing open space in good and bad economic times. It makes economic sense. The Commission must develop new strategies and tactics for acquisition of open space.
- b. Gifts: The town has received a number of gifts of land and of Conservation Restrictions in recent years. Many of the gifts are the "green areas" of cluster subdivisions, which according to local bylaw must be dedicated for conservation purposes to the town, to a private land preservation group such as AVIS, or to a neighborhood association organized for the

purpose. It is important now that all the land go to the Town, AVIS or to organizations whose purpose is to protect land with access to all

c. Public Funds: The town will continue to seek out and apply for funds from state and federal programs to help with acquisition costs. In the past, Andover frequently received self-help funds from the state. The last time such funding was received was in 2010. This *Open Space and Recreation Plan 2018* is being written to enable Andover to apply for state and other grants to purchase open space and recreation sites.

d. Private Funding: AVIS will continue to pursue similar purchases of open space preservation as the Conservation Commission. It enjoys the support of the townspeople, so that it is likely to be successful in securing more open land by gift or purchase. It has purchased the 34 acre former Franciscan land in 2017 with another six acres to come and has been given the Behrakis Reservation and the Bonier Reservation recently. The Commission should collaborate with land trusts to leverage ability to purchase open space. These include AVIS, the Essex County Greenbelt Association, the Trust for Public Lands, and the Trustees of Reservations.

SECTION 8 - GOALS AND OBJECTIVES

The following goals and objectives build on the inventories of lands, both public and private, in Section 5, a broad statement of open space and recreation goals in Section 6 and the analyses of community needs for resource protection, community and management needs in Section 7.

Many of these goals are historic goals from thirty years ago that still remain policy.

Other sources of goals and objectives:

1. *Online Open Space and Recreation Survey, March –April 2017, 1501 respondents.*
See SECTIONS 2 and 6 for questions and analyses.

2. *The Andover Town Survey 2012: Final Report*

In 2012 The Center for Public Opinion, University of Massachusetts, Lowell under the direction of Joshua J. Dyck, Ph.D., Frank Talty, Ph.D. and Jenifer Whittten-Woodring, Ph.D. with their students conducted a survey regarding quality of life, personal satisfaction in Andover, the value of open space and environmental attributes, *The Andover Town Survey 2012: Final Report*.

The survey scientifically solicited townspeople to give input on open space and recreational needs and quality of life issues. This is in light of the major changes to the town since the *2009 Plan*, both in build-out, diminishment of open space and recreational needs as the population has grown. The main reasons to move to Andover are **schools (essential to somewhat important) 80%** and **open space, conservation land (essential to somewhat important) 86%, thus ranking higher than outstanding schools.**

3. *The 2008 Andover Citizens Survey: Preliminary Report* by the Center for Public Opinion, Merrimack College by Russell K. Meyer Ph.D. See SECTION 2.

A. Protection of the Merrimack River and the Shawsheen River

Protection of the Merrimack River

AVIS has acquired 26.6 acres of former Franciscan land along the Merrimack River in the spring of 2017 with the assistance of a matching Conservation Partnership Grant. AVIS is planning to acquire a second parcel, eight additional acres along the Merrimack River from Melmark School in fee in the future. AVIS is planning on conducting active negotiations with NGrid over its part of the Deer Jump Trail. To date there is only a site license in effect.

The Conservation Commission has been given 30% of the Pulte land under the rules of the Senior Overlay District, that is 7.207 acres with permanent open access to all for

passive recreation. Pulte will build several parking spaces and a trail around its property from River Road to connect with the open space and the AVIS trail network leading to the river.

To the west on the Tewksbury line the Behrakis Family has given AVIS six acres abutting the Sanborn Reservation, creating the Behrakis Reservation.

Thus almost all of the Merrimack River in Andover is now permanently protected for access by the public except for the small Andover/Merrimack companies' parcel, which was once the Phillips Academy Boathouse land (and NGrid land) and may not access the Merrimack River Res., which is still land-locked.

GOAL to do all that is possible to gain public access e to the Merrimack and Penacook trails, and to the Town-owned Merrimack River Reservation

1. To cross this parcel to allow hikers to hike on all of the Merrimack River land in Andover from Tewksbury to Lawrence along the Merrimack and Penacook trails.
2. To access to the ten-acre Merrimack River Reservation, which has been landlocked for 40 years.
3. To allow the Andover police and fire officials to get to the Merrimack River for emergencies.

With the building of the Municipal Yard area, a paved walking pathway will be constructed to go to the Town-owned Heffron Right of Way to the east, but legal access is still required to go to the river and to the Merrimack River Reservation.

With access to the Merrimack River Reservation, the Commission will write state and federal grants to build a parking area and paved pathway through the reservation and amenities to encourage its use for passive recreation. There are two concrete launching ramps to be utilized for watersports. The Merrimack River Reservation is ideal flat land for building amenities for Americans with Disabilities (ADA) accommodations.

A major goal is the AVIS purchase of the remaining eight acres of the Franciscan land to be purchased in the future from Melmark School.

GOAL: Opportunity to serve the economic justice population

A large economic justice population resides in the Merrimack River area, in the northern part of town, mainly people for whom English is not their first language. In addition, a very short distance to the east and also across the river is the City of Lawrence, the poorest city in the Commonwealth. Deer Jump, Penacook and Merrimack River trails and waterfront land physically connect Andover to Lawrence.

When the Merrimack River Reservation can be legally reached, there will be many passive recreational opportunities for all, including small boat launching, picnicking, nature watching, fishing, hiking, and cross country skiing and special amenities for people with disabilities.

There will be the kiosks with educational material and signage in several languages, including Spanish. In addition, the kiosks will include information about history and culture of the Native Americans going back 12 millennia and the history of the local Industrial Revolution mill culture. The riverfront area is rich in history to be shared.

GOAL Recreational Opportunities on the Merrimack River Reservation

Once access is there are two put-in ramps on the Merrimack River Reservation. This is Town-owned land for canoeing, rowing and kayaking, and scenic viewing. There could be the possibility of using the former PA float as a launching device for boats.

GOAL: Fire Department and Police Department Safety Needs

The Fire and Police Departments would use the two ramps on the Merrimack River Reservation for putting in their rescue crafts for emergencies on the river.

Protection of The Shawsheen River

GOAL Shawsheen River: the town or AVIS or other nonprofit organizations that permanently protect open space with open access should seek to acquire in fee or to protect with permanent Conservation Restrictions as many as possible of the riverfront parcels from Lawrence to the Tewksbury line.

The Shawsheen River Greenway

Andover supports the campaign for a Shawsheen River Greenway to make the River corridor a vital recreational, cultural, transportation, and educational resource for the entire community and region. By working with the landowners and a broad array of community groups and Town government, the Greenway will act as the catalyst for building land and water trails, access points for walking, pedaling, paddling, fishing, and passive recreation while promoting economic and conservation values of the adjacent lands. It will link the community to its past, to neighboring communities, and to promote appropriate new uses and enjoyment of the corridor.

Proposed projects include improved access to the River for canoes and kayaks in Balladvale, and in the vicinity of the location where the dams are being removed. Trails will be developed in the same locations including new bridges for multi-use paths largely on Town property. Both physical and visual access to the River will be enhanced in the downtown area as well as the less developed section upstream. Connection to adjacent towns will also be enhanced. Already a new pub, Oak and Iron, has moved into a formerly abandoned mill building with outdoor seating drawing folks to the river.

Proposed projects include improved access to the River for canoes and kayaks in Balladvale, and in the vicinity of the location where two dams have been removed. Trails will be developed with new bridges to come and multi-use paths largely on Town property. Both physical and visual access to the River will be enhanced in the downtown area as well as the less developed section upstream. Programs and events will be arranged to build a broad constituency for the River.

By Steve Golden, chair of Shawsheen River Greenway.

B. Wildlife Corridors and Abutting Properties

GOAL The Commission should give priority to acquiring parcels of land that are within wildlife corridors through the Town and abut already protected reservations.

These wildlife corridors include:

The Shawsheen River Wildlife Corridor in the southern part of town including Wilmington and Tewksbury open space is a rich corridor with several endangered species. It includes already protected Town-owned Lightning Tree Reservation and the Avis-owned Sanborn Reservation. It extends into the Wilmington Town Forest.

- The wildlife corridor within the middle of the Town includes the Shawsheen River, West Parish Meadow, and Baker's Meadow area.
- The Harold Rafton Reservation, Wood Hill, Haggetts Pond, Nat Smith Reservation wildlife corridor protects the water supply.
- Taft, Hammond, Mary French, Skug River connected to The Trustees of Reservations Ward Reservation (Holt Hill) form an important wildlife corridor into North Andover to the east and to Harold Parker State Forest to the southeast.

C. Planning for Open Space for the Future

The Online Open Space and Recreation Survey (March –April 2017) showed highly significant support for the purchase of open space; nine of 10 participants are in favor of purchasing more open space if it becomes available. In addition, passive recreation earned 45 percent of votes, with 40 percent voting for water/wildlife protection and tied at 40 percent for organized sports facilities.

*1. From time to time, as has been the custom, the Conservation Commission will submit a warrant item to Town Meeting to ask the Andover townspeople for an appropriation to purchase open space. It is important to be ready to purchase when a desirable parcel comes onto the market. There is strong support from the public to do so as the amount of open space **per capita is shrinking rapidly.***

This appropriation should also be included in the yearly five-year Capital Improvement Plan.

2. The Conservation Commission should assess Chapter 61 A and B parcels regarding acting upon “first right of refusal” before they come onto the market.

3. The Conservation Commission has created a “parcels of interest” list of unprotected open spaces, large and small, with view to purchase or to make Conservation Restrictions, and should dialogue with landowners before parcels come on the market. This list has already been approved by Town Meeting. Please see SECTION 9.

4. The Conservation Commission should consider partnering with AVIS, Trustees of Reservations, Essex County Greenbelt and similar groups to collaborate to purchase open space and/or protect with Conservation Restrictions. These collaborations can be leveraged with grants to do substantial protection work. Recently, 700 acres of land were protected permanently in three North Shore towns with the collaboration of several conservation entities over the course of several years.

D. Land Stewardship

GOAL The Conservation Commission should develop a land stewardship plan for the more than 2,000 acres under its control. A trained ecologist should be employed to develop a plan and to implement it.

In addition, the town needs a **paid ecologist** to make plans and to oversee the hundreds of open space parcels under the control of the Conservation Commission and to survey the health of forests, meadows, shoreline land, flora, fauna, insects and wildlife species, and the challenges created by invasives and global warming. There is great need to make plans for the 292 parcels, 81 reservation, of preserved open space under the protection of the Conservation Commission.

Stewardship Plans: The Commission should start with the largest major reservations to create stewardship plans keeping in mind wildlife and wetland corridors.

The Commission is encouraging the several dozen Overseers to look after “their reservations,” and to bring to the Commission’s Special Projects Manager any problems they are experiencing. The fine work of the Special Projects Manager and his dedicated team is to be commended for their work creating trails and boardwalks, which is so necessary to make the reservation accessible to all. Andover is well known for its fine trails systems including Bay Circuit and Penacook and Merrimack River trails.

It is important to strengthen and support the existing Overseer system for town-owned reservations. The Overseers need education in the ecology of “their reservations” and support.

“Days of Service”: the Commission should continue and widen the opportunities for “days of service” by volunteers from local industries employees, church groups, student groups and others who wish to work on the reservations for trail-building, cleanup and other needed chores.

E. Use the Capital Improvement Plan (CIP) for Appropriations

In the *Capital Improvement Plan FY 2018-FY 2022*, the Town Manager has requested \$12,000 each year and this should be supported.

GOAL To support the Capital Improvement Plan budget request each year.

F. Education/Mapping

Please see *The Open Space and Recreation Inventory Map 2017, the 16 by 24 inch map by Jeffrey Cary.*

The Town should educate the public about the Town-owned parcels under its control so as to encourage access and use. This is especially important on new reservations including Lightning Tree, in the southern part of town along Route 93, a site of several endangered species and including Meg's Trail along the river.

More substantial signage has gradually been going up to alert the public about the boundaries of reservations, important vistas and history, and the rules for passive recreational use.

With the advent of new mapping techniques since 2009, one can download maps for individual parcels on MIMAP, though the GIS system

Media use including a website, newsletter and cable TV shows are needed to educate the public about wildlife and town preservation issues, and the features of the reservations. *Something About Andover* is a public interest show produced at Andover High School that would offer opportunities to spotlight major reservations and reservation-based events, especially in collaboration with AVIS and other environmental groups.

The Andover Trails Guide fifth edition, produced by AVIS and Andover Trails Committee, is available for purchase around town. The who's who in Andover trails includes the Andover Trails Committee, AVIS, the Andover Conservation Commission, the Bay Circuit Alliance, Trustees of Reservations, Appalachian Mountain Club, Andover Historical Society, Historical Tours of Andover, Shawsheen River Greenway and Shawsheen River Watershed Association.

GOAL: To encourage greater use, the Conservation Commission should educate townspeople about the care and special features about the reservations that are owned by the Town under the care and custody of the Conservation Commission

More than half of the online survey respondents desired informational apps, scheduled programs, and clarified maps and signage.

They are also seeking information by town wide e-mails, open space apps, social media and brochures. They also are seeking hiking meet-ups, seasonal themed events, paddling events, scavenger hunts, geocaching and fishing derbies. Most are satisfied with parking at trailheads.

G. Community Garden

In 2016 Conservation Commission approved a demonstration Community Garden on the Virginia Hammond Reservation on High Plain Road. The original garden was for 6,460 square feet, (.15 acre) with 30 non-raised beds. A shed was built by a Boy Scout, parking pad put in and a waterline brought in. An escrow account was set up to be used for decommissioning when it is necessary. A deer fence has been built, plots set up and mulch put down between beds. A lottery system allocated plots to gardeners. Andover Community Garden, Inc. was incorporated as a 501 (c) 3. There has been great interest in the garden. In 2017, Andover Community Garden was granted permission by the Conservation Commission to expand the garden to .24 acres, 42 beds, thus adding 12 plots; all the beds will gradually become raised beds.

The Town of Andover Master Plan, 2012 Community Garden Policy

The Town of Andover specifically encourages community gardens within its borders. See more information about Community Garden policy and rules in the Appendix. The current policies outlined in the Master Plan and pertaining to gardens are as follows:

Goal OS-6 Community Gardens and Small Parks

The town should support the creation of community gardens in several neighborhoods across town, especially for people with disabilities, children, apartment dwellers, seniors and families.

OS.6.1. Continue to foster the Community Gardens program under the direction of a Master Gardener.

Create gardens specifically for seniors, people with disabilities, as well as an educational garden for high school students and other target populations.

- Utilize the PTO organizations for the public schools and small grants from the Commission on Disabilities, Andover Housing Authority and the Senior Council to help fund the Community Gardens.

Agriculture LU.2.3. Encourage the preservation of remaining farmland to ensure that future generations can enjoy Andover's agricultural heritage.

- Utilize the 2010 Open Space Plan (Conservation Commission) and the Master Plan to help guide the acquisition of farmland for preservation purposes.
- Encourage Community Gardens as a way to promote agriculture on a smaller scale.

- Promote regional and local agriculture to provide local food production, distribution, and access. Encourage citizen participation in food coops, community supported agriculture programs and farmers markets.

The online survey showed much interest in Community- Supported-Agriculture, (CSA) shares, in which members get a share of the harvest after earlier investing in the farmer’s materials. There is support for local farms.

H. Sustainability and Resiliency

More than 83 percent of the *Online Open Space and Recreation Survey* respondents agreed that climate change was “very important” or “somewhat important” .

GOAL Promote the concepts of sustainability and resilience when appropriate in update of local bylaws, rules and regulations of the Conservation Commission using information on climate change, river rise, changes in wildlife and vegetations patterns and energy needs. Use Resiliency/Climate Action tools when prioritizing purchase of open space
The Conservation Commission should consider sustainability/resilience/climate change when prioritizing the acquisition of open space using guidance from Mass Wildlife, Mass Audubon, Biomap and other similar organizations when making acquisitions.

These tools include:

1. Mapping and Prioritizing Parcels for Resilience (MAPPR) http://thecompact.net/wp-content/uploads/2016/02/MassAudubon_MAPPR_SMLTC_30Jan2016.pdf
2. Mass Wildlife Climate Action tool (<https://climateactiontool.org/content/protect-land-strategic-land-protection>) from UMass Amherst, which incorporates data from the following tools:
3. Biomap 2
4. Conservation Assessment and Prioritization System (CAPS)
5. Critical Linkages Phase II
6. TNC Northeast Resilience Analysis

Resources

[Biomap 2](#)

[Conservation Assessment and Prioritization System \(CAPS\)](#)

[Critical Linkages Phase II](#)

[TNC Northeast Resilience Analysis](#)

[MA Audubon's Mapping & Prioritizing Parcels for Resilience Project](#)

Losing Ground, By Mass Audubon

Released in June 2014, *Losing Ground: Planning for Resilience (Fifth Edition)* reports on the pace and patterns of land development and land protection in Massachusetts between 2005 and 2013. It includes the impacts of recent development and land protection on high value wildlife

These tools allow a community to focus land acquisition on properties that help address risks that will affect their community, and to do so within the State's overall planning context, which directs grant priorities and other support

I. The Trail System

Bay Circuit Trail System

Goals The Bay Circuit Trail (BCT) through Andover: to continue to build connections

The Conservation Commission, through leadership of the Special Projects Manager Bob Decelle, obtained in 2016 a \$6,000 grant from Appalachian Mountain Club to construct a boardwalk from the middle of the Bellevue Reservation to the Tewksbury/Andover Town line. It will connect to the trail system AMC is creating in that town. It will be an extension of the Bay Circuit Trail (BCT) that will eventually reach through Billerica and Bedford. This money has been awarded and construction started in 2017.

2. Special Projects Manager Bob Decelle has also written a \$19,000 grant from the Recreational Trails Program of the MA Department of Community Resources for the construction of an additional raised boardwalk from Bellevue Road to an upland area on the Bellevue Reservation, which will connect to the part of the Bay Circuit Trail that is built to the Tewksbury line.

Goal: The town should strengthen the extensive trail system throughout town to connect neighborhoods and schools, and to encourage connections to abutting open space. This is especially important when new developments are planned, and when land is to be given to the Town, AVIS or to an organization dedicated to protecting open space with access for all.

GOAL: Andover Trails Committee should continue to encourage a volunteer network to keep trails clear and safe, and to create more trails, especially linkages among

neighborhoods.

GOAL: Build a suspended walkway under the Route 93 leading to the Sanborn and Lightning Tree reservations.

GOAL: Build a bridge over the Shawsheen River.

Goals: There is a great desire for more walking trails, bike trails and trails connecting neighborhoods. Many townspeople also seek more sidewalks and want to walk to schools, according to the *Online Open Space and Recreation Survey*.

J. Active Recreation

GOALS from Capital Improvement Plan FY 2018-FY 2022

1. Penguin Park

In 2015 a portion of the park's equipment was replaced, including new swings and structures. Funds are requested to replace the remaining equipment with new. This will complete the park **Goal: to support \$75,000 for Penguin in FY18.**

2. Lower Shawsheen Playground

The Lower Shawsheen Playground and park are in need of updating to comply with safety standards and the ADA. The play structures are old and showing signs of wear. The layout of the park requires improvements for accessibility. Funds will be released in FY19 to bring the equipment and layout of the park into compliance.

GOAL: to support \$200,000 for the Lower Shawsheen Playground in FY19

3. Indian Ridge Playground

This playground on Cuba Street is very old and little has been done to update the play structures and the park as a whole. Funds will be requested in FY20 to update the equipment and to improve the park layout to bring both into compliance with safety standards and the ADA. **GOAL: to support \$400,000 for the Indian Ridge Playground in FY20**

4. Ballardvale Playground

At the 2012 and 2014 Town Meetings funds were appropriated to design and begin construction of the Ballardvale Playground as a to-phase process. The first phase was for the design and replacement of all playground equipment and walkways, and was completed in 2015. In addition to the funds that were appropriated in 2012, the neighborhood raised \$30,000 to purchase and to construct the gazebo. The second phase will address the ball field and basketball court as well as the fencing.

GOAL: to support \$250,000 for the Ballardvale Playground, Phase 2 in FY21

5. West Andover Playground

Plant and Facilities would like to look at the possibility of building a playground in West Andover area of town. Currently there is not a public playground that families can walk

to in the area. **GOAL: to support \$75,000 or \$200,000.**

Other Recreation Goals

6. *Establish and/or refurbish boat launch sites on the Merrimack and Shawsheen rivers.*

7. Maintain current sports fields, seek new sports fields and multiuse parks. To assist with playing fields scheduling, expand playing fields hours. To give access to more field time, there is a proposal to permit sports teams to use the playing fields for more hours than has been the custom. This could be realized by using the fields for extended periods of time including into the evening hours with the use of permanent or temporary field lighting.

8. Support on-road and off-road biking for recreation and for commuting to work and school.

9. Make improvements to the recreation parcels and buildings under the control of the Recreation Division as recommended in SECTION 7, Community Needs. A priority list should be created and many of the improvements should be funded through the Capital Improvement Plan process.

10. Plan and create a spray/splash park for children to cool off. Include this proposal in the Capital Improvement Plan.

About a half of respondents sought more sports fields and about one third were seeking more boating and fishing access on the Online Open Space and Recreation Survey 2017.

K. Increase the Reservations and Parks Accessible to People with Disabilities

GOAL: To increase the enjoyment of Town reservations by people with disabilities

1. Design and build up to the new ADA standards the Lowell and Lawrence Railroad Reservation by Haggetts Pond, including preparing the trail properly, many benches, and a fishing site on the peninsular.

2. Plan and build accessible parking, walkways, picnic table, viewing sites and other structures at the Merrimack River Reservation behind the Greater Lawrence Technical School when access is permanent.

3. *Design and rebuild five accessible playground/s at Penguin Park, Lower Shawsheen, Indian Ridge, Ballardvale Playground Phase 2, and West Andover playgrounds. FY2018-FY 2022 Capital Improvement Plan.*

L. Conservation Restrictions

There are a number of Conservation Restrictions that the Town holds that have not been approved by Massachusetts Office of Energy and Environmental Affairs (formerly Irene Del Bono and Martha Reichert) and have not been filed at the Registry. These need to be put in order and filed at the Registry.

The **Agricultural Preservation Restriction** on the former Dargoonian farmland off Chandler Road, has been held by the State/DCR for decades. Bringing the APR under the control of the Town is wise. The Dargoonian Farm was sold to an LLC in Tewksbury in 2018.

GOAL A goal is to file all remaining Conservation Restrictions with the Registry after State approval.

M. State Scenic Vistas

The Conservation Commission also nominated the Shawsheen River, the Skug River, and Fish Brook as scenic rivers, but these were not included in the inventory. However, the town and AVIS have been vigorous in protecting their shores by acquiring open space parcels along them.

GOAL The Conservation Commission should seek protection of the above three waterways by *Scenic Rivers* designation. See SECTION 4

GOAL The state and town should work together to designate the Harold Parker roads as scenic. See SECTION 4

N. Deer Hunting

Goals:

1. Stabilize or bring the deer population down to levels that are within the carrying capacity of the forests on the properties that are open to hunting.
2. Continue working with Mass-Wildlife to change state regulations so that bow-hunting programs can be more effective.
3. Work with private landowners, Conservation and AVIS to open up more land for bow hunting.

O. Create a Child-Centered Natural Playground for Children

About four-fifths of the respondents to the *Online Open Space and Recreation Survey in 2017* were looking for “a child-centered natural playground.”

A village of fairies have settled in the Andover Fairy Forest in Penguin Park.

P. The Community Preservation Act

Although it has been defeated at Town Meeting and at the polls twice, about three-fourths of the online survey respondents advocate for another CPA vote/campaign.

Surely they are looking at all the good works accomplished by our neighbors using Town money (as much as 3 percent tax) and matching state registry funds for passive open space, sports fields, affordable housing and historic preservation. The uses to which CPA money can be put have expanded over the years.

Parcels for purchase as approved by vote of 2014 Town Meeting

These are not rank-ordered. Other desirable parcels could also be purchased with the preceding goals as guidance.

Assessors Map	Lot	Address	Acreage
183	11	83 Lowell Junction Road	3.08
123	30	25 Willard Circle	1.48
123	31	23 Willard Circle	.90
125	2	57R River Rd.	7.80
184	3	1320 South St.	20.00

This parcel was purchased by AVIS and a farmer. The Town declined to purchase. The AVIS parcel abuts the Town’s Lightning Tree Reservation

211	4	12 Woodland Rd.	35.46
24	7	22 Woodland Rd.	24.60
24	8	28 Woodland Rd.	9.40
24	9	Woodland Road	8.93
24	10	Woodland Road	7.67
25	12	50 Woodland Road	14.67
25	30	74 Salem St.	18.00
25	44	Route 125	1.88
25	45	Route 125	10.60
25	45A	Route 125	3.56
95	1	141 Abbot St.	53.04
229	5A	445 River Rd.	6.00
229	5	459 River Rd.	69.00
228	4	River Road	7.80

SECTION 9 – SEVEN YEAR ACTION PLAN

Foundation for the Seven Year Action Plan

This section uses as its foundation the goals and objectives from Section 8. It builds upon the inventories of lands, both public and private, in Section 5, a broad statement of open space and recreation goals in Section 6 and the analyses of community needs for resource protection, community and management needs in Section 7. The timeline extends for the seven years, 2017-2024.

Sources of information

The sources are the survey: *The Open Space and Recreation Online Survey* with 1501 respondents and the scholarly surveys in 2012 by the University of Lowell and Merrimack College referenced in SECTION 2

Funding to Accomplish Stated Goals

This *Open Space and Recreation Plan 2018* has been written to allow Andover to apply to participate in the rounds for EOEEA grants and Federal EPA Land and Water grants for open space, and recreational grants. Thus, some of the money needed to accomplish these goals would be underwritten by the Commonwealth of Massachusetts and the EPA as grants.

From time to time, as has long been the custom, the Conservation Commission should submit a warrant item to Town Meeting to ask the Andover townspeople for an appropriation to purchase open space. This should continue. It is important to be ready to purchase quickly when a desirable parcel becomes comes onto the market.

The Andover Recreation Department may also wish to purchase recreation land. These should be included in the yearly five-year Capital Improvement Plan and Warrant Articles.

In addition, the Conservation Commission could use the state EOEEA grant funds and the Town Meeting appropriations to leverage matching funds from foundations that underwrite the acquisition of open space and recreation land. The Town of Bedford has a notable model for this.

A. GOAL: Protection of the Merrimack River

Seven Year Action Plan 2018-2025

Protection of the Merrimack River: Merrimack River Reservation

The Town should acquire unrestricted access to the land-locked Merrimack River Reservation, a ten-acre parcel that the Town has owned for more than four decades.

When access is granted to the public to the Merrimack River Reservation, then a PARC or other grant from EOEEA or other grants will be written to fund repairs leading to water borne recreation, trails, parking, scenic viewing, fishing and amenities for people with disabilities so as to be ADA compliant. It is important that the needs of economic injustice populations be considered with multi-language signage. The hiking trail leads east into neighboring City of Lawrence.

Sources of Funding for creating necessary modification and ADA compliance:

Massachusetts EOEEA/EEA PARC matching reimbursable grants
Recreational Trails Program of DCR for the construction of trails
Federal grants associated with protection of riverfronts; EPA grant
County-based grants: Essex County Greenbelt Association,
Town Meeting appropriations

Involvement: Board of Selectmen, Conservation Commission, Commission on Disabilities, Merrimack River Watershed Association, Merrimack Valley Planning Commission, AVIS, Andover Trails Committee, Essex County Greenbelt Association

Protection of the Merrimack River/AVIS purchase: AVIS purchased 26.6 acres of the former Franciscan land along the Merrimack River in April 2017 with the help of donors and a matching Conservation Partnership Grant from EOEEA In the future AVIS will purchase a second former Franciscan parcel, an eight-acre parcel along the Merrimack River with the help of donors and possibly a second matching Conservation Partnership Grant. George Behrakis has donated six acres for a new reservation, the Behrakis Reservation, along the Merrimack abutting Spalding Reservation.

B. GOAL: Protection of the Shawsheen River

Seven Year Action Plan, 2018-2025

Shawsheen River: the Town or AVIS or other nonprofit organizations should seek to acquire in fee or protect with Conservation Restrictions as many as possible of the riverfront parcels from Lawrence to the Tewksbury lines.

The Town should support the construction of the Shawsheen River Greenway the entire length of the Shawsheen River from Lawrence to Tewksbury lines. Portions should be accessible to people with disabilities. The Town should provide for both active and passive recreation sites: playing fields, picnic sites, scenic viewing areas, fishing, and boat ramps for canoeing and kayaking.

In the southern part of town near Route 93 it is important to preserve the oxbow Shawsheen riverfront, the wetlands and areas for the *Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife*.

Involvement: The Shawsheen River Greenway organization, Board of Selectmen, Conservation Commission, Planning Board, Historic Mill District committee, AVIS, Recreation Department, Andover Disability Commission, Andover Trails Committee, other Town Departments, Bay Circuit Alliance, Shawsheen Watershed Association

Timeline: 2018-2025.

Sources of Funding

Massachusetts EOEEA LAND and PARC recreation matching reimbursable grants
Recreational Trails Program of DCR for the construction of boardwalk

Federal grants associated with protection of riverfronts

County-based grants: Essex County Greenbelt Association, Town Meeting appropriations

C. GOAL: Purchase Land Parcels Approved by Town Meeting

Seven Year Action Plan 2018-2025

The Conservation Commission has created a list of unprotected open spaces, large and small, with view to purchase in fee. This list has been approved by Town Meeting 2014. The Commission should dialogue with landowners before parcels come on the market if possible. These parcels include wetlands, abutting open space and wildlife corridors and property that enhances other community resources.

These are not rank-ordered. Other desirable parcels could also be purchased with the preceding goals as guidance. All of these properties are adjacent to existing Conservation or Recreation

open space, near a river or the Town's drinking water supply and will serve some other vital Conservation or Recreation purposes.

Assessors Map	Lot	Address	Acreage
183	11	83 Lowell Junction Road	3.08
123	30	25 Willard Circle	1.48
123	31	23 Willard Circle	.90
125	2	57R River Rd.	7.80
184	3	1320 South St.	20.00

Has been purchased by AVIS.

211	4	12 Woodland Rd.	35.46
24	7	22 Woodland Rd.	24.60
24	8	28 Woodland Rd.	9.40
24	9	Woodland Road	8.93
24	10	Woodland Road	7.67
25	12	50 Woodland Road	14.67
25	30	74 Salem St.	18.00
25	44	Route 125	1.88
25	45	Route 125	10.60
25	45A	Route 125	3.56
95	1	141 Abbot St.	53.04
229	5A	445 River Rd.	6.00
229	5	459 River Rd.	69.00

Of the Franciscan parcel 26.6 acres were sold to AVIS, with another parcel to be purchased in the future by AVIS and seven acres given to the Conservation Commission as protected open space.

228	4	River Road	7.80
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In addition, the Conservation Commission should protect land around Great Ponds and significant water bodies for recreational and open space reasons. The Commission should negotiate with owners to purchase when parcels become available.

Sources of funding:

Massachusetts EOEEA LAND and PARC recreation matching reimbursable grants
 Federal grants associated with protection of riverfronts
 County-based grants: Essex County Greenbelt Association
 Town Meeting appropriations

D. GOAL: GLOBAL WARMING AND CLIMATE CHANGE should guide open space decisions

Seven Year Action Plan 2018-2025

The Commission should use Climate Change/ Action tools when prioritizing purchase of open space and guiding its management. It should use guidance from Mass Wildlife, Mass Audubon, Biomap and other similar organizations scientific organizations.

It should develop policies, incorporating best practices regarding the issues of global warming, river-level rise, vegetation management, land purchase, greenhouse gas decrease, energy decrease and other matters as it relates to the mandate of protection of the wetlands and open space as its mission

In May 2018, the Town applied for a Municipal Vulnerability Protection Planning Grant (MVP) to assess vulnerabilities due to climate change and global warming, and to propose solutions to these challenges. After becoming a MVP community, the Town will be applying for MVP ACTION Grants to deal with these challenges especially flooding problems

These tools include:

1. Mapping and Prioritizing Parcels for Resilience (MAPPR)

http://thecompact.net/wp-content/uploads/2016/02/MassAudubon_MAPPR_SMLTC_30Jan2016.pdf

2. Mass Wildlife Climate Action tool (<https://climateactiontool.org/content/protect-land-strategic-land-protection>). <https://climateactiontool.org/> from UMass Amherst Mass Wildlife Climate Action tool (<https://climateactiontool.org/content/protect-land-strategic-land-protection>) from UMass Amherst, which incorporates data from the following tools:

Biomap 2

Conservation Assessment and Prioritization System (CAPS)

Critical Linkages Phase II

TNC Northeast Resilience Analysis

These tools allow a community to focus land acquisition on properties that help address risks that will affect their community, and to do so within the State's overall planning context, which directs grant priorities and other support.

E. GOAL: Land Stewardship Plan

Seven Year Action Plan 2018-2025

The Conservation Commission should develop a Land Stewardship Plan for the more than 2082.89 acres and 292 parcels under its control.

The goal of the Land Stewardship Plan is to make comprehensive Town-wide plans for the health of forests including strategies to address burgeoning invasive plants and insects, poor forest regeneration, optimal deer harvests, habitat improvement, including transition to meadow where forest regeneration is poor, and scientifically based species monitoring. To make it comprehensive the Plan should also take into consideration the holdings of The Trustees of Reservations, AVIS, Harold Parker State Forest and others.

1. The Town needs a paid trained ecologist to assess and oversee those 2,082.89 acres of open space parcels under the ownership of the citizens of Town and under the control of the Conservation Commission. That ecologist/scientist should be well versed in remote sensing techniques and GIS to create scientific inventories and habitat demarcation. “It is important to see the forest through the trees.”

Sources of Funding

Governor Baker has recently set up a state Stewardship Team who may be able to advise on this element. The Town should seek funding to acquire an expert to help create a Land Stewardship Plan.

Involvement: Conservation Commission, Town Manager, Board of Selectmen, AVIS, TTOR, Harold Parker State Forest managers.

2. A separate Management Plan needs to be written to include specific accommodations for use by people with disabilities, especially at the reservations to be acquired in the future.

Conservation Commission, Special Projects Manager and Andover Disability Commission.

3. The Commission also needs to continue to support budget allocations through the CIP process for trails and boardwalks on the reservations.

Line item in *Capital Improvement Plan*, the Town Manager’s budget, Town Meeting approval.

F. GOAL: Education

Seven Year Action Plan, 2018-2025

1. The Town and the Commission should educate the public about the unique and desirable features about the reservations under its control so as to encourage use and enjoyment using the town website, an electronic newspaper, forums, television, the press and social media.

2. More maps, kiosks, fences and signage are needed to inform the public.

3. There should be more events on the reservations to highlight their singular nature.

There are plans to create a fishing derby on Dug Pond.

The Andover Fairies have moved onto Conservation Commission land. They live in the woods behind Penguin soccer field, officially The Andover Fairy Forest. There are 22 homes as well as a fairy school, a wishing wall, a mailbox (and the fairies write back to kids who leave their address) and Edwin the Gnome's workshop. There was a fairy house class in fall 2017 and there will be more, as well as seasonal festivals for families- the winter one is coming up Friday December 8.

There are plans to create hikes with focus on photography, unique flora fauna, early history of farming and sites of the Native Americans, particularly focused on the Retelle Reservation and the ancient quarry off Jenkins Road.

4.. The Commission should continue to collaborate with community-action groups including AVIS, Trustees of Reservations, Shawsheen River Watershed, Scouts, church members, school groups, educational groups, Non Sibi students from Phillips Academy, businesses and industrial groups that do “days of service” to enlist assistance to create more signage for reservations, to put up fences, to create trails, boardwalks, and bird houses, and to enhance vistas so as to make open spaces inviting and accessible to the public.

Involvement: Conservation Commission, Special Projects Manager of the Conservation Commission, Land Group members, Overseers, and Andover’s GPS coordinator.

Source of Funding:

Much can be accomplished by volunteers directed by the Commission and the Overseers.

G. GOALS: Promote Active Recreation

Seven Year Action Plan, 2018-2025

Andover Recreation Department and Ballardvale Historic Commission. Timeline: 2018-2021

1. Maintain current sports fields, seek new sports fields and multiuse parks. To assist with playing fields scheduling, expand playing fields hours, including into the evening hours with the use of permanent or temporary field lighting.

2. Make improvements and ADA compliance upgrades to the recreation parcels and buildings under the control of the Recreation Division as recommended in SECTION 7, Community Needs. A priority list should be created and many of the improvements should be funded through the Capital Improvement Plan process.

3. Rebuild the parks listed in the 2017-2021 CIP, Recreation Division, Town Meeting appropriations (CIP) GOALS from *Capital Improvement Plan FY 2018-FY 202*

2. FY 18 Penguin Park

In 2015 a portion of the park's equipment was replaced, including new swings and structures. Funds are requested to replace the remaining equipment with new. This will complete the park Goal: to support \$75,000 for Penguin in FY18.

3. FY 19 Lower Shawsheen Playground

The Lower Shawsheen Playground and park are in need of updating to comply with safety standards and the ADA. The play structures are old and showing signs of wear. The layout of the park requires improvements for accessibility. Funds will be released in FY19 to bring the equipment and layout of the park into compliance.

GOAL: to support \$200,000 for the Lower Shawsheen Playground in FY19

4. FY 20. Indian Ridge Playground

This playground on Cuba Street is very old and little has been done to update the play structures and the park as a whole. Funds will be requested in FY20 to update the equipment and to improve the park layout to bring both into compliance with safety standards and the ADA. GOAL: to support \$400,000 for the Indian Ridge Playground in FY20

5. FY21 Ballardvale Playground

At the 2012 and 2014 Town Meetings funds were appropriated to design and begin construction of the Ballardvale Playground as a to-phase process. The first phase was for the design and replacement of all playground equipment and walkways, and was completed in 2015. In addition to the funds that were appropriated in 2012, the neighborhood raised \$30,000 to purchase and to construct the gazebo. The second phase will address the ball field and basketball court as well as the fencing. GOAL: to support \$250,000 for the Ballardvale Playground, Phase 2 in FY21

6. West Andover Playground

Plant and Facilities would like to look at the possibility of building a playground in West Andover area of town. Currently there is not a public playground that families can walk to in the area. GOAL: to support \$75,000 or \$200,000.

7. Create “pocket parks,”

These are small parks in dense neighborhoods throughout town. Plan and create a spray/splash park for children to cool off. Include this proposal in the Capital Improvement Plan.

8. Baseball diamond at Ballardvale

The playground part of the Ballardvale Park has been reconstructed with ADA compliant access. The baseball diamond needs to be done.

9. Support the Shawsheen River Greenway, plus bridges.

10. Establish/refurbish boat launch sites on the Merrimack and Shawsheen rivers.

11. Support on-road and off-road biking for recreation and for commuting to work and school.

12. Build a suspended walkway under RT. 93 to Sanborn and Lightning Tree reservations.

Sources of Funding:

Capital Improvement Program appropriations

Massachusetts EOEEA PARC grants to create more active recreation fields

Private donations from sports supporters

State and federal funds may be available to build the Shawsheen River Greenway

Involvement: Department of Community Services; Board of Selectmen, Town Meeting

H. GOAL: Increase the Reservations and Parks Accessible to People with Disabilities

Seven Year Action Plan 2018-2025

Increase the use and enjoyment of Town reservations by people with disabilities

The Commission plans to prepare a grant to get expert help to analyze all reservations for access by people with disabilities and then to prepare grants and seek Town appropriations to fund the creation of ADA-compliant reservations soon.

1. Design and build with the Americans with Disabilities (ADA) standards the Lawrence and Lowell Railway Reservation by Haggetts Pond.
2. Plan and build ADA-compliant walkways, parking, picnic table, viewing sites, fishing sites and other structures at the Merrimack River Reservation behind the Greater Lawrence Technical School.
3. Design and re build five accessible playground/s at Penguin Park, Lower Shawheen, Indian Ridge, Ballardvale Playground Phase 2, and West Andover playgrounds. They are in FY2018-FY 2022 Capital Improvement Plan.

Involvement: Department of Community Services, Recreation Division, Commission on Disabilities, Town Departments

Sources of Funding:

Town Playgrounds Replacements budget item in the Capital Improvement Program Warrant articles at Town Meeting, state grants in collaboration with other departments including the Conservation Commission at times.

I. GOAL: Include the needs of Economic Justice Populations in planning, access and acquisition of new reservations

Seven Year Action Plan 2018-2025

See the previous discussion in other sections. Consider plans for amenities for Merrimack River Reservation within the area of Economic Justice Populations, with proposed water sports, fishing sites, amenities, educational kiosks, signage in several languages, trails and viewing areas to help meet needs.

The reservation is on the Penacook and Merrimack trails leading to neighboring Lawrence with substantial EJP folks.

Involvement: Department of Community Services, Recreation Division, Conservation Commission, Town departments.

J. GOAL: Support and Increase the Deer Hunt Program

Seven-Year Action Plan 2018-2025

1. Bring down the deer population down to levels that are within the carrying capacity of the forests on the properties that are open to hunting.
2. Continue working with Mass-Wildlife to change state regulations so that bow-hunting programs can be more effective.
3. Work with private landowners, Conservation Commission and AVIS to open up more reservations to bow hunting.

Funding- none required.

Involvement: Conservation Commission with the Deer Hunting Program Manager

K. GOAL: Strengthen the Trail System

Seven Year Action Plan 2018-2025

The town should strengthen the extensive trail system throughout town to connect neighborhoods and schools, and to encourage connections to abutting open space when new developments are planned.

Encourage and strengthen the volunteer network of Overseers and other volunteers to keep trails clear and safe, and to create more.

1. When new developments are planned connections among neighborhoods and open space reservations should be encouraged, as has been the policy of the Planning Board.

Planning Board, Andover Trails Committee and AVIS.

2. Please see the extensive trail plan and recommendations for the future in the Appendix and previous SECTIONS, including the Bay Circuit Alliance.

3. Strengthen the role of the Overseers of the town-owned reservations (and the Wardens of the AVIS reservations) through education and support. Encourage work parties for trail blazing/ maintenance, and explore a policy of “adoption” of some Conservation Commission parcels by designated groups, such as Scouts. Conservation Commission, Planning Board, AVIS, Andover Trails Committee, Trustees of Reservations, Shawsheen River Watershed, Overseers and Wardens,

Merrimack River Watershed Association, Bay Circuit Alliance, Trustees of Reservations, industries, Phillips Academy students doing Non Sibi projects and church groups doing Days of Service and other volunteers to create those trails to connect neighborhoods, villages, schools, downtown center and the Bay Circuit network.

Sources of Funding

Massachusetts DCS *Recreational Trails Program* for the construction of trails and boardwalks

Yearly appropriations from Capital Improvement Plan for land management

Involvement: Planning Department, Planning Board, Andover Trails Committee, Conservation Commission, environmental organizations.

L. GOAL: Community Garden

Seven Year Action Plan 2018-2025

The Conservation Commission should continue to support the Community Garden on High Plain Road and to help it grow. In addition, the Town should encourage the creation of several neighborhood gardens across town, especially for people with disabilities, children, apartment dwellers, seniors and families.

The Town should continue support for the weekly farmers market in season.

1. Under the direction of Ann Knowles and her Board, the first community garden was created in 2016 on 1/10 of an acre on the Virginia Hammond Reservation on High Plain Rd. Following a successful summer, the Community Garden Board petitioned for a small increase in size and was granted more land for less than a dozen more plots plus the ability to have raised beds. One raised bed is waist height to accommodate a person with mobility issues.

There is a small raised garden for seniors with accommodations for people with disabilities at the Center at Punchard and an educational garden for high school students on site. Several schools have vegetable gardens. Plans include several pocket gardens around the Town.

2. The weekly farmers market in season at the Andover Historical Society brings buyers and farmers together for the purpose of nutrition, financial benefit, protection of the environment and prudent use of resources. The Town should encourage its continuation with support and publicity.

Sources of Funding

The Community Garden relies on a combination of fundraising and plot fees to continue to expand and improve the garden. The fundraising includes in-kind gifts from the Boy Scouts, such as the shed and the compost bins, and the Department of Municipal Services. School gardens have their own funding.

Involvement: Andover Community Garden Board, Conservation Commission, Senior Council/Council on Aging, School Department, Commission on Disabilities, Andover Historical Society, local garden clubs and relevant Town departments.



Andrew P. Flanagan
Town Manager

TOWN OF ANDOVER

Town Manager's Office
36 Bartlet Street
Andover, MA 01810
(978) 623-8215
www.andoverma.gov

November 21, 2017

Melissa Cryan
Executive Office of Energy and Environmental Affairs
One Ashburton Place
Boston, MA 02108

Dear Ms. Cryan:

I am pleased to endorse the 2018 Open Space and Recreation Plan prepared by the Andover Conservation Commission on behalf of the Town of Andover, Massachusetts.

Very truly yours,

Andrew P. Flanagan
Town Manager

JSM/cmb



June 26, 2017

Ms Melissa Cryan
Grants Manager
Executive Office of Energy and Environmental Affairs
100 Cambridge Street Suite 900
Boston, MA 02114

RE: Andover Open Space Master Plan

Dear Ms. Cryan:

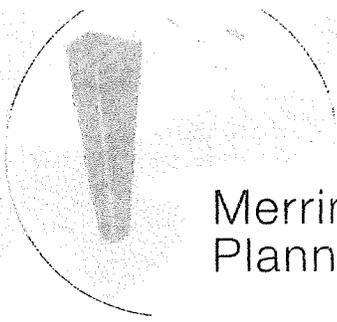
On behalf of the Andover Planning Board, I am happy to report that a regularly scheduled public meeting on June 13, 2017, the Board voted to unanimously support the 2017 Open Space & Recreation Plan, as prepared by the Conservation Commission. During the meeting, representatives from the Conservation Commission provided a detailed overview of their public engagement process, strategic findings and discussed next steps for implementation of the Open Space & Recreation Master Plan.

Please feel free to contact my office should you like to discuss the Board's action in more detail.

Sincerely,

Paul Materazzo
Director of Planning

CC: Robert Douglas, Director of Conservation



Merrimack Valley
Planning Commission

June 28th, 2017

Alix Driscoll
Andover Conservation Commission

Robert Douglas
Andover Director of Conservation
Town Hall
Andover, MA 01810

Re: Andover Open Space & Recreation Plan 2017 Update

Dear Commissioner Driscoll and Mr. Douglas:

The Merrimack Valley Planning Commission has reviewed the most recent draft of the 2017 update to the Andover Open Space and Recreation Plan prepared by your planning committee.

You and all who participated in the plan update are to be commended for the year-long effort undertaken in community outreach and reassessment of priorities for open space, active recreation facilities and natural resource protection. Particularly noteworthy is the high community response rate to your Spring 2017 survey and even more impressive is the documentation as noted in Section 2 of the many accomplishments in open space acquisition and management made by Andover since the 2009 plan. You have been busy and your efforts have made significant contributions to the Town and the Merrimack Valley region.

Based on our review, the plan update incorporates all required plan elements. One clarification to note and consider is to include with the open space inventory map identification and geographic depiction of action plan projects.

MVPC is fully supportive of the plan implementation goals and strategies which are consistent with both the Merrimack Valley Region Priority Growth Strategy and the Regional Multi-Hazard Mitigation Plan 2016 Update adopted by the Town and approved by FEMA.

We look forward to continued working with the Town in the years ahead in acting on plan recommendations. Thank you again for your work and please contact me at (978)374-0519 x16 if we at MVPC can be of any further help.

Sincerely,


Joseph M. Cosgrove
Environmental Program Manager

100 Middle Street, Lawrence, MA 01840

Phone: (978) 686-1111 • Fax: (978) 686-1110

Serving the communities of

Andover, Andover, Roxbury, Georgetown, Groveland, Doverhill, Lawrence, Merrimack, Methuen,
Newbury, Newburyport, North Andover, Rowley, Salisbury, West Newbury

THE TOWN OF ANDOVER

PUBLIC NOTICE

AMERICANS WITH DISABILITIES ACT

The Town of Andover, including the Andover Public Schools, does not discriminate on the basis of disability in any employment-related areas, nor in the admission or access to its services, programs, or activities. It is the Town's policy that no individuals, solely by reason of their disability, be excluded from the opportunity to participate in, or reap the benefits of, programs and services offered by the Town of Andover.

Upon Request, the Town's ADA Coordinator will make available information concerning the Town's ADA policies, practices, procedures and transition plan.

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

Candace Hall, Director of Human Resources
36 Bartlet Street
Andover, MA 01810
978/623-8530 (phone)
978/623-8536 (fax)
978/623-8333 (TDD)

Upon request, copies of this notice are available in alternate print formats: large print, audiotape, Braille, computer disc. etc.

I. Employment

A. Reasonable Accommodation Policy

It is the policy of the Town of Andover, including Andover Public Schools, that no otherwise qualified individual with a disability shall, solely by reason of his/her disability, be excluded from employment at the Town of Andover. Employment review and hiring will be based on the employee/prospective employee's ability to perform what the Town of Andover determines to be the essential functions of a job.

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

Further, it is the policy of the Town of Andover that reasonable accommodation shall be offered for any qualified applicant with a disability, unless the Town of Andover can demonstrate that the accommodation imposes an undue financial or administrative hardship on the operation of its programs.

The policies for reasonable accommodation are applicable during the pre-employment process, which includes, though not exclusively, the application and interview process.

Requests for reasonable accommodation should be made during the post employment offer meeting with the prospective employee. Requests should be documented. A decision regarding reasonable accommodation requests shall be made within three days of the request. The need for further accommodations will be assessed as needed. Current employees seeking reasonable accommodations should make the request to their immediate supervisor. A decision regarding the request will be made within ten working days. Any requests for reasonable accommodations must also be given to the ADA coordinator.

The final decision concerning whether a request for an accommodation is an undue financial or administrative hardship is made by the Executive Director in discussion with the Board of Directors. Aggrieved applicants have the right to appeal as per our written appeals process. If either a current employee or prospective employee chooses to make a grievance upon the denial of a reasonable accommodation request the grievance procedure should be followed.

EMPLOYMENT/PRE-EMPLOYMENT CRITERIA

The Town of Andover, including the Andover Public Schools, shall offer the same rights and opportunities to all qualified employees. This includes, though not exclusively, benefits and training, travel, and promotion opportunities.

The Town of Andover shall not make any pre-employment test or other selection criteria that screen out or tends to screen out individuals with disabilities. To this end essential job functions are delineated from marginal job functions.

The Town of Andover shall not make any pre-employment inquiry or conduct a pre-employment medical examination of an applicant to determine whether the applicant is an individual with a disability or the nature or severity of the disability.

The Town of Andover will ask no questions of applicants, prior to employment, related to disability and no such questions shall appear on any written application form it may use. No medical examinations shall be required for prospective employees unless such is a bonafide necessity for the position in question and in such instances as this may pertain; no medical examination shall be required prior to a conditional offer of employment having been made. All pertinent medical information obtained in such instances shall be maintained in a locked separate file and shall be available only to supervisory personnel and certain others who can be determined and documented to have a legitimate need for the information. A written record of who these individuals are, in relation to each case, will be maintained.

The Town of Andover may, however, make pre-employment inquiries to an applicant's ability to perform job-related functions. In this context the employee will be given a clear description of essential job functions.

All job selection criteria and/or tests that may be utilized will be examined to ensure that they reflect only bonafide, job-related qualifications and do not tend to screen out otherwise qualified persons with disabilities will be sought and engaged.

Regional Trail Projects of Special Consideration

1, The Bay Circuit Program

Andover shares with more than 50 communities' designation as a "Bay Circuit Community," a corridor roughly occupying the space between Interstate 495 and Route 128. The Bay Circuit is both a system of open space and a recreational trail network linking communities surrounding metropolitan Boston. (See Figure 3-2, *Andover's Bay Circuit Trail*.)

The primary objective of the Bay Circuit program, established by the Massachusetts Department of Environmental Management in 1984 is:

"To establish a system of privately and publically owned open spaces, including parks, forests, reservoirs and wildlife preserves, scenic and historic sites and other properties and reservations surrounding Metropolitan Boston; connected by designated roads trails, waterways stopping stations and paths of various kinds, highlighted by appropriate markers, signs and educational notations."

The Bay Circuit program has evolved into a public/private partnership with local volunteers working in cooperation with private conservation organizations, federal, municipal, and state agencies. Andover's Conservation and Recreation Plan supported Massachusetts Bay Circuit Funding, and the updated 1989 Plan, specifically addressed Andover's Bay Circuit planning and outlined a strategy for linking Andover's open space resources with both its Merrimack Valley neighbors and the wider Bay Circuit community.

Andover's Bay Circuit Corridor

Andover's primary regional open space strategy was embodied in Section VI of the 1986 and 1989 Conservation and Recreation plans. In 1992 Andover dedicated its section of the Bay Circuit Trail, approximately 16 miles running from Harold Parker State Forest in North Andover to Andover's border with Tewksbury on the Merrimack River. Andover's Bay Circuit Trail route links seven Andover Village Improvement Society (AVIS) reservations, numerous town Conservation Commission properties, two state forests, and private lands belonging to Phillips Academy and the West Parish Cemetery. The Bay Circuit Trail connects to and shares a Merrimack River section with another long distance recreational trail, the Merrimack River Trail, which runs from Plum Island, Newburyport, to the New Hampshire/Massachusetts line in Tyngsboro. Even before the Bay Circuit initiative, Andover had moved strongly to protect open space as evidenced by more than 5,000 acres of open space that have been protected through acquisition or easement by private and public agencies.

There are five Bay Circuit corridors in Andover that can be described as follows:
(See Figure 3-3, *Andover's Bay Circuit Corridors*):

1. Merrimack River Corridor

The Merrimack connects Andover to Tewksbury, Lowell, and the Concord River towns to the west as well as to North Andover, Boxford, Rowley, and Newbury to the east.

2. Shawsheen River Corridor

The Shawsheen connects Andover to Tewksbury, Billerica and Bedford to the west as well as to Lawrence, North Andover and the Merrimack River on the northeast. It also intersects the old Middlesex Canal in Billerica making connections to Wilmington and to the Concord River in Billerica.

3. Skug River – Martin's Brook – Ipswich River Corridor

The Skug River arises in North Andover and Andover, crosses Harold Parker State Forest, and flows into North Reading into Martin's Pond. The outlet of Martin's Pond – Martin's Brook – loops into Wilmington, then comes back to North Reading and enters the Ipswich River, making connections with the Ipswich River towns.

4. Fish Brook/Haggetts Pond – Tewksbury State Hospital – Central Andover Corridor

The extensive open space in Andover's watershed is linked to Tewksbury State Hospital grounds and thence to the Shawsheen River in Tewksbury by the abandoned railroad bed. To the east, the watershed is linked to the Shawsheen River near Central Street in Andover by Conservation, AVIS, Andover High School and cemetery lands. A short distance up Central and Phillips streets, the Phillips Academy campus extends this corridor across to the Ward Reservation on the North Andover border.

5. Southeastern Andover Corridor

A series of existing open space parcels stretches across the southeastern end of town from North Andover to the Shawsheen River in Ballardvale.

These parcels include:

- a. Ward Reservation and Harold Parker State Forest, which straddle the boundary with North Andover. Sharpner's Pond Road in North Andover links Harold Parker State Forest to Boxford State Forest.
- b. AVIS's Skug and Hammond reservations, and the Conservation Commission-protected Mary French Reservation along the Skug River north of Harold Parker State Forest.

- c. AVIS's Peggy Keck Reservation and the Goldsmith Woodlands between Harold Parker State Forest and Fosters Pond.
- d. AVIS's Wilkinson Reservation and the Wilmington's Town Forest and Camp Forty Acres west of Fosters Pond.
- e. Recently acquired Conservation lands along Fosters Pond and the Shawsheen River.

The current status of the Bay Circuit Implementation (*See Figure 3-2, Andover's Bay Circuit Trails*)

1. Merrimack River Corridor:

Status: Public access to the riverbank in Andover is now assured via the Merrimack River and Bay Circuit trails. Regional links are in place east and west. Several key property owners along the river have continued to work with the town to allow public access through existing or proposed easements.

The Act Relative to Public Access for Recreational Trails signed into law in February 2009 amends the existing statute to clarify definitions that should help public utilities and railroads make their land permanently accessible for trails in Andover and across the Commonwealth.

The April 2009 Andover Town Meeting passed a warrant article crafted by the town, Phillips Academy and the Greater Lawrence Technical High School to improve public access to the town's property on the Merrimack River via the Heffron Right of Way and to pave the way for improved recreational opportunities for the region.

2. Shawsheen River – Middlesex Canal Corridor

Status: Through cooperative efforts by commercial developers, Andover Planning Board and Conservation Department, and Trails Committee volunteers, major sections in town center are connected with trails, and a four-town regional effort to create the Shawsheen River Greenway is currently in place. In Andover this is called "The Shawsheen Renaissance Project." This greenway would not only protect more of the Shawsheen River frontage but also provide bike and pedestrian connections throughout the entire length of the river from Tewksbury to Lawrence. It would also protect and enhance Den Rock Park, a major regional open space and recreational resource.

The proposed development of the Lowell Junction area with 700 acres of land in Andover, Wilmington and Tewksbury in conjunction with a proposed new Route

93 interchange and widening of the high way will allow for development of many passive and active recreational possibilities.

3. Skug River – Martin’s Pond –Ipswich River Corridor:

Status: The last gap in Andover’s 16-mile section of the Bay Circuit Trail was completed with the Mary French Reservation. A 1,000-foot boardwalk across town-owned wetlands linked the Conservation Commission land with AVIS’s Hammond Reservation. The project was supported financially by DEM Recreational Trail grants and constructed by volunteers from Andover High School and Andover Trails Committee. A portion of the boardwalk and viewing platform with bench is accessible to people with disabilities.

4. Fish Brook/Haggetts Pond – Tewksbury State Hospital – Central Andover Corridor

Status: As a continuous effort, sections of the route have been protected through cooperative action by Andover and the Massachusetts Department of Environmental Management. Selection of this corridor for inclusion in the Bay Circuit Trail system has resulted in the increased attention to the entire route between Haggetts Pond and Billerica, which now assigns this area a top regional priority. Several state agencies, the Town of Tewksbury and the Bay Circuit alliance are actively pursuing inclusion of portions of the Tewksbury State Hospital land in open space and trail planning.

In 2007 a large portion of the Tewksbury State Hospital was placed under a Conservation Restriction that permanently protects 450 acres of open space and secures a major route to the Bay Circuit Trail.

5. Southeastern Andover Corridor:

Status: Several key properties have been protected and the southeastern corridor now forms the backbone for Andover’s cross-town Bay Circuit Trail. North Andover’s Bay Circuit Trail connection utilizes sections of the corridor in Harold Parker State Forest and the Boxford State Forest.

North Andover’s Town Meeting 2009 considered a proposal to increase the scope and comprehensiveness of existing Conservation Restrictions on Boston Hill. It was approved and this action will greatly improve public access to trails connecting access to Andover’s trail system through the Ward Reservation (Trustees of Reservations) and will protect a significant viewscape from intensive development.

**TOWN OF ANDOVER
BOARD OF SELECTMEN & CONSERVATION COMMISSION
DEER MANAGEMENT PROGRAM
RULES AND REGULATIONS 2016**

The Andover Conservation Commission will open a **2016 Archery Season for Deer** on Andover Conservation property and on Andover Water Department land. Hunters which have passed the Andover Archery Proficiency Test may also Hunt on select AVIS reservations and only with an ID and a permission letter issued by the Andover Conservation Department and AVIS. The hunt will coincide with the State of Massachusetts Hunting season and run from **October 17th** through **December 31st, 2016**.

Rules:

1. Any Andover resident who passes the proficiency test will be eligible for a permit to lawfully hunt on designated Town lands. Land in the care and custody of the Andover Conservation Commission, Water Department and the care and custody of the Andover Selectmen may only be hunted by those persons who have been lawfully issued a Bow Hunting Permit by the Town of Andover.
2. An individual permit can be revoked or denied by the conservation director, police or designee for any reason.
3. Non-residents are allowed to hunt at the discretion of the Conservation Director. These non-residents are selected by a random drawing of names.
4. The Hunt is limited to lands specifically designated by the Conservation director with input from the State Deer Biologist and other advisors.
6. The Director of Conservation and designee will monitor the program and limit the number of permits based on available land, and land management goals.
7. All hunters must have passed a proficiency test that involves shooting three out of five arrows into a six by six inch square from a distance of twenty five yards. **The maximum number of hunters allowed for the 2016 hunt on Town owned land is 80 hunters, per Conservation Commission vote.**
9. **Hunters must wear the Town Issued photo ID, and have it displayed at all times, and present it on demand to any Town official.**
10. **Hunters must carry the town issued maps of the hunting areas at all times.** Town Conservation land will be open to hunting in designated portions of Fish Brook North, Wood Hill / Bald Hill, Haggetts Pond, Fosters Island on Poms Pond, the Retelle Reservation/Shelakis Farm, The Virginia Hammond Reservation, Foster's Pond Reservation only.

AVIS reservations that are open to hunting for permitted hunters: Harold Rafton, Deer Jump (between Launching Rd and Fish Brook only), Hammond Reservation (No unattended stands and no stands are to be left overnight), Peggy Keck, Skug River, Nat Smith (formerly known as Bailey), Spalding, Sanborn Reservation.

Please note: Pustell Reservation, Jenkins Quarry, Serio's Grove and Wilkinson Reservation (residents only), no unattended stands and no stands are to be left overnight are restricted

to RESIDENT HUNTING ONLY. Serio's Grove is WEEKDAY Only Hunting – No hunting on Saturday or Sunday.

11. Due to the size of the hunting area in the Serio's Grove, Pustell Reservation, Jenkins Quarry Reservation and the AVIS Hammond Reservation, stands must be removed at the end of the hunting day. No stands are to be left on these properties overnight. Temporary stand hunting only.
12. Hunting on all lands is by Bow only and it is exclusively allowed from an elevated stand. A Fall Restraint Harness must be used when in a tree stand. Gun hunting is not allowed on Town of Andover land, anyone who violates this will be prosecuted; and may have their firearms seized.
13. Two fixed stands are allowed for each permitted hunter. Only two stands may be left overnight or for an extended period of time by each hunter. The town tree-stand tag provided by the Commission must be attached to them. **No screw in steps are allowed**. Only two tree-stand tags will be issued to each hunter.
14. A climbing stand may be used in addition to the fixed stands. A tree-stand tag must be affixed if the climbing stand is to be left overnight.
15. **Stands may be placed in the woods starting at daybreak on Saturday, September 10, 2016. Stands must be removed no later than February 1, 2017.** Any stands remaining after February 1, 2017 will be confiscated and the hunter will be suspended for the first two weeks of the 2017 Hunt. All unauthorized stands will be confiscated by the Conservation Commission.
16. No flagging tape allowed to mark trails to a stand or find wounded deer. The use of bright eyes tacks/glow tacks is preferred, and allowed.
17. No use of bait allowed. Baiting of deer is strictly prohibited **at all times**, this includes salt licks, mineral licks and other manufactured powder, etc., or any product to be ingested by the deer.
18. These rules are to be applicable for the 2016 Season only.
19. Violation of any of these rules may subject a participant to immediate revocation of hunting privileges for the 2016 season and future seasons.
20. All deer taken must be reported to Bob Dalton 978-886-5347.

Additional Considerations from the Team:

- A. Remember as a hunter you are an ambassador for the program. The Program could be shut down at any time due to one hunter's bad judgment, please don't be that hunter. All hunters are hunting with the landowner's permission (Town of Andover and/or AVIS) this permission can be revoked from everyone.
- B. Do not take a low percentage shot, the animals deserve better than that.
- C. Be very polite and considerate to others. Be the first to say hello with people you meet on the trail. When on trails wear your ID so it can be seen. If asked by someone to see your ID other than a town official, it is recommended that you politely show it to them.

- D. If confronted by an irate person, please take the high road, walk away calmly and call the police. Same goes if someone vandalizes your vehicle or steals your tree stand. A great deal of effort was expended to get the hunt passed, don't ruin it for everyone else by reacting to a criminal or inconsiderate person.

The police are on our side - use them - hunter harassment is against the law. **(ANDOVER POLICE 978-475-1212 x0) (ENVIRONMENTAL POLICE 800-632-8075)** There is never a good reason to get into an argument with anyone. (See techniques to calm angry persons.)

- E. If you run into a person that is hunting without a permit, politely inform them that hunting is by permit only and that if they want to hunt in town they must contact the Conservation Department to get a permit. If they give you any trouble, walk away and call police. Also, if you feel uncomfortable or don't want to talk to another hunter that you feel is not part of the program, don't talk to or follow them. Please notify us.
- F. If you find a stand without a permit tag on, it take note of where it is and notify Conservation Director, Robert Douglas. **DO NOT REMOVE IT YOURSELF.** The stand will be removed. If you have a GPS take note of the coordinates or the relation of the stand to the nearest trail. Put up a marker so you can relocate it.
- G. If you are dragging a deer out and hear someone on the trail, drag it into the woods or go up ahead and warn them. Ask them if seeing a dead deer would bother them. If it does, move the deer to where they cannot see it.
- H. Be conscious of any blood trail you leave behind while dragging out a deer. Do not leave any blood on wooden boardwalks.
- I. Don't leave your gut pile near a trail where a dog could get into it or people could find it. Cover your gut pile with some branches and debris. Don't throw the gut pile into any waterway. If possible, drag it out whole.
- J. If you are going to be dragging a deer out of the woods after dark call the police dispatch @ **978-475-1212 extension 0.** Let them know where you are parked and give them the make, model, color of your vehicle and your plate number.
- K. Be aware of the location of hiking trails and do not setup too close. Try to consider how you will be viewed from the trail once the leaves fall off the trees.
- L. Hunter orange must be worn during gun season per state law.
- M. Do not drag a deer or access the hunting areas across school grounds. This was an agreement we made with the school, and must be complied with. Your permit to hunt in Andover will be revoked, for the first violation.
- N. Hunters must have AVIS permission to hunt their properties. Their land is a Private Trust, not owned by the town. AVIS only gives permission to hunters in our program.
- O. Maps of the property being hunted must be carried on person. These are requirements of the program.
- P. If anyone would like to donate venison to the hungry we have set up the appropriate channels to do so. (This is completely voluntary, and not a requirement of the program) Please contact Bob Dalton @ 978-886-5347.

- Q. We have a great group of hunters that will help anyone with dragging out a deer or setting up a stand. Contact Bob Dalton and we will try and get someone to help.
- R. Your Contact with the Conservation Commission is Director Bob Douglas; please call him on his cell if you have any problems. 978-482-6639
- S. Please be tolerant and respectful of each other. If you don't know one another please do not set up too close to another stand. I understand that everyone has a different view of what this distance should be. If anyone has an issue with someone's stand placement that cannot be solved, or you want us to contact this person, write down the stand number and please call Bob Dalton, or Bob Douglas.
- T. Autumn Safety tips: Know your limits, tell someone where you are going and when you expect to return, and watch the weather. **Most importantly, wear your safety harness while climbing, hunting and upon descent from the tree.**

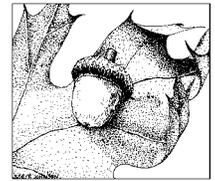
Please be safe and protect our permission to hunt.

Bob Dalton, Hunt Volunteer Coordinator



FOREST MANAGEMENT PLAN

Submitted to: Massachusetts Department of Conservation and Recreation
For enrollment in CH61/61A/61B and/or Forest Stewardship Program



CHECK-OFFS					Administrative Box		
CH61 cert. <input type="checkbox"/>	CH61A cert. <input type="checkbox"/>	CH61B cert. <input type="checkbox"/>	STWSHP new <input checked="" type="checkbox"/>	C-S EEA <input type="checkbox"/>	Case No. _____	Orig. Case No. _____	
recert. <input type="checkbox"/>	recert. <input type="checkbox"/>	recert. <input type="checkbox"/>	renew <input type="checkbox"/>	Other <input type="checkbox"/>	Owner ID _____	Add. Case No. _____	
amend <input type="checkbox"/>	amend <input type="checkbox"/>	amend <input type="checkbox"/>	Green Cert <input type="checkbox"/>		Date Rec'd _____	Ecoregion _____	
Plan Change: _____ to _____			Conservation Rest. <input type="checkbox"/>		Plan Period _____	Topo Name <u>Lawrence</u>	
			CR Holder _____		Rare Sp. Hab. _____	River Basin <u>Merrimac</u>	

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Town of Andover, Andover Conservation Commission (Fish Brook North Reservation)

Mailing Address Town Offices, 36 Bartlet Street, Andover, MA 01810 Phone 978-420-3678

Property Location: Town(s) Andover Road(s) High Plain Road

Plan Preparer Gary H. Gouldrup, New England Forestry Cons., Inc. Mass. Forester License # 81

Mailing Address 72 Townsend Street, Pepperell, MA 01463 Phone 978-433-8780

RECORDS

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A/61B Excluded Acres	Ch61/61A/61B Certified Acres	Stewardship Excluded Acres	Stewardship Acres
*	*	*	*	337.49	NA	NA	0.00	337.49
TOTALS				337.49	NA	NA	0.00	337.49

Excluded Area Description(s) (if additional space needed, continue on separate paper)

There are no excluded areas.

HISTORY Year acquired Periodically since 1966 Year management began UK

Is subdivision plan on file with municipality? Yes No

Are boundaries blazed/painted/flagged/signs posted? (circle all that apply) Yes No Partially

Have forest products been cut within past 2 years? Yes No

What treatments have been prescribed, but not carried out (last 10 years if plan is a recert.)?

Stand no. NA Treatment NA Reason NA

(if additional space needed, continue on separate page)

Previous Management Practices (last 10 years)

Stand #	Cutting Plan #	Treatment	Yield	Value	Acres	Date
*						

Remarks: (if additional space needed, continue on separate page)

**Please see Page 2 for Map & Lot information and Previous Management Practices.*

This is the first Forest Stewardship Plan prepared for the property.

RECORDS (continued)

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A/61B Excluded Acres	Ch61/61A/61B Certified Acres	Stewardship Excluded Acres	Stewardship Acres
189	2	2928	347	8.54	NA	NA	0.00	8.54
189	3A	2398	297	9.10	NA	NA	0.00	9.10
189	4	1438	106	17.50	NA	NA	0.00	17.50
205	9	1438	106	1.00	NA	NA	0.00	1.00
205	6	1444	327	3.52	NA	NA	0.00	3.52
190	64	1444	327	9.48	NA	NA	0.00	9.48
189	5	1187	51	12.00	NA	NA	0.00	12.00
168	26C	2893	150	3.63	NA	NA	0.00	3.63
168	25	1900	182	4.31	NA	NA	0.00	4.31
169	3	1149	540	33.30	NA	NA	0.00	33.30
190	65	1444	327	22.42	NA	NA	0.00	22.42
169	2	1780	300	18.00	NA	NA	0.00	18.00
169	1	1807	154	12.00	NA	NA	0.00	12.00
169	10	5299	115	5.18	NA	NA	0.00	5.18
145	1	2398	295	19.10	NA	NA	0.00	19.10
146	4	2658	341	12.00	NA	NA	0.00	12.00
146	2	2219	339	20.00	NA	NA	0.00	20.00
170	4	2219	339	38.00	NA	NA	0.00	38.00
191	1	1062	32	70.00	NA	NA	0.00	70.00
191	5	57	217	3.56	NA	NA	0.00	3.56
191	14A	7024	286	1.01	NA	NA	0.00	1.01
191	3A	5921	217	0.40	NA	NA	0.00	0.40
191	3B	57	217	0.39	NA	NA	0.00	0.39
191	3	57	217	1.07	NA	NA	0.00	1.07
190	43	57	217	1.02	NA	NA	0.00	1.02
191	22	58	517	1.06	NA	NA	0.00	1.06
191	17	3462	227	1.05	NA	NA	0.00	1.05
191	23A	58	513	0.19	NA	NA	0.00	0.19
191	23	58	513	0.52	NA	NA	0.00	0.52
191	13A	57	217	0.86	NA	NA	0.00	0.86
146	3	UK	UK	6.00	NA	NA	0.00	6.00
164	70	UK	UK	1.28	NA	NA	0.00	1.28
TOTALS				337.49	NA	NA	0.00	337.49

EXCLUDED AREA DESCRIPTION (continued):

There are no excluded areas.

HISTORY (continued):

The property has been periodically acquired since 1966. No timber management has occurred on the property while being owned by the Town of Andover. The Andover Trails Committee has established trails throughout the property.

Owner(s) Town of Andover – Fish Brook North Reservation

Town(s) Andover



Property Overview, Regional Significance, and Management Summary

The 337-acre Fish Brook North Reservation is located in a western section of Andover with road frontage on Chandler Road, River Road, and Forest Hill Drive. Interstate Route 93 is the properties eastern boundary. The Harold Rafton Reservation, owned by the Andover Village Improvement Society (A.V.I.S.), is an abutting parcel on the south side of the property and consists of 226-acres of protected land. The town of Andover also owns the Virginia Hammond Reservation (43.5-acres) and the Bald Hill/ Wood Hill Reservation (230-acres) further to the south. Together, these properties comprise over 835-acres of contiguous conservation lands. The abutting properties to the west and north are primarily residential ownerships in urban developments.

The property lies in the Merrimack River Watershed. Water that passes through the property flows into Fish Brook which flows into the Merrimack River located approximately 0.6-miles north of the property. Water is pumped south from the junction of the Merrimack River and Fish Brook to Haggetts Pond on the east side of Route 495 approximately 1-mile southeast of the property. Haggetts Pond is the primary drinking water supply of the Town of Andover.

The forest stewardship land is comprised of mature white pine and mixed hardwood woodlands (22%), mixed oak and hardwood woodlands (41%), open marsh wetlands (20%), red maple forested wetlands (16%), and hemlock-hardwood forest (1%). Timber resource quality ranges from poor to high. The hemlock woolly adelgid was found in the mature hemlock trees on the property. A quarantine of white ash forest products in Essex County was recently imposed by the USDA due to the presence of the Emerald Ash Borer found in North Andover. The white ash trees will be monitored during this ten year management period for its presence.

Forest regeneration is a concern at the Fish Brook North Reservation due to the high white-tailed deer population in the local area. The Massachusetts Division of Fisheries and Wildlife estimates that there are somewhere in the range of 20-30 deer per square mile. A healthy deer population would be preferably less than 10 deer per square mile. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 15-acres that were harvested approximately 15-years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, fragmites, and Japanese barberry are all growing on the property. Forest soils on the upland sections of the property include well and moderately well drained fine sandy loam (Canton-Hinckley-Woodbridge-Paxton). Wetland resource areas and drainage ways are poorly drained and consist of fine sandy loam, loamy sand, and organic muck soils (Ridgebury-Leicester-Scarboro-Pipestone-Windsor-Walpole-Swansea). The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement, forest regeneration establishment and development, biological diversity and invasive species control, recreation enhancement along the trails, and wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat.

Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover

Page 3 of 25

Landowner Goals

Please **check** the column that best reflects the importance of the following goals:

Goal	Importance to Me			
	High	Medium	Low	Don't Know
Enhance the Quality/Quantity of Timber Products*		X		
Generate Immediate Income			X	
Generate Long Term Income			X	
Produce Firewood			X	
Promote Biological Diversity	X			
Enhance Habitat for Birds	X			
Enhance Habitat for Small Animals	X			
Enhance Habitat for Large Animals	X			
Improve Access for Walking/Skiing/Recreation		X		
Maintain or Enhance Privacy		X		
Improve Hunting		X		
Improve Fishing		X		
Preserve or Improve Scenic Beauty		X		
Protect Water Quality	X			
Protect Unique/Special/ Cultural Areas			X	
Other: Attain Green Certification				X
Other: Public Education & Outreach	X			

* **This goal must be checked "HIGH" if you are interested in classifying your land under Chapter 61/61A.**

1. In your own words please describe your goals for the property:

The Town of Andover would like to improve and protect the forest resources on the Fish Brook North Reservation property for the benefit of the residents of Andover. These goals will be accomplished by periodically harvesting timber resources, promoting biological diversity, improving and maintaining the trails system, enhancing wildlife habitat, and educating the public on forest stewardship matters.

Stewardship Purpose

By enrolling in the Forest Stewardship Program and following a Stewardship Plan, I understand that I will be joining with many other landowners across the state in a program that promotes ecologically responsible resource management through the following actions and values:

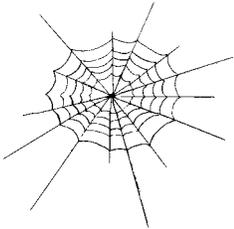
1. Managing for long-term forest health, productivity, diversity, and quality.
2. Conserving or enhancing water quality, wetlands, soil productivity, biodiversity, cultural, historical and aesthetic resources.
3. Following a strategy guided by well-founded silvicultural principles to improve timber quality and quantity when wood products are a goal.
4. Setting high standards for foresters, loggers and other operators as practices are implemented; and minimizing negative impacts.
5. Learning how woodlands benefit and affect surrounding communities, and cooperation with neighboring owners to accomplish mutual goals when practical.

Signature(s): _____

Date: _____

Stewardship Issues

Massachusetts is a small state, but it contains a tremendous variety of ecosystems, plant and animal species, management challenges, and opportunities. This section of your plan will provide background information about the Massachusetts forest landscape as well as issues that might affect your land. **The Stand Descriptions and Management Practices sections of your plan will give more detailed property specific information** on these subjects tailored to your management goals.



Biodiversity: Biological diversity is, in part, a measure of the variety of plants and animals, the communities they form, and the ecological processes (such as water and nutrient cycling) that sustain them. With the recognition that each species has value, individually and as part of its natural community, maintaining biodiversity has become an important resource management goal.

While the biggest threat to biodiversity in Massachusetts is the loss of habitat to development, another threat is the introduction and spread of invasive non-native plants. Non-native invasives like European Buckthorn, Asiatic Bittersweet, and Japanese Honeysuckle spread quickly, crowding out or smothering native species and upsetting and dramatically altering ecosystem structure and function. Once established, invasives are difficult to control and even harder to eradicate. Therefore, vigilance and early intervention are paramount.

Another factor influencing biodiversity in Massachusetts concerns the amount and distribution of forest growth stages. Wildlife biologists have recommended that, for optimal wildlife habitat on a landscape scale, 5-15% of the forest should be in the seedling stage (less than 1" in diameter). Yet we currently have no more than 2-3% early successional stage seedling forest across the state. There is also a shortage of forest with large diameter trees (greater than 20"). See more about how you can manage your land with biodiversity in mind in the "Wildlife" section below. (Also refer to *Managing Forests to Enhance Wildlife Diversity in Massachusetts* and *A Guide to Invasive Plants in Massachusetts* in the binder pockets.)

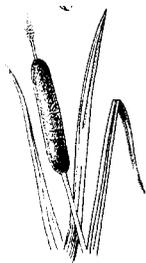


Rare Species: Rare species include those that are **threatened** (abundant in parts of its range but declining in total numbers, those of **special concern** (any species that has suffered a decline that could threaten the species if left unchecked), and **endangered** (at immediate risk of extinction and probably cannot survive without direct human intervention). Some species are threatened or endangered globally, while others are common globally but rare in Massachusetts.

Of the 2,040 plant and animal species (not including insects) in Massachusetts, 424 are considered rare. About 100 of these rare species are known to occur in woodlands. Most of these are found in wooded wetlands, especially vernal pools. These temporary shallow pools dry up by late summer, but provide crucial breeding habitat for rare salamanders and a host of other unusual forest dwelling invertebrates. Although many species in Massachusetts are adapted to and thrive in recently disturbed forests, rare species are often very sensitive to any changes in their habitat

Indispensable to rare species protection is a set of maps maintained by the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP) that show current and historic locations of rare species and their habitats. The maps of your property will be compared to these rare species maps and the result indicated on the upper right corner of the front page of the plan. Prior to any

regulated timber harvest, if an occurrence does show on the map, the NHESP will recommend protective measures. Possible measures include restricting logging operations to frozen periods of the year, or keeping logging equipment out of sensitive areas. You might also use information from NHESP to consider implementing management activities to improve the habitat for these special species.



Riparian and Wetlands Areas: Riparian and wetland areas are transition areas between open water features (lakes, ponds, streams, and rivers) and the drier terrestrial ecosystems. More specifically, a **wetland** is an area that has hydric (wet) soils and a unique community of plants that are adapted to live in these wet soils. Wetlands may be adjacent to streams or ponds, or a wetland may be found isolated in an otherwise drier landscape. A **riparian area** is the transition zone between an open water feature and the uplands (see Figure 1). A riparian zone may contain wetlands, but also includes areas

with somewhat better drained soils. It is easiest to think of riparian areas as the places where land and water meet.

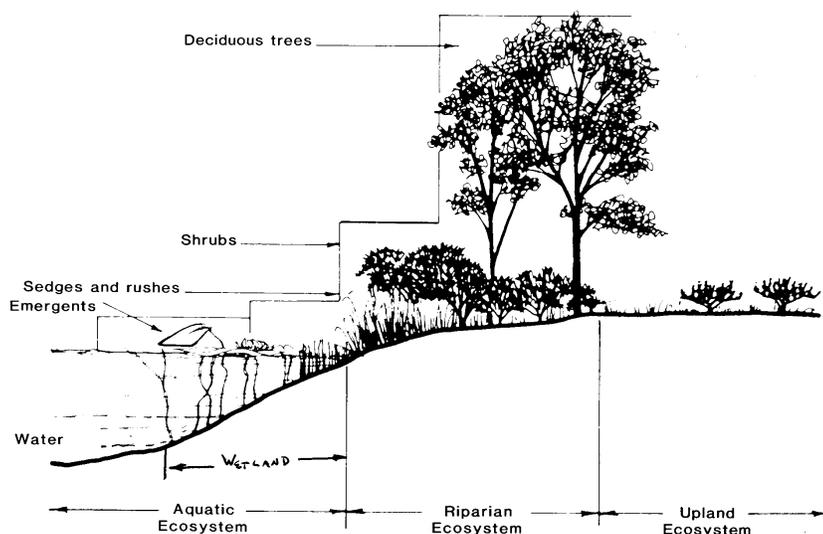


Figure 1: Example of a riparian zone.

The presence of water in riparian and wetland areas make these special places very important. Some of the functions and values that these areas provide are described below:

Filtration: Riparian zones capture and filter out sediment, chemicals and debris before they reach streams, rivers, lakes and drinking water supplies. This helps to keep our drinking water cleaner, and saves communities money by making the need for costly filtration much less likely.

Flood control: By storing water after rainstorms, these areas reduce downstream flooding. Like a sponge, wetland and riparian areas absorb stormwater, then release it slowly over time instead of in one flush.

Critical wildlife habitat: Many birds and mammals need riparian and wetland areas for all or part of their life cycles. These areas provide food and water, cover, and travel corridors. They are often the most important habitat feature in Massachusetts' forests.

Recreational opportunities: Our lakes, rivers, streams, and ponds are often focal points for recreation. We enjoy them when we boat, fish, swim, or just sit and enjoy the view.

In order to protect wetlands and riparian areas and to prevent soil erosion during timber harvesting activities, Massachusetts promotes the use of “Best Management Practices” or BMPs. Maintaining or reestablishing the protective vegetative layer and protecting critical areas are the two rules that underlie these common sense measures. DEM’s Massachusetts Forestry Best Practices Manual (included with this plan) details both the legally required and voluntary specifications for log landings, skid trails, water bars, buffer strips, filter strips, harvest timing, and much more.

The two Massachusetts laws that regulate timber harvesting in and around wetlands and riparian areas are the Massachusetts Wetlands Protection Act (CH 131), and the Forest Cutting Practices Act (CH132). Among other things, CH132 requires the filing of a cutting plan and on-site inspection of a harvest operation by a DEM Service Forester to ensure that required BMPs are being followed when a commercial harvest exceeds 25,000 board feet or 50 cords (or combination thereof).



Soil and Water Quality: Forests provide a very effective natural buffer that holds soil in place and protects the purity of our water. The trees, understory vegetation, and the organic material on the forest floor reduce the impact of falling rain, and help to insure that soil will not be carried into our streams and waterways.

To maintain a supply of clean water, forests must be kept as healthy as possible. Forests with a diverse mixture of vigorous trees of different ages and species can better cope with periodic and unpredictable stress such as insect attacks or windstorms.

Timber harvesting must be conducted with the utmost care to ensure that erosion is minimized and that sediment does not enter streams or wetlands. Sediment causes turbidity which degrades water quality and can harm fish and other aquatic life. As long as Best Management Practices (BMPs) are implemented correctly, it is possible to undertake active forest management without harming water quality.



Forest Health: Like individual organisms, forests vary in their overall health. The health of a forest is affected by many factors including weather, soil, insects, diseases, air quality, and human activity. Forest owners do not usually focus on the health of a single tree, but are concerned about catastrophic events such as insect or disease outbreaks that affect so many individual trees that the whole forest community is impacted.

Like our own health, it is easier to prevent forest health problems than to cure them. This preventative approach usually involves two steps. First, it is desirable to maintain or encourage a wide diversity of tree species and age classes within the forest. This diversity makes a forest less susceptible to a single devastating health threat. Second, by thinning out weaker and less desirable trees, well-spaced healthy individual trees are assured enough water and light to thrive. These two steps will result in a forest of vigorously growing trees that is more resistant to environmental stress.



Fire: Most forests in Massachusetts are relatively resistant to catastrophic fire. Historically, Native Americans commonly burned certain forests to improve hunting grounds. In modern times, fires most often result from careless human actions. The risk of an unintentional and damaging fire in your woods could increase as a result of logging activity if the slash (tree tops, branches, and debris) is not treated correctly.

Adherence to the Massachusetts slash law minimizes this risk. Under the law, slash is to be removed from buffer areas near roads, boundaries, and critical areas and lopped close to the ground to speed decay. Well-maintained woods roads are always desirable to provide access should a fire occur.

Depending on the type of fire and the goals of the landowner, fire can also be considered as a management tool to favor certain species of plants and animals. Today the use of prescribed burning is largely restricted to the coast and islands, where it is used to maintain unique natural communities such as sandplain grasslands and pitch pine/scrub oak barrens. However, state land managers are also attempting to bring fire back to many of the fire-adapted communities found elsewhere around the state.



Wildlife Management: Enhancing the wildlife potential of a forested property is a common and important goal for many woodland owners. Sometimes actions can be taken to benefit a particular species of interest (e.g., put up Wood Duck nest boxes). In most cases, recommended management practices can benefit many species, and fall into

one of three broad strategies. These are **managing for diversity, protecting existing habitat, and enhancing existing habitat.**

Managing for Diversity – Many species of wildlife need a variety of plant communities to meet their lifecycle requirements. In general, a property that contains a diversity of habitats will support a more varied wildlife population. A thick area of brush and young trees might provide food and cover for grouse and cedar waxwing; a mature stand of oaks provides acorns for foraging deer and turkey; while an open field provides the right food and cover for cottontail rabbits and red fox. It is often possible to create these different habitats on your property through active management. The appropriate mix of habitat types will primarily depend on the composition of the surrounding landscape and your objectives. It may be a good idea to create a brushy area where early successional habitats are rare, but the same practice may be inappropriate in the area's last block of mature forest.

Protecting Existing Habitat – This strategy is commonly associated with managing for rare species or those species that require unique habitat features. These habitat features include vernal pools, springs and seeps, forested wetlands, rock outcrops, snags, den trees, and large blocks of unbroken forest. Some of these features are rare, and they provide the right mix of food, water, and shelter for a particular species or specialized community of wildlife. It is important to recognize their value and protect their function. This usually means not altering the feature and buffering the resource area from potential impacts.

Enhancing Existing Habitat – This strategy falls somewhere between the previous two. One way the wildlife value of a forest can be enhanced is by modifying its structure (number of canopy layers, average tree size, density). Thinning out undesirable trees from around large crowned mast (nut and fruit) trees will allow these trees to grow faster and produce more food. The faster growth will also accelerate the development of a more mature forest structure, which is important for some species. Creating small gaps or forest openings generates groups of seedlings and saplings that provide an additional layer of cover, food, and perch sites.

Each of these three strategies can be applied on a single property. For example, a landowner might want to increase the habitat diversity by reclaiming an old abandoned field. Elsewhere on the property, a stand of young hardwoods might be thinned to reduce competition, while a “no cut” buffer is set up around a vernal pool or other habitat feature. The overview, stand description and management practice sections of this plan will help you understand your woodland within the context of the surrounding landscape and the potential to diversify, protect or enhance wildlife habitat.



Wood Products: If managed wisely, forests can produce a periodic flow of wood products on a sustained basis. Stewardship encompasses finding ways to meet your current needs while protecting the forest’s ecological integrity. In this way, you can harvest timber and generate income without compromising the opportunities of future generations.

Massachusetts forests grow many highly valued species (white pine, red oak, sugar maple, white ash, and black cherry) whose lumber is sold throughout the world. Other lower valued species (hemlock, birch, beech, red maple) are marketed locally or regionally, and become products like pallets, pulpwood, firewood, and lumber. These products and their associated value-added industries contribute between 200 and 300 million dollars annually to the Massachusetts economy.

By growing and selling wood products in a responsible way you are helping to our society’s demand for these goods. Harvesting from sustainably managed woodlands – rather than from unmanaged or poorly managed forest – benefits the public in a multitude of ways. The sale of timber, pulpwood, and firewood also provides periodic income that you can reinvest in the property, increasing its value and helping you meet your long-term goals. Producing wood products helps defray the costs of owning woodland, and helps private landowners keep their forestland undeveloped.



Cultural Resources: Cultural resources are the places containing evidence of people who once lived in the area. Whether a Native American village from 1,700 years ago, or the remains of a farmstead from the 1800’s, these features all tell important and interesting stories about the landscape, and should be protected from damage or loss.

Massachusetts has a long and diverse history of human habitation and use. Native American tribes first took advantage of the natural bounty of this area over 10,000 years ago. Many of these villages were located along the coasts and rivers of the state. The interior woodlands were also used for hunting, traveling, and temporary camps. Signs of these activities are difficult to find in today’s forests. They were obscured by the dramatic landscape impacts brought by European settlers as they swept over the area in the 17th and 18th centuries.

By the middle 1800’s, more than 70% of the forests of Massachusetts had been cleared for crops and pastureland. Houses, barns, wells, fences, mills, and roads were all constructed as woodlands were converted for agricultural production. But when the Erie Canal connected the Midwest with the eastern cities, New England farms were abandoned for the more productive land in the Ohio River valley, and the landscape began to revert to forest. Many of the abandoned buildings were disassembled and moved, but the supporting stonework and other changes to the landscape can be easily seen today.

One particularly ubiquitous legacy of this period is stone walls. Most were constructed between 1810 and 1840 as stone fences (wooden fence rails had become scarce) to enclose sheep within pastures, or to

exclude them from croplands and hayfields. Clues to their purpose are found in their construction. Walls that surrounded pasture areas were comprised mostly of large stones, while walls abutting former cropland accumulated many small stones as farmers cleared rocks turned up by their plows. Other cultural features to look for include cellar holes, wells, old roads and even old trash dumps.



Recreation and Aesthetic Considerations: Recreational opportunities and aesthetic quality are the most important values for many forest landowners, and represent valid goals in and of themselves. Removing interfering vegetation can open a vista or highlight a beautiful tree, for example. When a landowner's goals include timber, thoughtful forest management can be used to accomplish silvicultural objectives while also reaching recreational and/or aesthetic objectives. For example, logging trails might be designed to provide a network of cross-country ski trails that lead through a variety of habitats and reveal points of interest.

If aesthetics is a concern and you are planning a timber harvest, obtain a copy of this excellent booklet: *A Guide to Logging Aesthetics: Practical Tips for Loggers, Foresters & Landowners*, by Geoffrey T. Jones, 1993. (Available from the Northeast Regional Agricultural Engineering Service, (607) 255-7654, for \$7). Work closely with your consultant to make sure the aesthetic standards you want are included in the contract and that the logger selected to do the job executes it properly. The time you take to plan ahead of the job will reward you and your family many times over with a fuller enjoyment of your forest, now and well into the future.

This is your Stewardship Plan. It is based on the goals that you have identified. The final success of your Stewardship Plan will be determined first, by how well you are able to identify and define your goals, and second, by the support you find and the resources you commit to implement each step.

It can be helpful and enjoyable to visit other properties to sample the range of management activities and see the accomplishments of others. This may help you visualize the outcome of alternative management decisions and can either stimulate new ideas or confirm your own personal philosophies. Don't hesitate to express your thoughts, concerns, and ideas. Keep asking questions! Please be involved and enjoy the fact that you are the steward of a very special place.



STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	1	OH	15.42	9.7" DBH Pole-Sawtimber	100 sqft	4,000 BF. & 15.1 Cds.	60 (WP)

Red oak and red maple dominate the overstory of this variably stocked sawtimber and pole sized stand. The red oak stems are generally fair to good in form and timber quality while the red maple is poor to fair in form and timber quality. The mixed hardwoods include aspen, black cherry, hickory, and white ash poles and sawtimber. A few scattered white pine stems are present as well. Forest regeneration is poor due to the dense overstory canopy and high deer population, although scattered hardwood and white pine saplings are present. The understory vegetation includes highbush blueberry, arrowwood, Japanese barberry, buckthorn, and honeysuckle. The area is flat to gently sloped with moderately well and poorly drained fine sandy loam soils (Woodbridge-Ridgebury) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed. Maintaining and improving aesthetics will be important near residential dwellings.

STEW	2	RM	33.93	8.8" DBH Pole-Sawtimber	123 sqft	2,750 BF & 20.7Cds.	60 (RM)
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Red maple is the dominant overstory species in this adequately stocked pole and small sawtimber sized stand. Stand density and size class varies throughout the area. The red maple stems are poor to fair in form and timber quality. Individual and small pockets of white pine, tupelo, white ash, and mixed oak poles and sawtimber of poor to good form and timber quality can also be found. Forest regeneration is not adequate, but consists of scattered white pine and mixed hardwood saplings. Highbush blueberry, swamp azalea, ferns, skunk cabbage, buckthorn, Japanese barberry, firebush, and honeysuckle can all be found in the understory. The area is mostly flat with very poorly drained soils in the wetland resource areas (Swansea-Ridgebury) and moderately well drained in the upland areas (Woodbridge). No management is recommended at this time. Improvement thinning in the drier upland sites could be timed with harvesting conducted in adjacent stands. The desired future condition is a stand that provides protection to the wetland resources and provides wildlife habitat.

STEW	3	WO	30.37	15.3" DBH Sawtimber	163 sqft	15,583 BF. & 14.4 Cds.	63 (WP)
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White pine and mixed oaks dominate the overstory of this overstocked sawtimber sized stand. The white pine stems are generally fair to good in form and timber quality. The mixed oaks include red oak, black oak, and white oak sawtimber and pole sized stems of poor to good form and timber quality. Scattered red maple and other mixed hardwoods poles and sawtimber sized stems of poor to fair timber quality can also be found. Forest regeneration is scattered with white pine and mixed hardwood saplings that are suppressed as a result of a dense overstory canopy. Invasive species include firebush, buckthorn, and Japanese barberry. The area is flat to moderately sloped with well drained fine sandy loam soils (Paxton) and moderately well drained fine sandy loam soils (Woodbridge) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
 STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	4	OM	27.14	12.9" DBH Sawtimber	123 sqft	7,200 BF & 13.9 Cds	63 (RO)

Red oak and black oak dominate the overstory in this overstocked sawtimber sized stand. The red and black oak is primarily in the sawtimber class with a minor component in the pole class. The red oak and black oak stems are generally well formed and fair to high in timber quality. Scattered white oak, red maple, hickory, white ash, and white pine poles and sawtimber of poor to good form and timber quality can also be found. Forest regeneration is scattered and includes white pine and mixed hardwood saplings. The area is flat to gently sloped with moderately well and well drained fine sandy loam soils in the upland areas (Woodbridge-Paxton) and poorly drained soils in the wetland drainage areas (Ridgebury). The soils are capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

STEW	5	MH	4.32	8.5" DBH Pole-Small Sawtimber	75 sqft	2,250 BF & 13.6 Cds.	63 (RO)
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Mixed hardwoods dominate the overstory of this variably stocked pole sized stand. The mixed hardwoods include red oak, white ash, red maple, and hickory poles and sawtimber of poor to good form and timber quality. Mortality is developing in the eastern sections of the stand near Interstate Route 93. White ash trees in particular are declining in health. Forest regeneration is scattered and consists of mixed hardwood saplings competing with alders, winterberry, spicebush, highbush blueberry, swamp azalea, ferns and several invasive species in the understory. The area is flat to gently sloped with poorly drained and moderately drained fine sandy loam soils (Walpole) capable of producing high quality timber resources. Salvage operations may be desired in the future if mortality continues within the stand, however no management is recommended at this time. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

STEW	6	WH	17.87	12.4" DBH Sawtimber-Pole-Sapling	160 sqft	10,100 BF. & 21.1 Cds.	63 (WP)
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White pine is the dominant overstory species in this variably stocked stand. Stand density and size class varies throughout the area. The southern sections of the stand were harvested in a shelterwood thinning approximately 15-years ago. The white pine stems are generally fair to good in form and timber quality in the southern sections where the stand has been managed. The unmanaged sections of the stand are overstocked with timber of poor to good form and quality. Scattered mixed oaks, red maple, hemlock, and mixed hardwoods can also be found. Forest regeneration is well established and advanced in the areas that have been managed in the past. Unmanaged areas do not have adequate levels of regeneration due to the dense overstory canopy. The area is flat to gently sloped with well soils (Hinkley-Canton-Paxton) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
 STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	7	HH	1.38	12.4" DBH Sawtimber-Pole	160 sqft	7,500 BF & 24.9 Cds	63 (RO)

Hemlock and mixed hardwoods dominate the overstory of this well stocked sawtimber sized stand. The hemlock stems are poor to good in form and timber quality. The hemlock woolly adelgid is present on the property. Mixed hardwoods include red oak, black oak, white oak, and red maple poles and sawtimber of poor to good form and timber quality. Scattered white pine sawtimber sized stems are present as well. Forest regeneration is limited due to the dense overstory canopy, although hemlock saplings are present. The area is flat to gently sloped with well drained fine sandy loam soils (Canton) capable of producing high quality timber resources. Eastern sections tend to be seasonally wet and poorly drained. This area provides a unique habitat for wildlife as it is the only dense pocket of hemlock on the property. The stand will be left to develop naturally over the next ten years of management. The desired future condition is a stand of hemlock that provides habitat for wildlife.

STEW	8	MD	68.87	Sapling Wetland Marsh	NA	NA	50 (RM)
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This wetland resource area is mostly an open marsh that borders Fish Brook. The vegetation includes scattered pockets of red maple poles and saplings, alders, highbush blueberry, fragmites, dogwood, winterberry, spirea, ferns, grasses, buttonbush, and other associated wetland vegetation. There is an active heron rookery within this area. Northwestern sections of the marsh contain many dead snags due to flooding caused by beaver activities in the past. The area is flat, hummocky, and tends to remain wet throughout the year due to very poorly drained organic soils (Freetown Muck). The soils are not capable of producing high quality timber resources due to the current high water table. The area will be left as a wetland wildlife management area. The desired future condition is a wetland resource area that provides habitat for wildlife and protects water quality in the Fish Brook watershed.

STEW	9	OH	14.34	10.7" DBH Sawtimber-Pole	110 sqft	5,250 BF. & 18.1 Cds.	63 (RO)
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Mixed oaks and red maple are the dominant overstory species in this well stocked sawtimber and pole sized stand. The mixed oak stems are generally fair to good in form and timber quality while the red maple stems are poor to fair in form and timber quality. A strong component of white pine sawtimber sized stems of fair to good form and timber quality can also be found scattered throughout the stand. Forest regeneration is scattered and consists of mixed hardwood and white pine saplings. The understory vegetation is dense in the wetland resource areas and is prohibiting the development of tree regeneration in these areas. The area is flat with moderately well drained upland soils (Woodbridge) and poorly drained loamy fine sand soils in the lower lying areas (Pipestone). The upland soils are capable of producing high quality timber resources. Potential vernal pools may exist within the stand. These sites should be confirmed by the Conservation Commission. No management is recommended in this area at this time. Certifying any vernal pools will be considered before any management is conducted in this area. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

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Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	10	WO	27.30	17.6" DBH Large Sawtimber	160 sqft	20,100 BF. & 12.0 Cds.	63 (WP)

White pine is the dominant overstory species in this overstocked large sawtimber sized stand. The white pine stems are generally poor to good in form and timber quality. Many of the white pine stems exceed 30" DBH and will be managed as "Legacy Trees". Scattered mixed oaks, red maple, and mixed hardwood poles and sawtimber sized stems of poor to good form and timber quality can also be found. Forest regeneration is limited due to the dense overstory canopy, although scattered white pine and mixed hardwood saplings are present. The area is flat to gently sloped with well drained and moderately well drained fine sandy loam soils in the upland areas (Canton-Scarboro) and poorly drained soils in the low lying drainage ways (Ridgebury). The soils are capable of producing high quality timber resources. This stand will be left as an "Old Growth Timber Management Area". No timber harvesting will be done over the next ten years of management. The desired future condition is a stand that provides a forest of very large trees with old growth characteristics, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

STEW	11	RM	19.12	11.5" DBH Pole-Sawtimber	110 sqft	3,000 BF & 21.4 Cds.	55 (RM)
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Red maple is the dominant overstory species in this adequately stocked pole and small sawtimber sized stand. The red maple stems are poor to fair in form and timber quality. Scattered swamp white oak and white pine poles and sawtimber of poor to good form and timber quality can also be found. Forest regeneration is limited due to the dense understory vegetation which includes highbush blueberry, spicebush, ferns, skunk cabbage, and other wetland plants and shrubs. The area is flat with very poorly drained soils (Pipestone-Freetown). No management is recommended at this time. Improvement thinning in the drier upland sites could be timed with harvesting conducted in adjacent stands. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed.

STEW	12	OH	47.35	12.8" DBH Sawtimber	115 sqft	7,000 BF. & 15.1 Cds.	63 (WP)
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Red oak and mixed hardwoods dominate the overstory of this fully stocked sawtimber sized stand. The red oak stems are generally good in form and high in timber quality. The mixed hardwoods include black oak, red maple, white ash, hickory, and yellow birch poles and sawtimber of poor to good form and timber quality. Scattered white pine stems are present as well. Forest regeneration is poor due to the dense overstory canopy and high deer population, although scattered hardwood and white pine saplings are present. The understory vegetation includes highbush blueberry and witch hazel. The area is flat to gently sloped, rocky in spots, with moderately well and well drained fine sandy loam soils (Woodbridge-Canton) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed. Maintaining and improving aesthetics will be important near residential dwellings.

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Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	13	OM	30.08	9.7" DBH Pole-Small Sawtimber	93 sqft	1,320 BF. & 22 Cds.	60 (RO)

Black oak and red oak dominate the overstory of this fully stocked pole and small sawtimber sized stand. The black and red oak stems are fair to good in form and timber quality. Scattered red maple, black birch, and hickory poles and sawtimber of poor to good form and timber quality can also be found. Scattered white pine stems are present as well. Forest regeneration is poor due to the dense overstory canopy and high deer population, although scattered white pine saplings are present. The understory vegetation includes lowbush blueberry, huckleberry, and witch hazel. The area is gently sloped with well drained fine sandy loam soils (Canton) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality on the Fish Brook Watershed. Maintaining and improving aesthetics will be important near residential dwellings.

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Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Timber Management

STEW 3 WO Selection Harvest 30+/- 45 sqft 102 MBF 2014-2023
Individual & Group & 900 Tons

Management will focus on individual stem and group selection harvesting techniques. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature white pine, mixed oak, and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality white pine and mixed oak poles and small sawtimber sized stems in order to improve their growth, development, and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

STEW 4 OH Selection Harvest 25+/- 30 sqft 44 MBF 2014-2023
Individual & Group & 750 Tons

Management will focus on individual stem and group selection harvesting. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature mixed oak and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality mixed oak and mixed hardwood poles and small sawtimber sized stems in order to improve their growth, development and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	6	WH	Selection Harvest Individual & Group	15+/-	35 sqft	45 MBF & 450 Tons	2014-2023

Management will focus individual stem and group selection harvesting. The target is to harvest approximately 15-25% of the overstory volume. Management will focus on harvesting mature white pine, mixed oak, and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality white pine and mixed oak poles and small sawtimber sized stems in order to improve their growth, development, and future value. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. Areas that were thinned approximately 15 years ago have adequate levels of advanced white pine regeneration. Efforts will be made to release this regeneration during timber harvesting in these previously managed stands. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

STEW	12	OH	Selection Harvest Individual & Group	23-32	30 sqft	46 MBF & 945 Tons	2014-2023
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Management will focus on individual stem and group selection harvesting. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature mixed oak and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality mixed oak and mixed hardwood poles and small sawtimber sized stems in order to improve their growth, development and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires. *The above volumes are based on 27-acres of selection harvesting.*

STEW	13	OM	Improvement Thin By Selection Harvest	13-22	30 sqft	6 MBF & 85 Cords	2014-2023
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Management will focus on improvement thinning by selection harvesting. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting poorly formed, suppressed, and low quality oak and mixed hardwood stems of all sizes in order to release the best formed and high quality mixed oak poles and small sawtimber sized stems for improved growth, development, and future value. Most of the timber harvested will be utilized as firewood. Tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires as there are many residential areas and the Bald Hill Middle School in close proximity of the stand. *The above volumes are based on 17-acres of selection harvesting.*

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Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover
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MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Wildlife Management

STEW	12	RO	Patch Clearcut Create Young Forest Habitat	3-12	115 sqft	49 MBF & 77 Cords	2014-2023
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Approximately 3-12 acres within this oak forest type will be patch clearcut to create early successional and young forest habitat for wildlife. 100% of the overstory volume will be removed in the timber harvesting operation. Forest regeneration sources will come from trees on the edges of the patch clearcut and from trees in adjacent stands. Efforts to reduce invasive species in the understory will be done at this time through mechanical cutting. The desire is to have the soils slightly scarified to prepare the forest floor for the establishment of native regeneration in the understory. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires. The exact locations of the patch cuts will be determined at a later date. Areas that are generally flat and are set back from wetland resource areas will be the desired location for the patch clearcut harvest areas. The above harvest volumes are based on 7-acres of patch cutting.

STEW	13	OM	Patch Clearcut Create Young Forest Habitat	3-12	93 sqft	9,250 MBF & 154 Cords	2014-2023
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Approximately 3-12 acres within this oak forest type will be patch clearcut to create early successional and young forest habitat for wildlife. 100% of the overstory volume will be removed in the timber harvesting operation. Forest regeneration sources will come from trees on the edges of the patch clearcut and from trees in adjacent stands. Efforts to reduce invasive species in the understory will be done at this time through mechanical cutting. The desire is to have the soils slightly scarified to prepare the forest floor for the establishment of native regeneration in the understory. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires. The exact locations of the patch cuts will be determined at a later date. Areas that are generally flat and are set back from wetland resource areas will be the desired location for the patch clearcut harvest areas. The above harvest volumes are based on 7-acres of patch cutting.

The size, location, and timing of the above Patch Clearcut harvesting practices will be determined by the Conservation Commission at a later date after consulting with the Division of Fisheries and Wildlife biologists. The patch cuts may be conducted in any one year, or periodically over the next ten years of management.

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Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Boundary Maintenance

STEW All All Blaze & Paint 337+/- NA NA 2014-2023
Property Signs

The Fish Brook North Reservation is surrounded by several residential developments in the northern and western sections of the property. Most of these property lines have not been identified and are difficult to locate without survey plans. These areas in particular, will be a priority for identification over the next ten years of management. The Conservation Commission will consider property signs as well as blazing and painting trees along the property line for identification purposes. Please see the Boundary & Stand Type Map for boundary evidence found.

Biological Diversity

STEW 1-13 All Invasive Species Control 337+/- NA NA 2014-2023

The Conservation Commission is interested in promoting biological diversity on the property. Eliminating invasive and non-native trees, plants and shrubs will be done where these species exist and when economically feasible and practical. Invasive species on the property are prolific in some areas. Burning bush, buckthorn, bittersweet, honeysuckle, fragmites, and Japanese barberry are all present on the property. Cutting the stems of invasive species with saws, or with other mechanical means, will help reduce and control the spread of the invasive species. Controlling the invasive species through well timed timber management activities is another management tool. Encouraging vigorous growth of native tree species in the forest understory will be accomplished by scarifying the soil prior to seed dissemination. Another biodiversity issue is the distribution of forest growth stages. Trying to maintain multiple forest age and size classes on the property will also be pursued by the landowner on this property through periodic timber harvests and wildlife habitat management. Trees that exceed 25" DBH will be selected and managed as "Legacy Trees". Please see the Biological Diversity issues on page #7 for more details.

Recreation Management
Trail Maintenance

The existing trails on the Fish Brook North Reservation will be periodically maintained for the safety, enjoyment, and education of the residents of Andover. New trails may also be constructed over the next ten years of management. The existing trails on the property are maintained by local volunteers through the Andover Trails Committee. A portion of the Bay Circuit Trail runs through the property and is also maintained by local volunteers. Maps, trail tags, interpretive signs, and resting benches will all be variables associated with the management of the trails and the education of those who will be using the trails. Interpretive signs along the trails will help educate the property users about Forest Stewardship matters within the forest interior.

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Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover

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MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Wildlife Management

STEW 1-13 All White-tailed Deer Control 337+/- NA NA 2014-2023

The Town of Andover will seek council from the Massachusetts Department of Fish & Game about the local deer population. The Conservation Commission will continue the current white-tailed deer hunting program in order to reduce the very high population of deer within the Fish Brook North Reservation. Permits to hunt on the property are issued annually by the Commission. Currently, the deer are having an impact on the regeneration of trees and vegetation on the property. Deer browse and forest regeneration plots have been established on the property for monitoring the effects of the deer on the understory vegetation. Mass Fish & Game biologists estimate that there are approximately 20-30-deer per square mile in the area. A healthy population of deer is recommended to be less than 10-deer per square mile.

Forest Stewardship Education

Educating the public through workshops, signs, the local media and cable television network, maps, brochures, and interpretive walks will assure that visitors using the property have had an opportunity to learn about and respond to the practices that have been recommended and completed in this plan.

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Owner(s) Town of Andover – Fish Brook North Reservation Town(s) Andover

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Signature Page

Please check each box that applies.

CH. 61/61A Management Plan I attest that I am familiar with and will be bound by all applicable Federal, State, and Local environmental laws and /or rules and regulations of the Department of Conservation and Recreation. I further understand that in the event that I convey all or any portion of this land during the period of classification, I am under obligation to notify the grantee(s) of all obligations of this plan which become his/hers to perform and will notify the Department of Conservation and Recreation of said change of ownership.

Forest Stewardship Plan. I pledge to abide by the management provisions of this Stewardship Management Plan for a period of at least ten years, following approval. I understand that in the event that I convey all or a portion of the land described in this plan during the period of the plan, I will notify the Department of Conservation and Recreation of this change in ownership.

Signed under the pains of perjury:

Owner(s) _____ Date _____

_____ Date _____

I attest that I have prepared this plan in good faith to reflect the landowner's interest.

Plan Preparer _____ Date _____

I attest that the plan satisfactorily meets the requirements of CH61/61A and/or the Forest Stewardship Program.

Approved, Service Forester _____ Date _____

Approved, Regional Supervisor _____ Date _____

In the event of a change of ownership of all or part of the property, the new owner must file an amended Ch. 61/61A plan within 90 days from the transfer of title to insure continuation of Ch. 61/61A classification.

Owner(s) Andover – Fish Brook North Reservation Town(s) Andover

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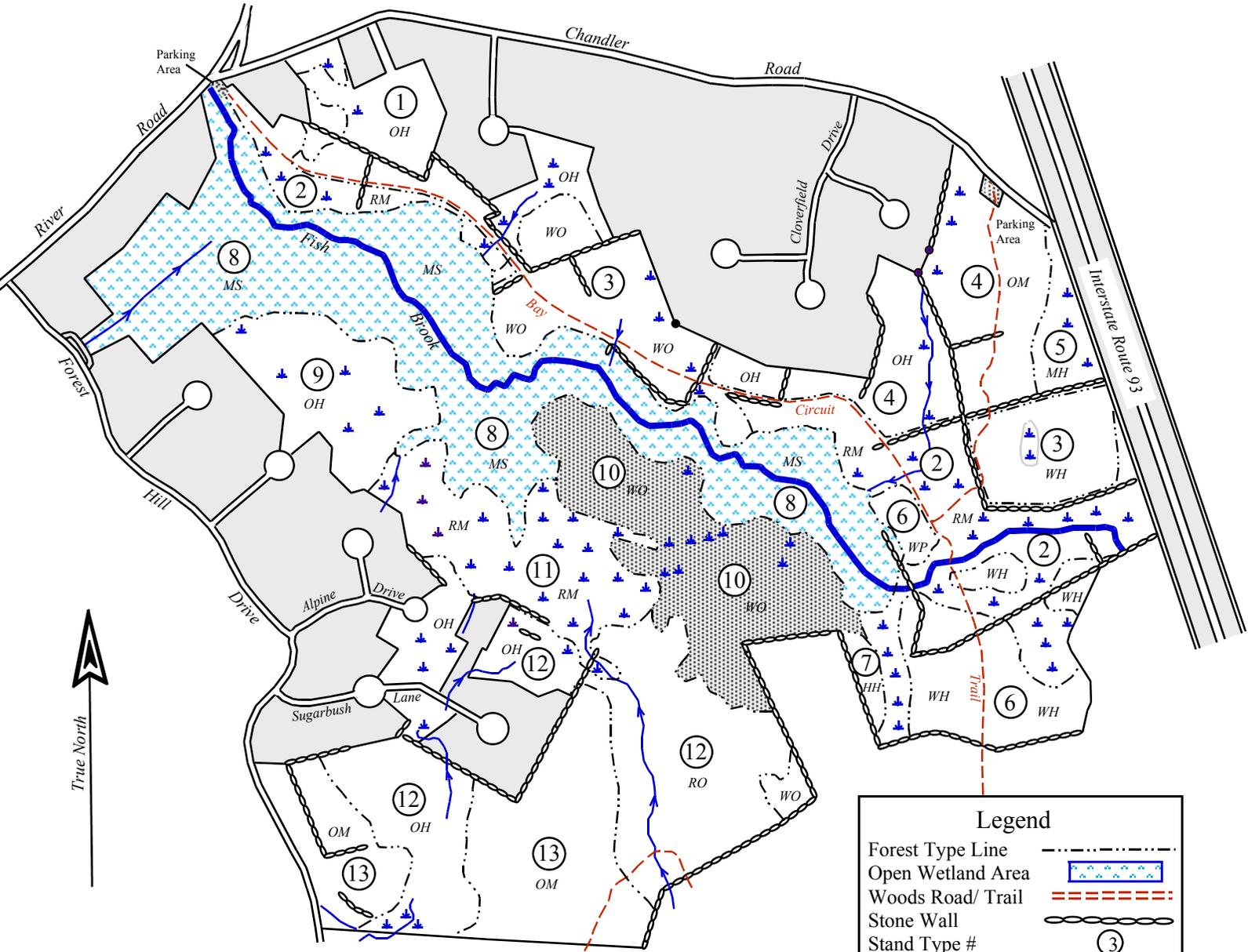


Prepared By:
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Consulting Forester
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978-433-8780
5/12/2014

BOUNDARY & STAND TYPE MAP

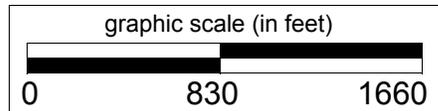
Land in Andover, MA
Fish Brook North Reservation
337-Acres

Owned By:
Town of Andover
Andover Conservation Commission



Legend	
Forest Type Line	--- · ---
Open Wetland Area	
Woods Road/ Trail	--- · ---
Stone Wall	— · — · — · —
Stand Type #	③
Stream	→ →
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Iron Pipe	●
Parking Area	
Wooded Wetland Area	
Old Growth Mgt. Area	

Map based on:
GPS Field Work and
Andover Tax Maps,
2014





**New England
Forestry Consultants, Inc.**

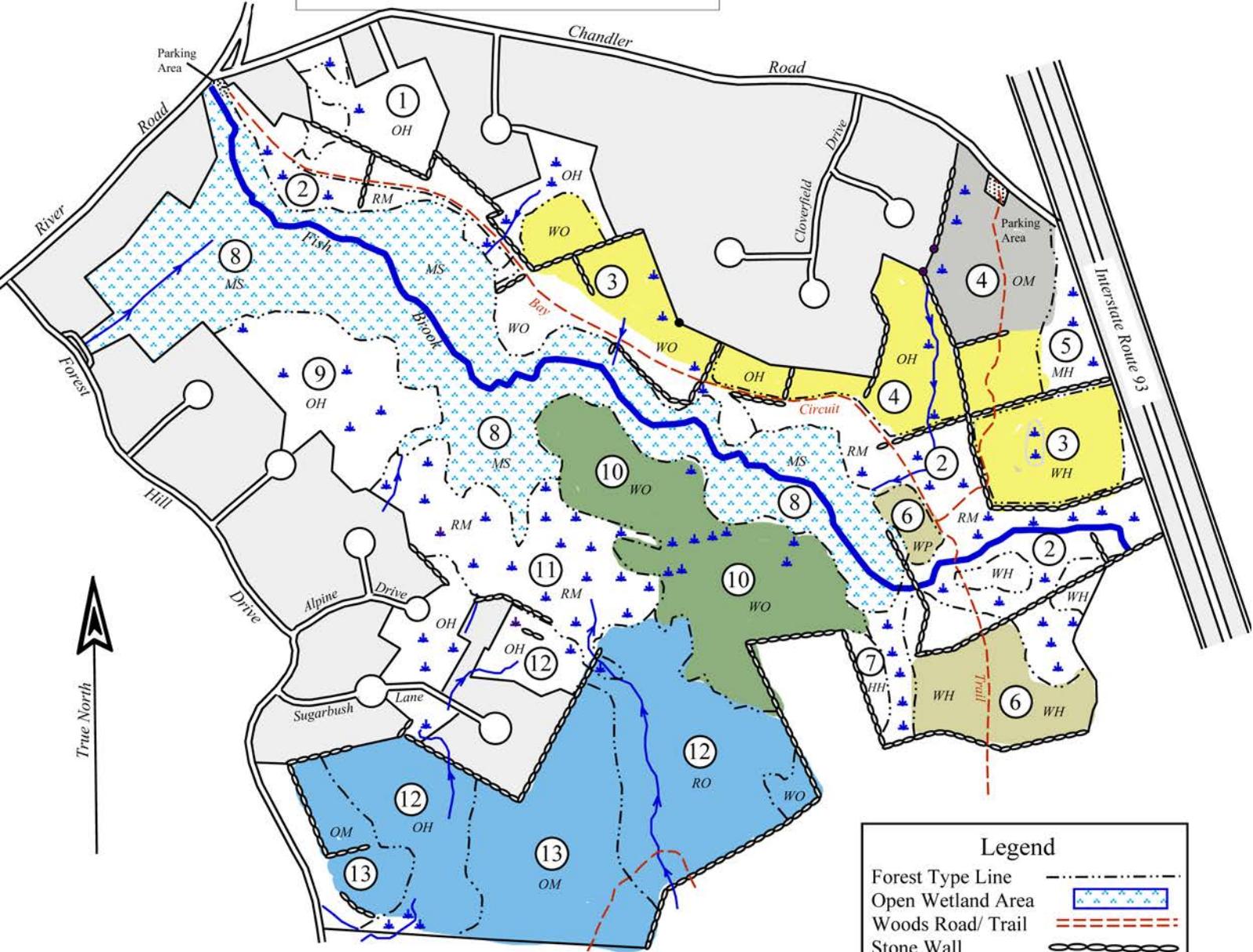
Prepared By:
Gary H. Gouldrup
Consulting Forester
72 Townsend Street
Pepperell, MA 01463
978-433-8780
5/12/2014



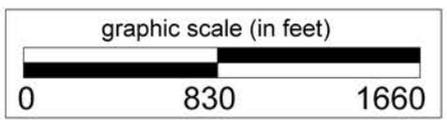
BOUNDARY & STAND TYPE MAP

Land in Andover, MA
Fish Brook North Reservation
337-Acres

Owned By:
Town of Andover
Andover Conservation Commission



Map based on:
GPS Field Work and
Andover Tax Maps,
2014



Legend	
Forest Type Line	- - - - -
Open Wetland Area	
Woods Road/ Trail	
Stone Wall	
Stand Type #	
Stream	
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Iron Pipe	
Parking Area	
Wooded Wetland Area	

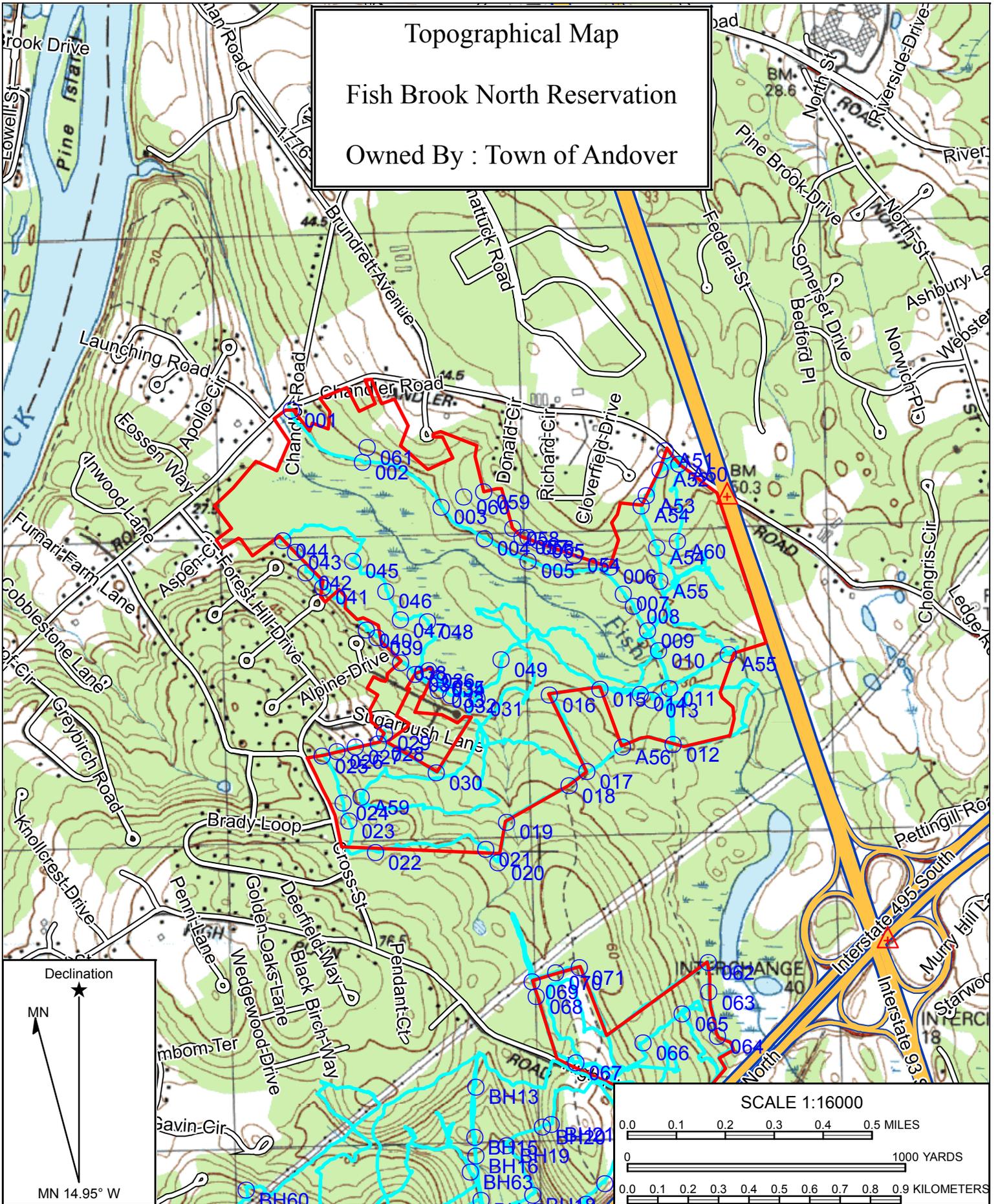
Fish Brook North Reservation
Town of Andover
Andover, MA
2013 Aerial Photo



Prepared by:
New England Forestry Consultants, Inc
Sherman R. Small, Consulting Forester
Maine License # LF655
New Hampshire License # 409
May 10, 2014

Sketch map for management and planning purposes only, NOT A LEGAL SURVEY
Data obtained from MASS GIS, & New England Forestry Consultants, Inc.

Topographical Map
 Fish Brook North Reservation
 Owned By : Town of Andover



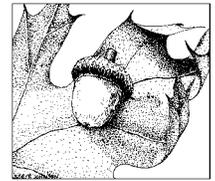
Name: LAWRENCE
 Date: 06/06/14
 Scale: 1 inch = 1,333 ft.

Location: 042° 40' 26.37" N 071° 12' 36.27" W
 Caption: Fish Brook North Reservation



FOREST MANAGEMENT PLAN

Submitted to: Massachusetts Department of Conservation and Recreation
For enrollment in CH61/61A/61B and/or Forest Stewardship Program



CHECK-OFFS					Administrative Box			
CH61 cert. <input type="checkbox"/>	CH61A cert. <input type="checkbox"/>	CH61B cert. <input type="checkbox"/>	STWSHP new <input checked="" type="checkbox"/>	C-S EEA <input type="checkbox"/>	Case No. _____	Orig. Case No. _____		
recert. <input type="checkbox"/>	recert. <input type="checkbox"/>	recert. <input type="checkbox"/>	renew <input type="checkbox"/>	Other <input type="checkbox"/>	Owner ID _____	Add. Case No. _____		
amend <input type="checkbox"/>	amend <input type="checkbox"/>	amend <input type="checkbox"/>	Green Cert <input type="checkbox"/>		Date Rec'd _____	Ecoregion _____		
Plan Change: _____ to _____				Conservation Rest. <input type="checkbox"/>	Plan Period _____	Topo Name <u>Lawrence</u>		
				CR Holder _____	Rare Sp. Hab. _____	River Basin <u>Merrimac</u>		

OWNER, PROPERTY, and PREPARER INFORMATION

Property Owner(s) Town of Andover, Andover Conservation Commission (Bald Hill/ Wood Hill Reservation)

Mailing Address Town Offices, 36 Bartlet Street, Andover, MA 01810 Phone 978-420-3678

Property Location: Town(s) Andover Road(s) High Plain Road

Plan Preparer Gary H. Gouldrup, New England Forestry Cons., Inc. Mass. Forester License # 81

Mailing Address 72 Townsend Street, Pepperell, MA 01463 Phone 978-433-8780

RECORDS

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A/61B Excluded Acres	Ch61/61A/61B Certified Acres	Stewardship Excluded Acres	Stewardship Acres
*	*	*	*	230.29	NA	NA	17.73	212.56
TOTALS				230.29	NA	NA	17.73	212.56

Excluded Area Description(s) (if additional space needed, continue on separate paper)

There are 17.73 -acres to be excluded from Forest Stewardship Management. The area includes a 8.98-acre powerline and a 8.75-acre transfer station.

HISTORY Year acquired Periodically since 1962 Year management began UK

Is subdivision plan on file with municipality? Yes No

Are boundaries blazed/painted/flagged/signs posted? (circle all that apply) Yes No Partially

Have forest products been cut within past 2 years? Yes No

What treatments have been prescribed, but not carried out (last 10 years if plan is a recert.)?

Stand no. NA Treatment NA Reason NA

(if additional space needed, continue on separate page)

Previous Management Practices (last 10 years)

Stand #	Cutting Plan #	Treatment	Yield	Value	Acres	Date
*						

Remarks: (if additional space needed, continue on separate page)

**Please see Page 2 for Map & Lot information and Previous Management Practices.
This is the first Forest Stewardship Plan prepared for the property.*

RECORDS (continued)

Assessor's Map No.	Lot/Parcel No.	Deed Book	Deed Page	Total Acres	Ch61/61A/61B Excluded Acres	Ch61/61A/61B Certified Acres	Stewardship Excluded Acres	Stewardship Acres
217	3H	1874	158	2.36	NA	NA	0.00	2.36
218	13	7482	43	8.58	NA	NA	0.00	8.58
217	1U	2171	306	7.45	NA	NA	0.00	7.45
208	7	3715	177	2.46	NA	NA	0.00	2.46
208	3	956	448	10.21	NA	NA	2.22	7.99
218	8F	6541	43	10.35	NA	NA	2.34	8.01
209	4A	1167	694	35.90	NA	NA	3.81	32.09
219	13	7482	43	13.71	NA	NA	0.61	13.10
209	2	4130	136	3.29	NA	NA	0.00	3.29
209	1	51	189	39.62	NA	NA	0.00	39.62
219	18C	2724	112	4.63	NA	NA	0.00	4.63
210	5	51	189	6.04	NA	NA	0.00	6.04
210	2B	7554	1	3.36	NA	NA	0.00	3.36
210	4A	2769	31	1.40	NA	NA	0.00	1.40
210	6	1259	679	10.38	NA	NA	0.00	10.38
193	3	1294	232	63.20	NA	NA	8.75	53.52
209	4	UK	UK	2.96	NA	NA	0.00	2.96
210	4	UK	UK	3.28	NA	NA	0.00	3.28
219	7A	UK	UK	1.11	NA	NA	0.00	1.11
TOTALS				230.29	NA	NA	17.73	212.56

EXCLUDED AREA DESCRIPTION (continued):

There are 17.73 -acres to be excluded from Forest Stewardship Management. The area includes a 8.98-acre powerline right-of-way and a 8.75-acre transfer station.

HISTORY (continued):

The property has been periodically acquired since 1962. No timber management has occurred on the property while being owned by the Town of Andover. The Andover Trails Committee has established trails throughout the property.

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation

Town(s) Andover



Property Overview, Regional Significance, and Management Summary

The 230-acre Bald Hill and Wood Hill Reservation is located in a western section of Andover with road frontage on High Plain Road and Haggetts Pond Road. Interstate Route 495 is the properties eastern boundary. The Virginia Hammond Reservation (43.5-acres), the Harold Rafton Reservation (226-acres), and the Fish Brook North Reservation (337-acres) are all located on the north side of the property. Together, these properties comprise over 835-acres of contiguous conservation lands. The abutting properties to the west are primarily residential ownerships in urban developments.

The property lies in the Merrimack River Watershed. Water that passes through the property flows into Haggetts Pond approximately 1,500 feet to the east on the east side of Route 495. Water then flows approximately 2-miles north into the Merrimack River. Water is pumped south from the junction of the Merrimack River and Fish Brook back to Haggetts Pond. Haggetts Pond is the primary drinking water supply of the Town of Andover.

The forest stewardship land is comprised of mature white pine and mixed hardwood woodlands (33%), mixed oak and hardwood woodlands (47%), red maple forested wetlands (10%), abandoned field (2%), open powerline (4%), and an open transfer station (4%). Timber resource quality ranges from poor to high. The hemlock woolly adelgid was found in the mature hemlock trees on the property. A quarantine of white ash forest products in Essex County was recently imposed by the USDA due to the presence of the Emerald Ash Borer found in North Andover. The white ash trees will be monitored during this ten year management period for its presence.

Forest regeneration is a concern at the Bald Hill and Wood Hill Reservation due to the high white-tailed deer population in the local area. The Massachusetts Division of Fisheries and Wildlife estimates that there are somewhere in the range of 20-30 deer per square mile. A healthy deer population would be preferably less than 10 deer per square mile. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 25-acres on the east side of Wood Hill Road that were harvested approximately 30-years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, Norway maple, and Japanese barberry are all growing on the property.

Forest soils on the upland sections of the property include well and moderately well drained fine sandy loam (Canton-Hinckley-Woodbridge-Paxton-Montauk). Wetland resource areas and drainage ways are poorly drained and consist of fine sandy loam, loamy sand, and organic muck soils (Ridgebury-Leicester-Scarboro-Freetown-Windsor-Ninigret-Whitman). The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement, forest regeneration establishment and development, biological diversity and invasive species control, recreation enhancement along the trails, cultural resource protection, and wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat.

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation

Town(s) Andover

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Property Overview, Regional Significance, and Management Summary

The *Andover Trails Guide* provides some very interesting history about the property. “Although Wood Hill Road is now little more than a trail in some places, the stone walls on either side, the occasional ruins of a building, and some very large trees that once shaded the front yards of houses nearby, are evidence of its former importance. Back from the road, a few stone walls suggest that the area may once have been used as pasture land. It is also likely, however, that these forests provided woodlots for farmers along the Merrimac River and the people in the town, thus producing the name Bald Hill. The prime blueberry picking area at its summit was helped by the occasional fires in the 1930’s that kept the tree growth down, ensuring a steady supply of sturdy young blueberry bushes.” “The 370-foot high Wood Hill was the site of an airplane beacon that had to be turned off during World War II blackouts. The hilltop is now home to radio and cellular phone towers and two of Andover’s reservoirs.”

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation

Town(s) Andover

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Landowner Goals

Please **check** the column that best reflects the importance of the following goals:

Goal	Importance to Me			
	High	Medium	Low	Don't Know
Enhance the Quality/Quantity of Timber Products*		X		
Generate Immediate Income			X	
Generate Long Term Income			X	
Produce Firewood			X	
Promote Biological Diversity	X			
Enhance Habitat for Birds	X			
Enhance Habitat for Small Animals	X			
Enhance Habitat for Large Animals	X			
Improve Access for Walking/Skiing/Recreation		X		
Maintain or Enhance Privacy		X		
Improve Hunting		X		
Improve Fishing		X		
Preserve or Improve Scenic Beauty		X		
Protect Water Quality	X			
Protect Unique/Special/ Cultural Areas			X	
Other: Attain Green Certification				X
Other: Public Education & Outreach	X			

* **This goal must be checked "HIGH" if you are interested in classifying your land under Chapter 61/61A.**

1. In your own words please describe your goals for the property:

The Town of Andover would like to improve and protect the forest resources on the Bald Hill/ Wood Hill Reservation property for the benefit of the residents of Andover. These goals will be accomplished by periodically harvesting timber resources, promoting biological diversity, improving and maintaining the trails system, enhancing wildlife habitat, and educating the public on forest stewardship matters.

Stewardship Purpose

By enrolling in the Forest Stewardship Program and following a Stewardship Plan, I understand that I will be joining with many other landowners across the state in a program that promotes ecologically responsible resource management through the following actions and values:

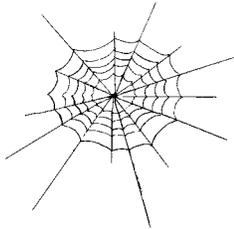
1. Managing for long-term forest health, productivity, diversity, and quality.
2. Conserving or enhancing water quality, wetlands, soil productivity, biodiversity, cultural, historical and aesthetic resources.
3. Following a strategy guided by well-founded silvicultural principles to improve timber quality and quantity when wood products are a goal.
4. Setting high standards for foresters, loggers and other operators as practices are implemented; and minimizing negative impacts.
5. Learning how woodlands benefit and affect surrounding communities, and cooperation with neighboring owners to accomplish mutual goals when practical.

Signature(s): _____

Date: _____

Stewardship Issues

Massachusetts is a small state, but it contains a tremendous variety of ecosystems, plant and animal species, management challenges, and opportunities. This section of your plan will provide background information about the Massachusetts forest landscape as well as issues that might affect your land. **The Stand Descriptions and Management Practices sections of your plan will give more detailed property specific information** on these subjects tailored to your management goals.



Biodiversity: Biological diversity is, in part, a measure of the variety of plants and animals, the communities they form, and the ecological processes (such as water and nutrient cycling) that sustain them. With the recognition that each species has value, individually and as part of its natural community, maintaining biodiversity has become an important resource management goal.

While the biggest threat to biodiversity in Massachusetts is the loss of habitat to development, another threat is the introduction and spread of invasive non-native plants. Non-native invasives like European Buckthorn, Asiatic Bittersweet, and Japanese Honeysuckle spread quickly, crowding out or smothering native species and upsetting and dramatically altering ecosystem structure and function. Once established, invasives are difficult to control and even harder to eradicate. Therefore, vigilance and early intervention are paramount.

Another factor influencing biodiversity in Massachusetts concerns the amount and distribution of forest growth stages. Wildlife biologists have recommended that, for optimal wildlife habitat on a landscape scale, 5-15% of the forest should be in the seedling stage (less than 1" in diameter). Yet we currently have no more than 2-3% early successional stage seedling forest across the state. There is also a shortage of forest with large diameter trees (greater than 20"). See more about how you can manage your land with biodiversity in mind in the "Wildlife" section below. (Also refer to *Managing Forests to Enhance Wildlife Diversity in Massachusetts* and *A Guide to Invasive Plants in Massachusetts* in the binder pockets.)

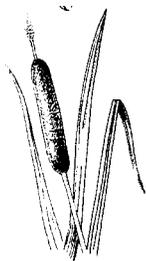


Rare Species: Rare species include those that are **threatened** (abundant in parts of its range but declining in total numbers, those of **special concern** (any species that has suffered a decline that could threaten the species if left unchecked), and **endangered** (at immediate risk of extinction and probably cannot survive without direct human intervention). Some species are threatened or endangered globally, while others are common globally but rare in Massachusetts.

Of the 2,040 plant and animal species (not including insects) in Massachusetts, 424 are considered rare. About 100 of these rare species are known to occur in woodlands. Most of these are found in wooded wetlands, especially vernal pools. These temporary shallow pools dry up by late summer, but provide crucial breeding habitat for rare salamanders and a host of other unusual forest dwelling invertebrates. Although many species in Massachusetts are adapted to and thrive in recently disturbed forests, rare species are often very sensitive to any changes in their habitat

Indispensable to rare species protection is a set of maps maintained by the Division of Fisheries and Wildlife's Natural Heritage & Endangered Species Program (NHESP) that show current and historic locations of rare species and their habitats. The maps of your property will be compared to these rare species maps and the result indicated on the upper right corner of the front page of the plan. Prior to any

regulated timber harvest, if an occurrence does show on the map, the NHESP will recommend protective measures. Possible measures include restricting logging operations to frozen periods of the year, or keeping logging equipment out of sensitive areas. You might also use information from NHESP to consider implementing management activities to improve the habitat for these special species.



Riparian and Wetlands Areas: Riparian and wetland areas are transition areas between open water features (lakes, ponds, streams, and rivers) and the drier terrestrial ecosystems. More specifically, a **wetland** is an area that has hydric (wet) soils and a unique community of plants that are adapted to live in these wet soils. Wetlands may be adjacent to streams or ponds, or a wetland may be found isolated in an otherwise drier landscape. A **riparian area** is the transition zone between an open water feature and the uplands (see Figure 1). A riparian zone may contain wetlands, but also includes areas

with somewhat better drained soils. It is easiest to think of riparian areas as the places where land and water meet.

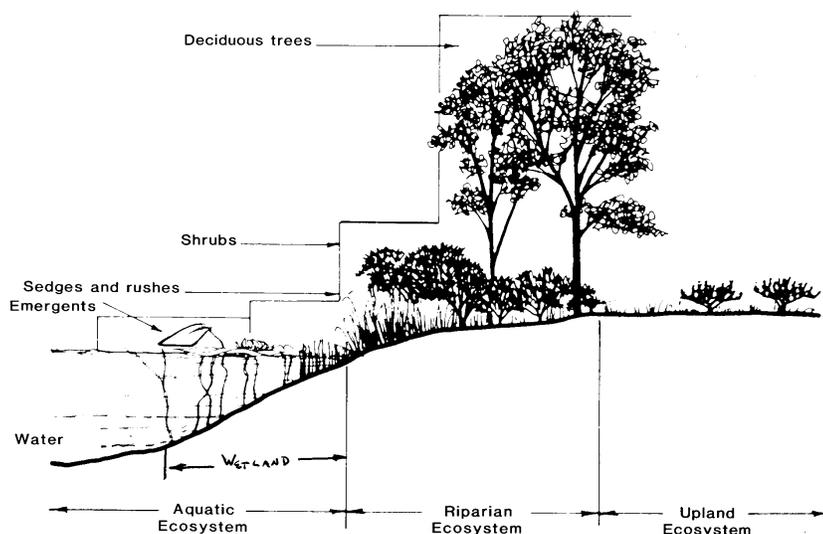


Figure 1: Example of a riparian zone.

The presence of water in riparian and wetland areas make these special places very important. Some of the functions and values that these areas provide are described below:

Filtration: Riparian zones capture and filter out sediment, chemicals and debris before they reach streams, rivers, lakes and drinking water supplies. This helps to keep our drinking water cleaner, and saves communities money by making the need for costly filtration much less likely.

Flood control: By storing water after rainstorms, these areas reduce downstream flooding. Like a sponge, wetland and riparian areas absorb stormwater, then release it slowly over time instead of in one flush.

Critical wildlife habitat: Many birds and mammals need riparian and wetland areas for all or part of their life cycles. These areas provide food and water, cover, and travel corridors. They are often the most important habitat feature in Massachusetts' forests.

Recreational opportunities: Our lakes, rivers, streams, and ponds are often focal points for recreation. We enjoy them when we boat, fish, swim, or just sit and enjoy the view.

In order to protect wetlands and riparian areas and to prevent soil erosion during timber harvesting activities, Massachusetts promotes the use of “Best Management Practices” or BMPs. Maintaining or reestablishing the protective vegetative layer and protecting critical areas are the two rules that underlie these common sense measures. DEM’s Massachusetts Forestry Best Practices Manual (included with this plan) details both the legally required and voluntary specifications for log landings, skid trails, water bars, buffer strips, filter strips, harvest timing, and much more.

The two Massachusetts laws that regulate timber harvesting in and around wetlands and riparian areas are the Massachusetts Wetlands Protection Act (CH 131), and the Forest Cutting Practices Act (CH132). Among other things, CH132 requires the filing of a cutting plan and on-site inspection of a harvest operation by a DEM Service Forester to ensure that required BMPs are being followed when a commercial harvest exceeds 25,000 board feet or 50 cords (or combination thereof).



Soil and Water Quality: Forests provide a very effective natural buffer that holds soil in place and protects the purity of our water. The trees, understory vegetation, and the organic material on the forest floor reduce the impact of falling rain, and help to insure that soil will not be carried into our streams and waterways.

To maintain a supply of clean water, forests must be kept as healthy as possible. Forests with a diverse mixture of vigorous trees of different ages and species can better cope with periodic and unpredictable stress such as insect attacks or windstorms.

Timber harvesting must be conducted with the utmost care to ensure that erosion is minimized and that sediment does not enter streams or wetlands. Sediment causes turbidity which degrades water quality and can harm fish and other aquatic life. As long as Best Management Practices (BMPs) are implemented correctly, it is possible to undertake active forest management without harming water quality.



Forest Health: Like individual organisms, forests vary in their overall health. The health of a forest is affected by many factors including weather, soil, insects, diseases, air quality, and human activity. Forest owners do not usually focus on the health of a single tree, but are concerned about catastrophic events such as insect or disease outbreaks that affect so many individual trees that the whole forest community is impacted.

Like our own health, it is easier to prevent forest health problems than to cure them. This preventative approach usually involves two steps. First, it is desirable to maintain or encourage a wide diversity of tree species and age classes within the forest. This diversity makes a forest less susceptible to a single devastating health threat. Second, by thinning out weaker and less desirable trees, well-spaced healthy individual trees are assured enough water and light to thrive. These two steps will result in a forest of vigorously growing trees that is more resistant to environmental stress.



Fire: Most forests in Massachusetts are relatively resistant to catastrophic fire. Historically, Native Americans commonly burned certain forests to improve hunting grounds. In modern times, fires most often result from careless human actions. The risk of an unintentional and damaging fire in your woods could increase as a result of logging activity if the slash (tree tops, branches, and debris) is not treated correctly.

Adherence to the Massachusetts slash law minimizes this risk. Under the law, slash is to be removed from buffer areas near roads, boundaries, and critical areas and lopped close to the ground to speed decay. Well-maintained woods roads are always desirable to provide access should a fire occur.

Depending on the type of fire and the goals of the landowner, fire can also be considered as a management tool to favor certain species of plants and animals. Today the use of prescribed burning is largely restricted to the coast and islands, where it is used to maintain unique natural communities such as sandplain grasslands and pitch pine/scrub oak barrens. However, state land managers are also attempting to bring fire back to many of the fire-adapted communities found elsewhere around the state.



Wildlife Management: Enhancing the wildlife potential of a forested property is a common and important goal for many woodland owners. Sometimes actions can be taken to benefit a particular species of interest (e.g., put up Wood Duck nest boxes). In most cases, recommended management practices can benefit many species, and fall into

one of three broad strategies. These are **managing for diversity, protecting existing habitat, and enhancing existing habitat.**

Managing for Diversity – Many species of wildlife need a variety of plant communities to meet their lifecycle requirements. In general, a property that contains a diversity of habitats will support a more varied wildlife population. A thick area of brush and young trees might provide food and cover for grouse and cedar waxwing; a mature stand of oaks provides acorns for foraging deer and turkey; while an open field provides the right food and cover for cottontail rabbits and red fox. It is often possible to create these different habitats on your property through active management. The appropriate mix of habitat types will primarily depend on the composition of the surrounding landscape and your objectives. It may be a good idea to create a brushy area where early successional habitats are rare, but the same practice may be inappropriate in the area's last block of mature forest.

Protecting Existing Habitat – This strategy is commonly associated with managing for rare species or those species that require unique habitat features. These habitat features include vernal pools, springs and seeps, forested wetlands, rock outcrops, snags, den trees, and large blocks of unbroken forest. Some of these features are rare, and they provide the right mix of food, water, and shelter for a particular species or specialized community of wildlife. It is important to recognize their value and protect their function. This usually means not altering the feature and buffering the resource area from potential impacts.

Enhancing Existing Habitat – This strategy falls somewhere between the previous two. One way the wildlife value of a forest can be enhanced is by modifying its structure (number of canopy layers, average tree size, density). Thinning out undesirable trees from around large crowned mast (nut and fruit) trees will allow these trees to grow faster and produce more food. The faster growth will also accelerate the development of a more mature forest structure, which is important for some species. Creating small gaps or forest openings generates groups of seedlings and saplings that provide an additional layer of cover, food, and perch sites.

Each of these three strategies can be applied on a single property. For example, a landowner might want to increase the habitat diversity by reclaiming an old abandoned field. Elsewhere on the property, a stand of young hardwoods might be thinned to reduce competition, while a “no cut” buffer is set up around a vernal pool or other habitat feature. The overview, stand description and management practice sections of this plan will help you understand your woodland within the context of the surrounding landscape and the potential to diversify, protect or enhance wildlife habitat.



Wood Products: If managed wisely, forests can produce a periodic flow of wood products on a sustained basis. Stewardship encompasses finding ways to meet your current needs while protecting the forest’s ecological integrity. In this way, you can harvest timber and generate income without compromising the opportunities of future generations.

Massachusetts forests grow many highly valued species (white pine, red oak, sugar maple, white ash, and black cherry) whose lumber is sold throughout the world. Other lower valued species (hemlock, birch, beech, red maple) are marketed locally or regionally, and become products like pallets, pulpwood, firewood, and lumber. These products and their associated value-added industries contribute between 200 and 300 million dollars annually to the Massachusetts economy.

By growing and selling wood products in a responsible way you are helping to our society’s demand for these goods. Harvesting from sustainably managed woodlands – rather than from unmanaged or poorly managed forest – benefits the public in a multitude of ways. The sale of timber, pulpwood, and firewood also provides periodic income that you can reinvest in the property, increasing its value and helping you meet your long-term goals. Producing wood products helps defray the costs of owning woodland, and helps private landowners keep their forestland undeveloped.



Cultural Resources: Cultural resources are the places containing evidence of people who once lived in the area. Whether a Native American village from 1,700 years ago, or the remains of a farmstead from the 1800’s, these features all tell important and interesting stories about the landscape, and should be protected from damage or loss.

Massachusetts has a long and diverse history of human habitation and use. Native American tribes first took advantage of the natural bounty of this area over 10,000 years ago. Many of these villages were located along the coasts and rivers of the state. The interior woodlands were also used for hunting, traveling, and temporary camps. Signs of these activities are difficult to find in today’s forests. They were obscured by the dramatic landscape impacts brought by European settlers as they swept over the area in the 17th and 18th centuries.

By the middle 1800’s, more than 70% of the forests of Massachusetts had been cleared for crops and pastureland. Houses, barns, wells, fences, mills, and roads were all constructed as woodlands were converted for agricultural production. But when the Erie Canal connected the Midwest with the eastern cities, New England farms were abandoned for the more productive land in the Ohio River valley, and the landscape began to revert to forest. Many of the abandoned buildings were disassembled and moved, but the supporting stonework and other changes to the landscape can be easily seen today.

One particularly ubiquitous legacy of this period is stone walls. Most were constructed between 1810 and 1840 as stone fences (wooden fence rails had become scarce) to enclose sheep within pastures, or to

exclude them from croplands and hayfields. Clues to their purpose are found in their construction. Walls that surrounded pasture areas were comprised mostly of large stones, while walls abutting former cropland accumulated many small stones as farmers cleared rocks turned up by their plows. Other cultural features to look for include cellar holes, wells, old roads and even old trash dumps.



Recreation and Aesthetic Considerations: Recreational opportunities and aesthetic quality are the most important values for many forest landowners, and represent valid goals in and of themselves. Removing interfering vegetation can open a vista or highlight a beautiful tree, for example. When a landowner's goals include timber, thoughtful forest management can be used to accomplish silvicultural objectives while also reaching recreational and/or aesthetic objectives. For example, logging trails might be designed to provide a network of cross-country ski trails that lead through a variety of habitats and reveal points of interest.

If aesthetics is a concern and you are planning a timber harvest, obtain a copy of this excellent booklet: *A Guide to Logging Aesthetics: Practical Tips for Loggers, Foresters & Landowners*, by Geoffrey T. Jones, 1993. (Available from the Northeast Regional Agricultural Engineering Service, (607) 255-7654, for \$7). Work closely with your consultant to make sure the aesthetic standards you want are included in the contract and that the logger selected to do the job executes it properly. The time you take to plan ahead of the job will reward you and your family many times over with a fuller enjoyment of your forest, now and well into the future.

This is your Stewardship Plan. It is based on the goals that you have identified. The final success of your Stewardship Plan will be determined first, by how well you are able to identify and define your goals, and second, by the support you find and the resources you commit to implement each step.

It can be helpful and enjoyable to visit other properties to sample the range of management activities and see the accomplishments of others. This may help you visualize the outcome of alternative management decisions and can either stimulate new ideas or confirm your own personal philosophies. Don't hesitate to express your thoughts, concerns, and ideas. Keep asking questions! Please be involved and enjoy the fact that you are the steward of a very special place.



STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	1	OH	9.10	11.7" DBH Sawtimber-Pole	100 sqft	2,250 BF & 18.0 Cds.	63 (RO)

Red oak, black oak, white oak and red maple dominate the overstory of this well stocked sawtimber and pole sized stand. The mixed oaks are generally poor to good in form and timber quality. The mixed hardwoods include red maple, hickory, white ash, black birch, yellow birch, and beech poles and sawtimber of poor to good form and timber quality. Scattered white pine stems are present as well. Forest regeneration is poor to fair due to the dense overstory canopy, dense shrub layer in the wetland resource areas, and a high deer population. Scattered hardwood and white pine saplings are present. The understory vegetation includes highbush blueberry, arrowwood, witch hazel, Japanese barberry, buckthorn, and honeysuckle. The area is flat to gently sloped with moderately well drained fine sandy loam soils in the upland areas (Windsor), and very poorly drained soils in the wetland resource areas along the seasonal stream that runs through the stand (Scarboro-Ninigret-Pipestone). The soils are capable of producing high quality timber resources in the upland areas. No management is recommended in this stand due to poor access and location of wetland resource areas. The desired future condition is a stand that provides habitat for wildlife and protects water quality.

STEW	2	OM	17.03	8.0" DBH Pole	100 sqft	375 BF & 21.0 Cds.	60 (RO)
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Black oak and red oak dominate the overstory of this fully stocked pole sized stand. The black and red oak stems are poor to good in form and timber quality. Scattered red maple, white pine, and hickory poles of poor to good form and timber quality can also be found. Forest regeneration consists of scattered pockets of white pine saplings. The understory vegetation includes lowbush blueberry, huckleberry, and witch hazel. The area is flat to gently sloped with well drained fine sandy loam soils (Canton) capable of producing high quality timber resources. Management in the future will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public. Maintaining and improving aesthetics will be important near residential dwellings.

STEW	3	RM	8.64	9.5" DBH Pole	110 sqft	1,500 BF & 21.4 Cds.	55 (RM)
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Red maple is the dominant overstory species in this adequately stocked pole and small sawtimber sized stand. The red maple stems are poor to fair in form and timber quality. Scattered swamp white oak and white pine poles and sawtimber of poor to good form and timber quality can also be found. Forest regeneration is limited due to the dense understory vegetation which includes highbush blueberry, spicebush, ferns, skunk cabbage, Japanese barberry, firebush, and other wetland plants and shrubs. The area is flat, rocky and hummocky in spots, with very poorly drained soils (Pipestone-Freetown). No management is recommended at this time. Improvement thinning in the drier sites could be timed with harvesting conducted in adjacent stands. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
 STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	4	WO	17.03	11.4" DBH Sawtimber-Pole	125 sqft	6,750 BF. & 19.8 Cds.	63 (WP)

White pine and mixed oaks are the dominant overstory species in this variably stocked stand. Species composition, stand density and size class varies throughout the area. Areas north of the powerline right-of-way are heavily stocked with sawtimber sized stems. Areas south of the powerline are comprised of early successional and young forest habitat, pole sized stands, and pockets of mature sawtimber sized stems. The overall timber quality ranges from poor to good. Scattered red maple, hickory, hemlock, and mixed hardwoods can also be found. Forest regeneration is advanced in the southern sections of the stand and consists of white pine saplings. This stand provides good access for timber harvesting activities off of Homes Road. The area is flat moderately sloped with well drained fine sandy loam soils (Paxton) capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public. Maintaining and improving aesthetics will be important near residential dwellings.

STEW	5	OH	25.19	12.4" DBH Sawtimber	110 sqft	6,800 BF & 14.0 Cds.	63 (RO)
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Red oak, black oak, white oak and mixed hardwoods dominate the overstory of this overstocked sawtimber sized stand. The mixed oaks are generally poor to good in form and timber quality. The mixed hardwoods include red maple, hickory, white ash, black birch, yellow birch, and beech poles and sawtimber of poor to good form and timber quality. Scattered white pine stems are present as well. Forest regeneration is poor to fair due to the dense overstory canopy and high deer population, although scattered hardwood and white pine saplings are present. The understory vegetation includes highbush blueberry, arrowwood, witch hazel, Japanese barberry, buckthorn, and honeysuckle. The area is flat to moderately sloped, rocky in spots, with moderately well drained fine sandy loam soils (Paxton). The soils are capable of producing high quality timber resources. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public.

STEW	6	WH	55.10	12.4" DBH Sawtimber-Pole-Sapling	160 sqft	10,750 BF. & 14.1 Cds.	63 (WP)
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White pine and mixed oaks are the dominant overstory species in this variably stocked stand. Species composition, stand density, and size class varies throughout the area. Areas east of the woods road that divides the stand were harvested in a shelterwood thinning approximately 30-years ago. The white pine stems range from poor to good in form and timber quality. The mixed oaks also range from poor to good in form and timber quality. Scattered red maple, white ash, hickory, and birch poles and sawtimber are also present. Forest regeneration scattered and consists of white pine and mixed hardwood saplings. Areas that were thinned in the past have advanced mixed hardwood sapling growth that is approaching the small pole class in some areas. The area is flat to steeply sloped with well drained and moderately well drained fine sandy loam soils (Paxton-Woodbridge) capable of producing high quality timber resources. Development test pits can be found within the areas that were managed in the past on the east side of the woods road. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
 STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
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STEW	7	RM	14.10	7.8" DBH Pole	80 sqft	750 BF & 17.4 Cds.	55 (RM)
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Red maple is the dominant overstory species in this adequately stocked pole sized stand. The red maple stems are poor to fair in form and timber quality. Scattered white pine poles and sawtimber of poor to good form and timber quality can also be found. Forest regeneration is limited due to the dense understory vegetation which includes highbush blueberry, spicebush, ferns, skunk cabbage, Japanese barberry, firebush, buckthorn, and other wetland plants and shrubs. The area is flat, rocky and hummocky in spots, with very poorly drained soils (Pipestone-Freetown). This wetland resource area is situated between Bald Hill and Wood Hill. No management is recommended at this time. Improvement thinning in the drier sections of this stand could be timed with harvesting conducted in adjacent stands. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public, and protecting water quality.

STEW	8	AF	5.01	6.0" DBH Sapling-Pole	55 sqft	7.6 Cds.	63 (WP)
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This variably stocked abandoned field and early successional forest type is comprised of white pine and mixed hardwood pole and sapling sized stems. The overall form and timber quality is poor to fair. Mixed hardwoods include white ash, aspen, black oak, red oak, Norway maple, elm, red maple, and gray birch. Multiflora rose, buckthorn, honeysuckle, and bittersweet are all present in the stand. The soils in the area have been disturbed in the past, but appear to be able to produce high quality timber resources. Management will focus on controlling invasive species and possibly reclaiming early successional habitat for wildlife. The desired future condition is an area that provides habitat for wildlife and is growing native vegetation.

STEW	9	OH	5.01	10.1" DBH Sawtimber-Pole	130 sqft	4,000 BF & 22.0 Cds	63 (RO)
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Mixed oaks and mixed hardwoods dominate the overstory of this overstocked sawtimber and pole sized stand. Overall timber quality ranges from poor to good. The mixed oaks include red, white and black oak sawtimber and pole sized stems that range from poor to good in form and timber quality. The mixed hardwoods include red maple, hickory, white ash, birch, and Norway maple poles and sawtimber sized stems of poor to good form and timber quality. Individual and small pockets of white pine poles and sawtimber are present as well. Forest regeneration is poor due to the dense overstory canopy, invasive species, and high deer population. Firebush, buckthorn, Japanese barberry, and bittersweet are all growing in this area. A parking lot and dog park area, consisting of approximately 8/10ths of an acre, is located at one of the properties main access points off of High Plain Road. The area is gently sloped, rocky in spots, with moderately well and well drained fine sandy loam soils in the upland areas (Woodbridge-Paxton) and poorly drained soils (Ridgebury) in the wetland drainage areas near Route 495. The soils are capable of producing high quality timber resources. The primary use of this area will be for public parking and the dog park. No timber management will be conducted within this stand at this time. The desired future condition is a stand provides access and parking for the public and a dog park area.

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Owner(s) Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

STAND DESCRIPTIONS

OBJ	STD NO	TYPE	AC	MSD OR SIZE-CLASS	BA/AC	VOL/AC	SITE INDEX
STEW	10	MH	8.51	9.5" DBH Pole-Sawtimber	70 sqft	1,000 BF & 16.0 Cds.	63 (RO)

Mixed hardwoods dominate the overstory of this adequately stocked pole and small sawtimber sized stand. The mixed hardwoods include white ash, red maple, hickory, sugar maple, black cherry, aspen, red oak, and black oak poles and sawtimber of poor to good form and timber quality. A portion of the white ash trees are declining in health and some mortality has occurred. Large diameter sugar maple trees can be found along the abandoned woods road that runs north and south along this stands eastern boundary. Forest regeneration is limited due to the dense understory vegetation and invasive species. Bittersweet, buckthorn, firebush, honeysuckle, and Japanese barberry are all well established in many sections of the stand. Several cellar holes and foundations can be found at the intersection of the abandoned road and hiking trail. The area is gently to moderately sloped with moderately well drained fine sandy loam soils (Woodbridge-Paxton). The soils are capable of producing high quality timber resources. Man-made terraces can be found in areas just north of the brick foundation. This area may have been used as an orchard in the past. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public.

STEW	11	OM	43.17	12.4" DBH Pole-Sawtimber	105 sqft	4,225 BF. & 16.9 Cds.	63 (RO)
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Mixed oaks dominate the overstory of this fully stocked pole and sawtimber sized stand. Species composition, stand density and size class varies throughout the area. Red, black, and white oak poles and sawtimber range from poor to good in form and timber quality. The mixed hardwoods include red maple, white ash, hickory, and black birch poles and sawtimber of poor to good form and timber quality. Individual and small pockets of white pine white pine sawtimber and pole sized stems are present as well. Forest regeneration is scattered with advanced white pine saplings being the primary source. Most of the white pine regeneration can be found in the southwestern sections of the stand under a dense canopy. The understory vegetation also includes lowbush blueberry, huckleberry, and witch hazel. The area is gently to steeply sloped with mostly well drained fine sandy loam soils (Paxton) capable of producing high quality timber resources. A seasonally wet wetland resource area can be found at the bottom of Wood Hill in a southern section of the stand along Route 495. Management will focus on timber resource enhancement, wildlife and recreation enhancement, and aesthetic improvements. The desired future condition is a stand that is growing high quality timber resources in several size and age classes, while providing wildlife habitat and recreational opportunities for the public.

STEW	12	WH	5.16	12.4" DBH Sawtimber-Pole	160 sqft	10,750 BF. & 14.1 Cds.	63 (WP)
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White pine and mixed hardwoods dominate the overstory in this variably stocked stand. Species composition, stand density, and size class varies throughout the area. The white pine stems range from poor to good in form and timber quality. The mixed oaks also range from poor to good in form and timber quality. Scattered red maple, white ash, hickory, and birch poles and sawtimber are also present. Forest regeneration scattered and consists of white pine and mixed hardwood saplings. The area is flat to gently sloped with well drained and moderately well drained fine sandy loam soils (Canton-Montauk-Woodbridge) capable of producing high quality timber resources. No management will be conducted in this stand due to its close proximity to residential dwellings and poor access for timber harvesting practices. The stand will be left as a 'No Management Zone' and allowed to grow into old growth timber.

OBJECTIVE CODE: CH61 = stands classified under CH61/61A STEW= stands not classified under CH61/61A
 STD= stand AC= acre MSD= mean stand diameter MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Andover – Bald Hill/ Wood Reservation Town(s) Andover

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Timber Management

STEW 4 WO Selection Harvest 15+/- 30 sqft 30 MBF 2014-2023
Individual & Group & 525 Tons

Management will focus on individual stem and group selection harvesting techniques. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature white pine, mixed oak, and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality white pine and mixed oak poles and small sawtimber sized stems in order to improve their growth, development, and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

STEW 5 OH Selection Harvest 25+/- 30 sqft 44 MBF 2014-2023
Individual & Group & 750 Tons

Management will focus on individual stem and group selection harvesting. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature mixed oak and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality mixed oak and mixed hardwood poles and small sawtimber sized stems in order to improve their growth, development and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	6	WO	Selection Harvest Individual & Group	50+/-	35 sqft	140 MBF & 1,750 Tons	2014-2023

Management will focus on individual stem and group selection harvesting techniques. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature white pine, mixed oak, and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality white pine and mixed oak poles and small sawtimber sized stems in order to improve their growth, development, and future value. Some of the largest trees within the stand (25" DBH+) will be selected as "Legacy Trees" and retained for biological diversity. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

STEW	10	MH	Improvement Thin Individual & Group Selection	8+/-	20 sqft	3 MBF & 30 Cords	2014-2023
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Management will focus on improvement thinning in this poor quality mixed hardwood stand. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting the poorly formed, suppressed, and low quality stems of all sizes. Dead and dying white ash will be a priority for removal. Thinning around the best formed and highest quality sugar maple, red oak, and aspen poles and sawtimber sized stems will be done to encourage the regeneration of these species in the understory. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce and control the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. The cellar holes and foundations will be avoided and protected during the harvest. Removal of trees along the cellar holes and foundations will help protect these cultural resources from root damage. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
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Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

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MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	
STEW	11	OM	Improvement Thin Individual & Group Selection	40+/-	30 sqft	40 MBF & 160 Cords	2014-2023

Management will focus on individual stem and group selection harvesting. The target is to harvest approximately 25-33% of the overstory volume. Management will focus on harvesting mature mixed oak and hardwood sawtimber sized stems (16" DBH+) in order to improve growing conditions within this stand. Poorly formed, suppressed, and low quality stems of all sizes will also be harvested and utilized as firewood or wood chips. Harvesting will release the best formed and highest quality mixed oak poles and small sawtimber sized stems in order to improve their growth, development and future value. Mechanical cutting of invasive species in the understory, and scarifying the soils during timber harvesting activities, will be encouraged to reduce the spread of invasive species and prepare the understory for native tree regeneration. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires.

Wildlife Management

STEW	11	OM	Patch Clearcut Create Young Forest Habitat	3-8	105 sqft	21 MBF & 85 Cords	2014-2023
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Approximately 3-8 acres within this oak forest type will be patch clearcut to create early successional and young forest habitat for wildlife. 100% of the overstory volume will be removed in the timber harvesting operation. Forest regeneration sources will come from trees on the edges of the patch clearcut and from trees in adjacent stands. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires. The exact locations of the patch cuts will be determined at a later date, although they will be located in the highest elevations to enhance scenic vista opportunities as well. The above harvest volumes are based on 5-acres of patch cutting. This harvest may also expand into sections of Stand 5.

STEW	6	WH	Patch Clearcut Create Young Forest Habitat	3-8	160 sqft	53 MBF & 70 Cords	2014-2023
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Approximately 3-8 acres within this white pine Hardwood forest type will be patch clearcut to create early successional and young forest habitat for wildlife. 100% of the overstory volume will be removed in the timber harvesting operation. Forest regeneration sources will come from trees on the edges of the patch clearcut and from trees in adjacent stands. Efforts to reduce the invasive species in the understory will be done at this time through mechanical cutting. The desire is to have the soils slightly scarified to prepare the forest floor for the establishment of native regeneration in the understory. High value sawtimber will be sold as sawlogs, low quality hardwoods will be utilized as firewood, and tops of trees will be chipped and burned at wood burning facilities for generating electricity. Chipping the tops of trees will be important for protecting and improving aesthetics and reducing the threat of forest fires. The exact locations of the patch cuts will be determined at a later date. Areas that are generally flat will be the desired location for the patch clearcut harvest areas. This harvest may also expand into sections of Stand 8 where invasive species are prolific. The above volumes are based on 5-acres of patch cutting.

OBJECTIVE CODE: CH61 = Forest Products (for Ch. 61/61A) STEW= Stewardship Program practices
STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover
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MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Recreation Management
Trail Maintenance

The existing trails on the Bald Hill/ Wood Hill Reservation will be periodically maintained for the safety, enjoyment, and education of the residents of Andover. New trails may also be constructed over the next ten years of management. The existing trails on the property are maintained by local volunteers through the Andover Trails Committee. A portion of the Bay Circuit Trail runs through the property and is also maintained by local volunteers. Maps, trail tags, interpretive signs, and resting benches will all be variables associated with the management of the trails and the education of those who will be using the trails. Interpretive signs along the trails will help educate the property users about Forest Stewardship matters within the forest interior.

Biological Diversity

STEW 1-13 All Invasive Species Control 230+/- NA NA 2014-2023

The Conservation Commission is interested in promoting biological diversity on the property. Eliminating invasive and non-native trees, plants and shrubs will be done where these species exist and when economically feasible and practical. Invasive species on the property are prolific in some areas. Burning bush, buckthorn, bittersweet, honeysuckle, and Japanese barberry are all present on the property. Cutting the stems of invasive species with saws, or with other mechanical means, will help reduce and control the spread of the invasive species. Controlling the invasive species through well timed timber management activities is another management tool. Encouraging vigorous growth of native tree species in the forest understory will be accomplished by scarifying the soil prior to seed dissemination. Another biodiversity issue is the distribution of forest growth stages. Trying to maintain multiple forest age and size classes on the property will also be pursued by the landowner on this property through periodic timber harvests and wildlife habitat management. Trees that exceed 25" DBH will be selected and managed as "Legacy Trees". No-cut Old Growth Management zones will also be observed in sections of stands 2, 3, 6, & 7. Please see the Stand Type and Boundary Map on page 22 for the location of the old growth no-cut zones. Please also see the Biological Diversity issues on page #7 for more details.

Wildlife Management

STEW 1-12 All White-tailed Deer Control 230+/- NA NA 2014-2023

The Town of Andover will seek council from the Massachusetts Department of Fish & Game about the local deer population. The Conservation Commission will continue the current white-tailed deer hunting program in order to reduce the very high population of deer within the Bald Hill/ Wood Hill Reservation. Permits to hunt on the property are issued annually by the Commission. Currently, the deer are having an impact on the regeneration of trees and vegetation on the property. Deer browse and forest regeneration plots will be established on the property for monitoring the effects of the deer on the understory vegetation. Mass Fish & Game biologists estimate that there are approximately 20-30 deer per square mile in the area. A healthy population of deer is recommended to be less than 10-deer per square mile.

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Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover
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MANAGEMENT PRACTICES
to be done within next 10 years

OBJ	STD NO	TYPE	SILVICULTURAL PRESCRIPTION	AC	TO BE REMOVED		TIMING
					BA/AC	TOT VOL	

Cultural Resource Protection

STEW 10 MH Cellar Holes & Foundations 2+/- NA NA 2014-2023

Efforts to protect the existing cellar holes and foundations along the Bald Hill access road will be accomplished by cutting and removing vegetation in and along the edges of these resources. The removal of trees will keep roots from damaging the stone and brick construction. Wells and stone walls in the area will be avoided during timber harvesting operations that may occur in or near this stand.

Boundary Maintenance

STEW All All Blaze & Paint 230+/- NA NA 2014-2023
Property Signs

The Bald Hill/ Wood Hill Reservation is surrounded by several residential developments in the northern and western sections of the property. Most of these property lines have not been identified and some are difficult to locate without survey plans. These areas in particular, will be a priority for identification over the next ten years of management. The Conservation Commission will consider property signs as well as blazing and painting trees along the property line for identification purposes. Please see the Boundary & Stand Type Map for boundary evidence found.

Forest Stewardship Education

Educating the public through workshops, signs, the local media and cable television networks, maps, brochures, and interpretive walks will assure that visitors using the property have had an opportunity to learn about and respond to the practices that have been recommended and completed in this plan.

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STD= stand Type= Forest type AC= acre MBF= thousand board feet BA= basal area VOL= volume

Owner(s) Town of Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

Signature Page

Please check each box that applies.

CH. 61/61A Management Plan I attest that I am familiar with and will be bound by all applicable Federal, State, and Local environmental laws and /or rules and regulations of the Department of Conservation and Recreation. I further understand that in the event that I convey all or any portion of this land during the period of classification, I am under obligation to notify the grantee(s) of all obligations of this plan which become his/hers to perform and will notify the Department of Conservation and Recreation of said change of ownership.

Forest Stewardship Plan. I pledge to abide by the management provisions of this Stewardship Management Plan for a period of at least ten years, following approval. I understand that in the event that I convey all or a portion of the land described in this plan during the period of the plan, I will notify the Department of Conservation and Recreation of this change in ownership.

Signed under the pains of perjury:

Owner(s) _____ Date _____

_____ Date _____

I attest that I have prepared this plan in good faith to reflect the landowner's interest.

Plan Preparer _____ Date _____

I attest that the plan satisfactorily meets the requirements of CH61/61A and/or the Forest Stewardship Program.

Approved, Service Forester _____ Date _____

Approved, Regional Supervisor _____ Date _____

In the event of a change of ownership of all or part of the property, the new owner must file an amended Ch. 61/61A plan within 90 days from the transfer of title to insure continuation of Ch. 61/61A classification.

Owner(s) Andover – Bald Hill/ Wood Hill Reservation Town(s) Andover

Page 21 of 25



Prepared By:
Gary H. Gouldrup
Consulting Forester
72 Townsend Street
Pepperell, MA 01463
978-433-8780
5/12/2014

- 25-33% thinning of overstory
- Old Growth, non-disturb
- Cultural Preservation - foundations
- Clearing for vista & habitat

BOUNDARY & STAND TYPE MAP

Land in Andover, MA
Bald Hill-Wood Hill Reservation
232-Acres

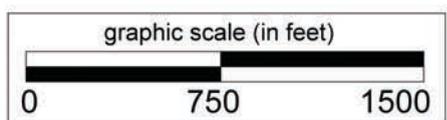
Owned By:
Town of Andover
Andover Conservation Commission



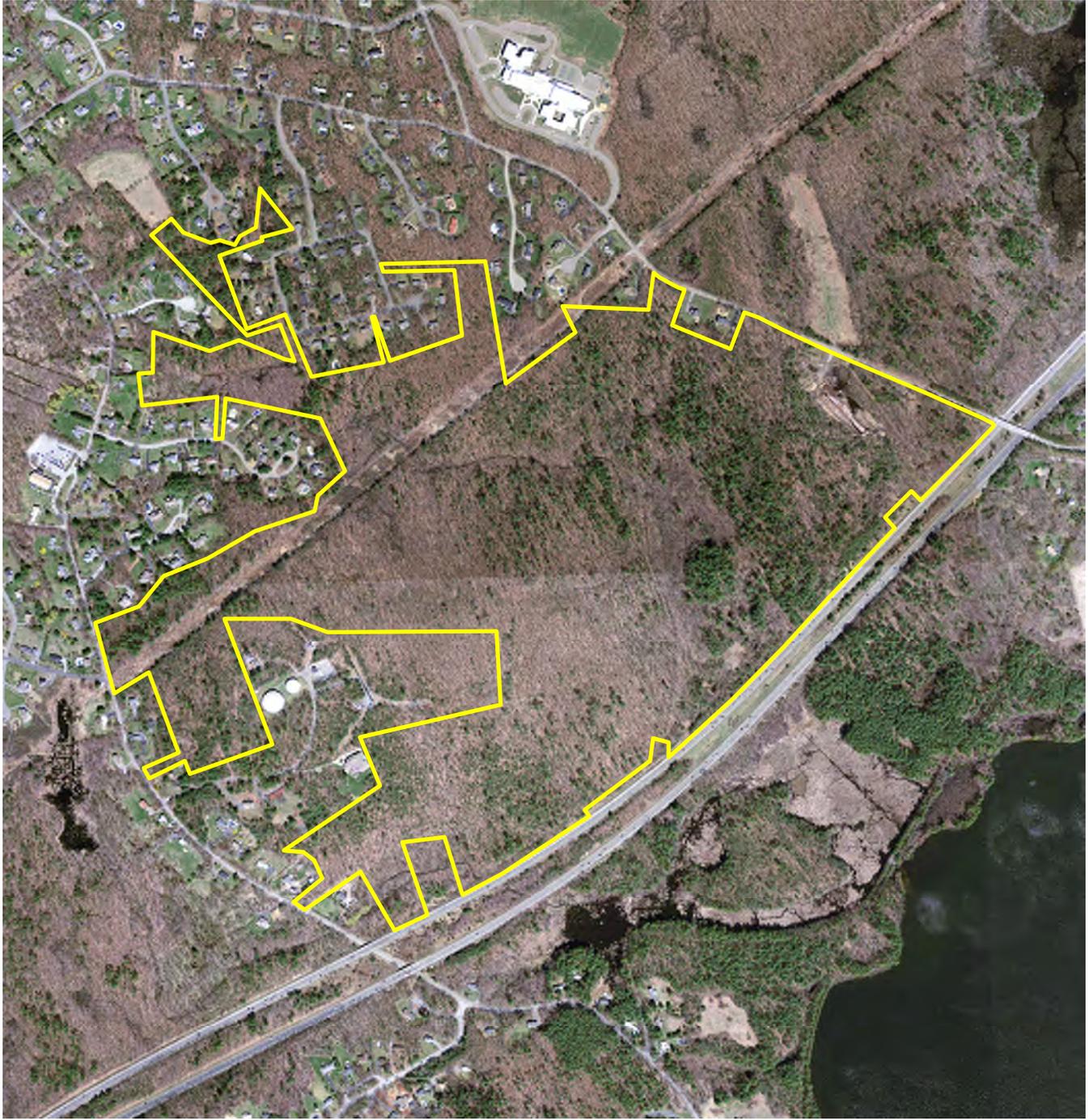
Legend

Forest Type Line	
Open Wetland Area	
Woods Road/ Trail	
Stone Wall	
Stand Type #	
Stream	
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Iron Pipe	
Parking Area	
Wooded Wetland Area	

Map based on:
GPS Field Work and
Andover Tax Maps,
2014



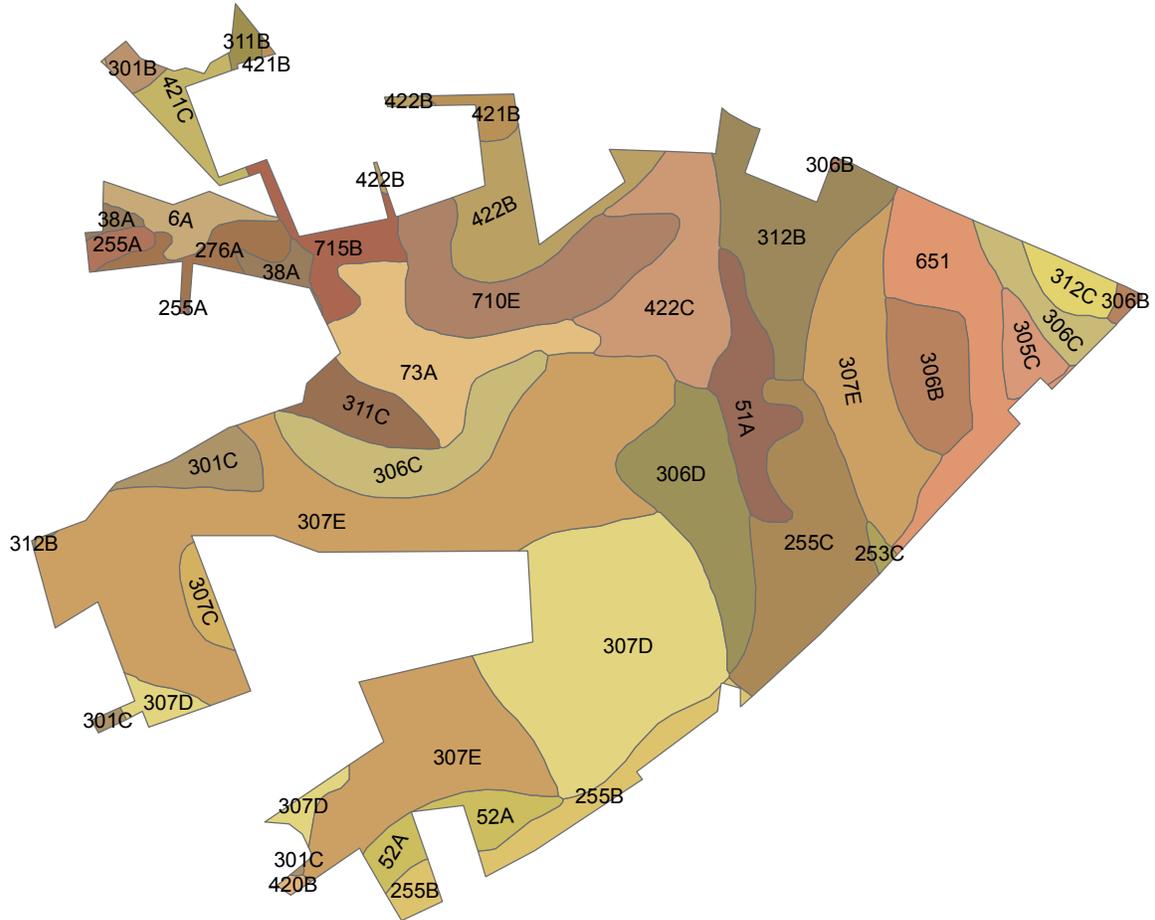
Bald Hill-Wood Hill Reservation
Town of Andover, MA
Andover, MA
2013 Aerial Photo



Prepared by:
New England Forestry Consultants, Inc
Sherman R. Small, Consulting Forester
Maine License # LF655
New Hampshire License # 409
May 31, 2014

Sketch map for management and planning purposes only, NOT A LEGAL SURVEY
Data obtained from MASS GIS, & New England Forestry Consultants, Inc.

Bald Hill-Wood Hill Reservation
 Town of Andover, MA
 Andover, MA
 Soils Map



307B Soils Symbol



Prepared by:
 New England Forestry Consultants, Inc
 Sherman R. Small, Consulting Forester
 Maine License # LF655
 New Hampshire License # 409
 May 31, 2014

Sketch map for management and planning purposes only, NOT A LEGAL SURVEY
 Data obtained from MASS GIS, & New England Forestry Consultants, Inc.

Andover Conservation Commission

Summary of Forest Management Plans

Fish Brook North, Virginia Hammond, and Wood Hill – Bald Hill Reservations

Background

In 2013, the Andover Conservation Commission applied for, and received, Working Forest Initiative grants from the Massachusetts Department of Conservation & Recreation to pay for the evaluation and inventory of three forested properties (Fish Brook North, Virginia Hammond, Wood Hill – Bald Hill), and create Forest Stewardship Plans for the properties. The inventories were conducted in the spring of 2014. Management plans were then submitted to the State and approved.

Leading up to 2013, there were indications that Andover's forested lands were not as healthy as they should be, prompting the study. Of concern: the vegetation, particularly new tree shoots, is subject to heavy browsing by a large deer population; there is a large dense tree canopy limiting the amount of light reaching the ground, which has a negative impact of the growth of new trees; and the forests are very homogenous – even aged, similar size and class of trees - with almost new growth occurring. The lack of understory (new growth) is a major concern.

In addition forest health, the Commission desires to increase the biodiversity of the lands and the wildlife utilizing them. Prior to European settlement, the landscape was a patchwork of open habitats, young forest and old forest. With urbanization and development we have few open areas in the State today, and there is a movement among environmental organizations to create new open areas because they are so vital to many bird and pollinator species.

In addition, organizations such as Mass Audubon, TTOR, and Massachusetts Department of Fish and Wildlife are proponents of creating another type of habitat - “ Early Successional Habitat” - because of its enormous benefit to wildlife. Early successional habitat is characterized by vigorously growing grasses, shrubs and trees that provide excellent food and cover for wildlife.

With these factors in mind, the Commission's hired a licensed forester, Gary Gouldrup of New England Forestry Consultants, to inventory and develop management plans that would meet the Commission's goals for these three properties:

1. Increase the health of the forests
2. Increase biodiversity

3. Create more open space or meadow habitat
4. Create early successional habitat
5. Be self-supporting through sustainable timber harvesting

In addition to our forestry consultant's recommendations, the Commission also consulted with Massachusetts Division of Fish and Wildlife (Rebecca DiGirolomo, Habitat Biologist) for their input on wildlife and habitat creation as related to the Forestry Plans submitted by the forester.

A summary of the management plan for each property follows. Detailed descriptions can be found in the attached Forest Management Plans for each property.

Fish Brook North

The Fish Brook North Reservation is a 337-acre parcel located in west Andover with road frontage on Chandler Road, River Road, Forest Hill Drive, and Interstate Route 93. The land is comprised of mature white pine and mixed hardwood woodlands (22%), mixed oak and hardwood woodlands (41%), open marsh wetlands (20%), red maple forested wetlands (16%), and hemlock-hardwood forest (1%). The hemlock woolly adelgid was found in the mature hemlock trees on the property. Timber resources range from poor to high.

Forest regeneration is a concern at the Fish Brook North Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 15-acres that were harvested approximately 15-20 years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, fragmites, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; biological diversity and invasive species control; recreation enhancement along the trails, and wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat. There are several acres of very large old trees and this acreage is designated as no cut "Old Growth Forest" (i.e. to be left as is, no harvesting).

Please refer to Appendix A - Boundary & Stand Type Map – for Fish Brook North for a detailed color-coded diagram.

Massachusetts Fish and Wildlife suggested that previously cut white pine stands with adequate regeneration could be managed for white pine and could potentially provide future revenue to help support habitat management elsewhere on the property.

Virginia Hammond

The 43-acre Virginia Hammond Reservation is located in a western section of Andover with approximately 1,500 feet of road frontage on High Plain Road. Interstate Route 495 is the property's southeastern boundary. The land is comprised of mature white pine and mixed hardwood woodlands (31%), mixed oak and hardwood woodlands (53%), and open meadow (16%). Timber resource quality ranges from poor to high. The red oak timber resources are generally well formed and fair to high in timber quality. A small pocket of hemlock is located east of the parking area.

Forest regeneration is a concern at the Hammond Reservation due to the high white-tailed deer population in the local area. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past. Invasive and non-native vegetation on the property is prevalent in areas and is also having an effect on native forest regeneration in many areas of the property. Burning bush, buckthorn, honeysuckle, bittersweet, and Japanese barberry are all growing on the property.

The forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; expansion of the open meadow habitat; a proposed clear-cut of several acres to create successional habitat.

Massachusetts Fish and Wildlife have urged caution with the proposed cut for conversion to successional forest due to the prevalence of invasives. They strongly suggest that the Town commit to pre-treatment of invasives in these areas and follow up with treatments as needed before moving forward with the cutting.

Please refer to Appendix B - Boundary & Stand Type Map – for Virginia Hammond for a detailed color-coded diagram.

Wood Hill – Bald Hill

The 230-acre Bald Hill and Wood Hill Reservation is located in west Andover with road frontage on High Plain Road, Haggetts Pond Road, and Interstate Route 495 as the properties eastern boundary. The land is comprised of mature white pine and mixed hardwood woodlands (33%), mixed oak and hardwood woodlands (47%), red maple forested wetlands (10%), abandoned field (2%), open powerline (4%), and an open transfer station (4%). Timber resource quality ranges from poor to high.

Forest regeneration is a concern at the Bald Hill and Wood Hill Reservation. Winter deer browse was seen during the forest inventory on tree saplings and seedlings. Very little new regeneration of hardwood species was present in the understory during the forest inventory. A dense overstory canopy with very little sunlight reaching the forest floor is another regeneration concern. The property has not been managed for timber resources in the past with the exception of approximately 25-acres on the east side of Wood Hill Road that were harvested approximately 30-years ago when the parcel was owned by a private landowner. Invasive and non-native vegetation on the property is prevalent in some areas and is also having an effect on native forest regeneration on the property. Burning bush, buckthorn, honeysuckle, bittersweet, Norway maple, and Japanese barberry are all growing on the property.

The upland forest soils are productive and capable of producing high quality timber resources.

Management will include timber resource enhancement and forest regeneration through selective thinning of the overstory; invasive species control; cultural resource protection (evidence of old foundations and buildings along Old Wood Hill Road); non-disturb no cut areas designated as “Old Growth”; wildlife habitat enhancement that will include patch cuts to create young forest and early successional wildlife habitat; clear an area on the top of Wood Hill to create a recreational vista.

Please refer to Appendix C - Boundary & Stand Type Map – for Wood Hill-Bald Hill – for a detailed color-coded diagram.

Massachusetts Division of Fish and Wildlife Recommendations (per Rebecca DiGirolomo, Habitat Biologist):

There is historical evidence that a portion of Bald Hill was maintained with fire as a blueberry patch. Given that blueberry is not preferred by deer and is abundantly present in the understory Fish and Wildlife recommends opening the canopy in this area to increase blueberry production, however, it would be advisable to retain some pitch pine and large crowned healthy oak and hickory trees. This area could be marked for retention, meaning the forester would mark individual pitch pine, white oak, red oak, hickory, etc. to be retained while removing 90% of current forest canopy cover. The blueberry hill could then be maintained with prescribed fire, if feasible, once every ten years or so.

The cost for fire planning and implementation could potentially be paid for from any timber sale revenues. Prescribed burning would also reduce costs associated with periodic mowing to maintain the sparse overstory canopy with shrub understory. In addition, we also discussed extending this treatment area down the adjacent slope, but retaining all hardwood species and removing white pine. This slope had an interesting mix of species typically found on richer sites (sugar maple and hickory) and species found on dryer, well-drained sites (white oak, red oak, and pitch pine). It would be ideal to retain this species diversity while removing the more generalist species (white pine and red maple).

On the Wood Hill Property Mass DFW recommend building off of the shrub habitat provided by the power line and focus on creating openings adjacent to the powerline and in areas that have abundant blueberry cover in the understory. At least two areas are appropriate for overstory removal above the existing blueberry cover extending from the power line to the change in topography, building a narrow strip of heathland alongside the existing shrubland in the power line. DFW also discovered *Aureolaria* (false foxglove) with indications of feeding from the Orange Sallow Moth, a species of special concern in Massachusetts. As for the area that the Town is proposing to clear for vista or habitat on this parcel, DFW would recommend thinning this area instead, and retaining oak and hickory for seed source and wildlife value. However, given the lack of regeneration due to heavy deer browse the Town might consider waiting until they have a better handle on the deer population and a clear reduction in browse of native vegetation.

More detailed information can be found in the Forest Management Plans for each reservation.

Kevin Porter
Vice-Chairman
Andover Conservation Commission
January 2017



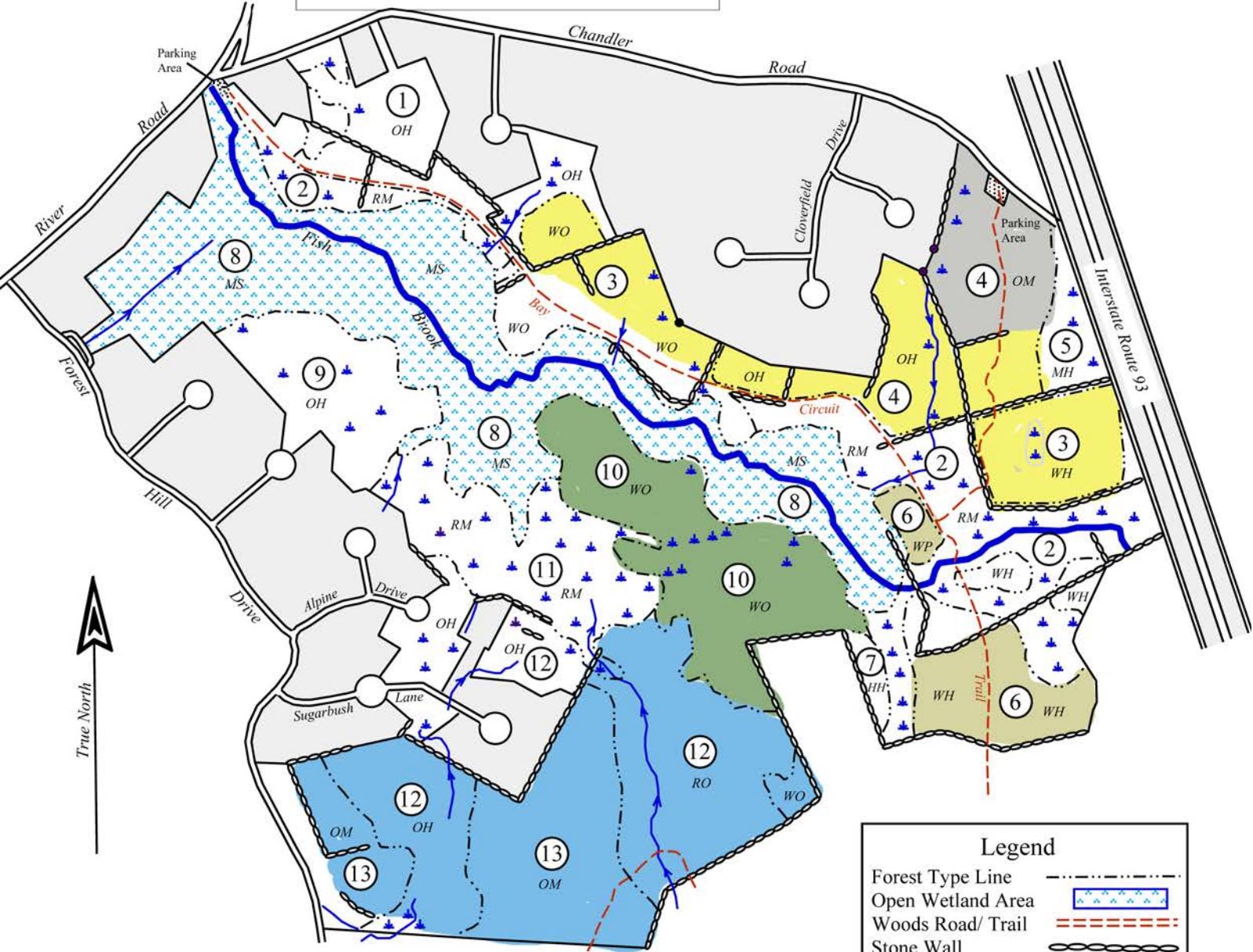
Prepared By:
Gary H. Gouldrup
Consulting Forester
72 Townsend Street
Pepperell, MA 01463
978-433-8780
5/12/2014



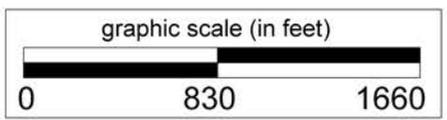
BOUNDARY & STAND TYPE MAP

Land in Andover, MA
Fish Brook North Reservation
337-Acres

Owned By:
Town of Andover
Andover Conservation Commission



Map based on:
GPS Field Work and
Andover Tax Maps,
2014



Legend	
Forest Type Line	- - - - -
Open Wetland Area	
Woods Road/ Trail	
Stone Wall	
Stand Type #	
Stream	
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Iron Pipe	
Parking Area	
Wooded Wetland Area	



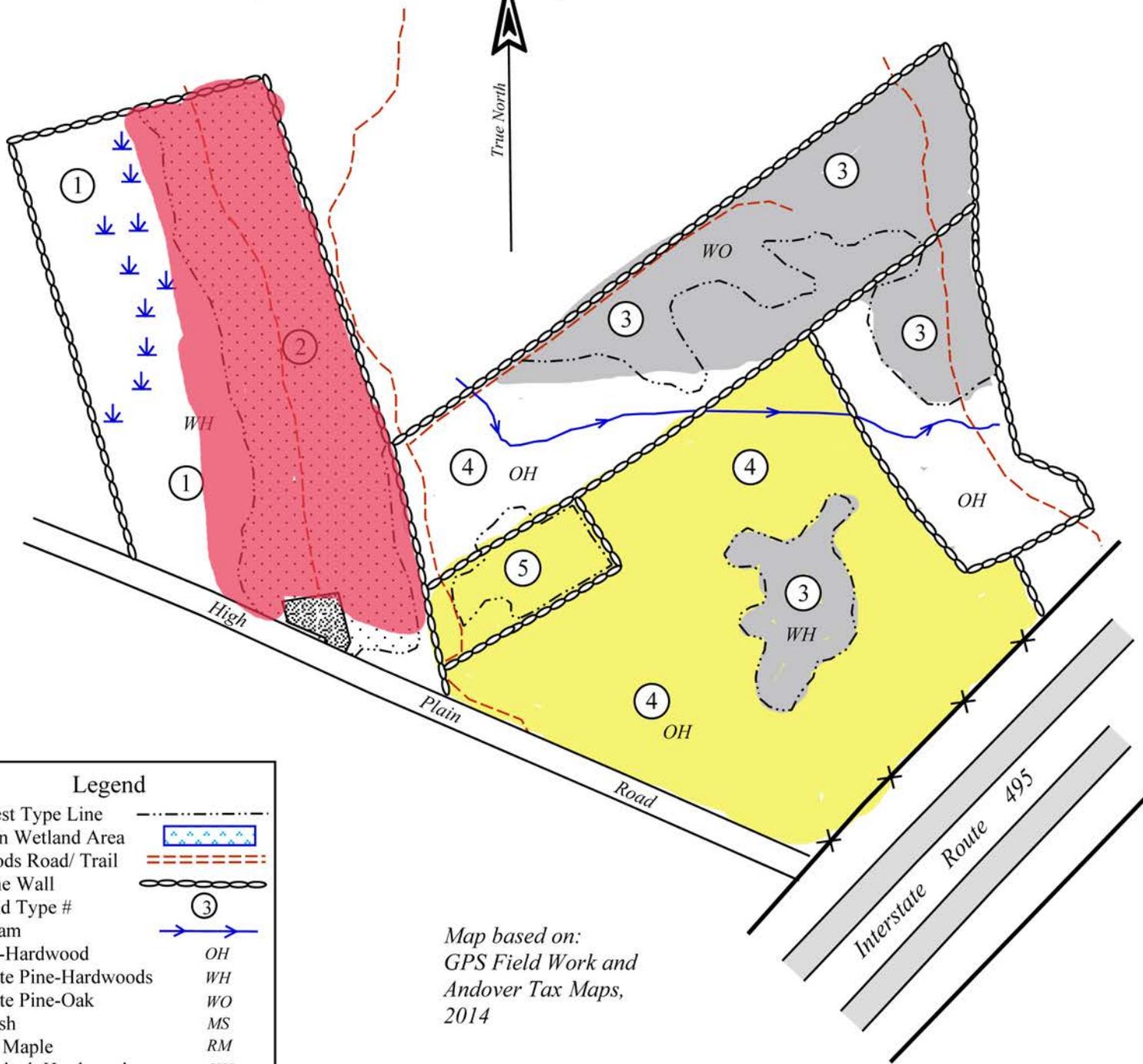
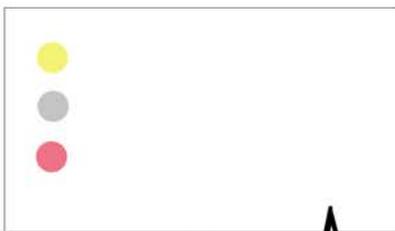
**New England
Forestry Consultants, Inc.**

Prepared By:
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Consulting Forester
72 Townsend Street
Pepperell, MA 01463
978-433-8780
5/12/2014

BOUNDARY & STAND TYPE MAP

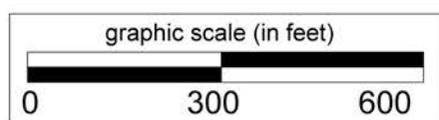
Land in Andover, MA
Virginia Hammond Reservation
43-Acres

Owned By:
Town of Andover
Andover Conservation Commission



Legend	
Forest Type Line	--- ---
Open Wetland Area	
Woods Road/ Trail	- - - - -
Stone Wall	~ ~ ~ ~ ~
Stand Type #	③
Stream	→ → →
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Fence	X X X X
Parking Area	
Wooded Wetland Area	↓

Map based on:
GPS Field Work and
Andover Tax Maps,
2014





**New England
Forestry Consultants, Inc.**

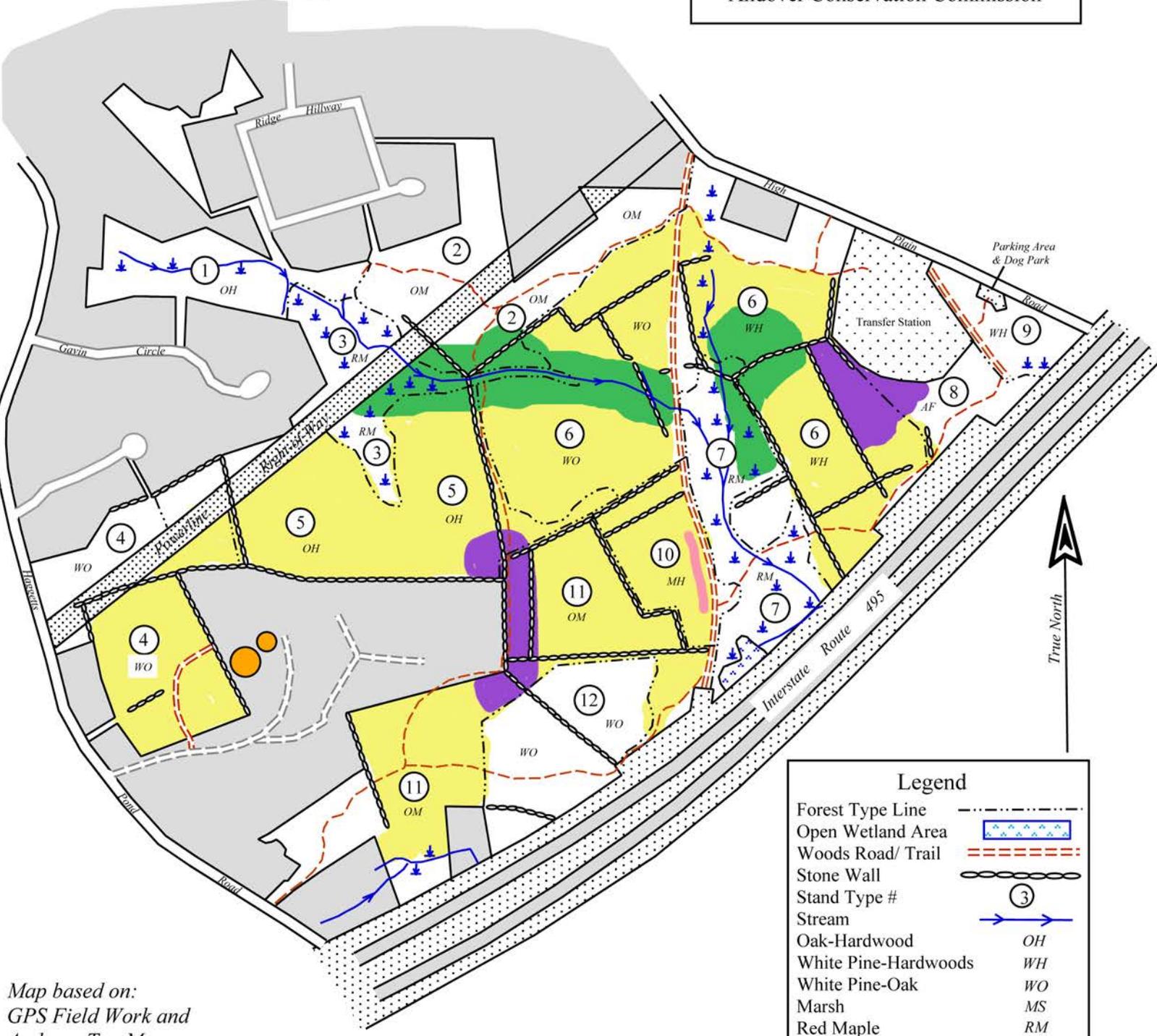
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BOUNDARY & STAND TYPE MAP

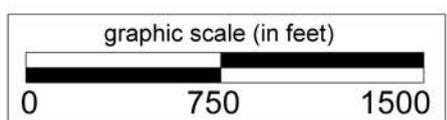
Land in Andover, MA
Bald Hill-Wood Hill Reservation
232-Acres

Owned By:
Town of Andover
Andover Conservation Commission



Legend	
Forest Type Line	
Open Wetland Area	
Woods Road/ Trail	
Stone Wall	
Stand Type #	
Stream	
Oak-Hardwood	OH
White Pine-Hardwoods	WH
White Pine-Oak	WO
Marsh	MS
Red Maple	RM
Hemlock Hardwoods	HH
Red Oak	RO
Mixed Oaks	OM
Iron Pipe	
Parking Area	
Wooded Wetland Area	

Map based on:
GPS Field Work and
Andover Tax Maps,
2014



Concept: Andover Community Gardens **Proposed for Andover's *Open Space and Recreation Plan*** ***Plan 2016***

By Ann Knowles

The Town of Andover Master Plan, 2012 Community Garden Policy

The Town of Andover specifically encourages community gardens within its borders. See more information about Community Garden policy and rules in the Appendix. The current policies outlined in the Master Plan and pertaining to gardens are as follows:

Goal OS-6 Community Gardens and Small Parks

The town should support the creation of community gardens in several neighborhoods across town, especially for people with disabilities, children, apartment dwellers, seniors and families.

OS.6.1. Continue to foster the Community Gardens program under the direction of a Master Gardener.

Create gardens specifically for seniors, people with disabilities, as well as an educational garden for high school students and other target populations.

- Utilize the PTO organizations for the public schools and small grants from the Commission on Disabilities, Andover Housing Authority and the Senior Council to help fund the Community Gardens.

Agriculture LU.2.3. Encourage the preservation of remaining farmland to ensure that future generations can enjoy Andover's agricultural heritage.

- Utilize the 2010 Open Space Plan (Conservation Commission) and the Master Plan to help guide the acquisition of farmland for preservation purposes.
- Encourage Community Gardens as a way to promote agriculture on a smaller scale.
- Promote regional and local agriculture to provide local food production, distribution, and access. Encourage citizen participation in food coops, community supported agriculture programs and farmers markets.

Existing Situation:

In May of 2016, the first community garden in over twenty-five years was opened at the Virginia Hammond Reservation. It is run by the Andover Community Garden Association, Inc. (ACGA), a non-profit with 501 (c)(3) status.

History:

The site had last been the location of an informal community garden that started in the 1980s but had fallen into disuse in the early 1990s. It, and another garden on the Al Retelle Reservation, had existed for a number of years and collapsed for many possible reasons, the largest of which were that neither location had a dedicated source of water and the groups running the gardens had no formal operating structure.

The Conservation Commission was therefore cautious about allowing community gardens without a guarantee of long-term care and maintenance of the garden.

Interested members of the town began talking about a new community garden in 2013, considered various sites and placements within those sites, held two public presentations and forums in 2014 and 2015, and formed a board (consisting of chairperson, treasurer, clerk and 1-4 extra members) in late 2015 before approaching the Commission. With the help of students who have been involved in the project through the Environmental Sustainability Internship Course at Andover High School, garden organizers successfully crafted and presented a proposal for the garden. The community garden on the Virginia Hammond site was ultimately approved by the Commission in March 2016.

Present Conditions:

The original garden plan is 6,460 square feet (.15 acre), with 30 in-ground beds. It has been an immediate success. After approval, the land was staked and then plowed by Andover resident Frank Robidoux. The Department of Municipal Services was instrumental in helping to get water brought across the street and over to the site, with the help of two Andover companies, F.P. Reilly & Sons and Moriarty Irrigation. New

garden members held a community work day to build a gated deer fence, dig, measure and stake individual beds, and put woodchips down on the paths. Two plots sizes were created, 40 and 80 square foot beds, with the assumption that larger plot sizes will be developed in new areas of the garden in time. Board members provided a table and chairs. The garden was largely filled within the first year and gardeners were delighted with the produce that they got out of their small plots.

Bob Decelle, Special Projects Manager for the Conservation Commission, has been the interface between the garden and volunteers who are looking to provide outside help for it, such as the building of a shed. During the summer of 2016, a boy scout, Mitch Duerr and his troop, Troop 77, completed a 8' x 10' shed on the south side of the garden and a series of compost bins and a food donation bin are proposed as a scout project for the 2017 growing season by boy scout Parker Cain.

Expansion 2017:

The ACGA is also proposed an expansion of the garden in 2017 to incorporate new larger beds (bringing the garden size up to .24 acres with 42 plots), and better accessibility for residents with impaired mobility. The expansion has been approved by the Conservation Commission as of January 2017. This means that the new area will have wider paths and there will be at least one bed raised high enough not to require leaning over.

Policy and Operational Background:

The garden operates with an agreement between the Commission and ACGA, as discussed below. Two members of the Commission (currently Alix Driscoll and Ellen Townson) act as liaisons to the ACGA, their purpose being to act as intermediaries between the garden board and the Commission, as details of the operation of the garden are determined. An important element of the approval was that the Conservation Commission requested and received a financial set-aside or escrow from ACGA, the reasoning being that should the garden fail and the its members not take responsibility for its failure, the Commission will have the necessary funds to return the garden back to its original field condition, that is, remove the fence, shed, and water connection and re-plow and re-seed the field with a native meadow seed mix.

Fundraising is an ongoing concern for the establishment and maintenance of community gardens. In the case of ACGA, Inc., a GoFundMe garden fundraising site was established and a kind local family made a separate and generous contribution towards the establishment of the garden. Garden community members pay plot fees that cover water costs and yearly maintenance fees. As described above, further help has been gifted to the ACGA by the Town of Andover through the provision of the water connection, woodchips and compost and the boy scouts in providing the shed.

The ACGA, Inc. consists of a small executive, which works in conjunction with other groups to achieve important elements of their education and community outreach efforts. For example, they collaborate with the Seed Library located at Memorial Hall Library and rely on the MHL's gardening lecture series to help educate members on organic gardening basics. In addition, they hold training sessions on soil building and planting basics at the community garden itself. A teaching plot provides an example of companion planting.





Site of the Virginia A Hammond Property, the garden is located on the left side of this site in the field area

Mission of the Andover Community Garden Association

The ACGA has a mission as stated below. Any subsequent community garden within the town should likewise have a similar mission statement:

The main aim of this association is to provide resources and education to the residents of the town so that they can successfully produce fresh, locally-grown vegetables and flowers.

To assist with the mission, the garden association maintains and organizes the running of a community garden on land provided by the town of Andover. Aims of the association include enhancing the wellbeing of the community by increasing social interaction and providing the opportunity for beneficial outdoor physical activity as well as its main aim of creating an educational garden in an attractive setting.

Andover Community Garden Association (ACGA, Inc.) Yearly Maintenance & Agreement, March 2016

In order to increase the likelihood of success of the newly established garden the Conservation Commission and Andover Community Garden agree to an annual maintenance agreement. The version shown below is dated March 2016 and is revised and renegotiated yearly, as needed, with major changes brought before the Conservation Commission and smaller matters subject to this agreement.

Season & Hours:

Opening Day, Spring: April 1

Closing Day, Fall: Oct 31

Closed all winter

Hours of Operation are dawn to dusk.

The garden will be fenced and the entrance will be gated and locked with a combination lock that the Commission and all garden association members know the code for.

Upon approval by the Conservation Commission, the Association will build or arrange for the building of a shed upon the site, which, once built, will receive yearly maintenance so that it is kept in adequate shape. Any further structures raised by the Association will likewise be approved of by, and maintained in conditions acceptable to, the Conservation Commission.

Members will not raise any structures on their plots, outside of poles and trellises.

Unless expressly permitted by the Conservation Commission advisors, the garden will be in-ground, not raised beds.

Garden tools and equipment will be stored in the shed or removed from the site so that a neat and natural appearance of the garden is maintained.

The Commission agrees to provide access to the ACGA for farm and other equipment used to clear, create and maintain the garden. We will consult with the advisors to determine best timing for such access.

This is an organic garden, with our members agreeing to use products such as are recommended by the Organic Materials Review Institute (ormi.org) and biodegradable and non-toxic mulches or coverings.

We agree to all watering restrictions that may be placed upon us by the Town of Andover.

Signatures, ACGA & Conservation Commission

Current Andover Community Garden Rules and Regulations

All effective community gardens and their members are bound by rules and regulations that define expected behavior within the garden and minimize conflicts between members. Below are the current rules binding members of the Andover Community Garden. These rules are meant to be changed with experience, so this reflects the current requirements only and they are subject to change with time.

Andover Community Garden, Inc. Rules and Responsibilities, 2016

The following rules must be agreed to by all people entering the garden. Membership is dependent upon agreeing to adhere to the rules and our possession of your signed Gardener's Agreement.

1. Plots are available on a first-come, first-serve basis, with preference given to returning gardeners. Plots are assigned by the garden coordinators in this order:
 - Returning gardeners
 - Returning gardeners wishing to change plots
 - New gardeners
 - Returning gardeners wishing for more space
2. Two out of every ten plots will be available for non-Andover residents of surrounding towns/cities, unless the assignment of out-of-town plots requires revoking plots from returning gardeners in good standing; additional plots may be assigned to non-residents based on availability.
3. Only one plot per household/residential address may be assigned at the beginning of the season. If there are extra plots available once all new gardeners from that season have been accommodated, second plots may be assigned based on availability. Plots are not transferrable.
4. The garden is open from 7 am till dusk every day from April 1 through October 31. Access outside these times is not allowed.
5. Each gardener must become a member by signing the Gardener's Agreement form and paying the annual fees before any work in the garden can begin.
6. Each member gardener is responsible for the active maintenance and upkeep of their garden plot. Watering, weeding, harvesting and any other garden related maintenance are all the responsibility of the member gardener. It is the member gardener's responsibility to notify the garden coordinator if he or she is not able to care for the plot in any given week. If any plot remains unattended for more than three weeks that plot is subject to reassignment.
7. All gardens must be started by June 1 or they are subject to forfeiture without a refund.
8. Member gardeners may arrange for other Association gardeners and

- family members to water their plots. Anyone else who is unaccompanied must be approved by email correspondence with the Board (help@andovergarden.com).
9. Member gardeners may harvest vegetables and flowers from their garden plot only. They may not use other people's tools without permission. Theft is a basis for being asked to leave the garden association and loss of access to the plot.
 10. No permanent structures, beyond trellises or poles to edge gardens and support plants are allowed. Your plant supports or trellises should not impede the sunlight of your neighbors. Raised beds are not permitted by the Conservation Commission at this time. Trees and difficult to remove plants are not allowed.
 11. Member gardeners are responsible for maintaining the garden pathways immediately surrounding their plot. All gardening activities must be kept within the boundaries of each assigned plot; taking special care to contain all plants within the confines of the assigned plot. Member gardeners may not alter the dimensions of their plot.
 12. A limited number of tools and watering equipment will be available in the community garden storage locker/shed for use by member gardeners. Please return them after use.
 13. Member gardeners will be issued the combination for any locks in the garden. Keep this information confidential. Keep the garden gate and storage bin/shed locked at all times, especially upon leaving the garden.
 14. Children and other guests are welcome in the garden but must be accompanied by an association member and provided that the guests comply with the Rules. Member gardeners will supervise any child under the age of fourteen. Member gardeners will be responsible for the conduct of children and their guests including making sure they do not damage or interfere with activities on other plots. Pets are not allowed within the garden gate. Guest violations of these Rules are treated as violations by the Member gardener.
 15. The cost of water is included in the cost of plot rental, so excessive water usage may cause the cost of plot rental to increase for all users the following year.
 16. Plots are not intended for commercial use and produce from the garden may not be sold for profit.
 17. The Andover Community Garden is an organic garden. The application of herbicides (weed killers) or non-organic fertilizers to

the garden plots is prohibited. If in doubt, please refer to the Organic Materials Review Institute (OMRI.org) for guidance.

18. Andover Community Garden is CARRY IN/CARRY OUT; please take all tools, trash and other debris with you each time you visit. Do not use power tools of any kind.
19. Member gardeners will keep any common areas, such as pathways and storage sheds, clean and neat. Member gardeners will promptly report any concerns about the safety of the garden to the Board. If there is vandalism, storm damage, or other damage to the garden, all member gardeners are expected to help in cleaning up and restoring the garden to its prior condition, but the ACGA will try to bear the cost of the communal repairs.
20. Communal compost areas located within the garden perimeter fencing are for vegetative matter only; finished compost use may be used on a first come first served basis.
21. We encourage your participation at Association events so as to foster community spirit but the scheduled annual cleanup days are mandatory.
22. At the end of the growing season, member gardeners are responsible for clearing their plot of all plant material, trellis and/or plant supports and leaving the plot as they found it in the spring.

The Gardener's Agreement

Each member of the Andover Community Garden is also bound by a garden agreement which, like the rules, is subject to change. The 2016 Gardener's Agreement is shown below.

**Andover Community Garden
Gardener's Agreement
Garden Use, Waiver of Liability, Release and Indemnification Agreement**

Gardener Name: _____

Address: _____

Town and State: _____

Home Phone & Cell: _____

E-mail: _____

Emergency Contact Name/Phone: _____

Welcome to the Andover Community Garden Association (the “Garden or ACGA”). The ACGA, called “Sponsor” or “we” or “ACGA” in this document, is a nonprofit organization that sponsors and manages the Garden as part of carrying out its mission. This document is a legal contract between you and the Sponsor meant to protect the health of our Association.

1. TEMPORARY RIGHT TO GARDEN

1.1 Plot. You have the right to garden in plot ____ (the “Plot”) in the Garden. Your immediate family members may garden with you as your guests. You may use the Plot from May 15 to Oct. 31, 2016.

1.2 No Refund. You understand that you will not get a refund or reimbursement for your expenses, or any other payment if you decide not to garden or if the ACGA terminates your right to garden, even if you spend a lot of time and money on the garden. You understand that only you and no one else, including your family, has any rights under this Agreement.

1.3 Fee. When you sign this document, you will pay a fee of \$ ____ (insert 40 or 80, depending on the desired size) to use the Plot. Thereafter, you will pay an annual fee, no later than March 31. You understand that we may increase the fee in future years.

COMMENT: The ACGA may choose to require only a nominal payment under specific circumstances.

1.4 No Transfers. You cannot let anyone other than your immediate family garden here unless we give our agreement in writing or via email (Contact: andovergarden@gmail.com)

2. LIABILITY WAIVER, RELEASE, INDEMNIFICATION AND ACKNOWLEDGEMENTS

2.1 Awareness of Risk. You understand that participating in the Garden has a (generally minimal but real) risk of death or injury to yourself or your guests and damage to your personal property. The risks could be caused by you, other gardeners, the Sponsor, or the owner of the property on which the Garden is located (referred to as “Landowner” or “Conservation Commission.”) The risks could also come from the condition of the land where the Garden is located, or the equipment and tools available at the Garden, or the weather or other environmental or local conditions. You also understand that hazardous conditions may exist at the Garden and that other gardeners may be unskilled.

2.2 Assumption of Risk and Waiver and Release of Claims. In exchange for your right to participate in the Garden, you agree to take on the risk of harm even if the potential harm is caused by someone else. (In legal terms, you agree to “assume the risk.”) You also agree to give up (“waive”) any right you may have to sue or otherwise attempt to collect money from the Landowner/Conservation Commission, Sponsor, their board members, employees, volunteers, or anyone acting on their behalf (referred to altogether as “Released Parties”) for any losses or damages resulting from death, injury, or property damage to you, anyone else, or any property, that occurs while you or your guests are in the Garden. (In legal terms, you “waive and release all claims” against the Released Parties.) You understand that the ACGA would not permit you to participate in the Garden without your agreeing to these waivers and releases.

2.3 Medical Care Waiver. You give up any right to sue or otherwise attempt to collect money from (“waive and release any claim from”) the Released Parties arising out of any first aid, treatment, or medical service, including the lack of such or timing of such, given in connection with your participation in the Garden. You understand that you are not covered by or eligible for any insurance, health care, workers’ compensation, or any other benefits maintained by Sponsor.

2.4 Indemnification. You are responsible for any damages or losses suffered by the Sponsor that are caused by your or your guests’ actions. (In legal terms, you agree to indemnify and hold the Released Parties harmless.)

2.5 Publicity. You agree to allow us or the Landowner (Conservation

Commission) to use any photographs, interviews, videotapes, film, other visual or auditory recordings, or any other medium, including the internet, of you or your guests that we or others may create in connection with your or your guest's participation in the Garden. You agree that you do not have to inspect or approve the finished project and you are not entitled to any compensation for the finished product.

3. TERMINATION

3.1 Failure to Comply with Agreement or Garden Rules. You confirm that you have read a copy of the Garden Rules & Responsibilities attached to this Agreement and you will comply with them. If you fail to obey the Agreement or the Garden Rules, we can terminate your right to garden.

3.2 Termination of Land Agreement. If the Conservation Commission terminates our Agreement for the land where the garden is located, your right to garden will end. The Conservation Commission can terminate our Agreement at any time. We will notify you if the Conservation Commission terminates the Agreement.

4. OTHER PROVISIONS

4.1 Entire Agreement, Severability and Modification. If any part of this Agreement is ineffective, the remaining portions of the Agreement remain in effect. Any changes to this Agreement have to be in writing and signed by you and the Sponsor.

4.2 Third-Party Beneficiaries. You understand that this Agreement gives the Conservation Commission a right to enforce certain parts of this Agreement against you by going to court. (In legal terms, the Conservation Commission is an "express third party beneficiary.") The Landowner can enforce Sections 2 and 3.2 of this Agreement.

Signatures, Members & ACGA Board

Proposed Policy for Community Gardens in Andover

- The Conservation Commission and staff will, when determining the advantages of acquiring land, consider community gardens as an appropriate reason for acquiring land, particularly cleared meadowland of appropriate agricultural soil-type (soil-testing and site planning should be completed as a condition of purchasing and locating a site, in this instance).
- All community garden groups considering a garden on Commission-owned or protected land should have a proven board structure and be a private non-profit with 501(c)(3) status.
- Any new community garden on Commission land requires approval of the Conservation Commission and an agreement for maintenance and operation to be determined between Commission liaisons and the community garden board members.
- Community gardens should be available to all Town residents who want them, meaning that gardens should be available throughout the Town
- Placement of a garden must consider demand for such a garden within the neighborhood and its location relative to others.
- Community gardens are preferred on existing cleared fields on Conservation or town land, but a site-by-site analysis should be conducted to determine if any one field is appropriate for a garden.
- Gardens must identify a specific source of water for the garden, in order to insure longevity of the garden.
- Garden design should consider accessibility issues, to allow potential access for as many people as possible.
- Appropriate small-scale signage advertising and providing information about the garden may be posted on fencing or a shed.
- The Town of Andover encourages the use of town compost and woodchips, available through the town leaf composting site, which follows approved state composting methods.
- Community garden groups should provide education and assistance to their members.
- Garden membership fees must cover all costs incidental to the garden, including water, the provision of all fences and structures, common supplies and the costs of raised beds if any.

Proposed Policy for Community Agriculture in Andover

- The Town of Andover and the Conservation Commission will consider the acquisition of land for the preservation of agricultural uses and the agricultural history of Andover
- The Town will, when considering sites for agricultural uses, evaluate and consider existing farms for preservation; this land should be in acreages or blocks that are large enough to be agriculturally and economically viable

FINAL

**Town of Andover
Board of Health
Policy on Pesticide Use**

Prepared by the Town of Andover
Pesticide Reduction Task Force, July 2003

The Pesticide Reduction Task Force is a group of residents, members of organizations, Town staff, educators, scientists and managers working together to raise awareness of, and educate the community about, the dangers of pesticides widely used on lawns and gardens, and to promote natural, organic alternatives. The Task Force commits itself to the goal of reduction of pesticide use in the Town of Andover, on both public and private property.

SECTION 1: STATEMENT OF INTENT

The Town of Andover agrees with the U.S. Environmental Protection Agency (EPA) that "all pesticides are toxic to some degree..., and the commonplace, widespread use of pesticides is both a major environmental problem and a public health issue."¹

The Town of Andover Board of Health recognizes that all citizens, (particularly children and those with compromised health), and other inhabitants of our natural environment, have a right to protection from exposure to pesticides (as defined in Section 2).

The Town of Andover Board of Health recognizes that a balanced ecosystem and safe water supply are vital to the health of the town and its citizens; and as such are also in need of protection from exposure to pesticides.

Furthermore, the Town of Andover Board of Health recognizes that it is in the best interest of public health to reduce the use of pesticides on Town-owned land; to encourage residents to reduce pesticide use on private property; and to introduce and promote natural, organic cultural and management practices to prevent and, when necessary, control pest problems on Town-owned land, and instruct residents on similar options on private property.

SECTION 2: PESTS AND PESTICIDES DEFINED

For the purpose of this policy, pests and pesticides are defined as follows: Pests are and may be known as undesirable plants, insects, fungi, bacteria, and rodents, birds and other animals. Common examples in regional turf grass and



Commissioners;

October 22, 2017

Attached is a report of the maintenance, construction and repair activities on Conservation Reservations for the calendar year 2016. Maintenance and repairs being done by Robert Decelle, Steven Cooper, James Reilly.

Respectfully submitted;

Robert Decelle
Andover Conservation Commission
Special Projects

Feb, Mar, Apr, 2016 Conservation Property Management

DATE	NOTES
2/1/16	Remove and replace kiosk doors a
*	* Retelle reservation, install pipe for
*	* bridge at lightning tree res.
2/3/16	Construct at Doyle Link/ Kiosk to
*	* Andy Menezes
2/15/16	Install signage at Mary French Res
2/25/16	Cut and remove fallen tree at great
*	* meadow reservation, get material
*	* for kiosk, check Tilton res for
*	* dumping
3/9/16	ck Hammond res for garden plots,
*	* install signage at Lightning Tree
3/14/16	Material at Doyle Lumber
3/19/16	check Bellevue Reservation
3/23/16	Mat'l delivered to Lightning tree
3/25/16	Mat'l from storage and doyle lumb
*	* to Lightning Tree Res.
3/26/16	Build at Lightning Tree
3/30/16	Pick up new weed trimmer, check
*	* new gate location Pole Hill
4/8/16	Delivered signs to Lightning tree res
*	* stock to Bellevue Res, purchased
*	* stock for knotweed eradication
4/9/16	Layed out trail Bellevue Res
4/12/16	Service fire pit Serious
4/13/16	Inspect bridge Wood Hill off Golden
*	* Oak Rd
4/14/16	Meet w/Dennis Crispo for work at
*	* Bellevue Res, pick up pipe from
*	* Jenkins Quarry Res
4/15/16	Install signs at Abbott Bridge Rd
*	* Lowell St & Cuttler Rd for Doyle
*	* Link, pick more sign mat'l
4/18/16	get sign posts, and tool from shed

*	* for Non Sibi work day
4/20/16	Removed blowdowns at Fish Brook
*	* North, & Merrimack Riv Trail
4/21/16	Meet delivery of Mat'l @ Bellevue
*	* Res, assemble parts for work day
4/22/16	Non Sibi work day Bellevue Res
4/26/16	Meet highway dept for fire pit @
*	* Serios Res
4/27/16	Burn brush @ Retelle Res.
4/29/16	Meet w/overseer Pole Hill for sign
*	* location, line fire pit serios Res
	Robert Decelle
	44 Linwood St
	Andover, Ma 01810

May 2016 Conservation Property Management

DATE	NOTES
5/3/16	install fire pit Serios
5/4/16	Pick up mat'l for vegetation control
*	* at Lupine Rd
5/6/16	Open Pole Hill for scouts, Pick up
*	* mat'l for Doyle Link trail
5/9/16	Pick up Mat'l for Doyle Res,
*	* Boardwalk construct, fix bridge @
*	* Bellevue res.
5/10/16	Deliver vegetation control frames
*	* to Lupine Rd project
5/11/16	Meet Scout for potential Eagle
*	* project at Doyle Link
5/12/16	Doyle Link const.
5/13/16	Open Serios for scouts, Fastenal
*	* Company for rail clips
5/14/16	Meet w/scout at Weathersfield
*	* greenspace for Eagle proj.
5/16/16	Lock up serios res.
5/17/16	investigate trail along Merrimack
*	* for AMC trail work in jurisdictional
*	* area
5/18/16	Pick up tools at shed, signs at
*	* Doyle Link
5/20/16	Return Mat'l to shed
5/24/16	Mat'l for Doyle & const, close
*	* Serio's
5/25/16	Doyle Link const/mat'l pickup
5/26/16	Doyle Link const.
5/31/16	Install camera & signs

June 2016 Conservation Property Management

DATE	A	NOTES
6/1/16	D	Doyle link const/more signs
6/2/16		clear brush for new bct sign @ River
*	*	road Fishbrood North, call dig safe
6/3/16		Doyle boardwalk/materials
6/4/16		Camera @ dog park install
6/6/16		Doyle Link Boardwalk
6/8/16		Check camera @ Dog park, get pipe
*	*	for gate from Hammond, pick up trash
*	*	at Hammond.
6/9/16		Finish Doyle boatdwalk
6/11/16		Cleared tree @ Pole hill, install signage
*	*	at Fishbrook north
6/14/16		re-install signage at Emma Rd with MRWA
6/14/16		Measured for boardwalk @ Bellevue Res
6/15/16		review work at Merrimack Trail w/AMC
*	*	remove and recycle bridge section on
*	*	Merrimack trail near Business center
6/20/16		Get mat'l and rebuild bridge at Merrimack
*	*	Trail near Business center, return stock
*	*	to storage, deliver gate pipe to compost
*	*	site
6/22/16		pick up mat'l for serio repair, reset post
6/23/16		finish serio's repair, install camera at
*	*	Pole Hill, return stock to storage.
6/27/16		collected and replaced Sd cards in
*	*	cameras at Dog park & Pole Hill

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Aug, Sept 2016 Conservation Property Management

DATE	NOTES
8/1/16	Install path sign, view camera surveillance, clean tires for
*	*removal.
8/4/16	clear old boardwalk wood at Retelle, view owl boxes
*	*at Poms reservation
8/8/16	Clear downed tree Haggetts trail and Carmel Woods res
*	*view camera surveillance, inspect cart path trail
*	*open Serio's reservation for Philips Acad.
8/9/16	Brush out Merrimack River Trail
8/11/16	Close Serios
8/15/16	measure trail on Bellevue res, count mat'l for boardwalk
*	*at Jenkins Quarry,
8/16/16	Meet with Sam Garth at Dug Pond for potential Eagle
*	*project.
8/23/16	View Shed build at Hammond Res.
8/29/16	Pick up pipe in Billerica for trail build, insp Chandler Rd
*	*kiosk and fence
8/30/16	view surveillance cams at dog park& Pole Hill. Relocate
*	*Pole Hill cam, install one at Serio's
9/1/16	Met w/ Jim Landy at Retelle about future projects
9/7/16	Viewed complaint at 2 Somerset Dr. Brought Mat'l
*	*to Storage
9/8/16	viewed Retelle for potential jamboree fall 2017
9/9/16	Picked up mower for service, viewed camera at dog
	park & Pole Hill.
9/14/16	Meeting at Haggetts for ADA, view water tank reno at
*	*Wood Hill/Holmes Rd, Delivered rims to Serios
9/16/16	Placed Camras at Hammond Res & Dog pk, viewed
*	*cameras at Dug Pond, brought trash to town dumpster
*	*serviced mowers
9/17/16	Inspected garden shep at Hammond for completion
9/20/16	Mowed Retelle reservation
9/23/16	Mowed Rettle reservation, moved mower to Hammond
9/24/16	Secured tractor at Hammond, met w Steve Surette
*	*at town yard for fire pits, viewed 4 porperties w/Doug
*	*Mitchel for community paths
9/28/16	Mowed Hammond Reservation
9/30/16	Mowed Hammond, moved mower to storage
	Robert Decelle
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	Andover Mass 01810

Oct, Nov, 2016 Conservation Property Management

DATE	NOTES
10/1/16	Secure borrowed tractor at Serio's
10/3/16	Meet w/Paul Sanbord at Retelle to identify species of apple trees
10/7/16	Mow Serio's
10/10/16	Meet with Scout At Weathersfield Green space for his Eagle project/and scout
*	* at Bakers meadow for his Eagle Proj
10/12/16	Mow Pray field/return mower to storage
	Met w/Mark Fournier at Retelle for tire removal, flagged apple trees for clearing by ENEL corp service day
10/14/16	ENEL service day. Clered invasives from area around apple trees.
10/21/16	Checked canoe launch areas at Dale Ave Dug Pond, and Lowell Junction Rd.
10/22/16	Toured Retelle with Scout leaders for potential Jamboree Sept 2017
10/24/16	viewed cameras at Dog park and Dug pond for dumping
10/26/16	Replace boardwalk on Merrimack trail rear of hotel entrance
10/29/16	Inspect Weathersfield Green Space for scout project
11/3/16	got tools from storage for scout service project at Serio's
11/5/16	Dug pond clearing project with Merrimack college/ returned tools to storage
11/7/16	Met w/ Bob douglas and abuter at Dug pond/ delivered tools to Burt Batchler
11/9/16	Blocked road at Fosters Pond Res with trees to prevent 4x4's intrusion
11/18/16	Remove trees Merrimack Trail
11/19/16	Assisted girl scout project at dog park viewed Eagle project High Plain Rd/ doyle link
11/26/16	Met with scout leader at serio's for potential scout event
11/27/16	Open serio's
11/28/16	Return tools to storage

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Facility Inventory Appendix G

The Town is looking to expand its accessible areas and is doing an Americans with Disabilities upgrade study. The Institute on Human Centered Design is studying Town properties in November 2017. This is sponsored by the Andover Plant and Facilities Department. The Plan will be sent to EOEEA when completed in several months.

There are proposals in the Capital Improvement Program to renovate and rebuild five parks in the next five years.

Rebuild the parks listed in the 2017-2021 CIP, Recreation Division, Town Meeting appropriations (CIP) **GOALS from *Capital Improvement Plan FY 2018-FY 2022***
FY 18 Penguin Park

In 2015 a portion of the park's equipment was replaced, including appropriate new swings and structures. Funds are requested to replace the remaining equipment with new. This will complete the park **Goal: to support \$75,000 for Penguin in FY18.**

FY 19 Lower Shawsheen Playground

The Lower Shawsheen Playground and park are in need of updating to comply with safety standards and the ADA. The play structures are old and showing signs of wear. The layout of the park requires improvements for accessibility. Funds will be released in FY19 to bring the equipment and layout of the park into compliance.

GOAL: to support \$200,000 for the Lower Shawsheen Playground in FY19

FY 20. Indian Ridge Playground

This playground on Cuba Street is very old and little has been done to update the play structures and the park as a whole. Funds will be requested in FY20 to update the equipment and to improve the park layout to bring both into compliance with safety standards and the ADA.

GOAL: to support \$400,000 for the Indian Ridge Playground in FY20

FY21 Ballardvale Playground

At the 2012 and 2014 Town Meetings funds were appropriated to design and begin construction of the Ballardvale Playground as a to-phase process. The first phase was for the design and replacement of all playground equipment and walkways, and was completed in 2015. In addition to the funds that were appropriated in 2012, the neighborhood raised \$30,000 to purchase and to construct the gazebo. The second phase will address the ball field and basketball court as well as the fencing.

GOAL: to support \$250,000 for the Ballardvale Playground, Phase 2 in FY21 West Andover Playground

Plant and Facilities would like to look at the possibility of building a playground in West Andover area of town. Currently there is not a public playground that families can walk to in the area. **GOAL: to support \$75,000 or \$200,000.**

Facility Inventory of the Parks with Accommodations for People with Disabilities As analyzed by Whitney Hill from Institute for Human-Centered Design

Andover Center Playground, by Doherty School

1. A gradual sloping paved walkway leads to the playstead from the parking area.
2. There are two HP marked parking places with adequate room.
3. There is a swing for handicapped young children.
4. The ground cover is special mulch.
5. There is a roundabout device that goes around.
6. Seats have backs and armrests.
7. There is adequate clear space around play elements for wheelchair users
8. Accessible parking is located near the playground entrance

Ballardvale Park – renovated in 2016

1. There are wide paths with appropriate material for wheelchair use.
2. Seating is appropriate
3. There are several HP parking places.
4. Playground equipment is suitable for enjoyment by children with disabilities
5. The transfer platforms on the elevated play components are adequately sized (width and depth).
6. The route from the park entrance to the playground has a compliant cross slope, running slope and width.
7. A picnic table (in the attached photo) is located on an accessible route with clear floor space provided around it.
8. The level asphalt walkway connecting different areas of sport and leisure activity is extremely helpful to people who use wheelchairs or have difficulty walking.
9. Shade shelters similar to the one provided in this park provide protection from UV exposure and glare, and a healthy place to go for people with many health conditions such as cancer and photosensitivity.
10. Each play element has a firm and stable rubber mat under it
11. The transfer platforms on the play sets are compliant
12. The playground sign is easily visible and legible

Penguin Park

Musical play elements are on an accessible route and within reach range for wheelchair users

Whitney A. Hill

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www.HumanCenteredDesign.org www.UniversalDesignCaseStudies.org www.ChangePeoplesLives.org

Pomps Pond Swimming Pond

1. There are three ramps to access the sand and water.
2. There are two beach wheelchairs- can be used for both adults and children
3. There is a handicapped-accessible bathroom in the main building
4. A handicapped swing has handles/arms for children.
5. A public address system has been installed.
6. There are two HP parking spaces right by the main building.

Recreation Park – right above Pomps Pond

There is an alternative back road to allow people with disabilities who use wheelchairs to park next to the covered pavilion.

2. There is a handicapped bathroom.

Conservation Commission land and ADA- Compliance Goals

The Conservation Commission has no ADA – compliant reservations at this time.

The Conservation Commission plans to prepare a grant to get expert help to analyze all its reservations for access by people with disabilities and then to prepare grants and seek Town appropriations to fund the creation of ADA-compliant reservations soon. These will be the first priorities:

1. Design and build with the Americans with Disabilities (ADA) standards the Lawrence and Lowell Railway Reservation by Haggetts Pond. It is level land with a peninsular that could be reconstructed as an excellent fishing site.
2. Plan and build ADA-compliant walkways, parking, picnic tables, viewing sites, fishing sites and other structures at the Merrimack River Reservation behind the Greater Lawrence Technical School.

The new Ballardvale Playground is fully ADA compliant.

Facility Inventory		LOCATION: Ballardvale Playground
ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths ✓
		Access to Open Spaces ✓
		Back and Arm Rests ✓
		Adequate number ✓
	Grills	Height of Cooking Surface
	Trash Cans <i>NA</i>	Located adjacent to accessible paths
Picnic Shelters		Located adjacent to accessible paths
		Located near accessible water fountains, trash can, restroom, parking, etc.
Trails		Surface material ✓
		Dimensions ✓
		Rails ✗
		Signage (for visually impaired) ?
Swimming Facilities	Pools <i>NA</i>	Entrance
		Location from accessible parking
		Safety features i.e. warning for visually impaired
	Beaches	Location from accessible path into water
		Handrails
		Location from accessible parking
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all <i>yes!</i>
	Access Routes	Located adjacent to accessible paths ✓
		Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths ✓
		Berm cuts onto courts
	Equipment	Height
		Dimensions
		Spectator Seating
Boat Docks	Access Routes <i>NA</i>	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes <i>NA</i>	Located adjacent to accessible paths
		Handrails
	Equipment <i>NA</i>	Arm Rests
		Bait Shelves
		Handrails
		Fish Cleaning Tables
Programming	<i>could be</i> Are special programs at your facilities accessible?	Learn-to-Swim
		Guided Hikes
		Interpretive Programs
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	
	Process to request interpretive services (i.e. sign language interpreter) for meetings	

There is a baseball diamond next to the tot lot that will be restored in the coming years.

LOCATION

PARKING			
Total Spaces	Required Accessible Spaces		
Up to 25	1 space		
26-50	2 spaces		
51-75	3 spaces ?		
76-100	4 spaces		
101-150	5 spaces °		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			?
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMPS			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			NA
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

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SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			?
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			?
No ponding of water			
Path of Travel			
Path does not require the use of stairs		✓	
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	?		
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane		✓	
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"		✓	
Curb on the pathway must have curb cuts at drives, parking and drop-offs		✓	
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			NA
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION

STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			NA
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			NA
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

RESTROOMS – also see Doors and Vestibules

Specification	Yes	No	Comments/Transition Notes
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			?
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			✓
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			?
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			✓
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			?
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			?
Located 30" above and parallel to the floor			?
Acid-etched or roughened surface			✓
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			?
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			?

NOTES

Facility Inventory

LOCATION: PO MPS FUTURE, 14 WOOD STREET

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths ✓
		Access to Open Spaces ✓
		Back and Arm Rests NO
	Grills	Adequate number
		Height of Cooking Surface
		Located adjacent to accessible paths ?
	Trash Cans	Located adjacent to accessible paths ?
Located adjacent to accessible paths "		
Picnic Shelters	Located near accessible water fountains, trash can, restroom, parking, etc.	
Trails		Surface material ✓
		Dimensions
		Rails NO
		Signage (for visually impaired) NO
Swimming Facilities	Pools	Entrance
		Location from accessible parking NA
		Safety features i.e. warning for visually impaired
	Beaches ✓	Location from accessible path into water ✓
		Handrails NO
		Location from accessible parking ✓
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all ?
	Access Routes	Located adjacent to accessible paths
		Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths NO
		Berm cuts onto courts NO
	Equipment	Height
		Dimensions NO NA
		Spectator Seating
Boat Docks	Access Routes	Located adjacent to accessible paths ✓
		Handrails NO
Fishing Facilities	Access Routes	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves NO
		Handrails
		Fish Cleaning Tables
Programming	Are special programs at your facilities accessible?	Learn-to-Swim
		Guided Hikes NO
		Interpretive Programs NO
Services and Technical Assistance	Information available in alternative formats i.e. for visually impaired	
	Process to request interpretive services (i.e. sign language interpreter) for meetings	

There are two water chairs - (both for adults and children) for access to water experiences for people with disabilities.

LOCATION

PARKING

Total Spaces	Required Accessible Spaces
Up to 25	1 space
26-50	2 spaces
51-75	3 spaces
76-100	4 spaces
101-150	5 spaces
151-200	6 spaces
201-300	7 spaces
301-400	8 spaces
401-500	9 spaces

Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance	✓		
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.	✓		
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle	✓		
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.	✓		
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%	✓		
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present	✓		
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow	✓		

RAMPS

Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12	✓		
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance	✓		
Disembarking area at accessible entrance	✓		
Surface evenly paved or hard-packed	✓		
No ponding of water	✓		
Path of Travel			
Path does not require the use of stairs	✓		
Path is stable, firm and slip resistant	✓		
3 ft wide minimum	✓		
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).	✓		
Continuous common surface, no changes in level greater than 1/2 inch	✓		
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane	-	N/A	
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"		N/A	
Curb on the pathway must have curb cuts at drives, parking and drop-offs	✓		
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and not be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors		N/A	
Minimum 32" clear width opening (i.e. 36" door with standard hinge)		N/A	
At least 18" clear floor area on latch, pull side of door		N/A	
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

Playground is outside

LOCATION			
STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			<i>N/A</i>
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			<i>N/A</i>
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

RESTROOMS – also see Doors and Vestibules			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			NA
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			NA
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			NA
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			NA
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION

FLOORS, DRINKING FOUNTAINS, TELEPHONES			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			N/A
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			N/A
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

In FY 2018 This old playground will be reconstructed to be ADA compliant with New Equipment. \$200,000 is in the CIP for expenditure at Town Meetings

Facility Inventory

LOCATION:

Lower Shoeshuen Playground

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths
		Access to Open Spaces
		Back and Arm Rests
		Adequate number
	Grills	Height of Cooking Surface
	Trash Cans	Located adjacent to accessible paths
		Located adjacent to accessible paths
Picnic Shelters	Located adjacent to accessible paths	
	Located near accessible water fountains, trash can, restroom, parking, etc.	
Trails		Surface material
		Dimensions
		Rails
		Signage (for visually impaired)
Swimming Facilities	Pools	Entrance
		Location from accessible parking
		Safety features i.e. warning for visually impaired
	Beaches	Location from accessible path into water
		Handrails
		Location from accessible parking
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Shade provided
		Same experience provided to all
		Access Routes
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths
		Berm cuts onto courts
	Equipment	Height
		Dimensions
		Spectator Seating
Boat Docks	Access Routes	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Fish Cleaning Tables
		Learn-to-Swim
		Guided Hikes
Services and Technical Assistance		Interpretive Programs
		Information available in alternative formats i.e. for visually impaired
		Process to request interpretive services (i.e. sign language interpreter) for meetings

LOCATION

PARKING			
<i>Total Spaces</i>	<i>Required Accessible Spaces</i>		
Up to 25	1 space		
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
<i>Specification for Accessible Spaces</i>	<i>Yes</i>	<i>No</i>	<i>Comments/Transition Notes</i>
Accessible space located closest to accessible entrance			
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMPS			
<i>Specification</i>	<i>Yes</i>	<i>No</i>	<i>Comments/Transition Notes</i>
Slope Maximum 1:12			
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			N/A
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
<i>Specification</i>	<i>Yes</i>	<i>No</i>	<i>Comments/Transition Notes</i>
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			N/A
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and <i>not</i> be the service entrance			N/A
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION

This is an outdoor playground.

STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			<i>NA</i>
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			<i>NA</i>
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

RESTROOMS – also see Doors and Vestibules			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			NA
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			NA
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION

FLOORS, DRINKING FOUNTAINS, TELEPHONES			
Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			NA
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			NA
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			NA
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

Note: This is a very old playground with poor facilities and NO ADA. There is \$400,000 in the Capital Improvement Plan (CIP) for reconstruction and ADA compliance in 2020. FY.

Facility Inventory

LOCATION: INDIAN RIDGE Playground

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths
		Access to Open Spaces <i>No</i>
		Back and Arm Rests <i>ADA</i>
	Grills	Adequate number
		Height of Cooking Surface <i>Compliance</i>
	Trash Cans	Located adjacent to accessible paths
Picnic Shelters	Located adjacent to accessible paths	
	Located near accessible water fountains, trash can, restroom, parking, etc.	
Trails		Surface material
		Dimensions
		Rails
		Signage (for visually impaired)
Swimming Facilities	Pools <i>NA</i>	Entrance
		Location from accessible parking
		Safety features i.e. warning for visually impaired
	Beaches	Location from accessible path into water
		Handrails
		Location from accessible parking
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Shade provided
		Same experience provided to all
		Located adjacent to accessible paths
Game Areas: *ballfield *basketball *tennis	Access Routes	Enough space between equipment for wheelchair
		Located adjacent to accessible paths
	Equipment	Berm cuts onto courts
		Height
		Dimensions
Boat Docks <i>NA</i>	Access Routes	Spectator Seating
		Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes <i>NA</i>	Located adjacent to accessible paths
		Handrails
	Equipment <i>NA</i>	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Fish Cleaning Tables
		Learn-to-Swim <i>NA</i>
		Guided Hikes
Services and Technical Assistance		Interpretive Programs
		Information available in alternative formats i.e. for visually impaired
		Process to request interpretive services (i.e. sign language interpreter) for meetings

LOCATION

PARKING

Total Spaces		Required Accessible Spaces	
Up to 25		1 space	
26-50		2 spaces	
51-75		3 spaces	
76-100		4 spaces	
101-150		5 spaces	
151-200		6 spaces	
201-300		7 spaces	
301-400		8 spaces	
401-500		9 spaces	
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			NO
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			ADIA
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			Compliance
Sign with international symbol of accessibility at each space or pair of spaces			Yes.
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			
RAMPS			
Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			
Minimum width 4 ft between handrails			
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

This is an outdoor park.

SITE ACCESS, PATH OF TRAVEL, ENTRANCES

Specification	Yes	No	Comments/Transition Notes
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			NA
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			<i>This is an outdoor</i>
Path of Travel			
Path does not require the use of stairs			<i>park</i>
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			NA
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and <i>not</i> be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			NA
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

NOTES

LOCATION

STAIRS and DOORS			
Specification	Yes	No	Comments/Transition Notes
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			N/A
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			N/A
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

RESTROOMS – also see Doors and Vestibules			
<i>Specification</i>	<i>Yes</i>	<i>No</i>	<i>Comments/Transition Notes</i>
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION

FLOORS, DRINKING FOUNTAINS, TELEPHONES

Specification	Yes	No	Comments/Transition Notes
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			NR
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
Specification	Yes	No	Comments/Transition Notes
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			NO indoor Facilities
Electrical outlets centered no lower than 18" above the floor			
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers at least 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

Facility Inventory

LOCATION:

PENGUIN PARK

ACTIVITY	EQUIPMENT	NOTES
Picnic Facilities	Tables & Benches	Located adjacent to accessible paths
		Access to Open Spaces
	Grills	Back and Arm Rests
		Adequate number
		Height of Cooking Surface
Trash Cans	Located adjacent to accessible paths	
Picnic Shelters	Picnic Shelters	Located adjacent to accessible paths
		Located near accessible water fountains, trash can, restroom, parking, etc.
Trails		Surface material
		Dimensions
		Rails
		Signage (for visually impaired)
Swimming Facilities	Pools <i>NA</i>	Entrance
		Location from accessible parking
	Beaches	Safety features i.e. warning for visually impaired
		Location from accessible path into water
		Handrails
Play Areas (tot lots)	All Play Equipment i.e. swings, slides	Same experience provided to all
	Access Routes	Located adjacent to accessible paths
		Enough space between equipment for wheelchair
Game Areas: *ballfield *basketball *tennis	Access Routes	Located adjacent to accessible paths
		Berm cuts onto courts
	Equipment	Height
		Dimensions
		Spectator Seating
Boat Docks	Access Routes	Located adjacent to accessible paths
		Handrails
Fishing Facilities	Access Routes <i>NA</i>	Located adjacent to accessible paths
		Handrails
	Equipment	Arm Rests
		Bait Shelves
		Handrails
Programming	Are special programs at your facilities accessible?	Fish Cleaning Tables
		Learn-to-Swim
		Guided Hikes
Services and Technical Assistance		Interpretive Programs
		Information available in alternative formats i.e. for visually impaired
		Process to request interpretive services (i.e. sign language interpreter) for meetings

* *Note Andover Fairy Park is a feature with a fairy village and house; a mailbox to send letters to Fairies and a place to leave pacifiers*

LOCATION

PARKING

Total Spaces	Required Accessible Spaces		
Up to 25	1 space		
26-50	2 spaces		
51-75	3 spaces		
76-100	4 spaces		
101-150	5 spaces		
151-200	6 spaces		
201-300	7 spaces		
301-400	8 spaces		
401-500	9 spaces		
Specification for Accessible Spaces	Yes	No	Comments/Transition Notes
Accessible space located closest to accessible entrance			
Where spaces cannot be located within 200 ft of accessible entrance, drop-off area is provided within 100 ft.			
Minimum width of 13 ft includes 8 ft space plus 5 ft access aisle			
Van space – minimum of 1 van space for every accessible space, 8 ft wide plus 8 ft aisle. Alternative is to make all accessible spaces 11 ft wide with 5 ft aisle.			
Sign with international symbol of accessibility at each space or pair of spaces			
Sign minimum 5 ft, maximum 8 ft to top of sign			
Surface evenly paved or hard-packed (no cracks)			
Surface slope less than 1:20, 5%			
Curbcut to pathway from parking lot at each space or pair of spaces, if sidewalk (curb) is present			
Curbcut is a minimum width of 3 ft, excluding sloped sides, has sloped sides, all slopes not to exceed 1:12, and textured or painted yellow			

RAMPS

Specification	Yes	No	Comments/Transition Notes
Slope Maximum 1:12			
Minimum width 4 ft between handrails			out door park
Handrails on both sides if ramp is longer than 6 ft			
Handrails at 34" and 19" from ramp surface			
Handrails extend 12" beyond top and bottom			
Handgrip oval or round			
Handgrip smooth surface			
Handgrip diameter between 1 1/4" and 2"			
Clearance of 1 1/2" between wall and wall rail			
Non-slip surface			
Level platforms (4ft x 4 ft) at every 30 ft, at top, at bottom, at change of direction			

LOCATION

SITE ACCESS, PATH OF TRAVEL, ENTRANCES			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Site Access			
Accessible path of travel from passenger disembarking area and parking area to accessible entrance			
Disembarking area at accessible entrance			
Surface evenly paved or hard-packed			
No ponding of water			
Path of Travel			
Path does not require the use of stairs			
Path is stable, firm and slip resistant			
3 ft wide minimum			
Slope maximum 1:20 (5%) and maximum cross pitch is 2% (1:50).			
Continuous common surface, no changes in level greater than 1/2 inch			
Any objects protruding onto the pathway must be detected by a person with a visual disability using a cane			
Objects protruding more than 4" from the wall must be within 27" of the ground, or higher than 80"			
Curb on the pathway must have curb cuts at drives, parking and drop-offs			
Entrances			
Primary public entrances accessible to person using wheelchair, must be signed, gotten to independently, and <i>not</i> be the service entrance			
Level space extending 5 ft. from the door, interior and exterior of entrance doors			
Minimum 32" clear width opening (i.e. 36" door with standard hinge)			
At least 18" clear floor area on latch, pull side of door			
Door handle no higher than 48" and operable with a closed fist			
Vestibule is 4 ft plus the width of the door swinging into the space			
Entrance(s) on a level that makes elevators accessible			
Door mats less than 1/2" thick are securely fastened			
Door mats more than 1/2" thick are recessed			
Grates in path of travel have openings of 1/2" maximum			
Signs at non-accessible entrance(s) indicate direction to accessible entrance			
Emergency egress – alarms with flashing lights and audible signals, sufficiently lighted			

N/A

N/A

NOTES

LOCATION

STAIRS and DOORS			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Stairs			
No open risers			
Nosings not projecting			
Treads no less than 11" wide			
Handrails on both sides			
Handrails 34"-38" above tread			
Handrail extends a minimum of 1 ft beyond top and bottom riser (if no safety hazard and space permits)			N/A
Handgrip oval or round			
Handgrip has a smooth surface			
Handgrip diameter between 1 1/4" and 1 1/2"			
1 1/2" clearance between wall and handrail			
Doors			
Minimum 32" clear opening			
At least 18" clear floor space on pull side of door			
Closing speed minimum 3 seconds to within 3" of the latch			
Maximum pressure 5 pounds interior doors			
Threshold maximum 1/2" high, beveled on both sides			N/A
Hardware operable with a closed fist (no conventional door knobs or thumb latch devices)			
Hardware minimum 36", maximum 48" above the floor			
Clear, level floor space extends out 5 ft from both sides of the door			
Door adjacent to revolving door is accessible and unlocked			
Doors opening into hazardous area have hardware that is knurled or roughened			

NOTES

LOCATION

RESTROOMS – also see Doors and Vestibules			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
5 ft turning space measured 12" from the floor			
At least one Sink:			
Clear floor space of 30" by 48" to allow a forward approach			
Mounted without pedestal or legs, height 34" to top of rim			
Extends at least 22" from the wall			
Open knee space a minimum 19" deep, 30" width, and 27" high			N/A
Cover exposed pipes with insulation			
Faucets operable with closed fist (lever or spring activated handle)			
At least one Stall:			
Accessible to person using wheelchair at 60" wide by 72" deep			
Stall door is 36" wide			N/A
Stall door swings out			
Stall door is self closing			
Stall door has a pull latch			
Lock on stall door is operable with a closed fist, and 32" above the floor			
Coat hook is 54" high			
Toilet			
18" from center to nearest side wall			
42" minimum clear space from center to farthest wall or fixture			
Top of seat 17"-19" above the floor			
Grab Bars			
On back and side wall closest to toilet			N/A
1 1/4" diameter			
1 1/2" clearance to wall			
Located 30" above and parallel to the floor			
Acid-etched or roughened surface			
42" long			
Fixtures			
Toilet paper dispenser is 24" above floor			
One mirror set a maximum 38" to bottom (if tilted, 42")			
Dispensers (towel, soap, etc) at least one of each a maximum 42" above the floor			

NOTES

LOCATION

FLOORS, DRINKING FOUNTAINS, TELEPHONES			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Floors			
Non-slip surface			
Carpeting is high-density, low pile, non-absorbent, stretched taut, securely anchored			
Corridor width minimum is 3 ft			
Objects (signs, ceiling lights, fixtures) can only protrude 4" into the path of travel from a height of 27" to 80" above the floor			NA
Drinking Fountains			
Spouts no higher than 36" from floor to outlet			
Hand operated push button or level controls			
Spouts located near front with stream of water as parallel to front as possible			
If recessed, recess a minimum 30" width, and no deeper than depth of fountain			
If no clear knee space underneath, clear floor space 30" x 48" to allow parallel approach			NA
Telephones			
Highest operating part a maximum 54" above the floor			
Access within 12" of phone, 30" high by 30" wide			
Adjustable volume control on headset so identified			
SIGNS, SIGNALS, AND SWITCHES			
<i>Specification</i>	Yes	No	<i>Comments/Transition Notes</i>
Switches, Controls and Signs			
Switches and controls for light, heat, ventilation, windows, fire alarms, thermostats, etc, must be a minimum of 36" and a maximum of 48" above the floor for a forward reach, a maximum of 54" for a side reach			
Electrical outlets centered no lower than 18" above the floor			NA
Warning signals must be visual as well as audible			
Signs			
Mounting height must be 60" to centerline of the sign			
Within 18" of door jamb or recessed			
Letters and numbers a t least 1 1/4" high			
Letters and numbers raised .03"			
Letters and numbers contrast with the background color			

NOTES

Conservation Commission Volunteers' Projects, 2016

By Bob Decelle, Andover Conservation Commission's Special Projects Manager

These projects were done by Bob Decelle and his team of courageous volunteers:

Built 700' of railing installed on new boardwalk on Doyle Link
Clearing underbrush at Dug Pond for better visibility from road.
Replaced old bog bridge with recycled boardwalk sections at rear of Double Tree Hotel leading to Merrimack trail.

Built new bridge on Lightning Tree reservation over small stream, put up signage for Reservation.

Installed fire pits at serious Grove using sewer frames recycled from junk behind town yard.

Worked with ENEL Corp clearing invasive from Retelle Reservation and saving 7 apple trees from being overgrown.

Worked with students from Philips academy clearing brush.

Worked with students from Merrimack College clearing brush.

Worked with South Church clearing brush on their days of service, 6 three hour days.

Mowed Retelle, Serio's, Hammond, and Pray reservations.

Cut trail from new ballfields to the Bellevue reservation building several bridges across streams with help from student groups.

Applied for and received \$6000 state grant for boardwalk from Bellevue Reservation to Tewksbury line. (construction Summer 2017)

Scout Projects completed in 2016

1. Bench and mini kiosk on Belmont Park green space, Yardley rd. Kyle Menezes
2. Screech owl boxes on Fosters Island in Pumps pond. Brian Bondurack
3. Circular bench around large oak at dog park High Plain rd. Nick Bradshaw
4. Set of mini kiosks installed on several conservation reservations. John Donovan
5. Small park on Wethersfield greenspace on Wethersfield Rd. Philip Amoesoder

6. Agility course installed at the dog park high Plain Rd. Sarah McGregor
7. Fence around new parking area on the Retell Reservation end of Brundrett Rd. Ivan Shocum
8. Rail fence on entrance of new boardwalk on Doyle Link Reservation. Joe Quatrochi
9. Picnic area and tables installed at Dug Pond. Sam Garth
10. New bridge and boardwalk on Sacred Heart Reservation next to Shawsheen river. Noah Williams

ANDOVER	Mussel	<i>Alasmidonta heterodon</i>	Dwarf Wedgemussel	E	Historic
ANDOVER	Mussel	<i>Alasmidonta varicosa</i>	Brook Floater (Swollen Wedgemussel)	E	Historic
ANDOVER	Amphibian	<i>Ambystoma laterale</i>	Blue-spotted Salamander	SC	2012
ANDOVER	Butterfly/Moth	<i>Apodrepanulatrix liberaria</i>	New Jersey Tea Inchworm	E	2008
ANDOVER	Vascular Plant	<i>Arceuthobium pusillum</i>	Dwarf Mistletoe	SC	1903
ANDOVER	Vascular Plant	<i>Aristida purpurascens</i>	Purple Needlegrass	T	1903
ANDOVER	Vascular Plant	<i>Asclepias purpurascens</i>	Purple Milkweed	E	1878
ANDOVER	Vascular Plant	<i>Calamagrostis pickeringii</i>	Reed Bentgrass	E	1913
ANDOVER	Butterfly/Moth	<i>Callophrys irus</i>	Frosted Elfin	SC	2014
ANDOVER	Vascular Plant	<i>Celastrus scandens</i>	American Bittersweet	T	1874
ANDOVER	Vascular Plant	<i>Elatine americana</i>	American Waterwort	E	2002
ANDOVER	Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T	2004
ANDOVER	Vascular Plant	<i>Eriophorum gracile</i>	Slender Cottongrass	T	1958
ANDOVER	Butterfly/Moth	<i>Euchlaena madusaria</i>	Sandplain Euchlaena	SC	2008
ANDOVER	Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	2016
ANDOVER	Butterfly/Moth	<i>Hemaris gracilis</i>	Slender Clearwing Sphinx	SC	2015
ANDOVER	Butterfly/Moth	<i>Hemileuca maia</i>	Barrens Buckmoth	SC	Historic
ANDOVER	Vascular Plant	<i>Liatrix scariosa</i> var. <i>novae-angliae</i>	New England Blazing Star	SC	2010
ANDOVER	Mussel	<i>Ligumia nasuta</i>	Eastern Pondmussel	SC	Historic
ANDOVER	Butterfly/Moth	<i>Lycia rachelae</i>	Twilight Moth	E	2002
ANDOVER	Dragonfly/Damselfly	<i>Neurocordulia obsoleta</i>	Umber Shadowdragon	SC	2004
ANDOVER	Vascular Plant	<i>Ophioglossum pusillum</i>	Adder's-tongue Fern	T	1902
ANDOVER	Vascular Plant	<i>Panicum philadelphicum</i> ssp.	Philadelphia Panic-grass	SC	1885

		philadelphicum			
ANDOVER	Vascular Plant	Platanthera flava var. herbiola	Pale Green Orchis	T	1903
ANDOVER	Vascular Plant	Sabatia kennedyana	Plymouth Gentian	SC	2006
ANDOVER	Vascular Plant	Sphenopholis pensylvanica	Swamp Oats	T	1903
ANDOVER	Reptile	Terrapene carolina	Eastern Box Turtle	SC	1996
ANDOVER	Vascular Plant	Trisetum spicatum	Spiked False Oats	E	1904
ANDOVER	Vascular Plant	Utricularia resupinata	Resupinate Bladderwort	T	Historic

The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth.

This is the list of MESA listed species for the Town of Andover

<http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/town-species-viewer.html>

**Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the
Open Space and Recreation Plan. 2018**

Name of Reservation: **Pustell Reservation**

Constructed of Parcels

PARCEL ID

100 1-E,	11 acres	Jenkins Property
100-1-F	2.58 acres	Jenkins Property
100 -1-G	3.12 acres	Jenkins Property
120-31	8.31 acres	Mill Dam Estates
121-2U	2.36 acres	Dundas Avenue Green A
121-47	21.47	Mill Dam Estates

Access: open

Legal Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Dug Pond Reservation**

Constructed of Parcels

Parcel ID

101-22	6.20 acres	Glenwood Road Conservation Area
101-30	.25 acres	Glenwood Road Conservation Area
101-32	1.00 acres	Glenwood Road Conservation Area
101.33	.42 acre	Glenwood Road Conservation Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Great Meadow Reservation**

Constructed of Parcels

Parcel ID

10.3	6.5 acres	Hoehn
10.4	9.0 acres	Grey Road/Tucker Road Conservation Area
12-3	.40 acre	Grey Road Southside
10.6J	2.28 acres	Grey Road/Tucker Road Conservation Area
10-6K	6.44 acres	Grey Road/Tucker Road Conservation Area
9-4A	7.95 acres	Tucker Road-1999 town transfer

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Iron Gate Reservation**

Constructed of Parcels

Parcel ID

105-11	11-72 acres	Iron Gate 1
105-10B	.66 acre	Iron Gate
105-11	2.65 acres	Iron Gate 1
105-16	4.19 acres	Iron Gate 11
105-5	1.71 acres	Iron Gate 120-31
105-50	.24 acre	Iron Gate 1
106071M	.78 acre	Oakmont

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Spencer Court reservation**

Constructed of Parcels

Parcel ID

107-2	1.84 acres	Spencer Court Green Area
107.3K	2.90 acres	Spencer Court Green Area
107-3Q	.004 acre	Spencer Court Green Area
131-34	15.70	Juniper

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Doyle Link Reservation**

Constructed of Parcels

Parcel ID

110-11	.42 acre	Doyle Link
110-13	.47 acre	Doyle Link
110-6	11.9 acres	Doyle Link
110-7	3.90 acres	Doyle Link
110-7A	.60 acre	Doyle Link
110-9	8.50 acres	Doyle Link
132-3	49.00 acres	Doyle Link
132-18	16.31 acres	Doyle Link

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Mary French Reservation**

Constructed of Parcels

Parcel ID

11-1E	9.28 acres	Korinthian Way Green Area
11-5H	7.04 acres	Sherborne Park Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Hayward Green Area Reservation**

Parcel ID

104-1	5.80 acres	Hayward
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Apache Avenue Green Area**

Parcel ID

113-17	.75	Blood Road Corp.
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Foster's Island Reservation**

Constructed of Parcels

Parcel ID

116-2	21.19 acres	Drinkwater Gravel Pit
117-1A	5.36 acres	formerly Shawsheen Rubber
117-15	11.60 acres	Essex Bituminous Concrete Corp.
119-22	1.50 acres	Essex Bituminous Concrete Corp.
117-9	.81 acre	Drinkwater Gravel Pit
132-21	2.94 acres	Dale Street Conservation Area
75-2A	7.66 acres	Catalano Green Acres
75-97	16.40 acres	Catalano
95-2	51.00 acres	Foster
95.3	8.00 acres	Foster
117-1B	1.00 acre	formerly Shawsheen Rubber

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Tea Lot Reservation**

Constructed of Parcels

Parcel ID

119-1	6.72 acres	Tea Lot Estates Green Area
98-4G	7.09 acres	Anderson

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Foster's Pond Reservation**

Constructed of Parcels

Parcel ID

123-26	2.75 acres	Foster's Pond
123-27	2.54 acres	Foster's Pond
123-29	12.71 acres	Foster's Pond
124-1	29.77 acres	Foster's Pond

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Merrimack River Reservation**

Constructed of Parcels

Parcel ID

125-1	10.10 acres	Strazzula
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Bulfinch Reservation**

Constructed of Parcels

Parcel ID

126-10	8.51 acres	Andover Business Park
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: Heffron Right of Way Reservation

Constructed of Parcels

Parcel ID

126-2 .86 acre Heffron Right of Way

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **River Road East Green Area**

Constructed of Parcels

Parcel ID

127-23 .24 acre River Road
127-28G 3.00 acres River Road Internal

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Somerset Drive Reservation**

Constructed of Parcels

Parcel ID

128-12 18.83 acres Somerset
144-5 26.79 acres Federal Street Conservation Area
145-18 10.38 acres Somerset

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Sunnyside Acres Reservation**

Constructed of Parcels

Parcel ID

133-105 17.62 acres Windemere Drive Open Space

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Chipped Tooth Reservation**

Constructed of Parcels

Parcel ID

139-146 0.09 acre 37 River Street

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Laconia Drive Reservation**

Constructed of Parcels

Parcel ID

140-1 3.77 acres Island Way Green Area
141-1K 25.83 acres Olympic Village (4/2003 T.M. FYO)
142-2 12.83 acres Olympic Village (4/2003 T.M. FYO)

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Shawsheen Flats Reservation**

Constructed of Parcels

Parcel ID

140-37	.50 acre	Mikulewicz
140-40	.40 acre	Mikulewicz
140-42	.61 acre	Mikulewicz
140-49	0.02 acre	Mikulewicz
140-51	0.3 acre	Shawsheen River/River Street
140-52	0.43 acre	Bussell-Shawsheen River
140-52A	0.75 acre	Shawsheen River/River Street
160-7F	2.23 acres	Gregory Circle Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Charlotte Circle Green Area**

Constructed of Parcels

Parcel ID

140-3G	3.27 acres	Charlotte Circle Green Area
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Salem Street Reservation**

Constructed of Parcels

Parcel ID

14-12A	5.77 acres	Conway
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Fish Brook North Reservation**

Constructed of Parcels

Parcel ID

145-1	19.10 acres	Fish Brook Wetlands
146-2	20.00 acres	John & Marie Boloian Reservation
146-3	6.00 acres	Fish Brook Wetlands
146-4	12.00 acres	Arakelian
146-5	1.28 acres	Chandler Road Conservation Area 1
168-25	4.31 acres	Belisle
168-26C	3.63 acres	Belle Isle Green Area
169-1	12.00 acres	Fish Brook Wetlands
169-10	5.18 acres	Cloverfield
169-2	18.00 acres	Fish Brook Wetlands
169-3	33.00 acres	Garabedian
170-4	38.00 acres	John & Marie Boloian Reservation
189-2	8.54 acres	Chandler Road Conservation Area 2
189-3A	9.10 acres	Fish Brook Wetlands
189-4	17.50 acres	Forest Hill Wetland 1
189-5	12 acres	Disbrow
190-43	1.02 acres	Forest Hill Wetland 1
190-64	9.48 acres	Forest Hill Wetland 2
190-65	22.42 acres	Forest Hill Wetland 2
101-1	70.00 acres	Cross Street Conservation Area
191-13A	0.86 acre	Forest Hill Wetland 1
191-14A	1.01 acre	Sugarbush
191-17	1.05 acre	Sugarbush
191-22	1.06 acre	Sugarbush
191-23		Sugarbush
191-23A	0.19 acre	Sugarbush
191-3	1.07 acre	Forest Hill Wetland 1
191-3A	0.40 acre	
191-22	1.06 acre	Sugarbush
191-23A	0.52 acre	Sugarbush
191-23A	0.19	Sugarbush
191-3	1.07 acre	Forest Hill Wetland 1
191-3A	.40 acre	Forest Hill Wetland 1
191-3B	.39 acre	Forest Hill Wetland 1
191-5	3.56 acres	Forest Hill Wetland 1
205-6	3.52 acres	Forest Hill Wetland 2
205-9	1.00 acre	Forest Hill Wetland 1

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Pettingell Green Area**

Constructed of Parcels

Parcel ID

148-10 0.66 acre Pettingell Avenue

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Starrwood Crossing Green Area**

Constructed of Parcels

Parcel ID

149-3 9.34 acres Starrwood Crossing Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Fish Brook South Reservation**

Constructed of Parcels

Parcel ID

150-1	19.75 acres	Youmans
150-23	6.37 acres	Dean Circle Green Area
150-2A	6.00 acres	Cheever
150-5	7.00 acres	Fish Brook Wetlands
150-6	1.70 acres	Fish Brook Wetlands
150-8	0.46 acre	Rolling Green Wetlands
150-8A	0.46 acre	Rolling Green Wetlands
150-9	12.40 acres	Eaton
151-1	1.15 acre	Greenwood Road
151-1D	4.50 acres	Chongris
194-1A	24.9 acres	Davidson/High Plain Realty Trust
195-5	10.00	Bolten
196-21E	9.60 acres	Pray
210-4F	1.00 acre	Woodhill
210-4G	4.30 acres	Haggetts Pond Conservation Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Raytheon Green Area**

Constructed of Parcels

Parcel ID

153-22	.88 acre	Rolling Green Wetland
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Germano Way Green Area**

Constructed of Parcels

Parcel ID

155-5K 4.44 acres Germano Way (off

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Fieldstone Meadows Reservation**

Constructed of Parcels

Parcel ID

156-15B 14.18 acres Fieldstone Meadows

157-2A 1.36 acre Narlee

181-7- 6.60 acres Belmont Park Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Pole Hill Reservation**

Constructed of Parcels

Parcel ID

157-43A 0.08 acre Marrion

153-8 34.00 acres Pole Hill

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Molly Road Green Area**

Constructed of Parcels

Parcel ID

158-5J 0.88 acre Molly Road

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Serio's Grove Reservation**

Constructed of Parcels

Parcel ID

159-88 18.88 acres Serio's Grove (Reichhold #3)

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Jenkins Trail Reservation**

Constructed of Parcels

Parcel ID

16-4 10,50 acres Deering Estates

16-4R 2.47 acres Deering Estates

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Al Retelle Reservation**

Constructed of Parcels

Parcel ID

164-1	2.70 acres	Merrimack River Frontage 1
186-1	4.90 acres	Merrimack River Frontage
186-2	3.11 acres	Cons. C. OWNER, correction required
187-1	52.18 acres	Shlakis
188-9A	1.42 acres	Brundrett

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Hearthstone Reservation**

Constructed of Parcels

Parcel ID

178-1A	16.80 acres	Hearthstone Place (off)
178-5R	7.36 acres	Apple Blossom Green Area
179-38	0.64 acre	Keystone Green Area
201-17	26.86 acres	Hearthstone Place

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Belmont Park Reservation**

Constructed of Parcels

Parcel ID

181-68	9.16 acres	Belmont Park Green Area
181-69	14.90	Belmont Park Green Area
1880-21	6.43 acres	Cardinal Lane Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Shawsheen Pines Reservation**

Constructed of Parcels

Parcel ID

183-10	3.00 acres	Shawsheen River Bank – Rt. 93
183-10A	2.75 acres	Shawsheen River Bank –Rt. 93
183-10B	1.00 acre	Shawsheen River Bank – Rt. 93
183-13	3.00 acres	Shawsheen River Bank – Rt. 93
183-9	1.11 acres	Genetics Institute
182-7B	1.26 acre	Tewksbury Street (Reichhold #2)
182-6B	0.52 acre	Tewksbury Street (Reichhold #2)

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Emma Road Green Area**

Constructed of Parcels

Parcel ID

18-48	0.20 acre	American Heart former CR03 Access
18-40	0.02 acre	American Heart former CR03 Access
18-50	0.21 acre	American Heart former CR03 Access
18-51	0.28 acre	American Heart former CR 03 Access
18-52	0.32 acre	American Heart former CR 03 Access
18-63	0.24 acre	American Heart former CR 03 Access
18-64	0.25 acre	American Heart former CR 03 Access
18-65	0.26 acre	American Heart former CR 03 Access
18-66	0.28 acre	American Heart former CR 03 Access

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Lightning Tree Reservation**

Constructed of Parcels

Parcel ID

184-2 24.07 acres Sun Gen

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Dufton Road Green Area**

Constructed of Parcels

Parcel ID 19-118 0.17 acre Anderson

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Carmel Woods Reservation**

Constructed of Parcels, Parcel ID

19-139 6.54 acres High Street
20-34 2040 acres Carmel Woods

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Virginia Hammond Reservation**

Constructed of Parcels, Parcel ID 193-2 43.50 acres Bald Hill

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Virginia Hammond Reservation**

Constructed of Parcels , Parcel ID

193-2 43.50 acres Bald Hill

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Bald Hill/Wood Hill Reservation**

Constructed of Parcels , Parcel ID

193-3 63.20 acres Bald Hill

210-5 6.04 aces Bald Hill

210-6 10.38 acres Bald Hill

218-8F 10.35 acres Hitchcock Farm

219-13 13,71 acres Verizon

210-18C 4.63 acres Lang

219-7A 1.11 acre Bailey Road Conservation Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Fish Brook South Reservation**

Constructed of Parcels, Parcel ID

194-1A 24.90 acres Davidson-High Plain Realty Trust

195-5 10.00 acres Bolten

196-21E 9.60 acres Pray

198-17M 3.26 acres Preston Circle

210-4F 1.00 acre Woodhill

210-4G 4.30 acres Haggetts Pond Conservation Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Bellevue Reservation**

Constructed of Parcels, Parcel ID

197-11	2.33 acres	Arbutt-Doucette
197-3A	1.00 acre	D'Urso
197-4	1.12 acre	Bellevue
197-5C	5.89 acres	White
197-6	6.77 acres	Bellevue
198-3P	4.31 acres	Stouffer Circle Green Area
213-26	11.80 acres	Granli Estates Green Area
213-3	17.80 acres	Hoyt
213-4	0.30 acre	Bellevue

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Linwood Street Green Area**

Constructed of Parcels, Parcel ID

19-98	0.72 acre	Linwood
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
Americans with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **High Street Green Area**

Constructed of Parcels, Parcel ID

20-2B	0.69 acre	High Street
20-2C	0.80 acre	High Street
20-2D	0.69 acre	High Street
20-2D	0.83 acre	High Street

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Elm Street Conservation Area**

Constructed of Parcels, Parcel ID

21-107C	0.55 acre	Elm Street Conservation Area
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Lowell Street Green Area**

Constructed of Parcels Parcel, ID

211-5	1.67 acres	Lowell Street –Lots A and B
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211-3	1.42 acres	Lowell Street – lots A and B
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **River Road West Green Area**

Constructed of Parcels, Parcel ID

215-1A	4.78 acres	River Road West
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215-1B	3.01 acres	River Road
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Larchmont Circle Green Area**

Constructed of Parcels, Parcel ID

218-2	6.26 acres	Larchmont Circle Green Area
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Pheasant Ridge Reservation**

Constructed of Parcels, Parcel ID

224-3	5.92 acres	Quailcrest II subdivision
228-16	20.19 acres	Quailcrest I subdivision
228-28	2.77 acres	Quailcrest I (4/2004 T.M FY04 A)
230-6C	30.49 acres	Pheasant Ridge Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Wethersfield/Cameron Green Area**

Constructed of Parcels, Parcel ID

29-15B	2.44 acres	Wethersfield/Cameron
29-29A	0.33 acre	Wethersfield/Cameron
29-33A	0.83 acre	Wethersfield/Cameron

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **ITA Skug Reservation**

Constructed of Parcels, Parcel ID

29-1B	8.40 acres	Booth
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Jenkins Trail Reservation**

Constructed of Parcels, Parcel ID

31-1	9.94 acres	Douglass Crossing
31-1P	0.70 acre	Douglass Crossing

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Sacred Heart Reservation**

Constructed of Parcels, Parcel ID

36-109	0.28 acre	Lanam club
36-2A	0.02 acre	Sacred Heart, Shawsheen River
36-7	8.45 acres	Sacred Heart
37-3	1.20 acre	Sacred Heart
37-4	2.20 acres	Sacred Heart. Shawsheen River
37-5	2.50 acres	Sacred Heart

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Castle Park Reservation**

Constructed of Parcels, Parcel ID

37-42	0.33 acres	Joyce Terrace Castle Park
37-43	0.39 acre	Joyce Terrace Castle Park
37-44	0.37 acre	Joyce Terrace Castle Park

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Appletree Lane Green Area**

Constructed of Parcels, Parcel ID

45-15A 0.63 acre Appletree Lane

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Vine Street Green Area**

Constructed of Parcels, Parcel ID

43-24N 1.02 acre BLUEBERRY CIRCLE

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Summer Street Green Area**

Constructed of Parcels, Parcel ID

4-61 5.01 acre Bacon-Summer

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Hussey's Pond Reservation**

Constructed of Parcels, Parcel ID

52-81A 7.15 acres Brox

52-85A 0.21 acre Crandelmire-Iceland Road

52-91 3.83 acres Hussey's Pond

69-38K 0.16 acre Warwick Estates
Access: open
Protection : Fee
Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Roger's Dell Reservation**

Constructed of Parcels, Parcel ID

55-157 0.77 acre Roger's Dell

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Great Heron Green Area**

Constructed of Parcels, Parcel ID

60-14 2.64 acres Great Heron Green PROPOSED

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Rocky Hill Road Reservation**

Constructed of Parcels, Parcel ID

64-4 1.61 acre Rocky Hill Road

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Lincoln Street Green Area**

Constructed of Parcels, Parcel ID

71-73 4.31 acres Lincoln Street-1999 transfer

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Shawsheen Road Strip Green Area**

Constructed of Parcels, Parcel ID

71-93A 0.16 acre Benchmark Construction Inc.

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Red Spring Reservation**

Constructed of Parcels, Parcel ID

73-3A 1.49 Acres Boush

73-6A 0.76 acre Lord

73-6B 2.00 acres Cutler, formerly CE

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Lupine Road Green Area**

Constructed of Parcels, Parcel ID

74-37 0.76 acre Leach, Shawsheen Rive

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **South Main Street Green Area**

Constructed of Parcels Parcel ID

80-20A 0.81 acre Meuse

80-20B 0.72 acre Meuse

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Orchard Crossing Green Area**

Constructed of Parcels, Parcel ID

80-33 4.12 acres Orchard Crossing Green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Belknap Reservation**

Constructed of Parcels, Parcel ID

81-1 10.03 acres Belknap Estates Green Area

81-49 0.11 acre Belknap Estates green Area

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Rattlesnake Hill Reservation**

Constructed of Parcels, Parcel ID

82-5	4.40 acres	Countryside Green Area
82-9	0.21 acre	Logan
82-42	1.00 acre	Rattlesnake Hill Road
83-42A	1.82 acre	Rattlesnake Hill Road
83-42B	2.00 acres	Rattlesnake Hill Road
83-58	3.79 acres	Morton
83.60	2.76 acres	Christy
83-62	0.62 acres	Christy
83-64	0.25 acre	Christy
83-64A	1.00 acre	Christy
83-65	0.47 acre	Christy
83-71A	3.92 acres	Rattlesnake Hill Road
83-71D	2.44 acres	Rattlesnake Hill Road

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Iron Gate Reservation**

Constructed of Parcels, Parcel ID

85-6G	12.31 acres	Beacon Street
86-6	7.95 acres	Hyatt Crossing

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and
Recreation Plan. 2017*

Name of Reservation: **Oriole Drive Green Area**

Constructed of Parcels Parcel ID

91-9	0.88 acre	Oriole Drive
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Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Tea Lot Reservation**

Constructed of Parcels, Parcel ID

98-4G 7.09 acres Anderson

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Shawsheen Pines Reservation**

Constructed of Parcels, Parcel ID

182-7B 1.26 acre Tewksbury St. (Reichhold #2)

182-6B 0.52 acre Tewksbury St. (Reichhold #2)

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: **Rolling Green Reservation**

Constructed of Parcels Parcel ID

26.60 acres Rolling Green 40B/former Axelrod CR

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Inventory of Article 97 Reservations in the Town of Andover
with Accommodations for Americans with Disabilities (ADA) for the *Open Space and Recreation Plan. 2017*

Name of Reservation: (Not named yet)

Constructed of Parcels, Parcel ID

7.21 acres Pulte Open Space (open space given to the Town by development
of former Franciscan Land due to the senior overlay)

Access: open

Protection : Fee

Accommodations for Americans with Disabilities: None

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
<u>LAND DEEDED TO INHABITANTS OF THE TOWN OF ANDOVER - CARE AND CUSTODY OF CONSERVATION COMMISSION</u>												
100-1E	13.99	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open		fee	trails	
100-1F	2.58	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open		fee	trails	
100-1G	3.12	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open		fee	trails	
100-2S	4.46	Mill Dam Conservation (parcels X & Y)	Pustell Reservation	3462/1694	225/98	SRB	good	open		fee	trails	
101-22	6.20	Glenwood Road Conser. Area	Dug Pond Reservation	3173	277	SRB	good	open		fee	trails	
101-30	0.25	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open		fee	swim	
101-32	1.00	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open		fee	swim	
101-33	0.42	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open		fee	swim	
101-65	1.00	Foster Pond Island, Glenwood Rd.	Rock Island Reservation	14464	168	SRC	good	open		fee		
10-3	6.50	Hoehn	Great Meadow Reservation	7838	114	SRC	good	open		fee	trails	
10-4	9.00	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	2396	35	SRC	good	open		fee		
104-1	5.80	Hayward	Hayward Green Area	929	294	SRC	good	open		fee		
105-10	11.72	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open		fee		
105-10B	0.66	Iron Gate	Iron Gate Reservation	4207	91	SRC	good	open		fee		
105-11	2.65	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open		fee		
105-16	4.19	Iron Gate II	Iron Gate Reservation	4159	174	SRC	good	open		fee		
105-5	1.71	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open		fee		
105-50	0.24	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open		fee		
106-71M	0.78	Oakmont	Iron Gate Reservation	4159	238	SRC	good	open		fee		
10-6J	2.82	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	3180	327	SRC	good	open		fee		
10-6K	6.44	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	3180	327	SRC	good	open		fee		
107-2	1.84	Spencer Court Green Area	Spencer Court Reservation	2921	104	SRC	good	open		fee		
107-3K	2.90	Spencer Court Green Area	Spencer Court Reservation	2921	104	SRC	good	open		fee		
107-3Q	0.04	Spencer Court Green Area	Spencer Court Reservation	3268	322	SRC	good	open		fee		
110-11	0.42	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open		fee	BCT	
110-13	0.47	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open		fee	BCT	
110-6	11.90	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open		fee	BCT	
110-7	3.90	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open		fw	BCT	
110-7A	0.60	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open		fee	BCT	
110-9	8.50	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	DCS-Self Help18	fee	BCT	
11-1E	9.28	Korinthian Way Green Area	Mary French Reservation	1234	70	SRC	good	open		fee	boardw.	
113-17	0.75	Blood Road Corp	Apache Ave Green Area	1870	133	SRB	good	open		fee		
11-5H	7.04	Sherborne Park Green Area	Mary French Reservation	2469	169	SRC	good	open		fee	boardw.	
116-2	21.19	Drinkwater Gravel Pit	Foster's Island Reservation	14464	169	SRB	good	open		fee	trails	
117-1A	5.36	formerly Shawsheen Rubber	Foster's Island Reservation	9111	35	SRB	good	open		fee	trails	
117-15	11.60	Essex Bituminous Concrete Corp	Foster's Island Reservation	1141	353	SRB	good	open		fee	trails	
117-22	1.50	Essex Bituminous Concrete Corp	Foster's Island Reservation	1141	353	SRB	good	open		fee	trails	
117-9	0.81	Drinkwater Gravel Pit	Foster's Island Reservation	956	448	SRB	good	open		fee	trails	
119-1	6.72	Tea Lot Estates Green Area	Tea Lot Reservation	2469	167	SRB	good	open		fee	trails	

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
120-31	8.37	Mill Dam Estates Green Area	Pustell Reservation	3462	223	SRB	good	open		fee/C	granite	
121-2U	2.36	Dundas Avenue Green Area	Pustell Reservation	1577	65	SRB	good	open		fee/C	Native Am.	
121-47	21.60	Mill Dam Estates Green Area	Pustell Reservation	3462	223	SRB	good	open		fee/C	vernal p	
12-3	0.40	Gray Road Southside	Great Meadow Reservation	1164	509	SRC	poor	open		fee	lake	
123-26	2.75	Fosters Pond	Foster's Pond Reservation	12425	313	SRC	good	open	LAND Grant - 2011	fee	lake	
123-27	2.54	Fosters Pond	Foster's Pond Reservation	12425	313	SRC	good	open	LAND Grant	fee	lake	
123-29	12.71	Fosters Pond	Foster's Pond Reservation	4981	203	SRC	good	open		fee	lake	
124-1	29.77	Fosters Pond	Foster's Pond Reservation	4981	203	SRC	good	open		fee	lake	
125-1	10.10	Strazzula	Strazzula Reservation	1166	329	SRC	good	open	DCS-Sel Help-1971	fee	lake	
126-10	8.51	Andover Business Park	Bulfinch Reservation	5296	256	SRC	good	open		fee		
126-2	0.86	Heffron R.O.W.	Heffron ROW Reservation	1828	156	SRC	poor	open		fee		
127-23	0.24	River Road	River Road East Green Area	4375	171	SRC	good	open		fee		
127-28G	3.00	River Road Interenal	River Road East Green Area	1164	509	SRC	good	open		fee		
128-12	18.83	Somerset	Somerset Drive Reservation	7010	194	SRC	good	open		fee		
131-34	15.70	Juniper	Spencer Court Reservation	1201	112	SRC	good	open		fee		
132-18	16.31	Curtis	Doyle Link Reservation	1374	4	SRB	good	open	DCS-Self Help21	fee	BCT	
132-3	49.00	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	DCS-Self Help18	fee	BCT	
133-105	17.62	Windemere Dr Open Space	Sunnyside Acres Reservation	13995	274	SRC	good	NO		fee		
138-21	2.94	Dale Street Conservation Area	Foster's Island Reservation	14795	28	SRB	good	open		fee	trails	
139-146	0.09	37 River St	Chipped Tooth Reservation	4860	275	SRC	good	open		fee		
140-1	3.77	Island Way Green Area	Laconia Drive Reservation	1510/1892	113/40	SRC	good	open		fee		
140-37	0.50	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	DCS-Self Help?	fee		
140-3G	3.27	Charlotte Circle Green Area	Charlotte Circle Green Area	2007	103	SRC	good	open		fee		
140-40	0.40	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open		fee		
140-42	0.61	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open		fee		
140-49	0.02	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	DCS-Self Help	fee	river	
140-51	0.03	Shawsheen River, River Street	Shawsheen Flats Reservation	1059	150	SRC	good	open		fee		
140-52	0.43	Bussell - Shawsheen River	Shawsheen Flats Reservation	1340	197	SRC	good	open		fee		
140-52A	0.75	Shawsheen River River Street	Shawsheen Flats Reservation	1059	150	SRC	good	open		fee		
14-1	3.51	Drake	Salem Street Reservation	1553	140	SRC	good	open		fee		
141-1K	25.83	Olympic Village (4/2003 T.M. FY0	Laconia Drive Reservation	1425	142	SRC				fee	TM vote 03	
141-2	12.83	Olympic Village (4/2003 T.M. FY0	Laconia Drive Reservation	1425	142	SRC				fee	TM vote'03	
14-12A	5.77	Conway	Salem Street Reservation	1239	671	SRC	good	open	DCS-Self Help	fee		
144-5	26.79	Federal St. Conservation Area	Somerset Drive Reservation	3035	136	ID	good	open		fee		
145-1	19.10	Fish Brook Wetlands	Fish Brook North Reservation	2398	295	SRC	good	open		fee		
145-18	10.38	Somerset	Somerset Drive Reservation	7010	194	SRC	good	open		fee		
146-2	20.00	John & Marie Boloian Reservation	Fish Brook North Reservation	2219	339	SRC	good	open		fee		
146-3	6.00	Fish Brook Wetlands	Fish Brook North Reservation	3034	328	SRC	good	open		fee		
146-4	12.00	Arakelian	Fish Brook North Reservation	2658	341	SRC	poor	open	DCS-Self Help33?	fee	invasives	
146-5	1.28	Chandler Rd. Conservation Area 1	Fish Brook North Reservation	2655	313	SRC	poor	open		fee	invasives	

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	acces	Grant-Self Help/LAI	prote	rec	potentior
148-10	0.66	15 Pettingell Ave	Pettingell Green Area	8454	338	SRC	poor	CLOSED		fee		arsenic
149-3	9.34	Starrwood Crossing Green Area	Starrwood Crossing Green Area	2889	136	SRC	good	open		fee		
150-1	19.75	Youmans	Fish Brook South Reservation	14464	170	SRC	poor	open		fee		wildlife
150-23	6.37	Dean Circle Green Area	Fish Brook South Reservation	1113	343	SRC	good	open		fee		wildlife
150-2A	6.00	Cheever	Fish Brook South Reservation	936	339	SRC	good	open		fee		wildlife
150-5	7.00	Fish Brook Wetlands	Fish Brook South Reservation	1726	267	SRC	good	open		fee		wildlife
150-6	1.70	Fish Brook Wetlands	Fish Brook South Reservation	1726	267	SRC	good	open		fee		wildlife
150-8	0.46	Rolling Green Wetlands	Fish Brook South Reservation	1633	201	SRC	good	open		fee		wildlife
150-8A	0.46	Rolling Green Wetlands	Fish Brook South Reservation	1633	201	SRC	good	open		fee		wildlife
150-9	12.40	Eaton	Fish Brook South Reservation	776	339, 341	SRC	good	open	DCS-Self Help	fee		
151-1	1.15	Greenwood Road	Fish Brook South Reservation	1462	157	SRC	good	open		fee		
151-1D	4.50	Chongris	Fish Brook South Reservation	1353/1766	531/334	SRC	good	open		fee		
153-22	0.88	Rolling Green Wetlands	Raytheon Green Area	1633	201	SRC	good	open		fee		
155-5K	4.44	Germano Way (off)	Germano Way Green Area	4219	78	SRC	good	open		fee		
156-15B	14.18	Fieldstone Meadows	Fieldstone Meadows Reservatio	6247	338	SRC	good	open		fee		
157-2A	1.36	Narlee	Fieldstone Meadows Reservatio	6568	191	SRC	good	open		fee		
157-43A	0.08	Marrion	Pole Hill Reservation	13328	316	SRC	good	open	DCS-Sehf Help31	fee		
158-3	34.00	Pole Hill	Pole Hill Reservation	1624	143	SRC	good	open	DCS-Sehf Help31	fee		water sp
158-5J	0.88	Molly Road	Molly Road Green Area	5506	168	SRC	good	open		fee		
159-8	18.88	Serio's Grove (Reichold #3)	Serio's Grove Reservation	10031	240	SRC	good	open		fee		camping
16-4	10.50	Deering Estates	Jenkins Trail Reservation	5718	200	SRC	good	open		fee		meadow
164-1	2.70	Merrimack River Frontage 1	Al Retelle Reservation	1267	264	SRC	good	open		fee		
16-4R	2.47	Deering Estates	Jenkins Trail Reservation	5718	200	SRC	good	open		fee		
168-25	4.31	Belisle	Fish Brook North Reservation	1900	182	SRC	poor	open		fee		invasives
168-26C	3.63	Belle Isle Green Area	Fish Brook North Reservation	2983	150	SRC	good	open		fee		
169-1	12.00	Fish Brook Wetlands	Fish Brook North Reservation	1807	154	SRC	good	open	DCS-Fish Brook34?	fee		
169-10	5.18	Cloverfield	Fish Brook North Reservation	5299	115	SRC	good	open		fee		
169-2	18.00	Fish Brook Wetlands	Fish Brook North Reservation	1780	300	SRC	good	open		fee		
169-3	33.30	Garabedian	Fish Brook North Reservation	1149	540	SRC	good	open	DCS-Self Help	fee		
170-4	38.00	John & Marie Boloian Reservation	Fish Brook North Reservation	2219	339	SRC	good	open		fee		
172-1	0.13	Bald Hill-across 495 and to the south	Fish Brook South Reservation	14613	34	SRC	good	open		fee		
172-8	18.00	Davideit (Davidson?)	Fish Brook South Reservation	1082	28	SRC	good	open	DCS-Self Help 1	fee		
172-9	26.73	Davidson- High Plain Realty Trust	Fish Brook South Reservation	14613	34	SRC	good	open	DCS-Self Help4	fee		wildlife
175-19	7.00	Haggetts Pond Watershed	Fish Brook South Reservation	69	377	SRC	good	open		fee		
175-20	6.50	Haggetts Pond Watershed	Fish Brook South Reservation	2104	216/217	SRC	good	open		fee		
178-1A	16.80	Hearthstone Place (off)	Hearthstone Reservation	14795	30	SRB	good	open	DCS-Self Help	fee		
178-5R	7.36	Apple Blossom Green Area	Hearthstone Reservation	1510	103	SRB	good	open		fee		
179-38	0.64	Keystone Green Area	Hearthstone Reservation	14795	30	SRB	good	open		fee		
180-21	6.43	Cardinal Lane Green Area	Belmont Park Reservation	1164	372	SRA	good	open		fee		
181-68	9.16	Belmont Park Green Area	Belmont Park Reservation	1583	131	SRA	good	open		fee		

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
181-69	14.90	Belmont Park Green Area	Belmont Park Reservation	1583	131	SRA	good	open		fee		
181-70	6.60	Belmont Park Green Area	Fieldstone Meadows Reservatio	5583	311	SRB	good	open		fee		
183-10	3.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-10A	2.75	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-10B	1.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-13	3.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	681	576	SRC	good	open		fee	water sports	
183-9	1.11	Genetics Institute	Shawsheen Pines Reservation	5393	63	SRC	good	open		fee	water sports	
18-48	0.20	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-49	0.20	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open			CR	
18-50	0.21	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-51	0.28	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-52	0.32	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
186-1	4.90	Merrimack River Frontage	AI Retelle Reservation	1273	669	SRC	poor	open		fee	meadow	
186-2	3.11	Cons.C. OWNER Correction Req'd	AI Retelle Reservation	1273	669	SRC	poor	open		fee	meadow	
18-63	0.24	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-64	0.25	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-65	0.26	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-66	0.28	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
184-2	24.07	SunGen	Lightning Tree Reservation	13539	316	SRC	good	open		fee	pine barrens	
187-1	52.18	Shlakis	AI Retelle Reservation	1143	421-423	SRC	poor	open	DCS-Self Help6	fee	meadow	
188-9A	1.42	Brundrett	AI Retelle Reservation	5808	154	SRC	poor	open		fee	meadow	
189-2	8.54	Chandler Rd. Conservation Area 2	Fish Brook North Reservation	2928	317	SRC	good	open		fee		
189-3A	9.10	Fish Brook Wetlands	Fish Brook North Reservation	2398	297	SRC	good	open		fee		
189-4	17.50	Forest Hill Wetland 1	Fish Brook North Reservation	1438	106	SRC	good	open		fee		
189-5	12.00	Disbrow	Fish Brook North Reservation	1187	51	SRC	good	open	DCS-Self Help	fee		
190-43	1.02	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
190-64	9.48	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open		fee		
190-65	22.42	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open		fee		
191-1	70.00	Cross Street Conservation Area	Fish Brook North Reservation	14795	29	SRC	good	open		fee		
191-13A	0.86	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
191-14A	1.01	Sugarbush	Fish Brook North Reservation	7024	286	SRC	good	open		fee		
191-17	1.05	Sugarbush	Fish Brook North Reservation	3462	227	SRC	good	open		fee		
19-118	0.17	Anderson	Duffton Road Green Area	12176	203	SRC	good	open		fee		
191-22	1.06	Sugarbush	Fish Brook North Reservation	58	517	SRC	good	open		fee		
191-23	0.52	Sugarbush	Fish Brook North Reservation	58	517	SRC	good	open		fee		
191-23A	0.19	Sugarbush	Fish Brook North Reservation	58	513	SRC	good	open		fee		
191-3	1.07	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
19-139	6.54	High Street	Carmel Woods Reservation	4271	125	SRC	good	open		fee	trails	
191-3A	0.40	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
191-3B	0.39	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
191-5	3.56	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
193-2	43.50	Bald Hill	Virginia Hammond Reservation	14613	34	SRC	good	open		fee	garden	
193-3	63.20	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open		fee		
194-1A	24.90	Davidson- High Plain Realty Trus	Fish Brook South Reservation	14613	34	SRC	good	open	DCS-Self Help4	fee		
195-5	10.00	Bolten	Fish Brook South Reservation	1213	639	SRC	good	open	DCS-Self Help17	fee		
196-21E	9.60	Pray	Fish Brook South Reservation	1198	645	SRC	good	open	DCS-Self Help 10	fee		
197-11	2.33	Aubut-Doucette	Bellevue Reservation	1302	468	SRC	good	open	DCS-Self Help 10	fee	trails	
197-3A	1.00	D'Urso	Bellevue Reservation	1753	314	SRC	good	open		fee		
197-4	1.12	Bellevue	Bellevue Reservation	1234	188	SRC	good	open		fee		
197-5C	5.89	White	Bellevue Reservation	1234	190	SRC	good	open	DCS-Self Help15	fee		
197-6	6.77	Bellevue	Bellevue Reservation	8971	71	SRC	good	open		fee		
198-17M	3.26	Preston Circle	Fish Brook South Reservation	5583	304	SRC	good	open				
198-3P	4.31	Stouffer Circle Green Area	Bellevue Reservation	84	221	SRC	good	open				
199-2B	11.44	Devonshire Estates	Hearthstone Reservation	5583	315	SRB	good	open			trails	
19-98	0.72	Linwood	Linwood Street Green Area	171	97	SRC	good	open				
201-17	26.86	Hearthstone Place	Hearthstone Reservation	14795	30	SRB	good	open			trails	
20-34	20.40	Carmel Woods	Carmel Woods Reservation	4653	329	SRA	good	open			trails	
20-3B	0.69	High Street	High Street Green Area	4561	309	SRA	good	open			trails	
20-3C	0.80	High Street	High Street Green Area	4561	309	SRA	good	open			trails	
20-3D	0.69	High Street	High Street Green Area	4561	309	SRA	good	open			trails	
20-3E	0.83	High Street	High Street Green Area	4561	309	SRA	good	open			trails	
205-6	3.52	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open				
205-9	1.00	Forest Hill Wetland 1	Fish Brook North Reservation	1438	106	SRC	good	open				
208-3	10.21	Wood Hill Reservation	Bald Hill/Wood Hill Reservation	956	448	SRC	good	open			glacier	
208-7	2.46	Golden Oaks Green Area	Bald Hill/Wood Hill Reservation	3715	177	SRC	good	open			glacier	
209-1	39.62	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open	DCS-Self Help 23?	fee	glacier	
209-2	3.29	Woodhill	Bald Hill/Wood Hill Reservation	4130	136	SRC	good	open		fee	glacier	
209-4	2.96	Haggetts Bald Hill	Bald Hill/Wood Hill Reservation	2008	6	SRC	good	open		fee	glacier	
209-4A	35.90	Haggetts Hill	Bald Hill/Wood Hill Reservation	1167	694	SRC	good	open	DCS-Self Help 23	fee	glacier	
210-2	0.07	Larson	Fish Brook South Reservation	6908	248	SRC	good	open		fee		
210-2A	0.45	Larson	Fish Brook South Reservation	6908	248	SRC	good	open		fee		
210-2B	3.36	Larson	Bald Hill/Wood Hill Reservation	5895	305	SRC	good	open		fee	glacier	
210-3A	2.50	Calderone/Harnden Gift	Bald Hill/Wood Hill Reservation	4040	142	SRC	good	open		fee	glacier	
210-4	3.28	Weidman	Bald Hill/Wood Hill Reservation	2998	234	SRC	good	open		fee	glacier	
210-4A	1.40	Haggetts Pond	Bald Hill/Wood Hill Reservation	2769	31	SRC	good	open		fee	glacier	
210-4F	1.00	Woodhill	Fish Brook South Reservation	4202	38	SRC	good	open		fee	glacier	
210-4G	4.30	Haggetts Pond Conservation Area	Fish Brook South Reservation	2998	232	SRC	good	open		fee		
210-5	6.04	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open		fee	drumlins	
210-6	10.38	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open		fee	drumlins	
21-107C	0.55	Elm Street Conservation Area	Elm Street Green Area	3114	228/230	SRB	good	open		fee	drumlins	

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
211-3	1.42	Lowell Street - Lots A & B	Lowell Street Green Area	14544	53	SRB	good	open		fee		
21-136B	5.38	Elm Street Conservation Area	Elm Street Green Area	3114	228/230	SRB	good	open		fee	trails	
211-42	0.23	Bolton Gift	Fish Brook South Reservation	2007	101	SRC	good	open		fee		
211-5	1.67	Lowell Street - Lots A & B	Lowell Street Green Area	14544	53	SRB	good	open		fee	trails	
213-26	11.80	Granli Estates Green Area	Bellevue Reservation	2017	137	SRC	good	open		fee		
213-3	17.80	Hoyt	Bellevue Reservation	1233	780	SRC	good	open	DCS-Self Help14	fee	trails	
215-1A	4.78	River Road West	River Road West Green Area	5966	117	SRC	good	open		fee		
215-1B	3.01	River Road	River Road West Green Area	5966	106	SRC	good	open		fee		
217-1U	7.45	Golden Oaks Green Area	Bald Hill/Wood Hill Reservation	2171	306	SRC	good	open		fee		
217-3H	2.36	Penni Lane Green Area	Bald Hill/Wood Hill Reservation	1874	158	SRC	good	open		fee		
218-13	8.58	Gaven Circle Green Area	Bald Hill/Wood Hill Reservation	2007	98	SRC	good	open		fee		
218-2	6.26	Larchmont Circle Green Area	Larchmont Circle Green Area	2102	34	SRC	good	open		fee		
218-8F	10.35	Hitchcock Farm	Bald Hill/Wood Hill Reservation	6541	43	SRC	good	open		fee		
219-13	13.71	VERIZON	Bald Hill/Wood Hill Reservation	7482	43	SRC	good	open		fee		
219-18C	4.63	Lang	Bald Hill/Wood Hill Reservation	2724	112	SRC	good	open		fee		
219-7A	1.11	Bailey Road Conservation Area	Bald Hill/Wood Hill Reservation	3037	305	SRC	good	open		fee		
224-3	5.92	Quailcrest II subdivision	Pheasant Ridge Reservation	5142	199	SRC	good	open		fee		
225-6U	1.48	Old School House	Old School House Green Area	1435	38	SRC	good	open		fee		
228-16	20.19	Quailcrest I subdivision	Pheasant Ridge Reservation	14613	33	SRC	good	open		fee		
228-28	2.77	Quailcrest I (4/2003 T.M. FY04 A	Pheasant Ridge Reservation	14613	33	SRC	good	open		fee		
230-6C	30.49	Pheasant Ridge Green Area	Pheasant Ridge Reservation	1694	96	SRC	good	open		fee		
29-15B	2.44	Wethersfield/Cameron	Wethersfield/Cameron Green Ar	1986/2280	341/271	SRC	good	open		fee		
29-1B	8.40	Booth	ITA Skug Reservation	1287	3	SRC	good	open	DCS-Self Help22	fee		
29-29A	0.33	Wethersfield/Cameron	Wethersfield/Cameron Green Ar	1986/2280	341/271	SRC	good	open		fee		
29-33A	0.83	Wethersfield/Cameron	Wethersfield/Cameron Green Ar	1986/2280	341/271	SRC	good	open		fee		
31-1	9.94	Douglass Crossing	Jenkins Trail Reservation	5583	109	SRC	good	open		fee		
31-1P	0.70	Douglass Crossing	Jenkins Trail Reservation	5583	109	SRC	good	open		fee		
36-109	0.28	Lanam Club	Sacred Heart Reservation	1633	162	SRB	good	open		fee		
36-2A	0.02	Sacred Heart, Shawsheen River	Sacred Heart Reservation	1338	422	SRA	good	open		fee		
36-7	8.45	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee	FairyForest	
37-3	1.20	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee	fields	
37-4	2.20	Sacred Heart, Shawsheen River	Sacred Heart Reservation	1338	422	SRA	good	open		fee	fields	
37-42	0.33	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee	need link	
37-43	0.39	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee	need link	
37-44	0.37	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee	need link	
37-5	2.50	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee	fields	
42-15A	0.63	Appletree Lane	Appletree Lane Green Area	1551	191	SRB	good	open		fee		
43-24N	1.02	BLUEBERRY CIRCLE	Vine Street Green Area	3694	286	SRA	good	open		fee	trails	
43-48A	1.84	Blueberry Circle Green Area	Vine Street Green Area	1694	94	SRA	good	open		fee	trails	
4-61	5.01	Bacon-Summer	Summer Street Green Area	1276	14	SRA	good	open	DCS-Self Help	fee	trails	

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	aces	Grant-Self Help/LAI	prote	rec	potentior
52-81A	7.15	Brox	Hussy's Pond Reservation	1119	55	SRA	good	open		fee	trails	
52-85A	0.21	Crandelmire-Iceland Road	Hussy's Pond Reservation	1085	413	SRA	good	open		fee	trails	
52-91	3.83	Hussy's Pond	Hussy's Pond Reservation	674	581	SRA	good	open		fee	trails	
55-157	0.77	Rogers Dell	Roger's Dell Reservation	932	444	GB	good	open		fee	trails	
60-14	2.64	Great Heron Green PROPOSED	Great Heron Green Area	3559	204	SRB	good	open		fee		
64-4	1.61	Rocky Hill Road	Rocky Hill Road Green Area	1072	124, 121	SRB	good	open		fee		
69-38K	0.18	Warwick Estates	Hussy's Pond Reservation	5583	307	SRA	good	open		fee		
71-73	4.31	Lincoln Street - 1999 town transfer	Lincoln Street Green Area	12176	203	SRB	good	open		fee		
71-93A	0.16	Benchmark Construction Inc	Shawsheen Road Strip Green Ar	3655	73	SRB	good	open		fee	trails	
73-3A	1.49	Boush	Red Spring Reservation	1784	8	SRB	good	open		fee		
73-6A	0.79	Lord	Red Spring Reservation	14613	34	SRB	good	open	DCS-Self Help19	fee		
73-6B	2.00	Cutler Former CE	Red Spring Reservation	14613	34	SRB	good	open	DCS-Self Help25	fee		
74-37	0.76	Leach,Shawsheen River	Lupine Road Green Area	1059	150	SRA	good	open		fee		
75-2A	7.66	Catalano Green Acres	Foster's Island Reservation	1088	491	SRB	good	open		fee		
75-97	16.40	Catalano	Foster's Island Reservation	1088	491	SRB	good	open		fee		
80-20A	0.81	Meuse	South Main St Green Area	4636	342	SRB	good	open		fee		
80-20B	0.72	Meuse	South Main St Green Area	4636	342	SRB	good	open		fee		
80-33	4.12	Orchard Crossing Green Area	Orchard Crossing Green Area	2946	75	SRB	good	open		fee		
81-1	10.03	Belknap Estates Green Area	Belknap Reservation	3268	326	SRC	good	open		fee		
81-49	0.11	Belknap Estates Green Area	Belknap Reservation	3268	328	SRC		open		fee		
82-5	4.40	Countryside Green Area	Rattlesnake Hill Reservation	1510	341	SRB		open		fee		
82-9	0.21	Logan	Rattlesnake Hill Reservation	1474/1267	9 / 482	SRB		open		fee		
83-42	1.00	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open		fee		
83-42A	1.82	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open		fee		
83-42B	2.00	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open		fee		
83-58	3.79	Morton	Rattlesnake Hill Reservation	1308	454	SRB		open	DCS-Self Help19	fee		
83-60	2.76	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24?	fee		
83-62	0.62	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24?	fee		
83-64	0.25	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24?	fee		
83-64A	1.00	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24?	fee		
83-65	0.47	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24?	fee		
83-71A	3.92	Rattlesnake Hill Road	Rattlesnake Hill Reservation	4191	39	SRB		open		fee		
83-71D	2.44	Rattlesnake Hill Road	Rattlesnake Hill Reservation	4191	41	SRB		open		fee		
86-5G	12.31	Beacon St	Iron Gate Reservation	4929	261	SRC		open		fee		
86-6	7.95	Hyatt Crossing	Iron Gate Reservation	(3809)	(278)	SRC		open		fee		
9-4A	7.95	Tucker Rd - 1999 town transfer	Great Meadow Reservation	12176	203	SRB		open		fee		
91-9	0.86	Oriole Drive	Oriole Drive Green Area	1900	180	SRB		open		fee		
95-2	51.00	Foster	Foster's Island Reservation	1103	442	SRB		open	DCS-Self Help2	fee		
95-3	8.00	Foster	Foster's Island Reservation	1103	442	SRB		open	DCS-Self Help2	fee		
98-4G	7.09	Anderson	Tea Lot Reservation	54	129	SRB		open		fee	trails	

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii	acce	Grant-Self Help/LAI	prote	rec	potentior
99-1	27.29	BallardvaleRd Arcadia Rd	Pustell Reservation	98	353	SRB	open			fee	glacier	
99-1G	27.50	Regency Estates	Pustell Reservation	101	357	SRB	open			fee	glacier	
99-51	6.71	Wyncrest Circle Green Area	Pustell Reservation	3280	240	SRB	open			fee	glacier	
117-1B	1.00	formerly Shawsheen Rubber	Foster's Island Reservation	9111	39	SRB	open			fee	trails	
182-7B	1.26	Tewksbury Street (Reichold #2)	Shawsheen Pines Reservation	10031	240	SRA/B	open			fee	trails	
182-6B	0.52	Tewksbury Street (Reichold #2)	Shawsheen Pines Reservation	10031	240	SRA/B	open			fee		
	26.60	Rolling Green 40B/Former Axelrod CR	Rolling Green Reservation	13889	120	SRB	open			fee		
	7.21	Pulte Open Space		15017	15	SRC	not yet			fee		
213-4	0.30	Bellevue	Bellevue Reservation	14772	305	SRC	open			fee		
160-7F	2.23	Shawsheen Flats Reservation	Gregory Circle Green Area	15093	1/85	SRB	open			fee	river	
TOTAL	2082.89											
	292 parcels											
118-7,118-6	20.86	(Pomps Pond Recreation Site)	Park Dept. DCF-LWC182Grant			SRB	Open	DCS-LWC182		fee	pond sports	
#1585	72.00	School Athletic Fields	School Dept.				Open			fee	fields	
#1604	2.40	Shawsheen School Recreation Fields	School Dept.			SRA	Open			fee	fields	
#374	24.00	School Athletic Fields	School Dept.				Open			fee	fields	

Parcel ID ACRES OPEN SPACE NAME RESERVATION NAME BOOKNO PAGEN Zoning condii acces Grant-Self Help/LAI prote rec potentior

CONSERVATION EASEMENTS HELD BY CONSERVATION COMMISSION

121-35	6.79	Powers Road	CE Powers Road	3282	241
28-6E	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	4043	69
28-6F	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	8997	180
28-6G	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	10814	325
28-6H	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	3907	152
28-6J	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	9854	49
28-6K	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	10159	330
28-6M	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	4743	4
151-14	40.92	Axelrod CE14 Public Access	CE Axelrod	4200/4409	75 / 319
16-4C	1.05	Deering Estates, C.E. Access	CE Piper's Glen	104	393
16-4D	0.84	Deering Estates, C.E. Access	CE Piper's Glen	5192	343
16-4E	0.82	Deering Estates, C.E. Access	CE Piper's Glen	5162	283
16-4F	0.74	Deering Estates, C.E. Access	CE Piper's Glen	5040	264

CONSERVATION RESTRICTIONS HELD BY CONSERVATION COMMISSION

101-51	1.86	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231
101-51H	1.55	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231
101-51J	2.78	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231
101-51K	2.04	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231
125-7	22.55	Riverview Commons CR08 Public A	CR Riverview Commons	2820	335
134-12A	0.71	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-12B	0.75	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-12C	1.10	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-12D	0.91	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-12E	0.95	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-12F	0.87	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216
134-66	0.93	Castle Green CR06 No Public Acc	CR NP Castle Green	2404	216
142-2A	28.24	Jacobson Public Access	CR Jacobson	1303/1552	299/254
142-2E	17.29	Jacobson Public Access CR02 Work	CR Jacobson	1303/1552	299/254
142-2F	9.26	Jacobson Public Access CR02 Work	CR Jacobson	1303/1552	299/254
18-47	0.20	American Heart Former CR03 Acces	CR American Heart	1912	95
196-9	0.95	Barron's Cntry Store CR No Pubil	CR NP Barron's	5242	187
202-1	53.83	Digital Equip. Crp.CR07 No Publi	CR NP DEC-HP	2685	82
202-6	32.49	Digital Equip. Crp.CR07 No Publi	CR NP DEC-HP	2685	82
214-2B	1.66	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98
214-2C	1.16	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98
214-2D	1.99	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98
214-2E	1.43	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGEN	Zoning	condii acces	Grant-Self Help/LAI	prote	rec	potentior
214-2F	1.85	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98						
214-2G	2.25	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98						
52-93	12.53	Hunters Ridge CR12 No Public Acc	CR NP Hunter's Ridge	4375	177						
69-17A	5.93	Andover Country Club	CR Andover Country Club	5694	31						
69-17B	0.58	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259						
69-19T	0.08	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259						
69-19U	0.33	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259						
70-43	3.75	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196						
70-54	0.09	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196						
70-67	0.07	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196						
70-92	0.04	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/191						
70-96	7.47	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/191						
70-98	6.24	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196						
74-1	2.32	Ila Cox CR Public Access	CR Ila Cox	5290	149						
85-26	1.11	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-33	1.23	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-34	3.58	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-35	2.75	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-36	2.70	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-37	1.85	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
85-38	1.77	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186						
88-93	0.65	CA Invstmnt Andvr Cntry Clb CR11	CR NP Andover Country Club 3	2395	196						
88-94	0.46	CA Invstmnt Andvr Cntry Clb CR11	CR NP Andover Country Club 3	2395	196						
43-43		St. Pierre No Public Access	CR NP St. Pierre	12425	190						

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
LAND DEEDED TO INHABITANTS OF THE TOWN OF ANDOVER - CARE AND CUSTODY OF CONSERVATION COMMISSION												
100-1E	13.99	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open	fee		trails, scenic views	
100-1F	2.58	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open	fee		trails, scenic views	
100-1G	3.12	Jenkins Prop.	Pustell Reservation	98	357	SRB	good	open	fee		trails, scenic views	
100-2S	4.46	Mill Dam Conservation (parcels X & Y)	Pustell Reservation	3462/1694	225/98	SRB	good	open	fee		trails, scenic views	
101-22	6.20	Glenwood Road Conser. Area	Dug Pond Reservation	3173	277	SRB	good	open	fee		trails, scenic views	
101-30	0.25	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open	fee		swimming hole	
101-32	1.00	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open	fee		swimming hole	
101-33	0.42	Glenwood Road Conser. Area	Dug Pond Reservation	3139	219	SRC	good	open	fee		swimming hole	
101-65	1.00	Foster Pond Island, Glenwood Rd.	Rock Island Reservation	14464	168	SRC	good	open	fee			
10-3	6.50	Hoehn	Great Meadow Reservation	7838	114	SRC	good	open	fee		trails, scenic views	
10-4	9.00	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	2396	35	SRC	good	open	fee			
104-1	5.80	Hayward	Hayward Green Area	929	294	SRC	good	open	fee			
105-10	11.72	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open	fee			
105-10B	0.66	Iron Gate	Iron Gate Reservation	4207	91	SRC	good	open	fee			
105-11	2.65	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open	fee			
105-16	4.19	Iron Gate II	Iron Gate Reservation	4159	174	SRC	good	open	fee			
105-5	1.71	120-31	Iron Gate Reservation	6328	281	SRC	good	open	fee			
105-50	0.24	Iron Gate I	Iron Gate Reservation	6328	281	SRC	good	open	fee			
106-71M	0.78	Oakmont	Iron Gate Reservation	4159	238	SRC	good	open	fee			
10-6J	2.82	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	3180	327	SRC	good	open	fee			
10-6K	6.44	Gray Road-Tucker Rd Conser. Area	Great Meadow Reservation	3180	327	SRC	good	open	fee			
107-2	1.84	Spencer Court Green Area	Spencer Court Reservation	2921	104	SRC	good	open	fee			
107-3K	2.90	Spencer Court Green Area	Spencer Court Reservation	2921	104	SRC	good	open	fee			
107-3Q	0.04	Spencer Court Green Area	Spencer Court Reservation	3268	322	SRC	good	open	fee			
110-11	0.42	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	fee		extensive BCT network	
110-13	0.47	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	fee		extensive BCT network	
110-6	11.90	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	fee		extensive BCT network	
110-7	3.90	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	fw		extensive BCT network	
110-7A	0.60	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	fee		extensive BCT network	
110-9	8.50	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	DCS-Self Help1	18 fee	extensive BCT network	
11-1E	9.28	Korinthian Way Green Area	Mary French Reservation	1234	70	SRC	good	open			boardwalks, scenic views	
113-17	0.75	Blood Road Corp	Apache Ave Green Area	1870	133	SRB	good	open	fee			
11-5H	7.04	Sherborne Park Green Area	Mary French Reservation	2469	169	SRC	good	open	fee		boardwalks, scenic views	
116-2	21.19	Drinkwater Gravel Pit	Foster's Island Reservation	14464	169	SRB	good	open	fee		wildlife/nature trail	

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Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
117-1A	5.36	formerly Shawsheen Rubber	Foster's Island Reservation	9111	35	SRB	good	open	fee	wildlife/nature trail		
117-15	11.60	Essex Bituminous Concrete Corp	Foster's Island Reservation	1141	353	SRB	good	open	fee	wildlife/nature trail		
117-22	1.50	Essex Bituminous Concrete Corp	Foster's Island Reservation	1141	353	SRB	good	open	fee	wildlife/nature trail		
117-9	0.81	Drinkwater Gravel Pit	Foster's Island Reservation	956	448	SRB	good	open	fee	wildlife/nature trail		
119-1	6.72	Tea Lot Estates Green Area	Tea Lot Reservation	2469	167	SRB	good	open	fee	in densely-packed area		
120-31	8.37	Mill Dam Estates Green Area	Pustell Reservation	3462	223	SRB	good	open	fee/CE	granite cliffs, vernal pools		
121-2U	2.36	Dundas Avenue Green Area	Pustell Reservation	1577	65	SRB	good	open	fee/CE	Native American land		
121-47	21.60	Mill Dam Estates Green Area	Pustell Reservation	3462	223	SRB	good	open	fee/CE	vernal pools		
12-3	0.40	Gray Road Southside	Great Meadow Reservation	1164	509	SRC	poor	open	fee	invasives		
123-26	2.75	Fosters Pond	Foster's Pond Reservation	12425	313	SRC	good	open	LAND Grant - 20	fee	water sports	
123-27	2.54	Fosters Pond	Foster's Pond Reservation	12425	313	SRC	good	open	LAND Grant	fee	water sports	
123-29	12.71	Fosters Pond	Foster's Pond Reservation	4981	203	SRC	good	open	fee	water sports		
124-1	29.77	Fosters Pond	Foster's Pond Reservation	4981	203	SRC	good	open	fee	water sports		
125-1	10.10	Strazzula	Strazzula Res/Merrimack River Res.	1166	329	SRC	good	open	DCS-Sel Help-1	fee	water sports	
126-10	8.51	Andover Business Park	Bulfinch Reservation	5296	256	SRC	good	open	fee			
126-2	0.86	Heffron R.O.W.	Heffron ROW Reservation	1828	156	SRC	poor	open	invasives	fee	leads to Merrimack River	
127-23	0.24	River Road	River Road East Green Area	4375	171	SRC	good	open	fee			
127-28G	3.00	River Road Interenal	River Road East Green Area	1164	509	SRC	good	open	fee			
128-12	18.83	Somerset	Somerset Drive Reservation	7010	194	SRC	good	open	fee			
131-34	15.70	Juniper	Spencer Court Reservation	1201	112	SRC	good	open	fee			
132-18	16.31	Curtis	Doyle Link Reservation	1374	4	SRB	good	open	DCS-Self Help21	fee	extensive BCT network	
132-3	49.00	Doyle Link	Doyle Link Reservation	1311	486	SRB	good	open	DCS-Self Help1	fee	extensive BCT network	
133-105	17.62	Windemere Dr Open Space	Sunnyside Acres Reservation	13995	274	SRC	good	NO	fee			
138-21	2.94	Dale Street Conservation Area	Foster's Island Reservation	14795	28	SRB	good	open	fee	wildlife/nature trail		
139-146	0.09	37 River St	Chipped Tooth Reservation	4860	275	SRC	good	open	fee			
140-1	3.77	Island Way Green Area	Laconia Drive Reservation	1510/1892	113/40	SRC	good	open	fee			
140-37	0.50	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	DCS-Self Help?	fee		
140-3G	3.27	Charlotte Circle Green Area	Charlotte Circle Green Area	2007	103	SRC	good	open	fee			
140-40	0.40	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	fee			
140-42	0.61	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	fee			
140-49	0.02	Mikulewicz	Shawsheen Flats Reservation	1215	539	SRC	good	open	DCS-Self Help	fee	water sports	
140-51	0.03	Shawsheen River, River Street	Shawsheen Flats Reservation	1059	150	SRC	good	open	fee			
140-52	0.43	Bussell - Shawsheen River	Shawsheen Flats Reservation	1340	197	SRC	good	open	fee			
140-52A	0.75	Shawsheen River River Street	Shawsheen Flats Reservation	1059	150	SRC	good	open	fee			
14-1	3.51	Drake	Salem Street Reservation	1553	140	SRC	good	open	fee			

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Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
141-1K	25.83	Olympic Village (4/2003 T.M. FY0	Laconia Drive Reservation	1425	142	SRC				fee		Town Meeting vote '03
141-2	12.83	Olympic Village (4/2003 T.M. FY0	Laconia Drive Reservation	1425	142	SRC				fee		Town Meeting vote '03
14-12A	5.77	Conway	Salem Street Reservation	1239	671	SRC	good	open	DCS-Self Help	fee		
144-5	26.79	Federal St. Conservation Area	Somerset Drive Reservation	3035	136	ID	good	open		fee		
145-1	19.10	Fish Brook Wetlands	Fish Brook North Reservation	2398	295	SRC	good	open		fee		
145-18	10.38	Somerset	Somerset Drive Reservation	7010	194	SRC	good	open		fee		
146-2	20.00	John & Marie Boloian Reservation	Fish Brook North Reservation	2219	339	SRC	good	open		fee		
146-3	6.00	Fish Brook Wetlands	Fish Brook North Reservation	3034	328	SRC	good	open		fee		
146-4	12.00	Arakelian	Fish Brook North Reservation	2658	341	SRC	poor	open	DCS-Self Help3	fee		invasives
146-5	1.28	Chandler Rd. Conservation Area 1	Fish Brook North Reservation	2655	313	SRC	poor	open		fee		invasives
148-10	0.66	15 Pettingell Ave	Pettingell Green Area	8454	338	SRC	poor	CLOSED		fee		arsenic contamination
149-3	9.34	Starrwood Crossing Green Area	Starwood Crossing Green Area	2889	136	SRC	good	open		fee		
150-1	19.75	Youmans	Fish Brook South Reservation	14464	170	SRC	poor	open	invasives	fee		extensive wildlife corridor
150-23	6.37	Dean Circle Green Area	Fish Brook South Reservation	1113	343	SRC	good	open		fee		extensive wildlife corridor
150-2A	6.00	Cheever	Fish Brook South Reservation	936	339	SRC	good	open		fee		extensive wildlife corridor
150-5	7.00	Fish Brook Wetlands	Fish Brook South Reservation	1726	267	SRC	good	open		fee		extensive wildlife corridor
150-6	1.70	Fish Brook Wetlands	Fish Brook South Reservation	1726	267	SRC	good	open		fee		extensive wildlife corridor
150-8	0.46	Rolling Green Wetlands	Fish Brook South Reservation	1633	201	SRC	good	open		fee		extensive wildlife corridor
150-8A	0.46	Rolling Green Wetlands	Fish Brook South Reservation	1633	201	SRC	good	open		fee		extensive wildlife corridor
150-9	12.40	Eaton	Fish Brook South Reservation	776	339, 340	SRC	good	open	DCS-Self Help	fee		
151-1	1.15	Greenwood Road	Fish Brook South Reservation	1462	157	SRC	good	open		fee		
151-1D	4.50	Chongris	Fish Brook South Reservation	1353/1766	531/334	SRC	good	open		fee		
153-22	0.88	Rolling Green Wetlands	Raytheon Green Area	1633	201	SRC	good	open		fee		
155-5K	4.44	Germano Way (off)	Germano Way Green Area	4219	78	SRC	good	open		fee		
156-15B	14.18	Fieldstone Meadows	Fieldstone Meadows Reservation	6247	338	SRC	good	open		fee		
157-2A	1.36	Narlee	Fieldstone Meadows Reservation	6568	191	SRC	good	open		fee		
157-43A	0.08	Marrion	Pole Hill Reservation	13328	316	SRC	good	open	DCS-Sehf Help3	fee		
158-3	34.00	Pole Hill	Pole Hill Reservation	1624	143	SRC	good	open	DCS-Sehf Help3	fee		water sports
158-5J	0.88	Molly Road	Molly Road Green Area	5506	168	SRC	good	open		fee		
159-8	18.88	Serio's Grove (Reichold #3)	Serio's Grove Reservation	10031	240	SRC	good	open		fee		camping facilities
16-4	10.50	Deering Estates	Jenkins Trail Reservation	5718	200	SRC	good	open		fee		meadow/ wildlife
164-1	2.70	Merrimack River Frontage 1	Al Retelle Reservation	1267	264	SRC	good	open		fee		
16-4R	2.47	Deering Estates	Jenkins Trail Reservation	5718	200	SRC	good	open		fee		
168-25	4.31	Belisle	Fish Brook North Reservation	1900	182	SRC	poor	open		fee		invasives
168-26C	3.63	Belle Isle Green Area	Fish Brook North Reservation	2983	150	SRC	good	open		fee		

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169-1	12.00	Fish Brook Wetlands	Fish Brook North Reservation	1807	154	SRC	good	open	DCS-Fish Brook	fee		
169-10	5.18	Cloverfield	Fish Brook North Reservation	5299	115	SRC	good	open		fee		
169-2	18.00	Fish Brook Wetlands	Fish Brook North Reservation	1780	300	SRC	good	open		fee		
169-3	33.30	Garabedian	Fish Brook North Reservation	1149	540	SRC	good	open	DCS-Self Help	fee		
170-4	38.00	John & Marie Boloian Reservation	Fish Brook North Reservation	2219	339	SRC	good	open		fee		
172-1	0.13	Bald Hill-across 495 and to the south	Fish Brook South Reservation	14613	34	SRC	good	open		fee		
172-8	18.00	Davideit (Davidson?)	Fish Brook South Reservation	1082	28	SRC	good	open	DCS-Self Help 1	fee		
172-9	26.73	Davidson- High Plain Realty Trust	Fish Brook South Reservation	14613	34	SRC	good	open	DCS-Self Help4	fee	wildlife	
175-19	7.00	Haggetts Pond Watershed	Fish Brook South Reservation	69	377	SRC	good	open		fee		
175-20	6.50	Haggetts Pond Watershed	Fish Brook South Reservation	2104	216/217	SRC	good	open		fee		
178-1A	16.80	Hearthstone Place (off)	Hearthstone Reservation	14795	30	SRB	good	open	DCS-Self Help	fee		
178-5R	7.36	Apple Blossom Green Area	Hearthstone Reservation	1510	103	SRB	good	open		fee		
179-38	0.64	Keystone Green Area	Hearthstone Reservation	14795	30	SRB	good	open		fee		
180-21	6.43	Cardinal Lane Green Area	Belmont Park Reservation	1164	372	SRA	good	open		fee		
181-68	9.16	Belmont Park Green Area	Belmont Park Reservation	1583	131	SRA	good	open		fee		
181-69	14.90	Belmont Park Green Area	Belmont Park Reservation	1583	131	SRA	good	open		fee		
181-70	6.60	Belmont Park Green Area	Fieldstone Meadows Reservation	5583	311	SRB	good	open		fee		
183-10	3.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-10A	2.75	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-10B	1.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	1290	271	SRC	good	open		fee	water sports	
183-13	3.00	Shawsheen River Bank-Rte 93	Shawsheen Pines Reservation	681	576	SRC	good	open		fee	water sports	
183-9	1.11	Genetics Institute	Shawsheen Pines Reservation	5393	63	SRC	good	open		fee	water sports	
18-48	0.20	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-49	0.20	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open			CR	
18-50	0.21	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-51	0.28	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-52	0.32	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
186-1	4.90	Merrimack River Frontage	AI Retelle Reservation	1273	669	SRC	poor	open		fee	meadow, invasives	
186-2	3.11	Cons.C. OWNER Correction Req'd	AI Retelle Reservation	1273	669	SRC	poor	open		fee	meadow, invasives	
18-63	0.24	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-64	0.25	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-65	0.26	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
18-66	0.28	American Heart Former CR03 Acces	Emma Road Green Area	1912	95	SRC	good	open				
184-2	24.07	SunGen	Lightning Tree Reservation	13539	316	SRC	good	open		fee	rare pine barrens	
187-1	52.18	Shlakis	AI Retelle Reservation	1143	421-423	SRC	poor	open	DCS-Self Help6	fee	meadow, invasives	

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Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
188-9A	1.42	Brundrett	Al Retelle Reservation	5808	154	SRC	poor	open		fee		meadow, invasives
189-2	8.54	Chandler Rd. Conservation Area 2	Fish Brook North Reservation	2928	317	SRC	good	open		fee		
189-3A	9.10	Fish Brook Wetlands	Fish Brook North Reservation	2398	297	SRC	good	open		fee		
189-4	17.50	Forest Hill Wetland 1	Fish Brook North Reservation	1438	106	SRC	good	open		fee		
189-5	12.00	Disbrow	Fish Brook North Reservation	1187	51	SRC	good	open	DCS-Self Help	fee		
190-43	1.02	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
190-64	9.48	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open		fee		
190-65	22.42	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open		fee		
191-1	70.00	Cross Street Conservation Area	Fish Brook North Reservation	14795	29	SRC	good	open		fee		
191-13A	0.86	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
191-14A	1.01	Sugarbush	Fish Brook North Reservation	7024	286	SRC	good	open		fee		
191-17	1.05	Sugarbush	Fish Brook North Reservation	3462	227	SRC	good	open		fee		
19-118	0.17	Anderson	Dufton Road Green Area	12176	203	SRC	good	open		fee		
191-22	1.06	Sugarbush	Fish Brook North Reservation	58	517	SRC	good	open		fee		
191-23	0.52	Sugarbush	Fish Brook North Reservation	58	517	SRC	good	open		fee		
191-23A	0.19	Sugarbush	Fish Brook North Reservation	58	513	SRC	good	open		fee		
191-3	1.07	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
19-139	6.54	High Street	Carmel Woods Reservation	4271	125	SRC	good	open		fee		dense area,walking trails
191-3A	0.40	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
191-3B	0.39	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
191-5	3.56	Forest Hill Wetland 1	Fish Brook North Reservation	57	217	SRC	good	open		fee		
193-2	43.50	Bald Hill	Virginia Hammond Reservation	14613	34	SRC	good	open		fee		Community Garden
193-3	63.20	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open		fee		
194-1A	24.90	Davidson- High Plain Realty Trus	Fish Brook South Reservation	14613	34	SRC	good	open	DCS-Self Help4	fee		
195-5	10.00	Bolten	Fish Brook South Reservation	1213	639	SRC	good	open	DCS-Self Help17	fee		
196-21E	9.60	Pray	Fish Brook South Reservation	1198	645	SRC	good	open	DCS-Self Help 1	fee		
197-11	2.33	Aubut-Doucette	Bellevue Reservation	1302	468	SRC	good	open	DCS-Self Help 1	fee		neighborhood trails
197-3A	1.00	D'Urso	Bellevue Reservation	1753	314	SRC	good	open		fee		
197-4	1.12	Bellevue	Bellevue Reservation	1234	188	SRC	good	open		fee		
197-5C	5.89	White	Bellevue Reservation	1234	190	SRC	good	open	DCS-Self Help15	fee		
197-6	6.77	Bellevue	Bellevue Reservation	8971	71	SRC	good	open		fee		
198-17M	3.26	Preston Circle	Fish Brook South Reservation	5583	304	SRC	good	open				
198-3P	4.31	Stouffer Circle Green Area	Bellevue Reservation	84	221	SRC	good	open				
199-2B	11.44	Devonshire Estates	Hearthstone Reservation	5583	315	SRB	good	open				neighborhood trails
19-98	0.72	Linwood	Linwood Street Green Area	171	97	SRC	good	open				

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201-17	26.86	Hearthstone Place	Hearthstone Reservation	14795	30	SRB	good	open	neighborhood trails
20-34	20.40	Carmel Woods	Carmel Woods Reservation	4653	329	SRA	good	open	dense area/walking trails
20-3B	0.69	High Street	High Street Green Area	4561	309	SRA	good	open	dense area/walking trails
20-3C	0.80	High Street	High Street Green Area	4561	309	SRA	good	open	dense area/walking trails
20-3D	0.69	High Street	High Street Green Area	4561	309	SRA	good	open	dense area/walking trails
20-3E	0.83	High Street	High Street Green Area	4561	309	SRA	good	open	dense area/walking trails
205-6	3.52	Forest Hill Wetland 2	Fish Brook North Reservation	1444	327	SRC	good	open	
205-9	1.00	Forest Hill Wetland 1	Fish Brook North Reservation	1438	106	SRC	good	open	
208-3	10.21	Wood Hill Reservation	Bald Hill/Wood Hill Reservation	956	448	SRC	good	open	glacial formations
208-7	2.46	Golden Oaks Green Area	Bald Hill/Wood Hill Reservation	3715	177	SRC	good	open	glacial formations
209-1	39.62	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open	DCS-Self Help 2: fee glacial formations
209-2	3.29	Woodhill	Bald Hill/Wood Hill Reservation	4130	136	SRC	good	open	fee glacial formations
209-4	2.96	Haggetts Bald Hill	Bald Hill/Wood Hill Reservation	2008	6	SRC	good	open	fee glacial formations
209-4A	35.90	Haggetts Hill	Bald Hill/Wood Hill Reservation	1167	694	SRC	good	open	DCS-Self Help 2: fee glacial formations
210-2	0.07	Larson	Fish Brook South Reservation	6908	248	SRC	good	open	fee
210-2A	0.45	Larson	Fish Brook South Reservation	6908	248	SRC	good	open	fee
210-2B	3.36	Larson	Bald Hill/Wood Hill Reservation	5895	305	SRC	good	open	fee glacial formations
210-3A	2.50	Calderone/Harnden Gift	Bald Hill/Wood Hill Reservation	4040	142	SRC	good	open	fee glacial formations
210-4	3.28	Weidman	Bald Hill/Wood Hill Reservation	2998	234	SRC	good	open	fee glacial formations
210-4A	1.40	Haggetts Pond	Bald Hill/Wood Hill Reservation	2769	31	SRC	good	open	fee glacial formations
210-4F	1.00	Woodhill	Fish Brook South Reservation	4202	38	SRC	good	open	fee glacial formations
210-4G	4.30	Haggetts Pond Conservation Area	Fish Brook South Reservation	2998	232	SRC	good	open	fee
210-5	6.04	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open	fee scenic views/drumlins
210-6	10.38	Bald Hill	Bald Hill/Wood Hill Reservation	14613	34	SRC	good	open	fee scenic views/drumlins
21-107C	0.55	Elm Street Conservation Area	Elm Street Green Area	3114	228/230	SRB	good	open	fee dense area/walking trails
211-3	1.42	Lowell Street - Lots A & B	Lowell Street Green Area	14544	53	SRB	good	open	fee
21-136B	5.38	Elm Street Conservation Area	Elm Street Green Area	3114	228/230	SRB	good	open	fee dense area/walking trails
211-42	0.23	Bolton Gift	Fish Brook South Reservation	2007	101	SRC	good	open	fee
211-5	1.67	Lowell Street - Lots A & B	Lowell Street Green Area	14544	53	SRB	good	open	fee dense area/walking trails
213-26	11.80	Granli Estates Green Area	Bellevue Reservation	2017	137	SRC	good	open	fee
213-3	17.80	Hoyt	Bellevue Reservation	1233	780	SRC	good	open	DCS-Self Help 14 fee trails, scenic views
215-1A	4.78	River Road West	River Road West Green Area	5966	117	SRC	good	open	fee
215-1B	3.01	River Road	River Road West Green Area	5966	106	SRC	good	open	fee
217-1U	7.45	Golden Oaks Green Area	Bald Hill/Wood Hill Reservation	2171	306	SRC	good	open	fee
217-3H	2.36	Penni Lane Green Area	Bald Hill/Wood Hill Reservation	1874	158	SRC	good	open	fee

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218-13	8.58	Gaven Circle Green Area	Bald Hill/Wood Hill Reservation	2007	98	SRC	good	open		fee		
218-2	6.26	Larchmont Circle Green Area	Larchmont Circle Green Area	2102	34	SRC	good	open		fee		
218-8F	10.35	Hitchcock Farm	Bald Hill/Wood Hill Reservation	6541	43	SRC	good	open		fee		
219-13	13.71	VERIZON	Bald Hill/Wood Hill Reservation	7482	43	SRC	good	open		fee		
219-18C	4.63	Lang	Bald Hill/Wood Hill Reservation	2724	112	SRC	good	open		fee		
219-7A	1.11	Bailey Road Conservation Area	Bald Hill/Wood Hill Reservation	3037	305	SRC	good	open		fee		
224-3	5.92	Quailcrest II subdivision	Pheasant Ridge Reservation	5142	199	SRC	good	open		fee		
225-6U	1.48	Old School House	Old School House Green Area	1435	38	SRC	good	open		fee		
228-16	20.19	Quailcrest I subdivision	Pheasant Ridge Reservation	14613	33	SRC	good	open		fee		
228-28	2.77	Quailcrest I (4/2003 T.M. FY04 A	Pheasant Ridge Reservation	14613	33	SRC	good	open		fee		
230-6C	30.49	Pheasant Ridge Green Area	Pheasant Ridge Reservation	1694	96	SRC	good	open		fee		
29-15B	2.44	Wethersfield/Cameron	Wethersfield/Cameron Green Area	1986/2280	341/271	SRC	good	open		fee		
29-1B	8.40	Booth	ITA Skug Reservation	1287	3	SRC	good	open	DCS-Self Help	22 fee		
29-29A	0.33	Wethersfield/Cameron	Wethersfield/Cameron Green Area	1986/2280	341/271	SRC	good	open		fee		
29-33A	0.83	Wethersfield/Cameron	Wethersfield/Cameron Green Area	1986/2280	341/271	SRC	good	open		fee		
31-1	9.94	Douglass Crossing	Jenkins Trail Reservation	5583	109	SRC	good	open		fee		
31-1P	0.70	Douglass Crossing	Jenkins Trail Reservation	5583	109	SRC	good	open		fee		
36-109	0.28	Lanam Club	Sacred Heart Reservation	1633	162	SRB	good	open		fee		
36-2A	0.02	Sacred Heart, Shawsheen River	Sacred Heart Reservation	1338	422	SRA	good	open		fee		
36-7	8.45	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee		near And.Fairy Forest/Penguin Pk.
37-3	1.20	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee		playing fields
37-4	2.20	Sacred Heart, Shawsheen River	Sacred Heart Reservation	1338	422	SRA	good	open		fee		playing fields
37-42	0.33	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee		need link to land uphill
37-43	0.39	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee		need link to land uphill
37-44	0.37	Joyce Terrace Castle Park	Castle Park Reservation	tbd	tbd	SRB	good	open		fee		need link to land uphill
37-5	2.50	Sacred Heart	Sacred Heart Reservation	1338	422	SRA	good	open		fee		playing fields
42-15A	0.63	Appletree Lane	Appletree Lane Green Area	1551	191	SRB	good	open		fee		
43-24N	1.02	BLUEBERRY CIRCLE	Vine Street Green Area	3694	286	SRA	good	open		fee		dense area/walking trails
43-48A	1.84	Blueberry Circle Green Area	Vine Street Green Area	1694	94	SRA	good	open		fee		dense area/walking trails
4-61	5.01	Bacon-Summer	Summer Street Green Area	1276	14	SRA	good	open	DCS-Self Help	fee		dense area/walking trails
52-81A	7.15	Brox	Hussy's Pond Reservation	1119	55	SRA	good	open		fee		dense area/ fishing
52-85A	0.21	Crandelmire-Iceland Road	Hussy's Pond Reservation	1085	413	SRA	good	open		fee		dense area/ fishing
52-91	3.83	Hussy's Pond	Hussy's Pond Reservation	674	581	SRA	good	open		fee		dense area/ fishing
55-157	0.77	Rogers Dell	Roger's Dell Reservation	932	444	GB	good	open		fee		dense area/pocket park
60-14	2.64	Great Heron Green PROPOSED	Great Heron Green Area	3559	204	SRB	good	open		fee		

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
64-4	1.61	Rocky Hill Road	Rocky Hill Road Green Area	1072	124, 125	SRB	good	open				fee
69-38K	0.18	Warwick Estates	Hussy's Pond Reservation	5583	307	SRA	good	open				fee
71-73	4.31	Lincoln Street - 1999 town transfer	Lincoln Street Green Area	12176	203	SRB	good	open				fee
71-93A	0.16	Benchmark Construction Inc	Shawsheen Road Strip Green Area	3655	73	SRB	good	open				fee dense area/trails
73-3A	1.49	Boush	Red Spring Reservation	1784	8	SRB	good	open				fee
73-6A	0.79	Lord	Red Spring Reservation	14613	34	SRB	good	open	DCS-Self Help1	€		fee
73-6B	2.00	Cutler Former CE	Red Spring Reservation	14613	34	SRB	good	open	DCS-Self Help2	€		fee
74-37	0.76	Leach, Shawsheen River	Lupine Road Green Area	1059	150	SRA	good	open				fee
75-2A	7.66	Catalano Green Acres	Foster's Island Reservation	1088	491	SRB	good	open				fee
75-97	16.40	Catalano	Foster's Island Reservation	1088	491	SRB	good	open				fee
80-20A	0.81	Meuse	South Main St Green Area	4636	342	SRB	good	open				fee
80-20B	0.72	Meuse	South Main St Green Area	4636	342	SRB	good	open				fee
80-33	4.12	Orchard Crossing Green Area	Orchard Crossing Green Area	2946	75	SRB	good	open				fee
81-1	10.03	Belknap Estates Green Area	Belknap Reservation	3268	326	SRC	good	open				fee
81-49	0.11	Belknap Estates Green Area	Belknap Reservation	3268	328	SRC		open				fee
82-5	4.40	Countryside Green Area	Rattlesnake Hill Reservation	1510	341	SRB		open				fee
82-9	0.21	Logan	Rattlesnake Hill Reservation	1474/1267	9 / 482	SRB		open				fee
83-42	1.00	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open				fee
83-42A	1.82	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open				fee
83-42B	2.00	Rattlesnake Hill Road	Rattlesnake Hill Reservation	907	329	SRB		open				fee
83-58	3.79	Morton	Rattlesnake Hill Reservation	1308	454	SRB		open	DCS-Self Help1	€		fee
83-60	2.76	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24			fee
83-62	0.62	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24			fee
83-64	0.25	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24			fee
83-64A	1.00	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24			fee
83-65	0.47	Christy	Rattlesnake Hill Reservation	1350	116	SRB		open	DCS-SLf Help24			fee
83-71A	3.92	Rattlesnake Hill Road	Rattlesnake Hill Reservation	4191	39	SRB		open				fee
83-71D	2.44	Rattlesnake Hill Road	Rattlesnake Hill Reservation	4191	41	SRB		open				fee
86-5G	12.31	Beacon St	Iron Gate Reservation	4929	261	SRC		open				fee
86-6	7.95	Hyatt Crossing	Iron Gate Reservation	(3809)	(278)	SRC		open				fee
9-4A	7.95	Tucker Rd - 1999 town transfer	Great Meadow Reservation	12176	203	SRB		open				fee
91-9	0.86	Oriole Drive	Oriole Drive Green Area	1900	180	SRB		open				fee
95-2	51.00	Foster	Foster's Island Reservation	1103	442	SRB		open	DCS-Self Help2			fee
95-3	8.00	Foster	Foster's Island Reservation	1103	442	SRB		open	DCS-Self Help2			fee
98-4G	7.09	Anderson	Tea Lot Reservation	54	129	SRB		open				fee dense area/trails

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Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
99-1	27.29	BallardvaleRd Arcadia Rd	Pustell Reservation	98	353	SRB		open	fee		scenic views/glacial formations	
99-1G	27.50	Regency Estates	Pustell Reservation	101	357	SRB		open	fee		scenic views/glacial formations	
99-51	6.71	Wyncrest Circle Green Area	Pustell Reservation	3280	240	SRB		open	fee		trails to connect neighborhoods	
117-1B	1.00	formerly Shawsheen Rubber	Foster's Island Reservation	9111	39	SRB		open	fee		extensive trails	
182-7B	1.26	Tewksbury Street (Reichold #2)	Shawsheen Pines Reservation	10031	240	SRA/B		open	fee		extensive land along	
182-6B	0.52	Tewksbury Street (Reichold #2)	Shawsheen Pines Reservation	10031	240	SRA/B		open	fee			
	26.60	Rolling Green 40B/Former Axelrod CR	Rolling Green Reservation	13889	120	SRB		open	fee			
	7.21	Pulte Open Space		15017	15	SRC		not yet	fee			
213-4	0.30	Bellevue	Bellevue Reservation	14772	305	SRC		open	fee			
160-7F	2.23	Shawsheen Flats Reservation	Gregory Circle Green Area	15093	1/85	SRB		open	fee		riverfront/water sports	
TOTAL	2082.89											
	292 parcels	Under the Care and Control of the Andover Conservation Commission.										

118-7,118-6	20.85	Pomps Pond (recreation site and pond)	Park Dept. DCS-LWC182 grant			SRB		open	DCS-LWC182	fee	water sports, play area	
#1585	72 acres	School Athletic Fields	School Dept.					open		fee		
#1604	2.4 acres	Shawsheen School Recreation Fields	School Dept.									
#374	24 acres	School Athletic Fields	School Dept.									

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
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CONSERVATION EASEMENTS HELD BY CONSERVATION COMMISSION

121-35	6.79	Powers Road	CE Powers Road	3282	241							
28-6E	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	4043	69							
28-6F	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	8997	180							
28-6G	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	10814	325							
28-6H	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	3907	152							
28-6J	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	9854	49							
28-6K	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	10159	330							
28-6M	0.10	Ashley Place-Coventry Ln	CE Coventry Lane	4743	4							
151-14	40.92	Axelrod CE14 Public Access	CE Axelrod	4200/4409	75 / 319							
16-4C	1.05	Deering Estates, C.E. Access	CE Piper's Glen	104	393							
16-4D	0.84	Deering Estates, C.E. Access	CE Piper's Glen	5192	343							
16-4E	0.82	Deering Estates, C.E. Access	CE Piper's Glen	5162	283							
16-4F	0.74	Deering Estates, C.E. Access	CE Piper's Glen	5040	264							

CONSERVATION RESTRICTIONS HELD BY CONSERVATION COMMISSION

101-51	1.86	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231							
101-51H	1.55	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231							
101-51J	2.78	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231							
101-51K	2.04	Mill Trust CR No Public Access	CR NP Hawk Ridge	1864	231							
125-7	22.55	Riverview Commons CR08 Public A	CR Riverview Commons	2820	335							
134-12A	0.71	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-12B	0.75	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-12C	1.10	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-12D	0.91	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-12E	0.95	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-12F	0.87	Castle Green CR06 No Public Acc	CR NP Castle Green	21	216							
134-66	0.93	Castle Green CR06 No Public Acc	CR NP Castle Green	2404	216							
142-2A	28.24	Jacobson Public Access	CR Jacobson	1303/1552	299/254							
142-2E	17.29	Jacobson Public Access CR02 Work	CR Jacobson	1303/1552	299/254							
142-2F	9.26	Jacobson Public Access CR02 Work	CR Jacobson	1303/1552	299/254							
18-47	0.20	American Heart Former CR03 Acces	CR American Heart	1912	95							
196-9	0.95	Barron's Cntry Store CR No Pubil	CR NP Barron's	5242	187							
202-1	53.83	Digital Equip. Crp.CR07 No Publi	CR NP DEC-HP	2685	82							

Town of Andover Open Space Plan 2017

Parcel ID	ACRES	OPEN SPACE NAME	RESERVATION NAME	BOOKNO	PAGENO	Zoning	condition	access	Grant-Self Help/l	protec	rec	potention
202-6	32.49	Digital Equip. Crp.CR07 No Publi	CR NP DEC-HP	2685	82							
214-2B	1.66	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
214-2C	1.16	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
214-2D	1.99	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
214-2E	1.43	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
214-2F	1.85	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
214-2G	2.25	Foxwood CR10 No Public Access	CR NP Foxwood	3343	98							
52-93	12.53	Hunters Ridge CR12 No Public Acc	CR NP Hunter's Ridge	4375	177							
69-17A	5.93	Andover Country Club	CR Andover Country Club	5694	31							
69-17B	0.58	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259							
69-19T	0.08	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259							
69-19U	0.33	Andover Country Clb CR15 Access	CR Andover Country Club	3813/3198	135/259							
70-43	3.75	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196							
70-54	0.09	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196							
70-67	0.07	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196							
70-92	0.04	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/191							
70-96	7.47	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/191							
70-98	6.24	CA Invst Trst A. Cntry Clb CR11	CR Andover Country Club 2	3813/2395	135/196							
74-1	2.32	Ila Cox CR Public Access	CR Ila Cox	5290	149							
85-26	1.11	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-33	1.23	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-34	3.58	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-35	2.75	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-36	2.70	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-37	1.85	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
85-38	1.77	Sullivan CR05 No Public Access	CR NP Sullivan	2108	186							
88-93	0.65	CA Invstmnt Andvr Cntry Clb CR11	CR NP Andover Country Club 3	2395	196							
88-94	0.46	CA Invstmnt Andvr Cntry Clb CR11	CR NP Andover Country Club 3	2395	196							
43-43		St. Pierre No Public Access	CR NP St. Pierre	12425	190							