

1999

Moving Toward the Millennium with Open Space in Huntington

UMass Amherst Center Economic Development

Follow this and additional works at: https://scholarworks.umass.edu/ced_techrpts

 Part of the [Economic Policy Commons](#), [Growth and Development Commons](#), [Public Economics Commons](#), [Public Policy Commons](#), [Urban, Community and Regional Planning Commons](#), [Urban Studies Commons](#), and the [Urban Studies and Planning Commons](#)

UMass Amherst Center Economic Development, "Moving Toward the Millennium with Open Space in Huntington" (1999). *Center for Economic Development Technical Reports*. 57.

Retrieved from https://scholarworks.umass.edu/ced_techrpts/57

This Article is brought to you for free and open access by the Center for Economic Development at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Center for Economic Development Technical Reports by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

**Moving Toward the Millennium
With Open Space in Huntington**

By

Jason Bachand

Michelle Lenihan

Rachel Sinclair

Faculty Supervisors:

Dr. Ellen Pader

Dr. Richard Taupier

CONTENTS

ACKNOWLEDGMENTS.....	i
LIST OF CHARTS.....	ii
LIST OF MAPS.....	iii
LIST OF TABLES.....	iv
ABSTRACT.....	v
1. KEY FINDINGS AND RECOMMENDATIONS.....	1
2. METHODOLOGY.....	3
A. Planning Process	
3. COMMUNITY GOALS.....	5
A. Description of Community Process and Public Participation	
B. Survey	
4. GOALS AND OBJECTIVES.....	16
5. COMMUNITY SETTING.....	17
A. History of the Community	
B. Population Characteristics	
C. Regional Context	
D. Growth and Development Patterns	
E. Existing Commercial Development in Huntington and Proposed Enhancements	
6. ENVIRONMENTAL INVENTORY AND ANALYSIS.....	32
A. Geology, Soils and Topography	
B. Landscape Character	
C. Water Resources	
D. Vegetation	
E. Fisheries and Wildlife	
F. Scenic Resources and Unique Environments	
G. Environmental Problems	

7. INVENTORY OF CONSERVATION AND RECREATION LANDS.....	53
A. Outdoor Recreation	
B. Private Parcels	
C. Public and Nonprofit Parcels	
D. Water Resource Access	
8. ANALYSIS.....	63
A. Land with Development Potential	
B. Alternative 1	
C. Alternative 2	
D. Alternative 3	
9. ANALYSIS OF NEEDS.....	67
A. Resource Protection Needs	
B. Community Needs	
C. Management Needs, Potential Change of Use	
D. Economics of Open Space	
E. Detailed Greenway Recommendation	
F. Conclusion	

Appendix

Letter of Intent

Methodology

Newspaper Article about project

Survey

Historic Photographs

Soils Map

Contour Map

Norwich Pond Map

Hiram H. Fox Wildlife Management Area Boundary

Knightville Wildlife Management Area Boundary

Wildlife Management Area Regulations

Huntington New House Building Locations 1987-1998
(complete list)

Massachusetts Natural Heritage & Endangered Species List

Priority Sites of Rare Species Habitats and Exemplary Natural Communities

Estimated Habitat of Rare Wildlife and Certified Vernal Pools

Massachusetts List of Endangered, Threatened and Special
Concern Species

Mesic Forest Plant Species and Description

Jacob's Ladder Trail Scenic Byway Route

National Register of Historic Places Form

Views and Historic Sites Listing

Chapter 61 data from Huntington Assessor

Whitewater Canoe Race Route

Newspaper article about 1999 race

Canoeing and kayaking

MassGIS data summaries

ACKNOWLEDGEMENTS

We extend our sincere gratitude to the members of Huntington's Open Space Committee, chaired by Ruth Pardoe and assisted by David Pardoe, Nancy Paradicz, Ed Grabowski, Nick Satler, Margaret Jordan, Linda Siska, Earl 'Cricket' Heath, Jeff Penn and Miriam Watkins.

The assistance of Huntington Assessor, Suzanne Kellam was invaluable in inventorying the town's open space parcels. We appreciate this enormous contribution.

We also wish to acknowledge Huntington's town historians Grace Wheeler and Jeff Penn for their continued assistance in providing documents photographs and interviews.

The Country Journal is appreciated for its publishing of articles and notices pertinent to the open space initiative, public forums and survey returns. Special thanks to Mike Donovan and Lori Belhumeur for their interviews and regional background and its current resources and events.

We note the assistance of Gateway Regional School staff in their assistance in providing survey results from Huntington seniors at the school.

And particular thanks to Diana at Town Hall for handling our special requests and routing messages to townspeople.

We would also like to thank Xiaotong Wu, from the Office of Geographic Information and Analysis, for his invaluable GIS assistance.

Finally, we would like to express our recognition and gratitude to the faculty and staff of the University of Massachusetts Landscape Architecture and Regional Planning Department. Our instructors, Rick Taupier and Ellen Pader shared valuable insight and provided direction and encouragement. We also thank our fellow students for their support during the semester.

The members of the Open Space Committee include representation by Huntington's By-law Review Committee, Recreation Committee, Historical Commission, Planning Board and Parks Conservation Commission.

CHARTS

Chart	Page
3.1 Importance of Huntington Rural Character.....	9
3.2 Characteristics Viewed as VERY Important.....	10
3.3 Recreational Facilities Adequacy.....	12
5.1 Actual and Projected Population.....	20
5.2 Income Distribution.....	20
5.3 Huntington Population Employment.....	21
5.4 Study Density Factors.....	24
5.5 1980-2010 Projected Pop. Increase.....	25
5.6 Building Permits: 10, 5, 3 year ave.....	26
5.7 Median Selling Price, 1999.....	27
9.1 Regional Open Space as a Percentage of Total Land Area.....	75

MAPS

Map	Page
Locus Map.....	17a
Water Supply Areas.....	28a
Surficial Geology.....	32a
Surface Water.....	36a
Aquifer Recharge Areas.....	40a
Flood Hazard Area.....	41a
Vegetation and Wildlife.....	42a
Scenic Resources.....	48a
Environmental Problems.....	51a
Methods of Land Protection.....	56a
Level of Open Space Protection.....	59a
Recreation and Conservation Lands.....	59b
Land with Development Potential.....	63a
Alternative 1.....	64a
Alternative 2.....	66a
Alternative 3.....	66b

TABLES

Table	Page
3.1 Recreation Interests Noted at the Huntington Open Space Forum.....	7
6.1 Requirements for Structures in Aquifer Protection District.....	40
6.2 Tree Types in Huntington.....	42
6.3 Rare Species List.....	43
6.4 Huntington Top 5 New House Location.....	44
6.5 Huntington Endangered Vertebrates.....	45
6.6 Huntington Endangered Invertebrates.....	45
6.7 Norwich Pond Stock.....	46
6.8 Hiram H. Fox Wildlife Management Area Wildlife.....	49
6.9 Knightville Dam Wildlife Management Area Wildlife.....	49

Abstract

The Open Space Committee of Huntington is required to submit an updated plan every five years based on Massachusetts Executive Office of Environmental Affairs guidelines. The report is mandated to include presentation and examination of community, environmental and conservation/recreation issues. The information is then analyzed according to the needs of the town and incorporated into recommendations for future action. The existence of a state-approved open space plan allows the town eligibility toward state or federally funded grants in areas of conservation, recreation and preservation of open space. The town also intends to use the study and its finding to better manage its growth.

Section One: Key Findings and Recommendations

This section represents the key findings and recommendations of this study. A more comprehensive explanation of the following is listed in Section Nine.

A. Findings

- Public access to Norwich Pond and the Westfield River is needed to satisfy the swimming and canoeing community.
- Huntington's base economy is an established network of recreation and tourist-based commercial activities.
- The combined existing open space and land with a slope over 15% represents 68% of the total land area.

B. Recommendations

- To provide public access to the Westfield River and Norwich Pond, it is recommended that the town purchase the Springfield College land if the Department of Environmental Management does not purchase it.
- Develop economic infrastructure toward an integrated system of coordinated commercial activities amongst town officials, related committees and local businesses.
- Promote a greenway network connecting the existing conservation and recreation lands and steep slopes. This linkage also connects historic

locations, scenic views and the Westfield River. By doing so, this method of preservation helps protect the rural character of the town.

- To successfully protect the natural resources and to develop a additional economic opportunities, communication between the local agencies and the Pioneer Valley Planning Commission is recommended to ensure both short term and long term planning goals are met.

Section Two: Methodology

Based on the goals and objectives expressed by the town's anonymous recreation and open space survey, environmental and social data were gathered for initial study. Historical, demographic, cultural and economic information was obtained from a variety of state and local agencies. Extensive interviews were conducted with official and non-official sources in an effort to obtain balanced perspective on all points of inquiry. After materials were compiled and evaluated, leads were followed and the data further refined. A methodology flowchart in the appendix shows the detail of this process.

A series of recommendations were derived from the analyses of initial goals and objectives. The concluding recommendations were derived through analysis of current social and environmental conditions, tabulated survey results and G.I.S. presentation of natural factors.

A. Planning Process

The Huntington Planning Board, under the direction of Nick Satler, decided to begin the process of updating the town's 1987 Open Space Plan. The town's objectives are to comply with state guidelines, to inventory its natural assets and to prepare for controlled growth into the next century.

Huntington established it volunteer Open Space Committee under the leadership of Ruth Pardoe, Chairperson. Huntington's Board of Selectman appropriated funds to underwrite a group of graduate students to aid in the development of a viable open space/growth management plan.

Under agreement with the town, the Planning Team (University of Massachusetts) will prepare a study necessary for the town's submission of an Open Space Plan to the Massachusetts Executive Office of Environmental Affairs. The team is also responsible for a public presentation describing its findings, observations and recommendations for future action. This community forum is a required mandate of the Open Space Plan procedure that emphasizes public participation in the development and creation of the Plan. Students will present their written study to the town in mid-May.

Section Three. Community Goals

This section begins with a description of the community process, which is followed by an analysis of the survey developed by the Huntington Open Space Committee. The community process and public participation consists of the early stages of the project, meetings held, and a public forum on open space. The survey discussion includes the manner of distribution, response from residents, and an identification of the results.

A. Description of Community Process and Public Participation

In January 1999, the Huntington Board of Selectmen decided to update the town's Open Space and Recreation Plan. This decision was overdue, as the plan had not been updated since 1987. As part of the development of this plan, the town decided to participate in a project that involved the assistance of a team of graduate students at the University of Massachusetts Amherst. The Board of Selectmen allocated \$2,800 for this purpose.

In late January 1999, a meeting between the Huntington Open Space Committee chairperson and the graduate students was held. At this time, the students were introduced to the project requirements and provided with the tools necessary to begin the process. Meetings with the entire open space committee were held on the first Saturdays in February, March, and April of 1999. The students attended these meetings and reported their progress.

On April 15, 1999 the residents of Huntington had an opportunity to attend a forum about the town's open space situation. They were made aware of this event through postings at the following locations in town: the town hall, the fire station, the library, the post office, Gateway Regional High School, Huntington Country Store, B&D, and Moltenberry's. At this forum, the graduate students presented the results of their research, which are discussed later in Section Nine. Public comments and group discussions followed the presentation. The turnout for this event was quite low at approximately 30 people. However, most of the residents who did attend the forum were in support of the plan and pleased with the progression and quality of research activities. Residents also had another opportunity to indicate which recreational activities are most important to them.

In addition, town residents in attendance indicated which recreational activities are important to them. This was accomplished by participants placing one sticker in a column of their choice. Table 3.1 shows the distribution of votes, including hiking, birdwatching, and canoeing which scored highly among participants. However, it is important to note that there were no teenagers present at the forum, which likely resulted in the disinterest for basketball.

Table 3.1. Recreation interests noted at the Huntington Open Space Forum

Activity	Votes
Hiking	13
Birdwatching	10
Canoeing	10
Off Road Biking	9
Fishing	8
Swimming	8
Skating	7
Horseback Riding	7
Picnicking	6
Hunting	5
Road Biking	5
Cross Country Skiing	5
Camping	3
Boat Ramps	3
ATV	3
Rollerblading	3
Tennis	2
Skateboarding	2
Snowmobiling	2
Playgrounds	1
BMX	1
Athletic Fields	1
Basketball	0
Other	0

Source: Huntington Open Space Committee

B. Survey

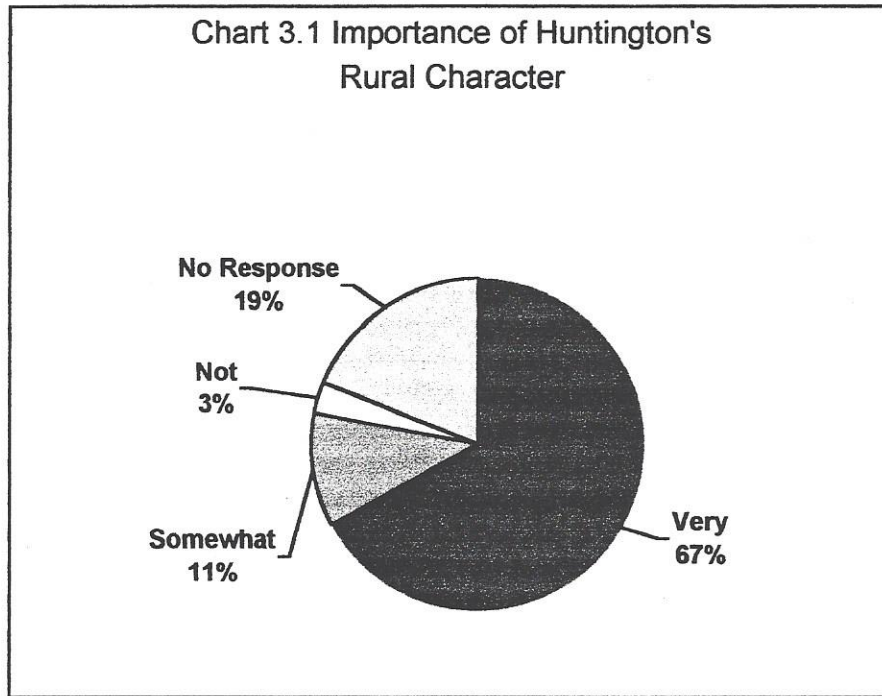
In an attempt to get feedback and community support for an updated open space plan, the Huntington Open Space Committee developed a survey that was based on the Executive Office of Environmental Affairs Open Space and Recreation Plan Workbook. The survey addressed the issues of rural character, resource characteristics, recreational facility adequacy, residential growth, and commercial growth. In addition, respondents were able to provide personal comments a sample of which is displayed later in this section. In January 1999, eight hundred Huntington homeowners received a copy of this survey with their tax bill. Renters within the town did not receive a copy of the survey by mail. However, efforts were made to reach them through distribution points at the town hall and post office. As a method of reaching the teenagers in town, the survey

was also distributed to twenty students from Huntington at Gateway Regional High School. A copy of the survey is in the appendix.

Upon review of the open space survey, some problems were discovered. Perhaps the most critical issue was that the response to the survey was rather poor. Of the 800 homeowners and 20 students who received copies of the survey, only 190 responses were received. This is only a 23% response rate. In addition, there were no responses from the renters and it is unknown if any of them actually picked up a copy of the survey at a distribution point. A statistical analysis could not be done because these surveys were anonymous and therefore did not contain any demographic data. The student surveys were labeled, however, because of the low number of respondents, correlations could not be performed.

Importance of Rural Character

The first question asked on the open space survey was in regard to rural character and its importance to the residents of Huntington. Respondents were requested to circle a response of very important, somewhat important, and not important. From the responses, 67% of the individuals believe that the rural character of Huntington is very important. Another 11% of respondents view it as somewhat important, while only 3% believe rural character is not important. There was no response from 19% of the surveyed individuals.



Source: Huntington Open Space Survey, 1999

Characteristics

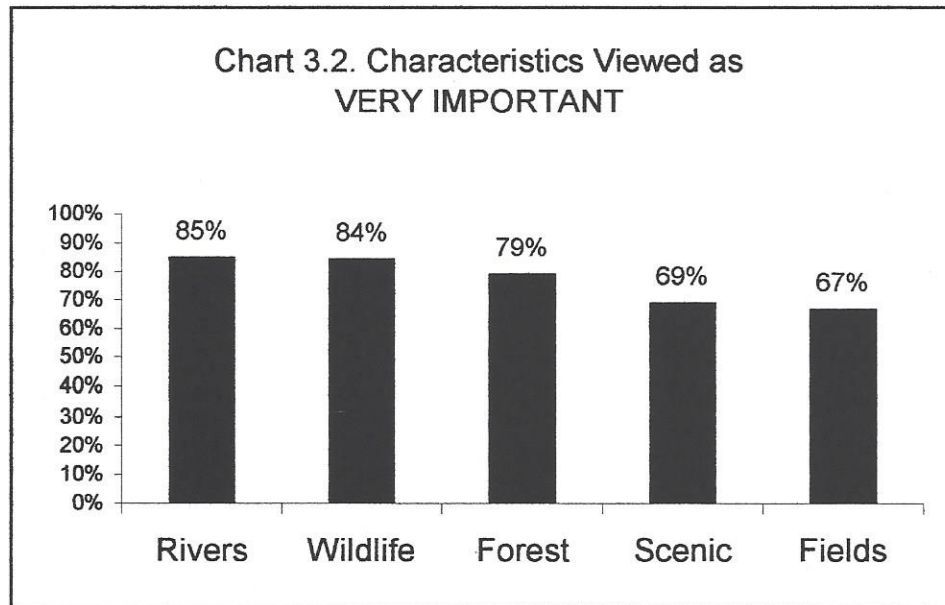
The survey respondents had an opportunity to indicate which characteristics of the town were most valuable to them. The response options available were very important, somewhat important, and not important. These options were applied to the following characteristics: rivers, wildlife, forest, scenic, and fields.

When asked about the importance of the rivers in Huntington, 85% of respondents found them to be very important. Only 6% of respondents considered rivers to be somewhat important, while an even lower 3% indicated that they are not important. There was no response to this question from 7% of the surveyed individuals.

Another very important characteristic in Huntington is its wildlife, as indicated by 84% of the respondents. Only 7% of respondents considered wildlife to be somewhat important, while a mere 1% indicated this as not important. This question was not responded to by 7% of those surveyed.

Forests are considered to be very important by 81% of the respondents. Only 10% of respondents considered forests to be somewhat important, while a mere 1% indicated that they are not important. There was no response to this question from 8% of the surveyed individuals.

Seventy-one percent of respondents considered scenic vistas to be very important. Another 15% of those surveyed found them to be somewhat important, while 5% indicated that scenic vistas are not important. This question did not receive responses from 9% of the surveyed individuals.

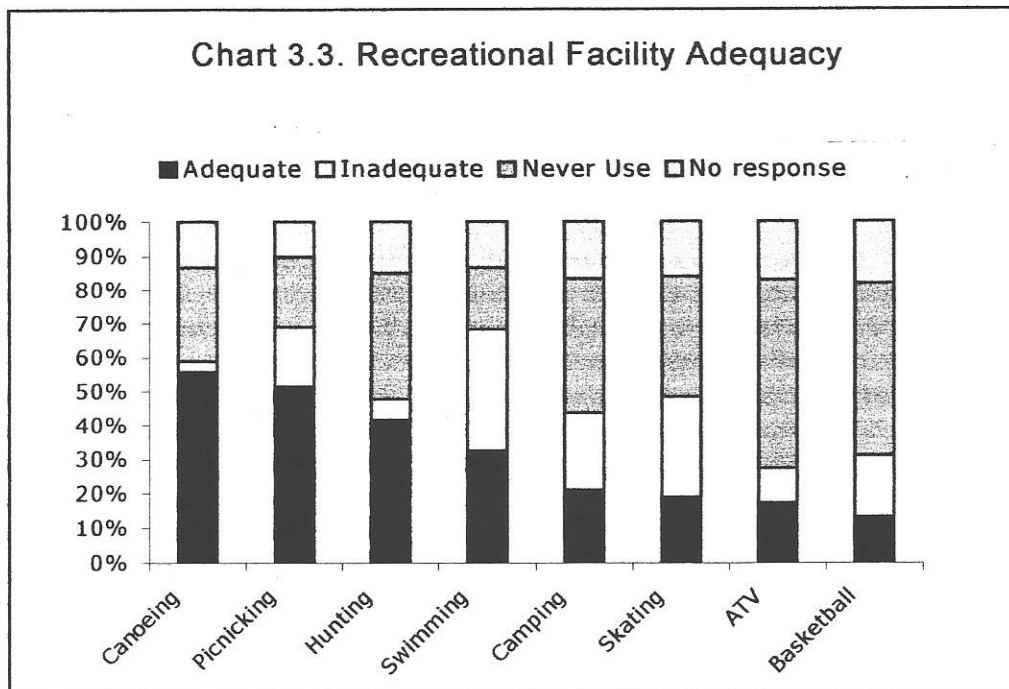


Source: Huntington Open Space Survey, 1999

Open fields are considered to be very important by 69% of the respondents. Another 19% of respondents considered fields to be somewhat important, while only 3% indicated that they are not important. There was no response to this question from 9% of the surveyed individuals.

Recreational Facility Adequacy

The recreation facility adequacy section of the survey provided respondents with an opportunity to evaluate recreational activities in Huntington. Those activities included fishing, canoeing, picnicking, hunting, swimming, camping, skating, ATV riding, and basketball. Town residents had the option of stating adequate, inadequate, or never use for each recreational activity. Of the responses, 63% indicated that fishing was adequate. This was the highest percentage for that category. The highest percentage in the inadequate category was swimming with 36% of the responses. The results for fishing can be attributed to the various resources in town available for this activity, while the swimming results are likely due to the fact that there is only one legal public swimming area in town. In addition, 56% of the survey participants stated that they never use ATV's.



Source: Huntington Open Space Survey, 1999

Emphasis on Protection and Improvement

The survey respondents had an opportunity to indicate the level of emphasis that should be placed on the protection or improvement of certain resources in Huntington. The response options available were more emphasis, some emphasis, and less emphasis. These options were applied to the following characteristics: ground water, forests, surface water, natural scenic areas, agricultural land, and historical sites.

When asked about the level of emphasis on ground water in Huntington, 78% of respondents said there should be more emphasis on this issue. Another 12% believe there should be some emphasis on ground water, while only 4% indicated that less emphasis was needed. There was no response to this question from 7% of the surveyed individuals.

Another issue requiring more emphasis in Huntington is forestland, as indicated by 76% of the respondents. Another 14% of respondents believe some emphasis should be placed on this issue, while only 2% indicated that forests should receive less emphasis. This question was not responded to by 8% of those surveyed.

Surface water requires more emphasis according 74% of the respondents. Another 16% of respondents stated that surface water needs some emphasis, while only 4% indicated that it needs less emphasis. There was no response to this question from 6% of the surveyed individuals.

Pertaining to natural scenic areas, 69% of respondents feel that they need more emphasis. Another 19% of those surveyed found them in need of some emphasis, while 4% indicated that these areas need less emphasis. This question did not receive a response from 8% of the surveyed individuals.

Agricultural land is considered to be in need of more emphasis by 60% of the respondents. Another 22% of respondents stated that these lands need some emphasis, while 5% indicated that they need less emphasis. There was no response to this question from 13% of the surveyed individuals.

The need for more emphasis on historic sites was indicated by 51% of the respondents. Another 35% of respondents believe that these areas need some emphasis, while only 3% indicated a need for less emphasis on historic sites. This question was not responded to by 11% of those surveyed.

Growth Policies

The survey contained two questions pertaining to growth policies for the town. The first was related to residential growth, while the second focused on business and industrial growth. Respondents had the option to choose between no growth, growth evenly spread, regulate growth in existing developed areas, and regulate growth in undeveloped areas for both questions. Because some respondents selected more than one answer for each question, the total for all four options does not equal 100%. Based on the results provided, 61% of respondents favor regulating residential growth in existing developed areas. This same policy, when applied to business and industrial growth, was favored by 67% of respondents.

Comments

Since the open space survey was limited in many ways, it is important to evaluate comments made by the respondents. The following are some of those comments from respondents directly quoted from the surveys. The identities of these respondents are unknown, as the surveys were anonymous.

"I am tired of people telling me what to do with my own land. If you want to get land buy your own and watch the birds."

"This town needs businesses, a snowboarding park, pool/dart places."

"The town should develop a town swimming area restricted from non-residents (but not guests) like Russell & Becket have."

"Can we afford this?"

"Improve the public water system (Worthington Road has tributaries which feed from 112)."

"Perhaps if the town was not so 'gung ho' about tarring and widening our rural roads the growth issue would not occur. One knew that with the widening and resurfacing of Rte 66, of course, there would be an increase in people moving to the hilltowns."

"Create wildlands corridors."

"Improve athletic fields and facilities for young and old, add more swimming areas."

Section Four. Goals and Objectives

The following goals and objectives were established by the University of Massachusetts Planning Team. They are based on research efforts and feedback from the town. Important factors that were considered when determining these goals and objectives include the character of the community, the lands potentially at risk for development, and economic issues.

Goal I: Protect Rural Character

Objectives

- a. Contain commercial development to the town's center and existing business zone
- b. Preserve natural resources

Goal II: Identify preservation areas

Objectives

- a. Determine developable lands to designate for protection
- b. Establish a greenway network

Goal III: Foster economic development

Objectives

- a. Encourage commercial activities that complement the town's recreation and tourism context
- b. Create a town chamber of commerce or participate in a regional trade association to stimulate and maintain the existing cluster of tourism activities

Section Five. Community Setting

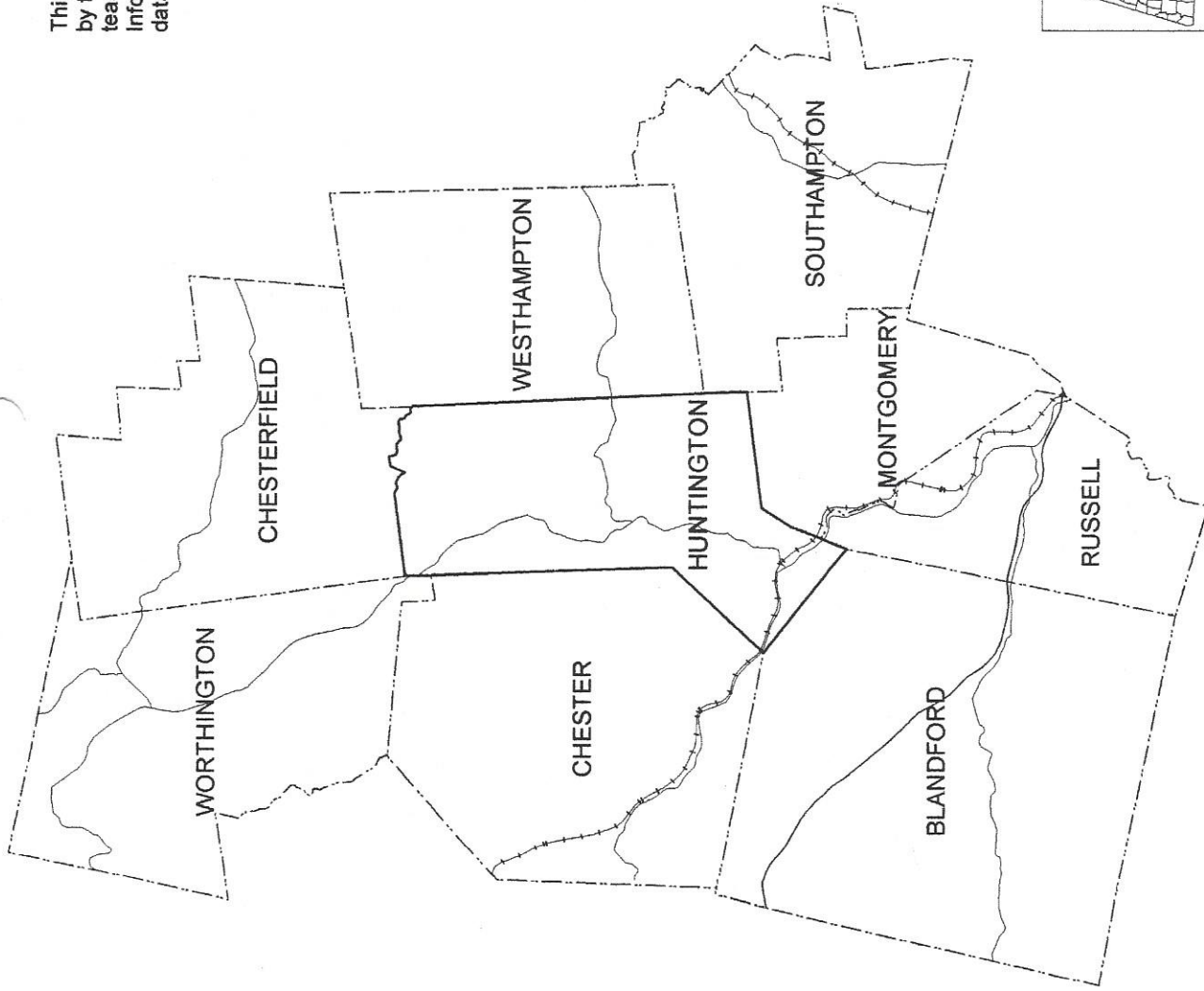
This section will address the historical, demographic, regional, developmental and infrastructure components of Huntington's character. History will focus on Huntington's origins in the mid-nineteenth century and proceed through its eventual evolution to a bedroom community. Population characteristics will demonstrate the town's composite trends and profile. A brief regional context section will serve to preface the town's growth and development patterns as examined in the regional context of the surrounding hill towns. In closing, Huntington's existing commercial development and potential for growth will be contrasted with the town's goals for preservation of its rural character.

A. History of the Community

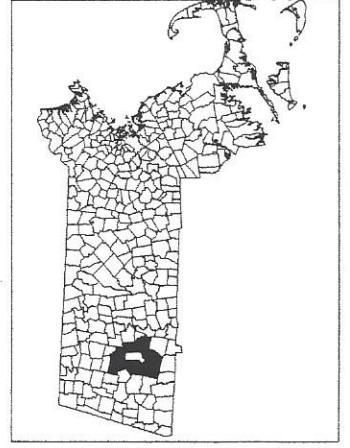
The history of the present town originates in 1762, when the Murrayfield (Chester) plantation was established. This plantation included land that would become known as Huntington. The town was originally established as a district in 1773 and incorporated into the town of Norwich in 1775. The Norwich district was a supplier of timber to other Connecticut Valley towns. In addition, several small sawmills and gristmills were built on the Westfield River and its tributaries.

In 1781, a town center was established on Norwich Hill. The center included a meetinghouse, a church, and many surrounding residences. The First Congregational Church on Norwich Hill suffered extensive fire damage in 1841. This resulted in the construction of a new First Church, which still exists today. A

This map was created using MassGIS data by the University of Massachusetts planning team and the Office of Geographic Information and Analysis. The MassGIS data summary can be found in the appendix.



Locus Map



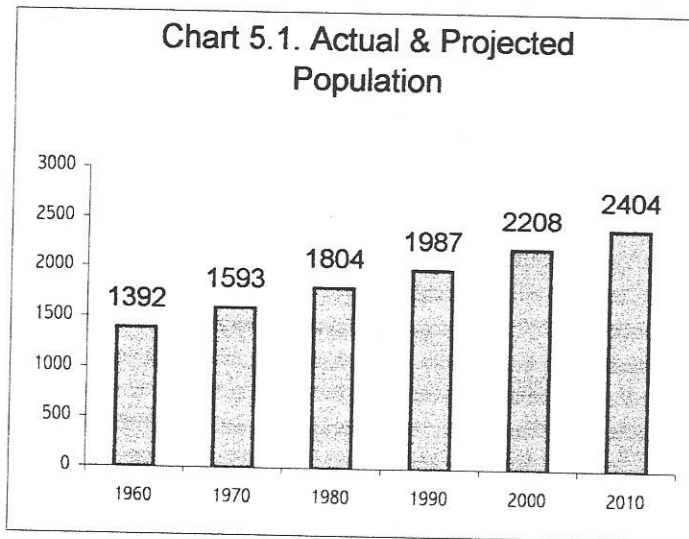
resources, primarily its watershed, the Westfield River and the surrounding bodies of water (Norwich Pond). Huntington is primarily a bedroom community.

Huntington has a varied topography. The town contains a series of narrow valleys through which several streams and rivers flow contrasted with elevations reaching over 14,000 feet altitudes. The town's natural landscape has influenced its development over its recorded past. In the nineteenth century, the hilly and heavily wooded surrounding of Huntington provided industry in the many lumber mills located along the Westfield River's source of power. Yet in 1938, these same resources threatened the town with extensive flooding along the river. The Federal Government deemed the situation serious enough to build two dams to maintain the river and protect the towns downstream. The Knightville Dam was put into operation in 1941 and, later in 1962, the Littleville Station joined the effort to manage the flood plain occupying much of Huntington's land area. The Knightville and Littleville dams encompass 2,400 acres, or 14% of the town's area, in federally owned, pen land. Gardner State Park offers an additional 70 acres in state. Both forms of ownership convey permanent protected status on the open space within its boundaries.

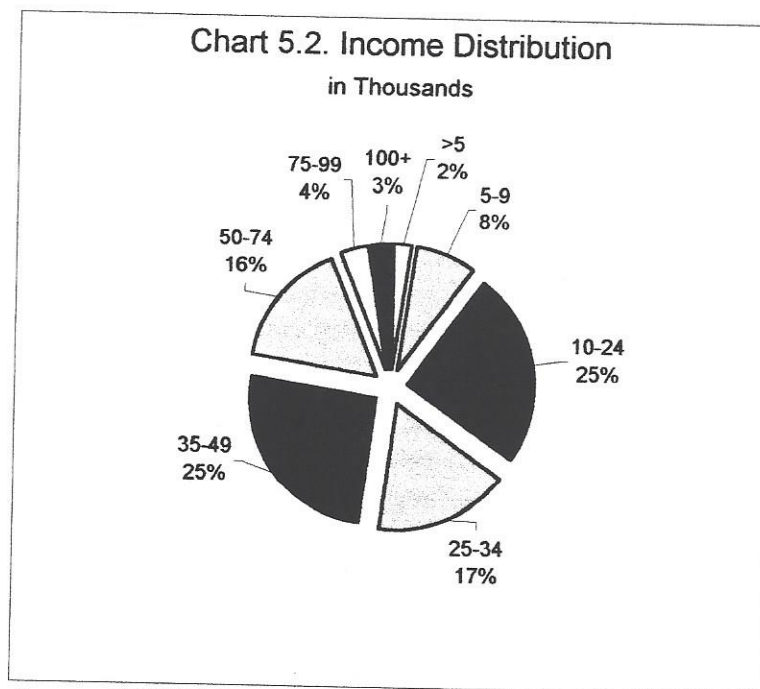
B. Population Characteristics

Huntington has followed a linear, consistent growth rate since 1960. Its estimated 2000 population is 2,208 as determined by 1990 U.S. Census standards. The birthrate is 24 percent higher and the death rate is 87 percent lower than state averages of 1995 data. The number of census determined households rose 17 percent in the period of 1980-1990. A married couple heads

the majority (65%) of these households. The town's per capita income is \$13,536 (MISER, 1990) representing 78.6 percent of the state average. Income distribution is described in chart 5.2.

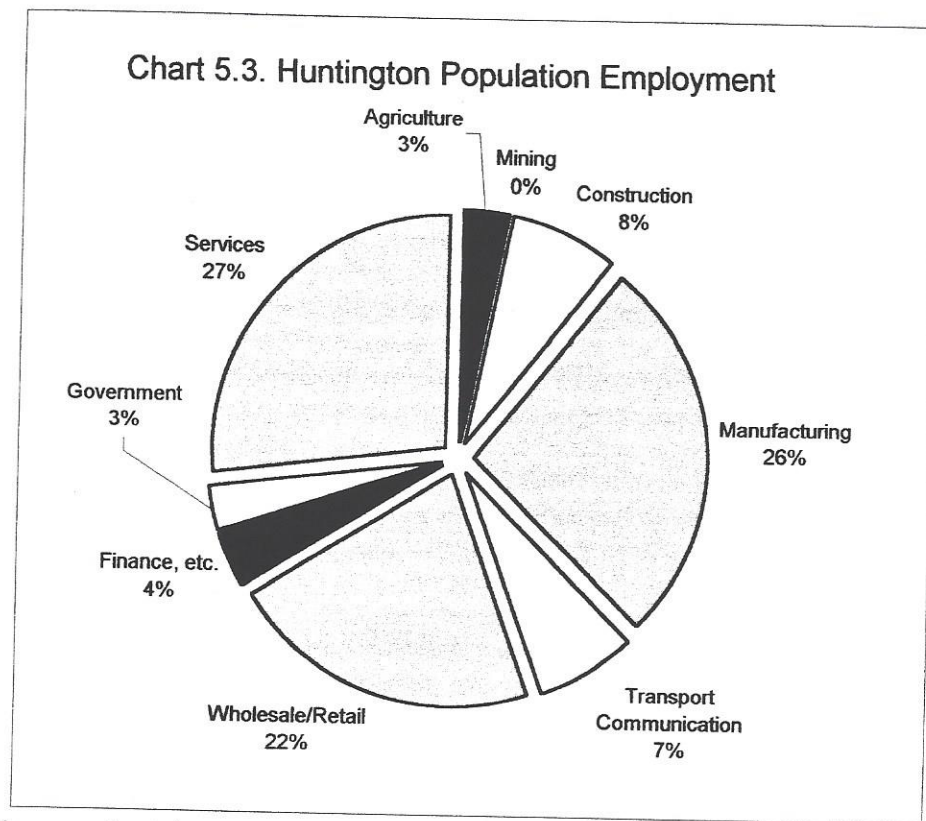


Source: MISER



Source: 1990 U.S. Census

Residents derive income from a variety of sources, most frequently from manufacturing and service industries. Since these sources of employment are



Source: Dept. Labor and Statistics, 1990

minimal in the town, it is inferred that most residents leave the community to find jobs. Huntington's bedroom community status is based on this premise. A chart demonstrating the distribution of employment by sector is displayed in chart 5.3.

According to the 1990 Federal Census, Huntington reports that forty-five people of its 983-member employment force were without employment. This represents a portion of 4.4 percent as opposed to the state average of 6.7 percent during the same period. A note of interest in the above industry distribution chart for the mining sector. Although Huntington town boundaries

support the operation of two sand and gravel pits, the census reports the number of jobs provided as zero. A proposed gravel pit, which would be Huntington's third- is under review as this report is being written. The operations of such a business do little to provide economic opportunities or jobs for the town. The activities also conflict with the town's goals of maintaining its rural character.

C. Regional Context

Huntington is home to the region's high school, the Gateway School, so named to reflect the town's location at the gateway to the Berkshire Mountains. The school educates students from the seven communities of Blandford, Chester, Huntington, Middlefield, Montgomery, Russell and Worthington. As an administrative center for this configuration of towns, Huntington serves as a convergent node for the region's population. Athletic, academic and social activities are organized and located within the school's facilities.

The Gateway Youth Athletic Association is a regional, private organization promoting and managing the Pioneer Valley Junior Soccer League. Huntington's athletic facilities and central function as a regional school provide facilities and resources that determine the Gateway Youth Athletic Association's existence and location Huntington. The group was host to tournaments in 1997 and 1998, however recent difficulty in recruiting volunteers have hampered its efforts to develop or expand its programs. Huntington also possesses a baseball field (Pettis Field) that is home to the Gateway Little League and provides facilities for other regional sporting events.

In addition to the regional school and adjoining athletic fields, Huntington's portion of the Westfield River is the site of the Annual Westfield Whitewater Canoe Race. An annual event for the past forty-six years, the race attracts enthusiasts from across the state and some international competitors. Its course possesses above average public visibility and accessibility both, which contribute to Huntington's preferred status among canoeists. Joining the canoe race is region's triathlon competition last held in 1997. The event was canceled last year due to lack of organizers, but in the prior three years, it attracted participants from across the state.

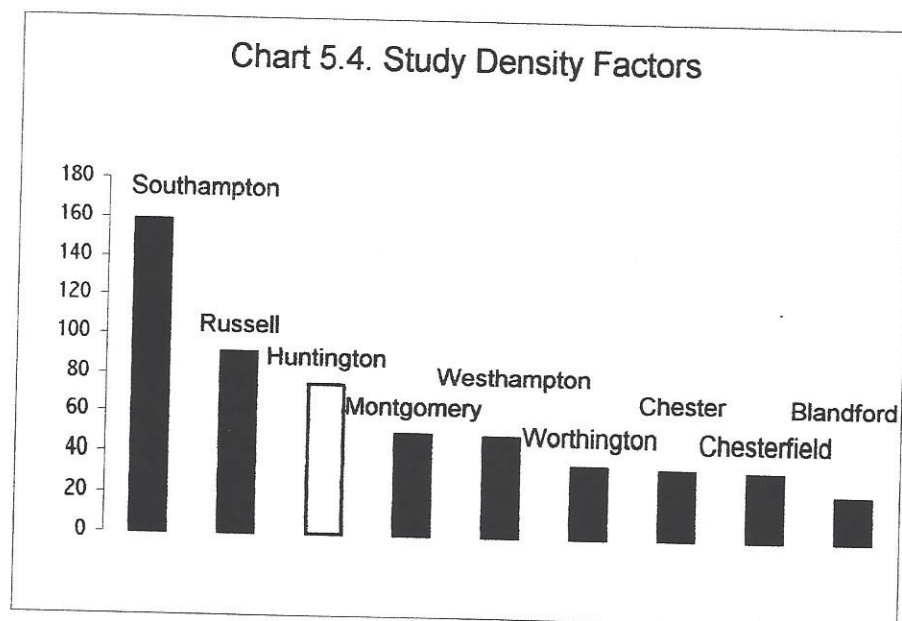
D. Growth and Development Patterns

While Huntington's large land area keeps the population density low, it does not account for the increased number of development, scattered through remote areas. The Open Space Committee and aggregation of anonymous surveys have both expressed that the development of formerly open space to seemingly random residential growth is contrary to both the town's goal of maintaining its rural character, and to the limiting of development to existing established residential areas. Forests and other open space remain the dominant characteristic of Huntington, however, residential development continues to increase in undeveloped areas due desirable views, privacy and current availability.

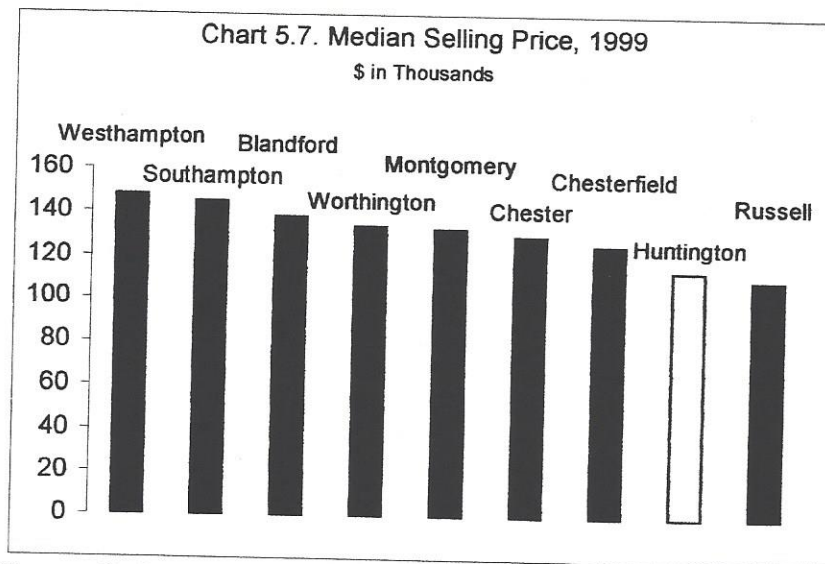
In this study, Huntington will be compared to a contiguous, surrounding region comprised of: Blandford, Worthington, Westhampton, Russell, Chester, Southampton, Montgomery and Chesterfield. This group of nine communities is

examined in terms of their persons per square mile (density) forecasted population increase, building permit data, and median home selling price.

In the context of an Open Space Plan, density factors are essential in determining the need to preserve open space or to allocate additional protection to areas not recognized as potential for further development. In regional perspective is it apparent that individual towns operate under different resource constraints in terms of the available land in contrast to population occupying that land. Combined with the natural factors of Huntington's hilly terrain and its large share of state and federally owned property, the remaining land is especially vulnerable to development. Huntington aptly named the 'Gateway to the Berkshires', but as the town on the edge of advancing westward development, it wishes to avoid the effects of unplanned, residential sprawl. Similarly population



Source: MISER, 1990



Source: Springfield & Franklin/Hampshire Boards of Realtors, 1999

Transportation

Huntington is located between the Berkshires and the Pioneer Valley. It has good access to the airport and rail facilities of the latter region, due to its situation along U.S. Route 20. Principal routes of travel in and out of Huntington are additional Routes 66 and 112. Although Huntington is a member of the Franklin Regional Transit Authority (FRTA) there is no fixed route service, but FRTA provides paratransit services for the elderly and disabled through the Huntington Council on Aging. Conrail provides freight service through Huntington, but makes no stops in the town.

Massachusetts Highway is currently upgrading Route 66 between Northampton and Huntington. The improvements have been modified to require no Environmental Impact Report. The original project, at 32 feet minimum width, required extensive land and wetland alteration because of steep slopes;

however, the modification reduced the width to 26 feet and prevented significant changes to the landscape and environment. The portion of the state project affecting Huntington is reconstruction of 3.2 Miles of Route 66 from Route 112 in Huntington to Easthampton. Significant safety concerns and to provision of safer and more efficient access between the hill towns and commercial areas in Northampton and Westhampton.




Sewage and Water

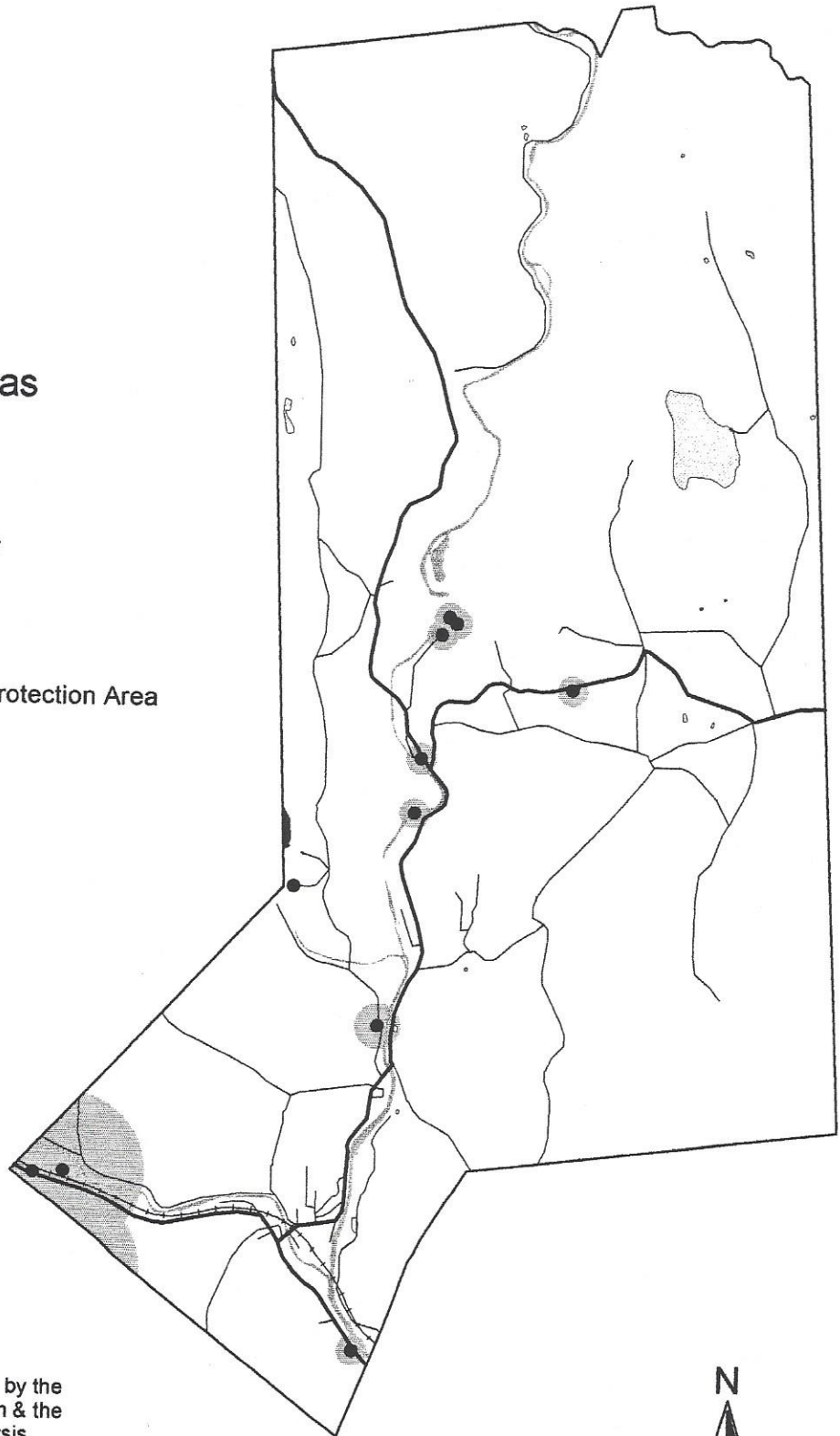
Presently, the Huntington sewage treatment center is functioning at 50% of capacity and 95% removal of bacteria, which is above the 85% state requirement. If the treatment plant exceeds 80% capacity, 150,000 gallons/day for 90 days, state law requires preparation for expansion. Gateway Regional High School has its own septic system, which services 40-45 additional homes surrounding it that generates around 20,000-30,000 gallons. If the Gateway system were to use the town system, there would be a serious need to plan for expansion. The remainder of the town uses on-site septic systems.

Water Supply

Most of Huntington residents receive their water from a 500,000-gallon tank, which services the downtown community. The Cold Brook Reservoir, operated by the Huntington Fire, Water and Sewer Department, is located in Blandford. The two gravel-packed wells are located in the southwestern portion of Huntington, off the West Branch of the Westfield River. Today Huntington's water supply is far below the safe yield of the town's supply and this surplus is expected through 2000. Residents who don't use the town supply have private

Water Supply Areas

-  Railroad
-  Main Roads
-  Streets
-  Public Water Supply
-  Stream
-  Pond
-  Reservoir
-  Interim Well-Head Protection Area

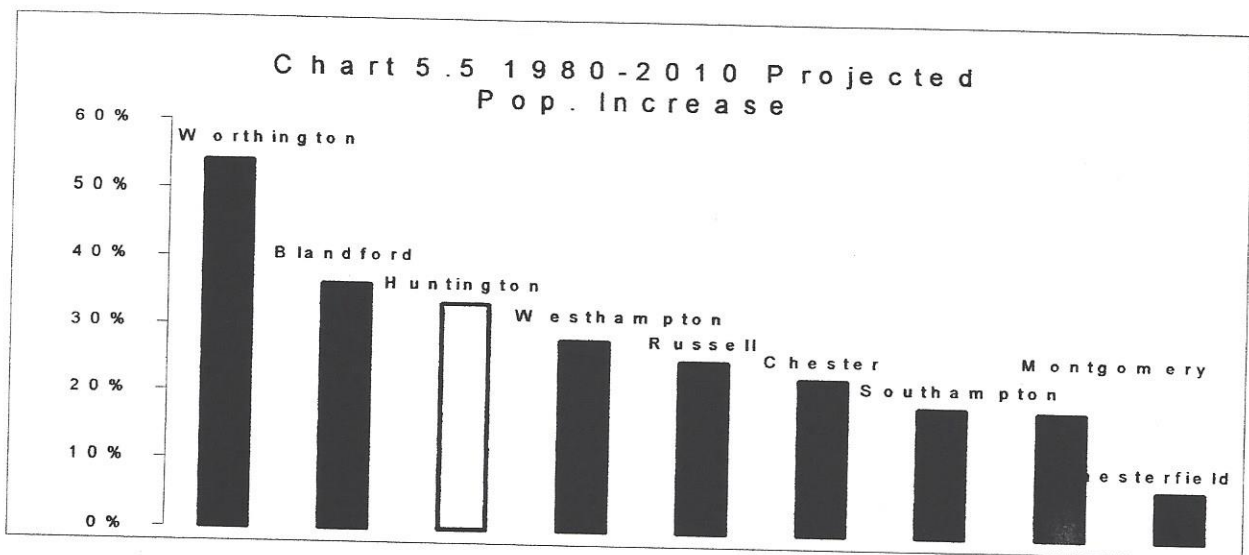


This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.

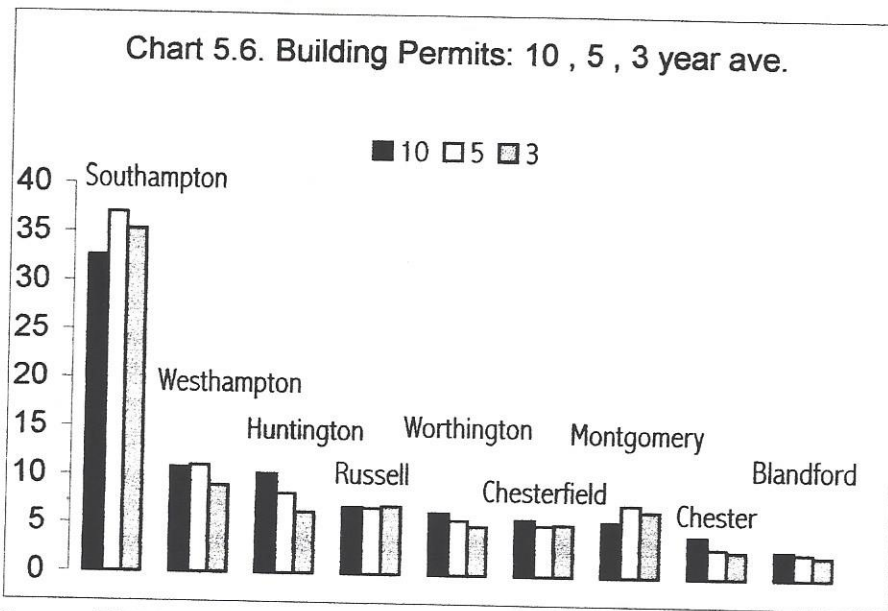


projections demonstrate that the towns in the sample study are experiencing varied, and in some cases, widely disparate growth rates. Huntington again rests in the upper change among its neighbors.

Charts 5.4 (Density) and 5.5 (Population Increase) show how Huntington resembles the towns to the east more than its contiguous, less developed towns to the west. Following this consistent pattern, the Open Space Committee has voiced concern that residential development is migrating from other communities into Huntington at a cost to rural character and natural environment. Chart 5.6 details the number of building permits issued by the sample group.



Source: MISER, 1990



Source: PVPC, 1997

Huntington's issuance of building permits has declined over the past ten years, however, it remains at the higher end of the spectrum in terms of number issued. Despite the number of new homes in the town, the median value of property is lower than in the sample group. Chart 5.7 details the region's median sale price provided by the Springfield Board of Realtors and the Franklin/Hampshire Board of Realtors most recent transaction records. Combining the density, population growth, propensity to build and lower cost of available and developable land, Huntington appears to present an image of an area destined for continued residential growth.

wells. However, all town residents pay an unmetered flat rate for the water without consideration for the use.

There are approximately 440 homes along the Norwich Pond area at the top of Route 66 that use the town water supply and septic system. Because there is a surplus of town water and no immediate sewage capacity problem, summer residents do not affect the sewage disposal or water quality.

Huntington employs watershed management practices around the reservoir. An Interim Well Head Protection Area has been designated in the absence of a Department of Environmental Protection, Division of Water Supply approved Zone II for any well. This circle radius, as seen in the MAP, depicts the primary recharge area for the wells. The Huntington Zone II prohibits construction, pesticides, and industry, in an 11.5-acre land, and 400-foot radius surrounding the Interim Well Head Protection Area. Included in this zone is the reservoir and well heads, while the buffer distance has been determined by the pumping rates for Huntington water sources.

E. Existing Commercial Development in Huntington and Proposed Enhancements

Huntington currently maintains a nascent tourism and recreational-based commercial cluster of businesses. The town has one bed and breakfast establishment (Carmelwood) that has been in operation since 1994. In addition to this anchor hospitality business, Huntington hosts five restaurants, a country store, three antique shops and a boat retailer (Smith's Sled Shop) with annual revenues of \$2m. All the businesses cited comprise a linked series of

enterprises that constitute an economic activity complementing Huntington's rural character and relying upon its natural resources and location. This niche market capitalizes on the cache of Huntington's scenic beauty and unspoiled nature.

Local businesses participate in regional trade organizations that support the tourism and recreation industry. The Jacob's Ladder Business Association promotes tourism and guides local businesses in the development of new strategies and the maintenance of existing business. The Hilltown Bed and Breakfast Association supports twenty-five local businesses in the tourism industry. Hilltown Hospitality is another regional organization providing a central resource to the variety of businesses catering to the needs to visitors to the area.

Huntington is also home to many cottage industries of persons working from their homes. Professionals or craftspeople compose 15% of the workforce providing services or artisan specialty products. As an aside, it would be useful for the town to quantify the number of artisans and self-employed people to gauge their economic impact on the town's economy. While Huntington is home to other businesses that support local demand such as a small grocery store, barbershop and beauty parlors, the presence of the tourism cluster is the most central and viable basis for concentrated economic development. The nature of these businesses is to invite basic economic activities that bring dollars into Huntington's economy. For example, the boat storeowner reported that ninety-five percent of the store's business was provided by customers from outside of Huntington. Likewise, the Auto Parts Store, which also sells agricultural

equipment, reports a high rate of regional business generated from customers from outside the town.

These types of basic economic activity that attract demand from outside the town provide a multiplier effect in terms of providing employment. The initial sale is valuable for the owner of the establishment, but the social benefit of job creation is perhaps more valuable. In addition to the initial round of employment benefit, the secondary effects of that labor's demand for additional goods and services also benefit the community. Since Huntington has an established base economy that is in harmony with its community goal of maintaining rural character, limiting sprawl and developing an economic core, the maintenance and development of this cluster should be encouraged and supported by the town.

Section Six. Environmental Inventory and Analysis

This section discusses Huntington's significant natural and cultural resources as determined by the Executive Office of Environmental Affairs Open Space Plan Requirements. These include the geology, soils, topography, landscape character, water resources, vegetation, fisheries and wildlife, scenic resources and unique environments, and environmental problems.

A. Geology and Soils and Topography

Bedrock Geology

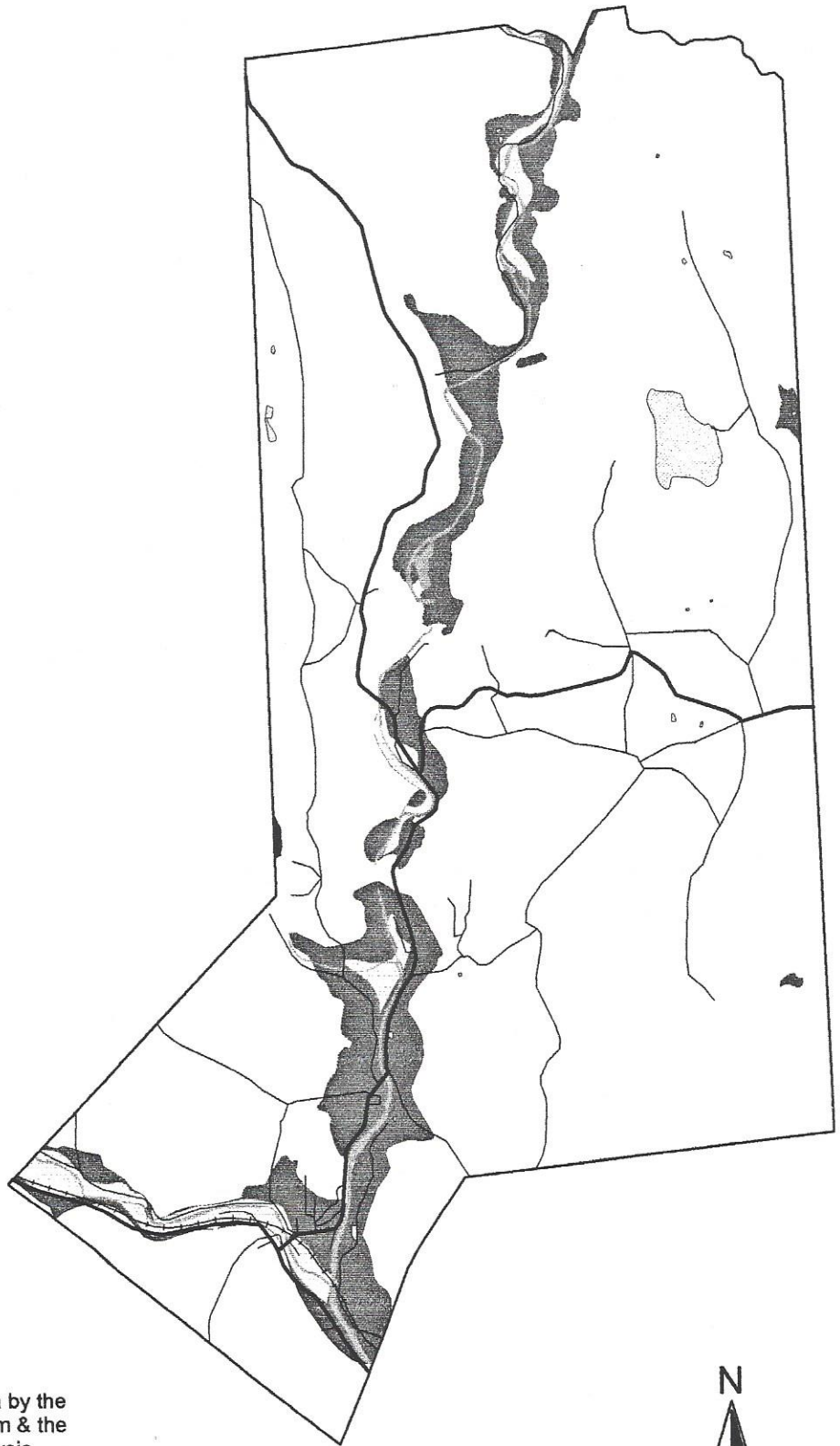
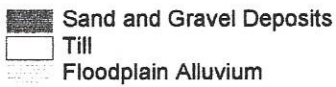
The landscape of Huntington is typical of other New England uplands where volcanic activity of the Triassic era initiated the formation of the landscape we see today. The bedrock consists of metamorphic rocks of the Goshen Formation, which includes Carbonaceous Schist, and Micaceous Quartzite. The advancing and retreating continental glaciers of the Wisconsin stage that scoured the land, exposed bedrock, and accumulated material shaped the topography of Huntington and created the soils found in Huntington (NRCS 1995 3).

Surficial Geology

The Wisconsin glacial age resulted in till, outwash, hardpans and alluvium deposits in Huntington. Glacial till is unsorted sediment deposited directly below a glacier which varies in particle size from fine clay to rock fragments and boulders. It is also responsible for the monotonous relief found in Huntington.

A common characteristic of till found in New England is its coarse texture and loamy content due to its parent material, Crystalline Rock. The presence of hardpans is a limitation to drainage, cultivation and disposal of septic effluent.

Surficial Geology



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



However, the rocky and varied terrain and sandy areas along the river terrace can promote rapid movement of discharge.

Norwich pond and other small ponds found throughout Huntington were created by depressions left by stagnant glacial ice. Vegetation that has filled some of these ponds are today's swamps, and marshes (NRCS 1995 5). Finally as post-glacial drainage patterns developed, alluvium was deposited along the Westfield River and the streams in Huntington. This alluvium consists of fine gravel, sand, organic material and silt.

Soils

By knowing the soil characteristics of the town, land use patterns can be better dispersed without a threat to the natural environment. This is pertinent data when determining the suitability of land for development.

In 1995, The Natural Resource Conservation Service published its Soil Survey, which identifies and describes the five soils found in Huntington.

Suitabilities and constraints for development have also been identified.

1. *Montauk-Paxton-Scituate* soil is a thin till which is characterized by very deep, well drained to moderately drained soil with exposed bedrock and rock outcrop along its hillsides and ridges and gently sloping to very steep terrain.
2. *Westminster-Millsite* soil is shallow to moderately deep, excessively drained to well drained, shallowness to bedrock with common rock outcrops, and gentle slope to very steep terrain.
3. *Ashfield-Shelbourne* soil is very deep, moderately well drained to well drained, with gentle sloping to very steep terrain and exposed stones and boulders.
4. *Chatfield-Hollis-Montauk* soil is moderately deep to shallow to very deep, very well drained to excessively drained, as having gently sloping to very steep terrain, and exposed bedrock and rock outcrops.

5. *Merrimac-Hinckley* soil is very deep, excessively drained and level to steep.

According to the Natural Resource Conservation Resource Conservation, and the Belchertown Open Space Plan, limitations of land use from soil data are generally based on the factors below. However, due to the lack of digital soil data, it is recommended to reference the specific soil survey report published by the National Resource Conservation Service when determining the suitability of specific sites.

- Soil permeability
- Depth to seasonal high water table
- Depth to bedrock
- Slope
- Rockiness and stoniness
- Texture of subsoil
- Natural soil drainage
- Soil reaction
- Soil Material 40" deep

Till typically has poor internal drainage and slow permeability and percolation rates. The till found here is not generally suitable for septic tanks due to its thin nature, however, it may be suitable if the water table and percolation rates are found to be above the minimum requirement. Where the soils are excessively well drained, septic systems can also be problematic because effluent can drain too quickly without being properly filtered. This is a possible situation in a good portion of Huntington because of the slopes that area associated with these soils (Way 1978 207).

Erosion can also occur when development or grading and excavation occur on a steep slope. However, because of the rugged topography and thin

soils, which contain many boulders and stones, excavation and grading costs are high. The steep terrain prevents tract development from occurring in areas where there is over 15 percent slope without incurring engineering costs, while it is an ideal location for single house construction. Forty-nine percent of the town has slope greater than 15 percent, whereas 27 percent of the land area is > 25 percent, which is considered hazardous to develop. It is important to note that this slope analysis should not be used for site-specific assessments because not the entire slope considered to be over 15 percent, for example, is truly over 15 percent. At some point, the slope terrain does level off, as it does at the summit of a mountain. Terrain that is considered steep, over 15 percent, erosion potential is increased, and it is difficult to replant vegetation on these slopes because they drain so well. Therefore proper planning and zoning should be considered for these areas where steep slopes occur to prevent degradation of the terrain and existing vegetation.

B. Landscape Character

Through the historical description of Huntington, we can see that rural character is considered "very important" to 67 percent of the survey respondents. The hilly terrain gives this upland hill town its natural quality and offers many avenues of outdoor recreation. Much of the 13-miles of the Westfield River is seen flowing throughout Huntington, and through the respondents of the survey is seen to be of special importance to its citizens. Eighty-five percent of respondents viewed the river as a "very important." It is evident from interpretations of the survey is that one of the reasons residents chose to live in

Huntington is for its naturalistic quality and it can be inferred that residents hope to preserve that quality into the 21st century.

The town presents residents with curvilinear roads both dirt and paved, rolling hills, pastures, water bodies, and a seemingly unlimited supply of forestland. Areas of scenic interest include the vistas from the road from Route 112 of the Knightville Dam and a panoramic view of rolling hills. Route 112 parallels Little River which merges into the Westfield River. Most of this journey allows for a view of a river and sometimes within 20 feet of the river. The Littleville Dam area, which is minimally within the Huntington boundary, provides citizens with vistas of additional hillsides. A more detailed description of the town's scenic views are presented later in this section.

Development that would alter these and additional scenic views could diminish the towns rural character. If Huntington was to loose its vast supply of forestland, wildlife could be displaced and property values could be depreciated. Although the amount of agricultural land is minimal compared with the amount of forestland, its preservation keeps with the rural character of the town.

C. Water Resources

Surface Water

Ninety-seven percent of Huntington is within the Westfield River Basin, including the West Branch (2.5 miles), and Middle Branch (1 mile) and the East Branch (9 miles) of the Westfield River. The West Branch extends from the Chester/Huntington town line, the East Branch flows along Route 112, and the Middle Branch flows from the Littleville Dam, to the Reservoir. The Knightville

Surface Water



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



and Littleville Dam are flood control structures on the East and Middle Branches of the Westfield River. All the branches are shallow, swiftly flowing, rocky streams with a water purity classification of B (Gobell, 1999). Class B is classified as being suitable for bathing and recreational purposes, acceptable for public water supply, excellent for fish and wildlife habitat, and having an aesthetic value (Hampshire County 1977104).

Protection of the river is done through the River Protection District, which is a 150' buffer overlay district for the Westfield River except for the land owned by the town or public open space, such as the Knightville or Hiram H. Fox Wildlife Management Areas. These federal areas are omitted because they are already protected through federal restrictions. Construction is prohibited within this district without a special permit.

Recreation along the Westfield River consists of white water canoeing on Huntington's Class III and IV rapids. The Class IV rapids extend north to south until approximately Route. 66, while Class III encompasses the area between Route 66 and Route 20. (PVPC 1993 64). Due to the proximity of Routes 66 and 20, the Westfield River offers better spectator viewing for canoe races than any other river in the country (PVPC 1993 65). The annual Whitewater Canoe Race is held along these rapids in April. However, the Westfield River's shallowness prohibits boats other than canoes and rafts. There are also an excellent opportunities for sport fishing because every spring the river is stocked with trout by the Massachusetts Division of Fishers and Wildlife.

Along the East Branch of the Westfield River is Gardner State Park, controlled by the Massachusetts Department of Environmental Management, offers visitors for a \$2 daily parking fee or a \$15 seasonal pass, swimming, picnicking and trails access. Access to the park is reached off of Route 112.

Norwich Pond (110 acres and an average depth of 17 feet, maximum depth is 53 feet) is a popular site for residents who take interest in ice fishing during the winter and swimming in the summer (MFW 1993 20). However, the Huntington Board of Health has posted "No Swimming" signs at the public ramp. In the past the ramp has been used for swimming access because there is no other public access existing on the lake. The pond has excellent quality and transparent to 12 feet (MFW 1993 20). The lake is stocked annually with Trout which is why fishing is a popular recreational activity. Picnicking and relaxing along the pond is another activity for homeowners and limited number of visitors to undertake.

There are around 440 homes, both modest and expensive, that surround the lake limiting its public access to the boat ramp. Many houses attempt to keep with the natural aesthetics of the pond area as seen by their exterior construction materials. These houses use the town septic and water supply that prevents any pollution problems that could have occurred if there were on-site septic systems. Presently, there is no public parking within 300 feet of the pond and residential construction is underway on various locations around the lake. Three acre lot for sale signs are also evident and accentuate the demand for residing in this area.

The Army Corp of Engineers owns both the Littleville Dam and the Knightville Dam areas, which gives people extensive recreational options. Although most of the Littleville Lake is located in neighboring Chesterfield, the Huntington boat access area provides easy access to the lake for a maximum 10 horsepower boat. Canoes can be launched from the upper end of the reservoir in the Dayville Area in Chester. Because Littleville is classified as class 'A' water quality, suitable for public drinking, swimming and camping is prohibited. It is currently a reserve supply for Springfield, MA. The Knightville Dam area gives its visitors accesses to water bodies such as, rivers, streams and wetlands. The Massachusetts Division of Fisheries and Wildlife stocks both the rivers and streams in the Knightville Dam area in the spring, and the Littleville Lake each fall with trout.

There are numerous small brooks and ponds throughout the town which contribute to the towns 300 acres of surface water.

- Sykes Brook that is fed from a perennial pond in the on the border of Huntington and Chester.
- Pittsinger Brook, north of Grotto Pond in the Northeast corner of town
- Florida Brook, which protrudes from the Westfield River, north central portion of Huntington
- Pond Brook, connects Norwich Pond and Westfield River
- Tucker Brook, Northeast of Huntington State Forest
- Roaring Brook, Norwest of Huntington State Forest
- Scattered Perennial Ponds

Wetlands











Wetlands are important flood control areas that contain plant species, which are erratically or periodically water logged. They are normally found in areas near rivers, streams, or brooks. The vegetation in these wetlands absorbs and cleans waters while functioning as an animal habitat. Wetlands in Huntington are shallow freshwater lands considered to be marshes, swamps, seasonally flooded areas, and areas subject to controlled inundation. According the USGS Quadrangles there are eight separate wetland areas scattered around Huntington, totaling just less than 12 acres. They are: Adam Swamp along Tucker Brook, and marshes near Sykes Brook, Pond Brook, Tucker Brook, Pittsinger Brook, within the Hiram Fox State Wildlife Management Area, and South of Bromley Road.

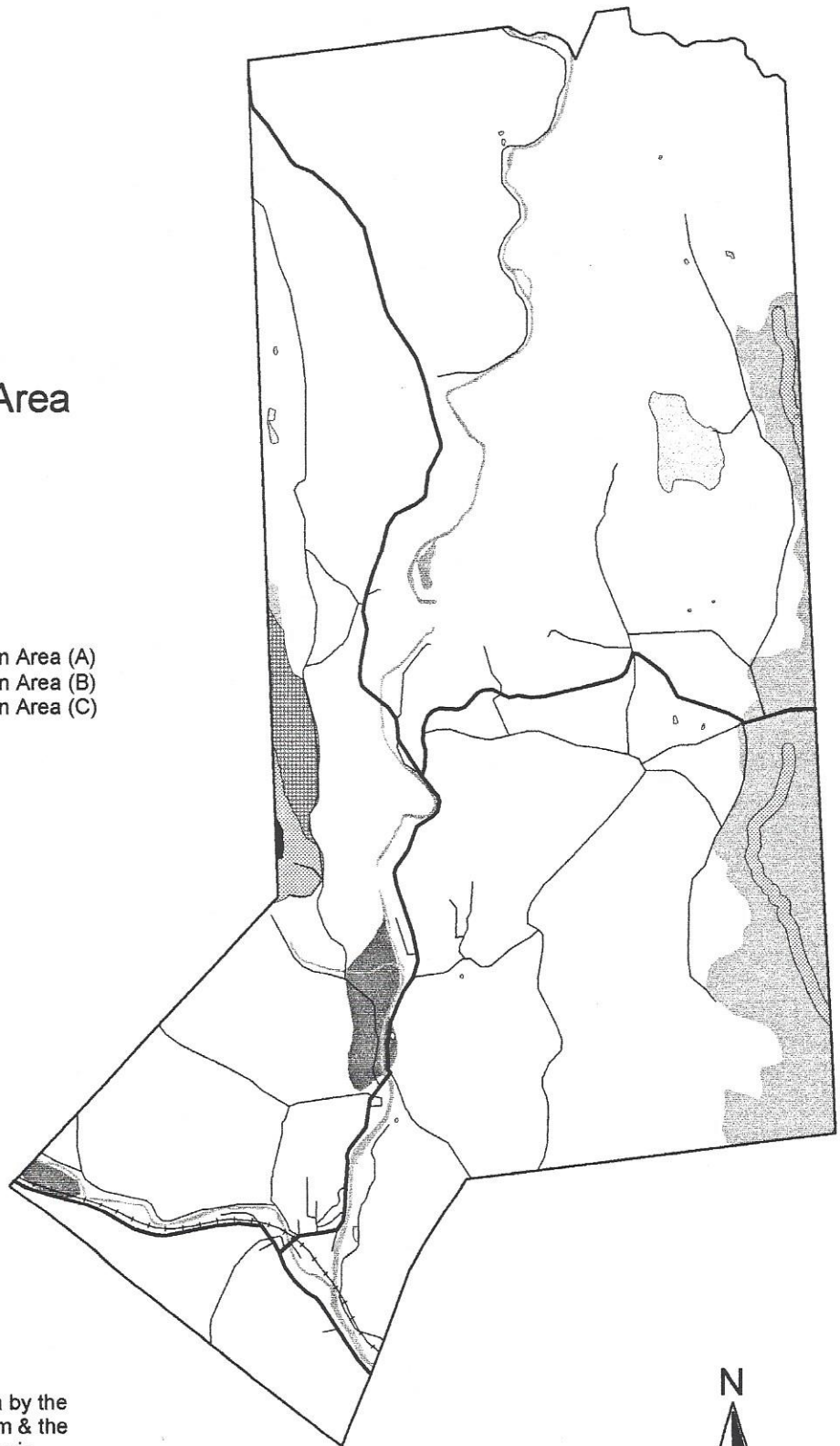
There are currently no wetland by-laws in the town, which would reinforce the Massachusetts Wetlands Protection Act, MGL 131. Regardless of the state law, most of the wetlands are in areas zoned as residential and the remaining are in conservation and recreation lands. It is important to enforce the 100 foot buffer which, by state law, surrounds wetlands to protect the wetland and the public interest they serve such as flood control and prevention of pollution (DEP).

Aquifers

An aquifer, which serves as the underground water supply recharge area, is located in Huntington between Route 20 on the Chester/Huntington town line and the Rail and the River. The 11.5-acre Aquifer Protection District is an overlay district, which prohibits on-site disposal of leachable materials, outdoor storage of salt, the use of de-icing materials, and pesticides, the rendering impervious of

Aquifer Recharge Area

-  Main Roads
-  Railroad
-  Streets
-  Stream
-  Pond
-  Reservoir
-  Surface Water Protection Area (A)
-  Surface Water Protection Area (B)
-  Surface Water Protection Area (C)
-  Medium Yield Aquifer



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



more than 20% of the area of any single lot or any earth removal. All runoff from impervious surfaces should be drained towards areas covered by vegetation. In short, by enforcing the regulations under this district, the town is decreasing the danger of ground water contamination (Huntington 1986 11).

Table 4a. shows the requirements listed for the district for development.

Table 6.1. Requirements for structures in the Aquifer District

Minimum Lot Size	90 Square Feet
Street Frontage	300 Feet
Front Setback	30 Feet
Side and Rear Setback	20 Feet

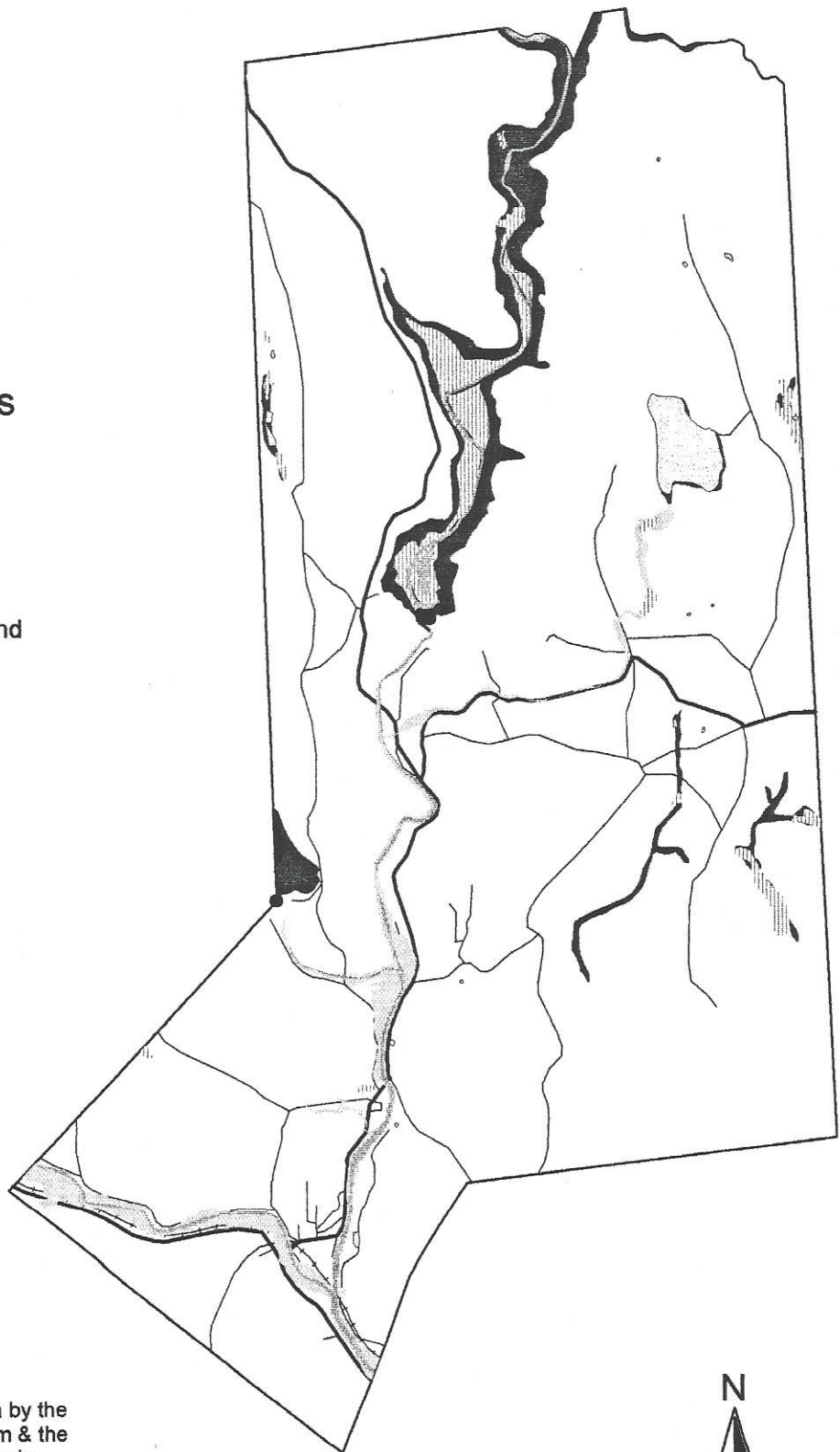
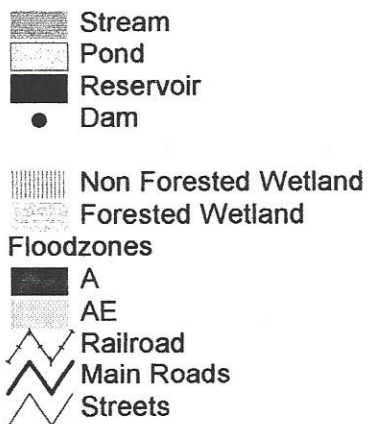
Source: Huntington By-laws, 1986

According to the data from MassGIS, which is based on a USGS hydrologic atlas identifies an unprotected medium yield aquifer located north of Huntington Center. This area should also be protected in an Aquifer Protection District even though it is not currently used as a public water supply source.

Flood Hazards

Littleville and the Knightville Dams were constructed to prevent the aftermath floods often produce from occurring in the Connecticut River Basin. In 1987, these dams prevented an estimated \$11 million in damage (ACOE). Today, the Huntington floodway consists of the areas around the Westfield River above the Knightville Dam, and the area around the Littleville Dam. Flood zones A and AE, according to the FIRM maps, are somewhat developed, but those lands, which are not currently developed, should be preserved to prevent any future development. It is important to note the digital maps are meant as a supplement to the actual FIRM paper maps, and should not be used without the paper maps when making a site assessment (MassGIS).

Flood Hazard Areas



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



Huntington has established a Flood Plain District, which is intended to preserve the natural flood control characteristics and flood storage capacity of the flood plain (Huntington 1986 11). Structures, uses, and work in the district must be in compliance with the National Flood Insurance Program regulations, MGL 131, Massachusetts building and health codes and any development that increases the flood level potential is prohibited (Huntington 1986 11).

D. Vegetation

Huntington consists of small mixed hardwood forest, larger mixed wood forest, small hardwood forest, larger hard wood forest, and larger softwoods.

Table 6.2. Tree Types in Huntington

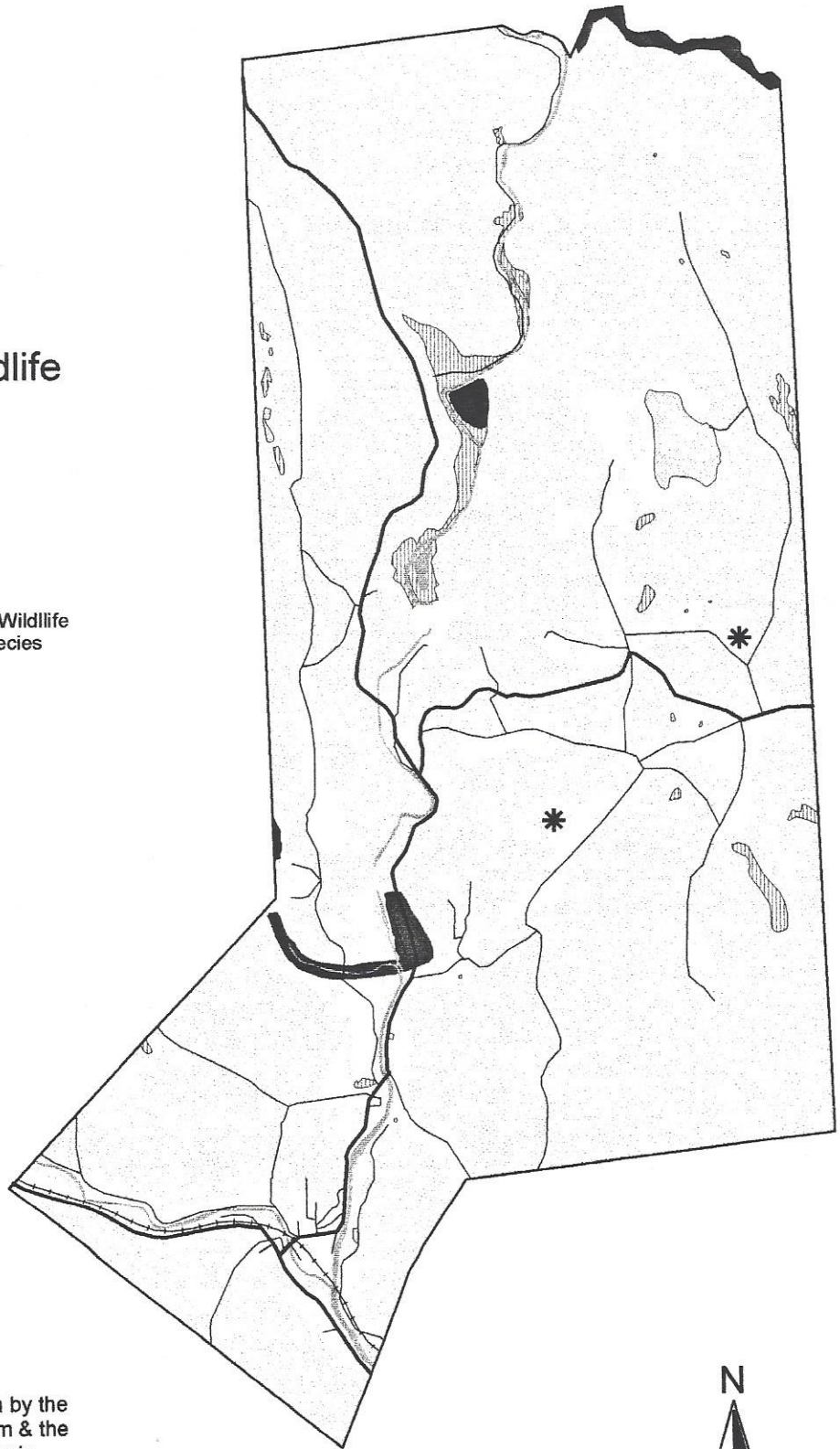
Softwoods	Hardwoods
Pitch	Oaks
White	Red
Red and Scotch	Sugar and Stripe
Pine	Maple
Hemlock	Hickory
Larch	Birch
Spruce	Beech

Source: Huntington Open Space Plan, 1987

The MacConnell Land Use study aerial photographs show decreasing amount of smaller trees and an increasing amount of larger trees, indicating that Huntington's forests matured greatly during these years. Around 1992 clearcutting of 1-5.5 acres occurred within the Hiram H. Fox Wildlife Management Area. (MFW) Peck Lumber Company currently owns 98 acres of forestland in Huntington. Most of the land owned by this lumber company is temporarily protected under Chapter 61.

Vegetation and Wildlife

- * Certified Vernal Pool
- Main Roads
- Railroad
- Streets
- ▨ Stream
- Pond
- Reservoir
- Estimated Habitat of Rare Wildlife
- Priority Habitat of Rare Species
- ▨ Non Forested Wetland
- ▨ Forested Wetland
- Forest



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



The Hiram H. Fox Wildlife Management District and the Knightville Wildlife Management District are areas managed by the Massachusetts Division of Fisheries and Wildlife are non-facility based conservation land and recreation and conservation land respectively. Therefore, combined they represent over 3,000 acres of contiguous undeveloped forestland. Huntington State Park consists of over 700 acres of undeveloped recreation and conservation land.

There are four species of plants, fish or wildlife found in Huntington which are endangered, threatened or of special concern according to the Massachusetts Department of Fisheries Wildlife and Environmental Law Enforcement Natural Heritage and Endangered Species Program. The location of endangered species is mapped, but identification of the species at these locations is not made public for fear of deliberate human disruption to their habitat. There is a complete list of trees, shrubs, herbs, grasses/sedges, and ferns that are part of the mesic and deciduous forest ecosystem found in Huntington, in the appendix.

Table 6.3. Rare Species List

Vascular Plant	Common Name	State Status
Carex Hitchcockiana	Hitchcock's Sedge	Special Concern
Mimulus Moschatus	Muskflower	Threatened
Podostemum Ceratophyllum	Threadfoot	Special Concern
Senna Hebecarpa	Wild Senna	Endangered

Source: Massachusetts Division of Fisheries and Wildlife

From Table 4d, of the representation of new house locations that have been constructed from 1987-1998, it is evident that the majority of housing development is occurring in forested and residentially zoned areas. However, the

houses in these areas are not part of a subdivision, rather they seem to occurring naturally and do not look out of character for the town. If development continues throughout developable forestland, the town's rural character will, however, be diminished.

Table 6.4. Huntington Top 5 New House Building Locations 1987-1998

	Total Homes	% of Total
Harlo Clark Road	24	17%
Basket Street	20	14%
Pisgah Road	11	8%
Pond Brook Road	9	7%
Goss Hill Road	8	6%
Total	72	52%

Source: Open Space Committee

Fields

Agriculture is less extensive today than in early years when it was a leading industry in Huntington. Between 1951 and 1971, agricultural land decreased by 973 acres, however tillable land stayed roughly the same. (Huntington 1987) Agricultural land reached its peak during the 1950's and 1960's and it is seen that the steeper, stony land is changing to brush land and then to forestland (Huntington 1987). Digital agricultural data of today is lacking, but from field observations, agricultural land still is in existence. Along Goss Hill Road, for instance, are large parcels of open active and inactive agricultural land. These remaining agricultural lands should be preserved to retain the town's rural character.

E. Wildlife and Fisheries

The Westfield River Watershed dominates much of the Huntington topography and should be considered an important resource when planning for open space preservation. It is renowned for its scenic beauty, while providing a suitable habitat for wildlife. Huntington's wildlife is the upland species such as moose, bear, and raccoon.

Below, Tables 6.5, and 6.6 depict the endangered species found within Huntington, which is determined by the Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement's Natural Heritage and Endangered Species Program.

Table 6.5. Huntington Endangered Vertebrates

Vertebrates	Common Name	State Status
Hemidactylium Scutatum	Four-Toed Salamander	Special Concern

Table 6.6. Huntington Endangered Invertebrates

Invertebrates	Common Name	State Status
Cicindela Duodecimguttata	Twelve-Spotted Tiger	Special Concern
Desmocerus Palliatus	Elderberry Long-Horned	Special Concern
Oopiogomphus Carolus	Rifle Snaketail	Threatened
Stropitus Unulatus	Squawfoot	Special Concern

Huntington also has one area listed as a Priority Site of Rare Species Habitats and Exemplar Natural Communities as defined by the Massachusetts Natural Heritage Atlas. This area is located within a parcel of land subject to controlled inundation surrounding the Westfield River of the Knightville Wildlife Management Area. According to the Estimated Habitats of Rare Wildlife and

Certified Vernal Pools map in the Natural Heritage Atlas, Huntington also has two Certified Vernal Pools and two habitats of rare wildlife. Vernal Pools are confined basin depressions that hold water for at least two consecutive months during the spring and/or summer. They are also locations of essential breeding habitats for amphibian species, such as frogs and salamanders. The restrictions concerning development near Certified Vernal Pools are outlined in the Management Options Section (Kittredge and Parker 40).

According to the Western Massachusetts Pond Maps published in 1993 by the Massachusetts Division of Fisheries and Wildlife, Norwich Pond is a habitat for 12 different species of fish and is stocked annually with trout.

Table 6.7. Norwich Pond Stock

Largemouth Bass	Pumpkinseed
Chain Pickerel	Bluegill
Rainbow Trout	Brown Bullhead
Yellow Perch	Rock Bass
White Perch	White Sucker
Black Crappie	Golden Shiner

Source: Mass Div. of Fisheries & Wildlife, 1993

There are two management areas within Huntington. The Hiram H. Fox Wildlife Management Area which crosses through the towns of Chester, Chesterfield, Worthington and Huntington contains a variety of wildlife. Biodiversity is expected to increase due to the recently created clear cutting openings in the forest (MFW 1993 33).

**Table 6.8. Wildlife in Hiram H. Fox
Wildlife Management Area**

Cottontail Rabbit	Woodcock
Deer	Grey Squirrel
Grouse	Black Bear
Raccoon	Numerous non-game
Snowshoe Hare	species

Source: Mass. Div. of Wildlife and Fisheries, 1993

The Massachusetts Division of Forestry and Wildlife manages the Knightville Dam Wildlife Management Area through a lease from the US Army Corps of Engineers.

Table 6.9. Knightville Dam Wildlife Management Area

Stocked Pheasant	Grey Squirrel
Woodcock	Raccoon
Grouse	Deer
Cottontail Rabbit	Numerous non-game
	species

Source: Mass. Div. of Wildlife and Fisheries, 1993

According to the Wildlife District Supervisor at Mass Wildlife, New England mammals don't have specific corridors, because their habitat could range anywhere from 20-100 square miles. Some animals have definite home ranges or seasonal ranges, but because they are so small, they are not mapable. Small rodents and tree squirrels are examples of upland animals found in Huntington that has small habitat corridors.

Huntington has an enormous bird species and it is believed that two rare species are located in the Goss Hill and Knightville Area. Bird watching is a popular activity for the reason of diversity of habitat in Huntington.

F. Scenic Resources and Unique Environment

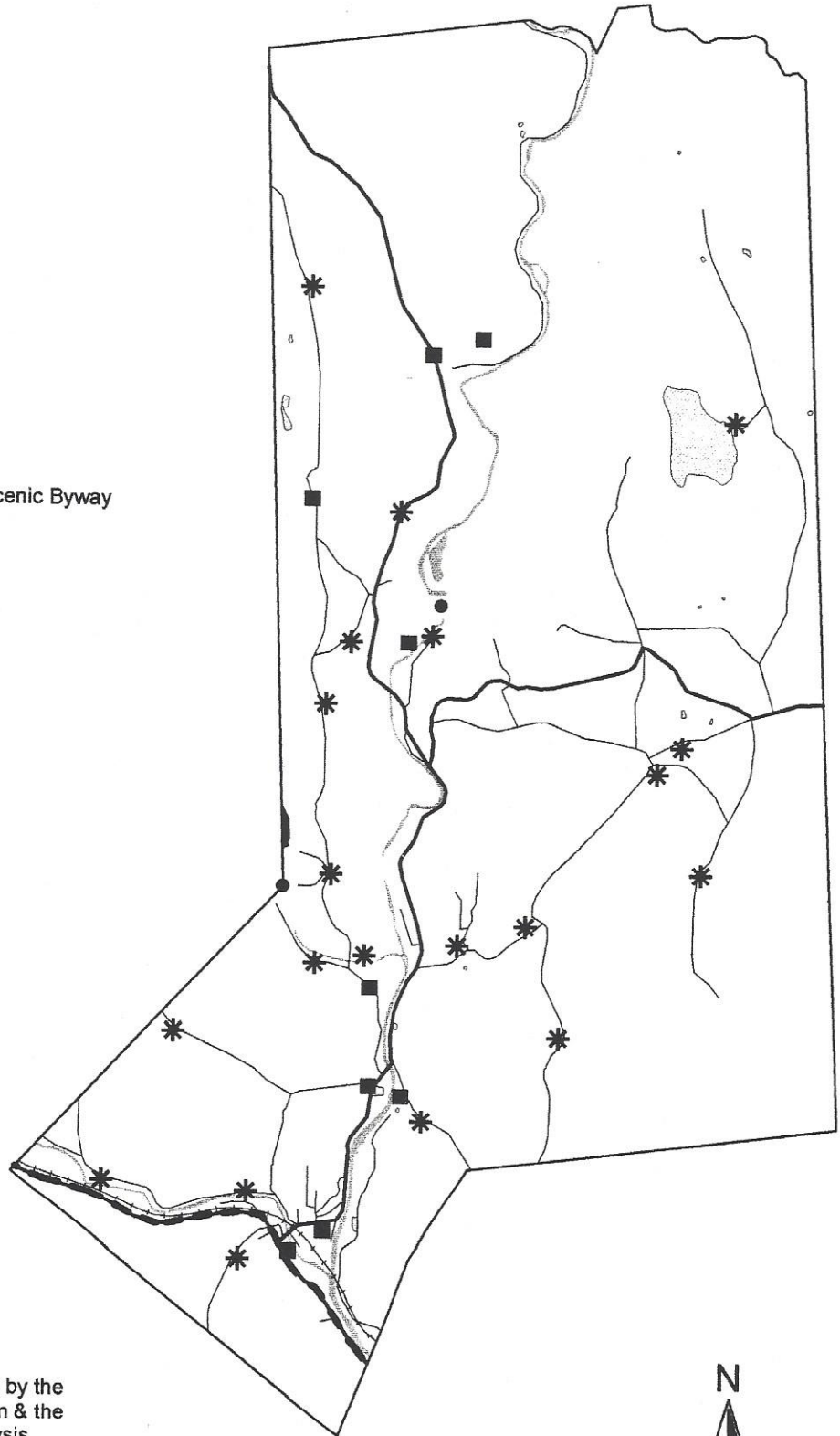
Historical, Archeological and Cultural

Although there are no scenic vistas listed with the Department of Environmental Management Scenic Landscape Inventory, there are still areas around the town in which deserve notice and some who deserve attention. Jacobs Ladder Trail, which connects 5 hill town communities through a corridor of little valleys, shops, historic homes, and the natural beauty of the Westfield River along the undisturbed Route 20. It extends 33 miles from Chester through Great Moose Hill through Huntington Center and into Russell. In 1994, Scenic America, a national nonprofit conservation organization dedicated to preserving the scenic character of America's communities, recognized the Jacobs Ladder Trail as one of the 10 most scenic byways in America. The Jacobs Ladder Scenic Byway Study's Cultural Resources Inventory identifies historical locations in Huntington along the scenic byway. A railroad parallels much of the trails offering passengers views of the historic villages of the Berkshire Hills.

The Western Massachusetts Street Railway, located in front of the Federated Church, was added by the Massachusetts Historical Commission to the Scenic byway trail. There is reminisce of the Huckleberry Trolley Line in Huntington center. This trolley line extended from Becket to Huntington during its time of operation. There are also historical dwellings off of Route 112 are of archeological interest which include Saw Mill and Tavern remains. Historic houses of Greek Revival and Queen Anne style were homes of workers. Whetstone Millsite and Quarry along the East Branch of the Westfield River, is notable because of its historic importance to this former mill town.

Scenic Resources

- * Views
- ▬ Jacob's Ladder Trail Scenic Byway
- Historic Sites
- ▬ Main Roads
- ▬ Railroad
- ▬ Streets
- ▬ Stream
- ▬ Pond
- Reservoir
- Dam



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



The Massachusetts Historical Commission has a proposal to enlist Huntington Center under its National Register through the National Park Service. See appendix for application. This 62-acre Historic district, known as Huntington Historic Village District, includes 118 buildings on Russell St. Blandford, Basket St, Upper Russell St, and Route 20 (Main St.). This area is a well preserved village of late 19th and early 20th century style buildings including Federal, Greek, Egyptian, Gothic and Colonial Revival. The district in Huntington includes private residences, commercial buildings and a Railroad Bridge, Federation Church, library, Post Office, fire station, among a number of private residences. If this district is approved, proposed government spending within the district will be reviewed before it is applied as a form of preservation. Private residences are not restricted unless there is not a by-law protecting them.

Scenic Landscape

While driving through Huntington on its major thoroughfares, Route 66, 112, and 20, there are countless vistas worth mentioning. There is hardly a time in which either distant rolling hills, white rapids, or open fields are not in one's eyeline. It is this characteristic that attracts so many of the town's residents to live here, and therefore it is this same characteristic that needs to be preserved. In the appendix is a list of specific locations found while driving through town. This list is also listed on the scenic resources map and intended to provide a sample of the views in town and is not a comprehensive list.

On November 2, 1993, segments of the Westfield River were designated as wild and scenic under the Wild and Scenic Rivers Act. These segments do not

include any in Huntington because of town disapproval of the designation and possibly the presence of the Knightville and Littleville Dam. Town disapproval was partly based on fears of increased trespassing on private property along the river. However there is currently a proposal submitted to the National Park Service to have the branches of the river in Huntington listed as a Scenic River (Curtis 1999). This process is expected to take a couple of years. To become designated:

"The rivers and their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historical, cultural, or other similar values shall be preserved in free-flowing condition, and that they and their immediate environmental shall be protected for the benefit and enjoyment of present and future generations."

-Wild and Scenic Rivers Act

The three classifications are evident in Huntington when considering their eligibility. Wild, Scenic and Recreational River areas are the three classifications a river can be deemed. The West and Dead Branch of the rivers possess scenic and wild qualities while offering recreational value.

River Protection District preserves, protects and enhances the scenic beauty, habitats and natural resources for the Westfield River and its adjacent land by preventing pollution, and minimizing erosion and sedimentation (Huntington 1986). This preservation measure helps to ensure the longevity of the resources found along the river, which will help ensure the recreational value of the river is maintained. Structures have to be constructed with minimal

disturbance to the river area and excavation is prohibited without the issuance of a special permit.

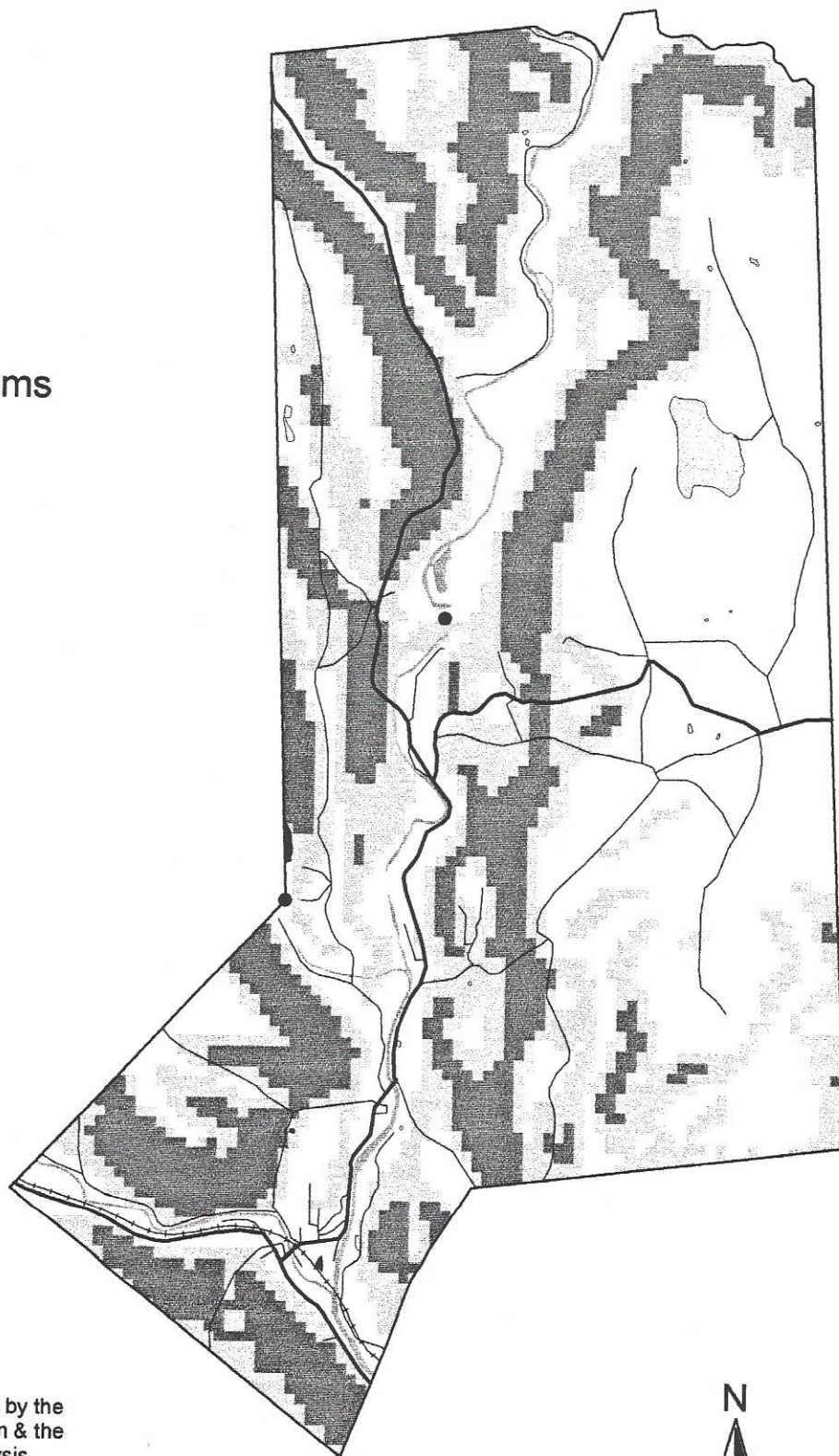
G. Environmental Problems

It is necessary to protect the wetlands that are in Huntington because they are not only filled with life forms, but they absorb water and therefore prevent flooding. Wetlands are located throughout the town. Preservation of wetlands can be done by enforcing the State Wetlands Act and develop local wetland protection by-law.

The flood plain of the Westfield River is presently developed, and typically it is frowned upon to develop along a flood plain because development reduces the amount of available flood storage. A flood plain's natural function is to absorb excess water, but haphazard development on flood plains increases the flood hazard by reducing its storage capability. The use of river protection by-laws and flood plain zoning can be established to prevent future development along the flood plain.

Erosion potential is possible if unwise development was to occur in areas of steep slopes. slopes over 15 percent are areas where construction is difficult without engineering to the natural landscape to prevent erosion. Presently, the majority of Huntington's development occurs in areas of 0-14 percent slope. Heavy rainfall can often lead to erosion with the potential for causing the discharge of large quantities of sediment in the exposed slope areas, particularly where vegetation has been removed. This imposes a large amount of silt on the river after a heavy rainfall and can cause the water to develop a brownish color

Environmental Problems



This map was created using MassGIS data by the
 University of Massachusetts Planning Team & the
 Office of Geographic Information and Analysis.
 MassGIS data summary can be found in the
 appendix.



(PVPC 1993 54). To prevent this, it is wise to enforce the Forest Cutting Practices Act, MGL, Chapter 132 and the Wetlands Protection Act, MGL Chapter 131. Essentially, by prohibiting clearcutting within 50 feet of the Westfield River's Banks, the natural resources can be protected and the aesthetic quality of the river can be protected.

The following is an explanation of potential problems that may result from point and non-point pollution. Potential pollution sources are the four active and one inactive landfills located in Southern Huntington. They are all south of the Gateway school in various locations. Leachate that forms from the decomposition of solid waste can contaminate groundwater. Also with this removal of vegetation along a waterway can increase water temperature by removing the shade, and increase siltation or increase runoff. There are specific locations along Route 112 where it parallels the Westfield River very closely, and with the intrusion of salt application in this area can damage the river habitat (PVPC 1993 54).

There are currently 2 gravel pits in Huntington, and a proposal for an additional pit. These are all located along the river where soils suitable for such activity exist. Where excavation occurs without restoration of topsoil, contaminants may enter the ground water, and river. Old gravel pits typically have potential for dumping sites of hazardous material therefore, restrictions on access is advised (Curtis 1999).

Section Seven: Inventory of Conservation and Recreation Lands

This inventory begins with an evaluation of outdoor recreation on the national, state, and community level. A popular community event is also identified. This is followed by a description of legislation for private land parcels and identification of those within the community. An evaluation of public and non-profit parcels is also included. This section concludes with the identification of two water resource access problems with which the town is confronted.

A. Outdoor Recreation

National Evaluation

The 1994-1995 National Survey on Recreation and the Environment (NSRE) is the latest in a series of national surveys that was started in 1960 by the Outdoor Recreation Resources Review Commission (ORRRC). The ORRRC was only responsible for the 1960 survey, and frequent changes in responsible agencies has occurred over the years. Those agencies responsible for the latest survey include the USDA Forest Service, the USDI Bureau of Land Management, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the USDA's Economic Research Service. The name "National Survey on Recreation and the Environment" was derived with an intention to reflect the growing interest of Americans in their natural environment.

The results of the NSRE show that 94.5% of Americans 16 years of age or older participated in at least one of the surveyed forms of outdoor recreation. The most popular activity was walking, with 134 million participants. Visiting waterside and gathering outdoors was a fairly distant second (124 million

participants), and sightseeing came in third (113 million participants). An increase in the number of retirees indicated a growing interest in walking, as well as a greater demand for sightseeing opportunities.

The NSRE surveys dozens of activities. Some are quite relaxing, like those previously mentioned, while others are more intense. Examples of other activities surveyed include swimming (109 million participants), bicycling (57 million participants), hiking (48 million participants), backpacking (15 million participants), horseback riding (14 million participants) and canoeing (14 million participants).

State Evaluation

Every five years, the Commonwealth of Massachusetts issues a Statewide Comprehensive Outdoor Recreation Plan (SCORP). This plan surveys various recreational activities at the state level to determine the recreational interests of Massachusetts residents. Examples from the 1992 SCORP include walking (33% of public), fishing (7% of public), camping (6% of public), and hiking (4% of public). One issue not assessed in this edition of the SCORP was wildlife viewing. This may be considered surprising as other surveys, including the NSRE, have shown that this activity is quite popular.

Community Evaluation

The Town of Huntington is an optimal place for conducting various recreational activities. A secluded location along the Westfield River, beautiful state parks, and massive wildlife management areas are just a few reasons why many people enjoy being in Huntington. Therefore, residents should not feel the

need to rely on other communities for their recreational activities. Through the analysis of the NSRE and SCORP data, the town would discover the popularity of recreational activities on a much larger scale. Although many of these activities are already popular in Huntington, there are some that are not receiving enough attention. For example, horseback riding and backpacking were addressed on a larger scale, but not in the town's open space survey.

The Westfield River Wildwater Canoe Race

Despite its low population and secluded setting, Huntington is the home of a well known annual recreational activity. The Westfield River Wildwater Canoe Race is held in the town every April, and draws competitors from all over the United States. Some competitors have even come from other countries. In its 46th year, the Westfield River Wildwater Canoe Race is the oldest of its kind in the United States. The cleanliness of the river and scenic beauty surrounding it makes it an ideal location for such a race, and are likely attributes of its lengthy history. Both experts and novices are welcome to participate in the race. The starting point for expert racers is the Knightville Dam vicinity, while novices begin along Route 20. By having separate starting points, novices are provided with a shorter race route (5 miles instead of 12 miles) and avoid some of the most difficult obstacles. The finish line for all racers is the Woronoco Dam in Russell.

This year's race attracted more than 600 canoeists, some from as far away as Virginia and Quebec. The number of spectators for the event was estimated to be around 3,000. As in previous years, local merchants profited well from the race. Many vendors set up food stands along the route. The total

amount of prize money awarded this year was \$3,700. This money was donated by local merchants and awarded to winners in nine expert race classes.

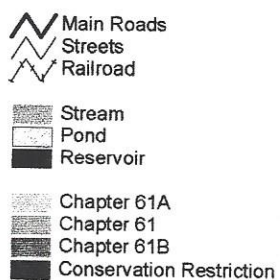
B. Private Parcels

Massachusetts Forest Land Tax Programs

The tax laws in Massachusetts require that land be taxed at its full and fair market value. Typically, this value is derived from residential development. Property taxation has been a problem for those landowners that practice long-term forest management. This is because the market value and annual taxes of the land are usually greater than the short-term income received from growing trees. This property taxation is discouraging to landowners who want to keep their land as open space, which is why the Commonwealth passed Chapter 61, 61A, and 61B of the Massachusetts General Laws. These laws provide means to assess forestland at a portion of its fair market value and to apply the local commercial property tax rate to the lower assessment.

Chapter 61 is a tax incentive for landowners willing to keep woodlands undeveloped and managed for forest products. To qualify for this incentive, a landowner must have ten or more contiguous acres of forestland and a commitment improving the "quality and quantity" of its timber crops. In addition, the state forester must approve a ten-year forest management plan. Taxes are assessed at 5% of fair market value, ten dollars per acre or whichever is greater. In addition, an 8% stumpage tax is assessed on any wood cut for personal or commercial purposes during the previous calendar year.

Methods of Land Protection



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



Chapter 61A is a tax incentive for active agricultural or horticultural land uses. To be eligible, landowners must possess a minimum of five contiguous acres which are "actively devoted" to agricultural or horticultural purposes. There must be farming activity on this land for at least two years before it can become eligible for consideration. In addition, this land must produce annual gross sales of at least five hundred dollars. Additional contiguous land may also qualify. Taxes are assessed at the agricultural or horticultural use value, which is assigned by the board of assessors and may change annually.

Chapter 61B is a tax incentive for land in natural, open, wild, landscaped, or approved recreational use. Eligible land must be a minimum of five contiguous acres and in open space or recreational use. Assessed values under this law cannot exceed 25% of the fair market value.

Community Lands Enrolled in Tax Programs

Many owners of land in Huntington made the decision of enrolling their land in one of the Massachusetts forestland tax programs. As long as these landowners keep their property enrolled in their chosen program, Huntington residents will not need to worry about development on these lands. However, it is still important to keep in mind that these tax programs only provide temporary protection, and some landowners could eventually remove their property from these programs.

The majority of the temporarily protected lands in Huntington are enrolled under Chapter 61 for forest management. The Chapter 61 lands account for

twenty-three parcels scattered throughout the town and covering 2,145 acres.

The total assessed value of these properties is \$104,810.

A fairly large amount of land in Huntington is enrolled under Chapter 61A for agricultural use. The Chapter 61A lands account for forty-six parcels scattered throughout the town and covering 1,422 acres.

The total assessed value of these properties is \$317,055.

A significantly smaller amount of land in Huntington is enrolled under Chapter 61B for recreational use. The Chapter 61B lands account for seventeen parcels scattered throughout the town and covering 625 acres. The total assessed value of these properties is \$189,800.

Conservation Restriction Areas

Some land in Huntington is protected by a conservation restriction. This is defined as a legally binding agreement between a landowner and a public agency (or private land trust), where the landowner agrees to limit the use of his/her property for the purpose of protecting certain conservation resources. Unlike the temporarily protected forest land tax program properties, conservation restriction properties are in perpetuity. Despite the difference in the level of protection, conservation restriction areas can also be enrolled in a forestland tax program. The properties in Huntington that are conservation restriction areas are Joy Hill and the Eric Property. These two properties cover a combined total of 340 acres.

C. Public and Nonprofit Parcels

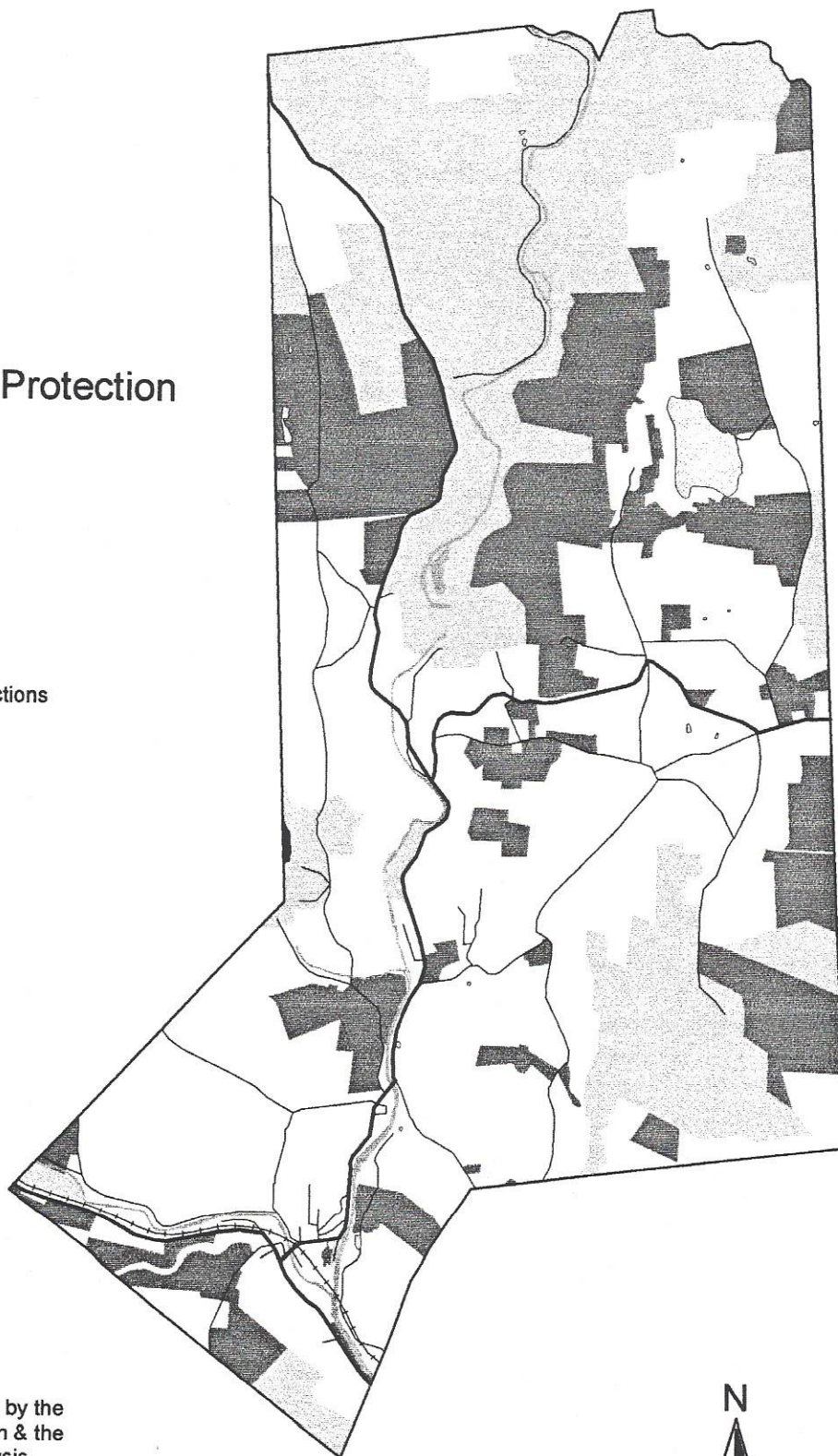
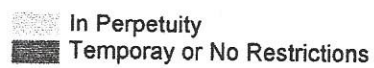
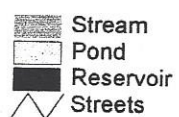
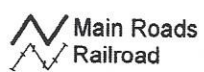
Lands of Recreation Interest Open to the Public

The town of Huntington has a variety of recreation locations, which are available for public use. However, most of these are under federal or state regulations and are subject to limitations. Still, many opportunities are available in these highly desirable locations.

The Knightville Wildlife Management Area is a 2300-acre tract of land, which is accessible from Route 112. This area of land is under federal ownership and rules. Public use of this space is limited by two factors. First, the flood control area is closed during water impoundment periods. Second, the area is closed to the public while Army training maneuvers are in progress during the summer. Despite these limits, the Knightville Wildlife Management Area offers many activities. These include fishing (catch and release), picnicking, cross country skiing, dirt/trail biking, snowmobiling, birdwatching, horseback riding, and hiking. This area is also suitable for camping, although permission must be granted. In addition, hunting is allowed but strictly regulated. Visitors will also find adequate parking, restrooms, and a telephone on the property.

The Littleville Flood Control Area encompasses 275 acres off Goss Hill Road in Huntington, which is owned by the Army Corp of Engineers. The City of Springfield will use the water in this area when the need arises. Due to federal ownership and eventual water use, recreation in this area is limited. Activities allowed in the Littleville Flood Control Area include fishing, picnicking, skating, cross-country skiing, hiking, and birdwatching. A boat ramp is also available for boat fishing in the reservoir. However, the only boats allowed in the reservoir are

Level of Open Space Protection



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.

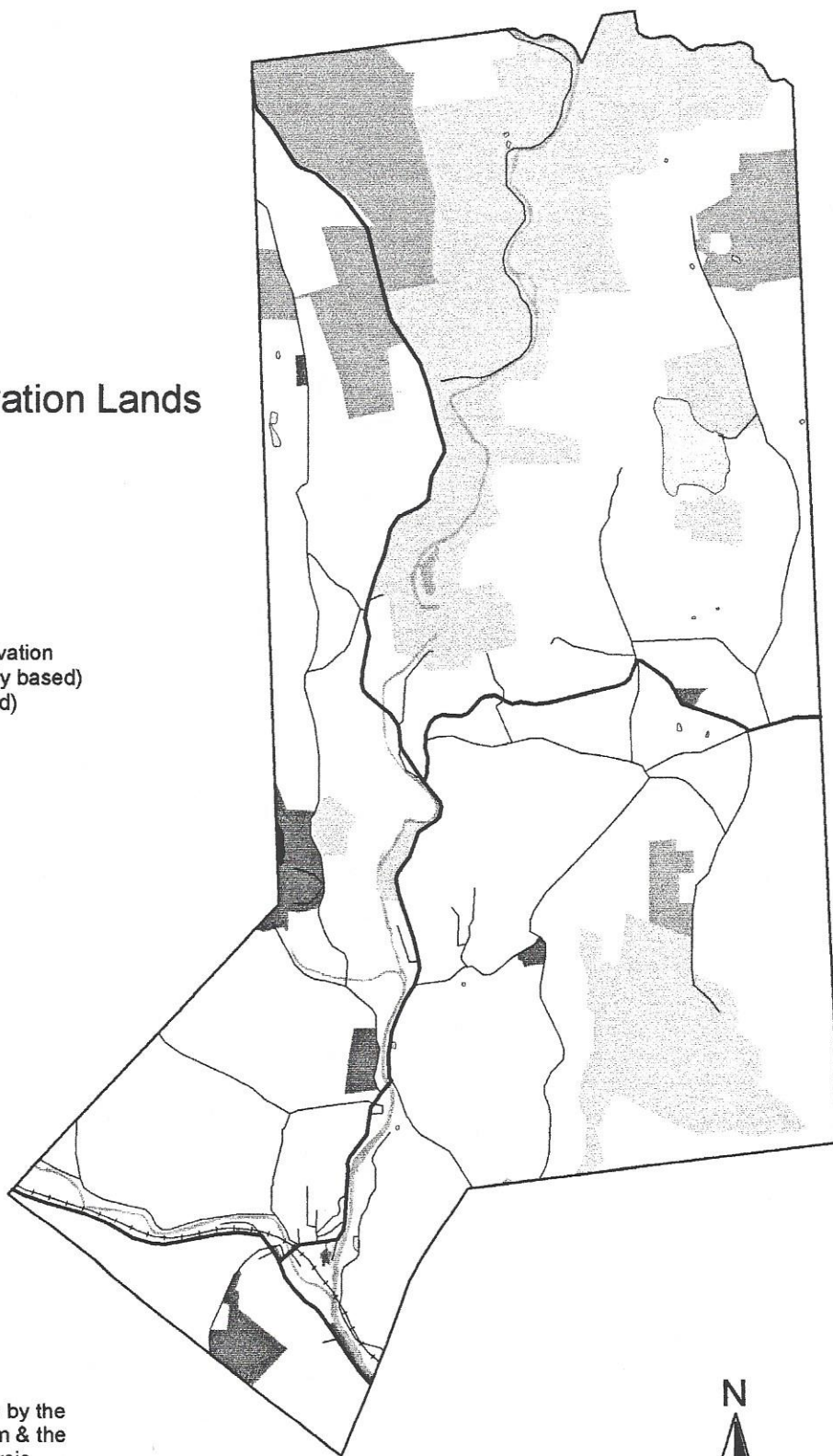


Recreation and Conservation Lands

Main Roads
Streets
Railroad

Stream
Pond
Reservoir

Recreation and Conservation
Conservation (non-facility based)
Recreation (facility-based)



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



1 0 1 2 Miles

those at least 12 feet in length with motors not exceeding 10 horsepower.

Swimming and camping are strictly prohibited in this area. Ample parking is available for visitors.

The Huntington State Park is a 694-acre tract of land, which is located off Sampson Road. This land is under state ownership, and the state foresters manage its woodlands. Recreational activities include fishing, hunting, hiking, and birdwatching.

Gardner State Park is a rather small recreational area, as it encompasses 29 acres of state owned land. It is easily accessible (from Route 112), and a great concern of the residents of Huntington. This beautiful park has been the target of vandals for many years, and attempts at its protection have been primarily unsuccessful. The only answer seems to be around the clock surveillance, which would be costly. Gardner State Park has a small public beach for the enjoyment of swimming in the Westfield River. This is the only publicly accessible swimming area in Huntington. Other available recreational activities at the park include fishing, picnicking, hunting, and birdwatching. Visitors to the park will find that parking and restrooms are available.

Gateway Regional High School is located on 40 acres of municipal land on Littleville Road. The swamp area of the property has been developed as a nature study area for science classes and townspeople, which allows for productive use of an otherwise limited area. The property includes athletic fields and a basketball court for recreational use. Ample parking is also available.

The Hiram H. Fox Wildlife Management Area is a 2553-acre tract of state owned land, which is accessible by Route 112 and Goss Hill Road. The remains of an old mine are located on the site, providing an excellent resource for geological study. Other available recreational activities at Hiram H. Fox Wildlife Management Area include hiking, birdwatching, and camping (with permission). Hunting is also allowed but strictly regulated.

Hillgate Park is a town-owned 5.4-acre site, which is located on Mill Street by the town barn. The remains of an old paper mill are located on this site and could have historic value. However, visitors should consider safety hazards. Picnicking can be enjoyed at this site.

D. Water Resource Access

Access is an important problem with the water recreational and scenic aspects of the town's resources. Town residents need another access point to Norwich pond and easier access to the Westfield River to prevent trespassing.

Currently, Norwich Pond has doesn't have public access other than through the boat ramp. This creates immense difficulties for residents who wish to enjoy swimming at the pond during the summer months. There are no other outdoor swimming facilities in the town. However, if DEM does purchase this land, which is currently proposed, it would solve the swimming access problem.

The Westfield River also experiences access problems for canoes. According to the Westfield River Greenway Plan, there are three commonly used "put-in points" and one "take-out points." See "canoeing and kayaking" map in the appendix. They are located just above Rte 66, and along the East Branch, after

the Littleville Dam. There are also two "portage" locations where canoers can leave their cars while on the river. However, residents still experience problems with trespassers eager to locate the best spot for entry into the rapids of the river. Town's people view this as a common problem but some allow people to access the river through their property while others strictly forbid.

Section Eight. Analysis

The analysis consists of a series of GIS analyses that were done to determine areas where development may occur, and three options to select areas to preserve. The steps that were taken to reach the results are also listed in depth within this section. However, the overall recommendation is listed in Section Nine.

A. Land with potential for development

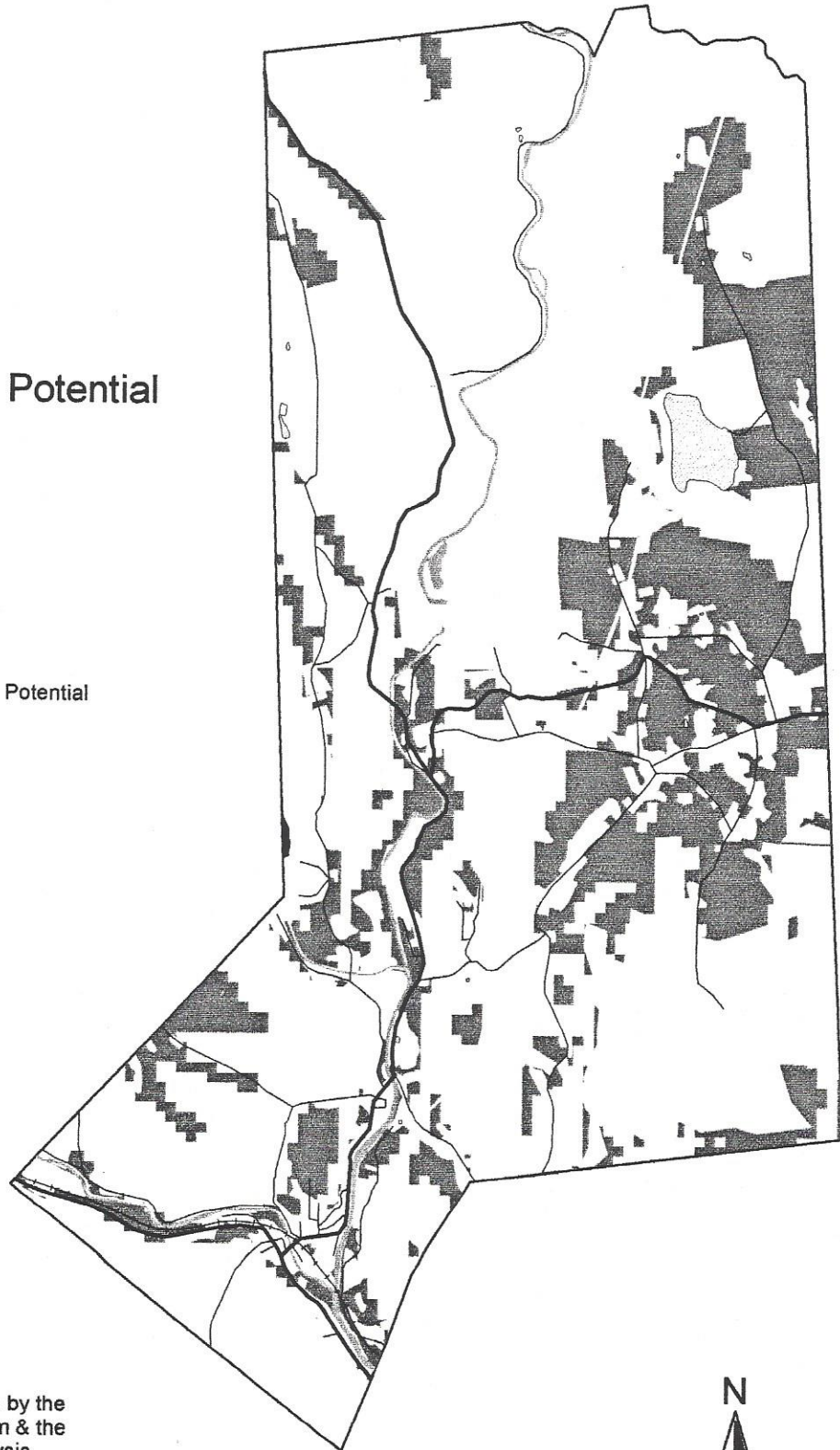
Determine areas in Huntington that are most likely to be developed based subtracting pre-determined areas that are considered "undevelopable."

"Undevelopable" for the purposes of this project, is not an exhaustive measure, rather it only includes general factors listed below and doesn't include other variables, such as soils data, drainage and geology which may be used in any suitability assessment and analysis.

1. Areas having greater than 15% slope
2. Developed land use
3. Existing total Open space
4. Hydrography (including rivers, streams, ponds and wetlands)

Using most available digital data, we removed already developed land use from 1985 data, such as residential, commercial, and transportation, and 1997 open space with any level of protection, and the hydrography data from 1997. The resulting map is labeled "land most likely to be developed."

Land with Development Potential



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



B. Alternative 1

With the recognition that Huntington does not have any Areas of Critical Environmental Concern listed with the Department of Environmental Management, we decided to locate areas of what we determined to be environmentally significant. This was done to act as a tool in deciding which areas in Huntington deserve open space protection.

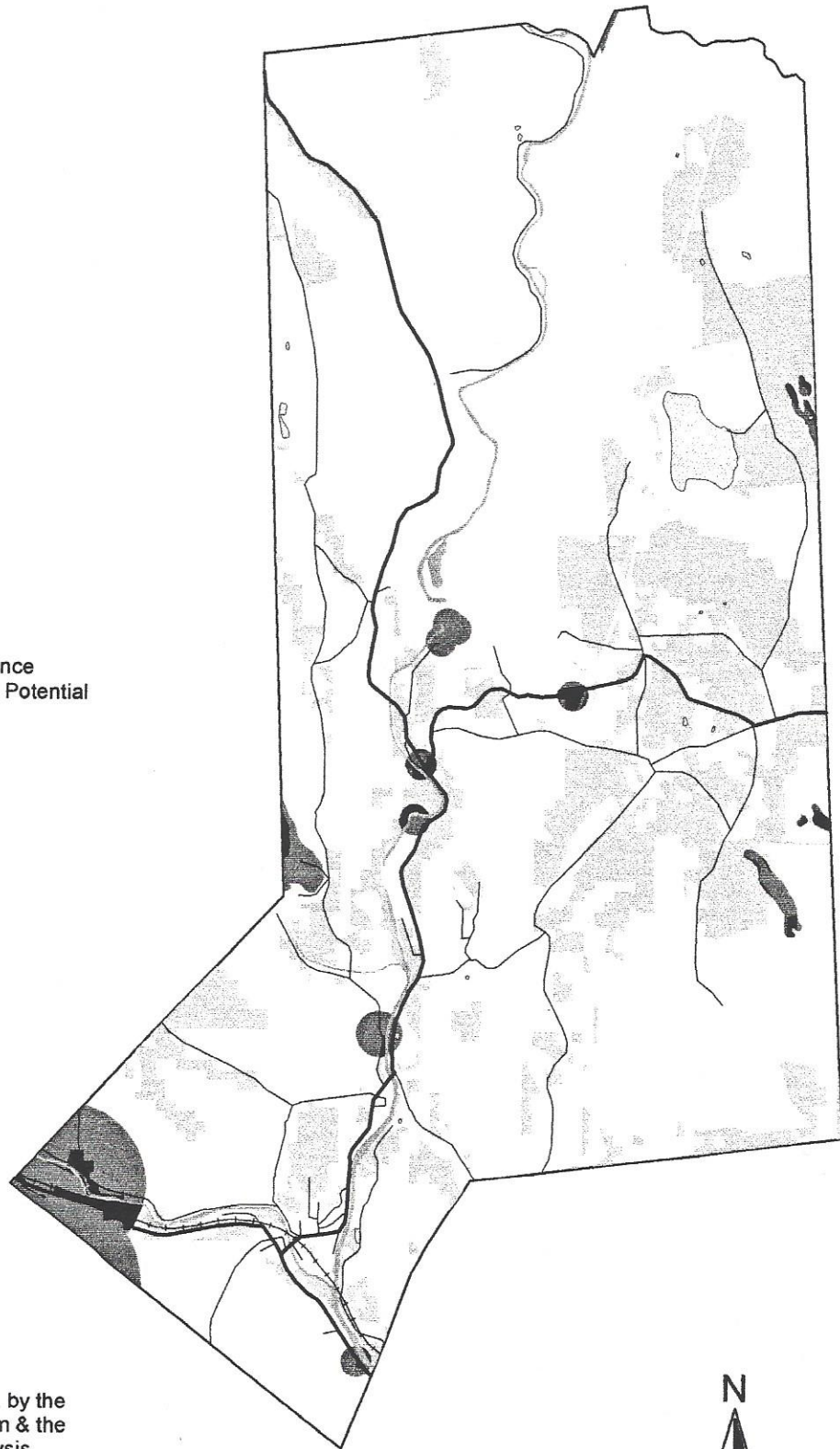
By using "the land most likely to be developed" the, we determined areas of "environmental significance," which is classified as areas that overlap with more than 3 resources. The variables used to locate these significant areas were the following:

- Aquifers
- Floodplain
- Public Water Supply
- Vernal Pool
- Forested and Non-Forested Wetland
- Endangered Species and Rare Habitat
- Interim Well-Head Protection Area

If more than three variables were to overlap each other, they were classified as areas of environmental significance. Three overlaps were chosen because when visually looking at all the variables on the map, most overlapped with one other variable. The most common occurrence was overlap of the public water supply and interim area, which by nature overlap. However, if we used four variables, there would be only one "environmentally significant" area.

Once these significant area were located using GIS overlay techniques, an intersect overlay was done with the "land most likely to be developed." This final overlay determined the areas in Huntington that were not currently

Alternative 1



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



developed and are areas of environmental significance. These results are displayed in the map labeled Alternative 1.

The procedure for determining the exact overlapping areas is explaining in the following ten-step procedure. The public water supply locations were treated as an overlay of two resources because they each naturally intersects with its own Interim Well-Head Protection Area (IWPA).

Intersect overlay command was used to isolate each area below. Those with 3 or 4 resources were mapped shown on the Alternative 1 map.

1. IWPA and supply intersected with the aquifers. (2 overlapping resources)
2. Floodplain intersected with aquifer (2 resources)
3. Wetlands intersected with floodplain (2 resources)
4. Endangered species with floodplain (2 resources)
5. Certified Vernal Pools do not overlap with any resources used in analysis therefore it is removed from analysis.
6. Public water supply intersected with floodplain (2 resources)
7. Rare habitats intersected with the outcome of step 3 (3 resources)
8. Step 4 are intersected with aquifer (3 resources)
9. Step 1 intersected with Public water supplies (3 resources)
10. Step 9 intersected with flood plain (4 resources)

The results produced areas that are controversial according to the Huntington Water Department. There are multiple sources of public water supply located throughout the southern portion of town. However, the Water and Sewer Department only acknowledges the two wells in the southwest corner of the town, which are the wells from the reservoir and Nebbs Well, located on Route 66.











C. Alternative 2

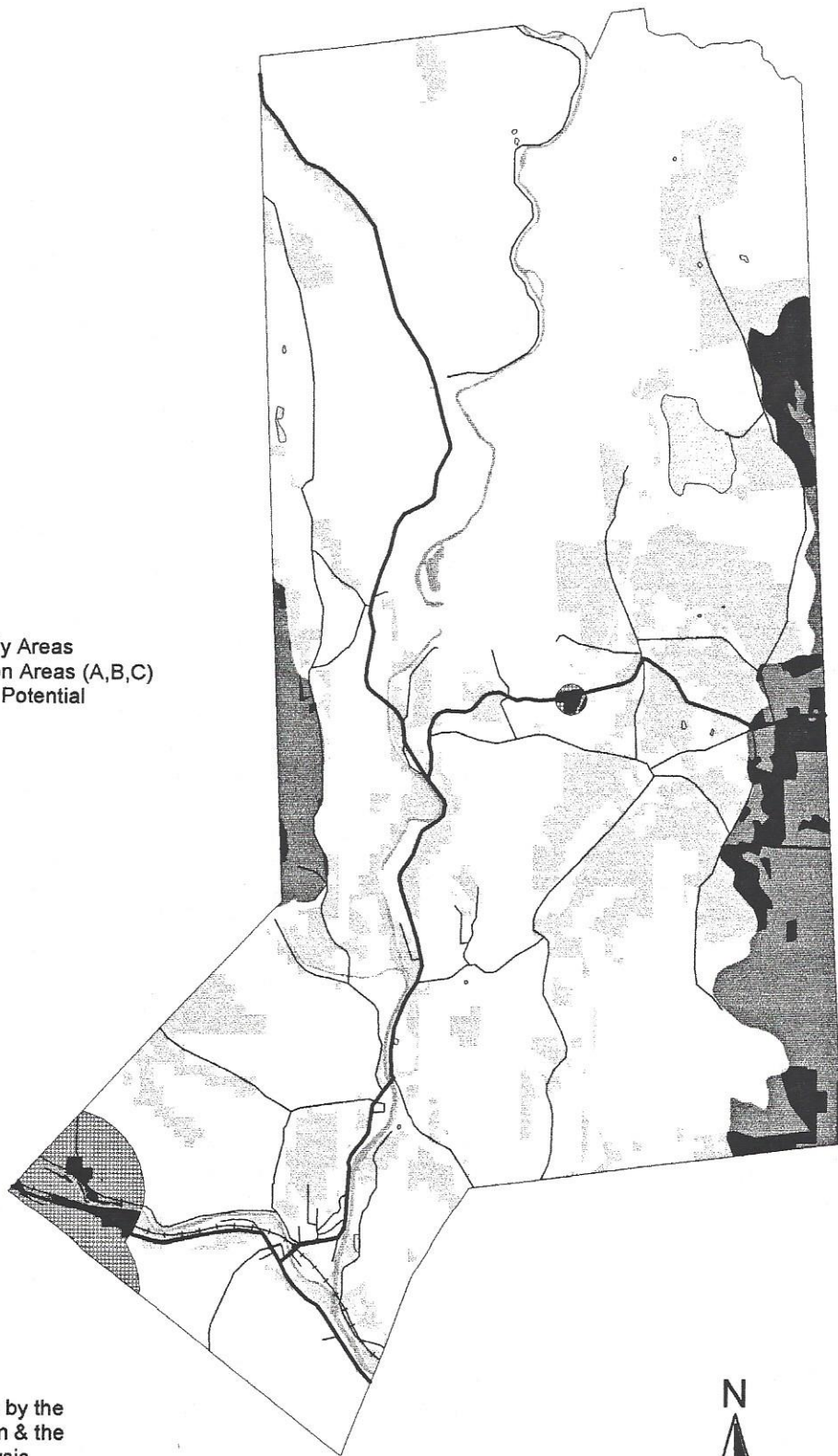
A second analysis was done where we assumed the existence of only the three public water supply sources. However, without the vast number of original water supply areas, there are not an sufficient number of areas of "environmental significance" to make a recommendation. Therefore we added the surface water protection areas A, B, and C to these three water supply locations. This became Alternative 2, and is based on vulnerable water sources and protection areas. These areas were located, and then intersected with the land most likely to be developed which showed large sections of land along the western border of Huntington. The large parcels are the surface water protection areas, which are the locations between the surface, water source and the upper boundary of the bank of a class A water source. These areas were also intersected with the land with development potential and were shown on the map labeled Alternative 2.

C. Alternative 3

Alternative 3 was not created using any GIS overlay techniques, rather it is representative of the exiting open space lands and the natural landscape. By overlaying the slopes over 15 percent, with existing open space, a natural greenway is seen to connect both the scenic views and cultural resources, and existing conservation and recreation lands.

Alternative 2












-  Main Roads
-  Streets
-  Railroad
-  Stream
-  Pond
-  Reservoir
-  Land to Protect
-  Huntington Water Supply Areas
-  Surface Water Protection Areas (A,B,C)
-  Land with Development Potential

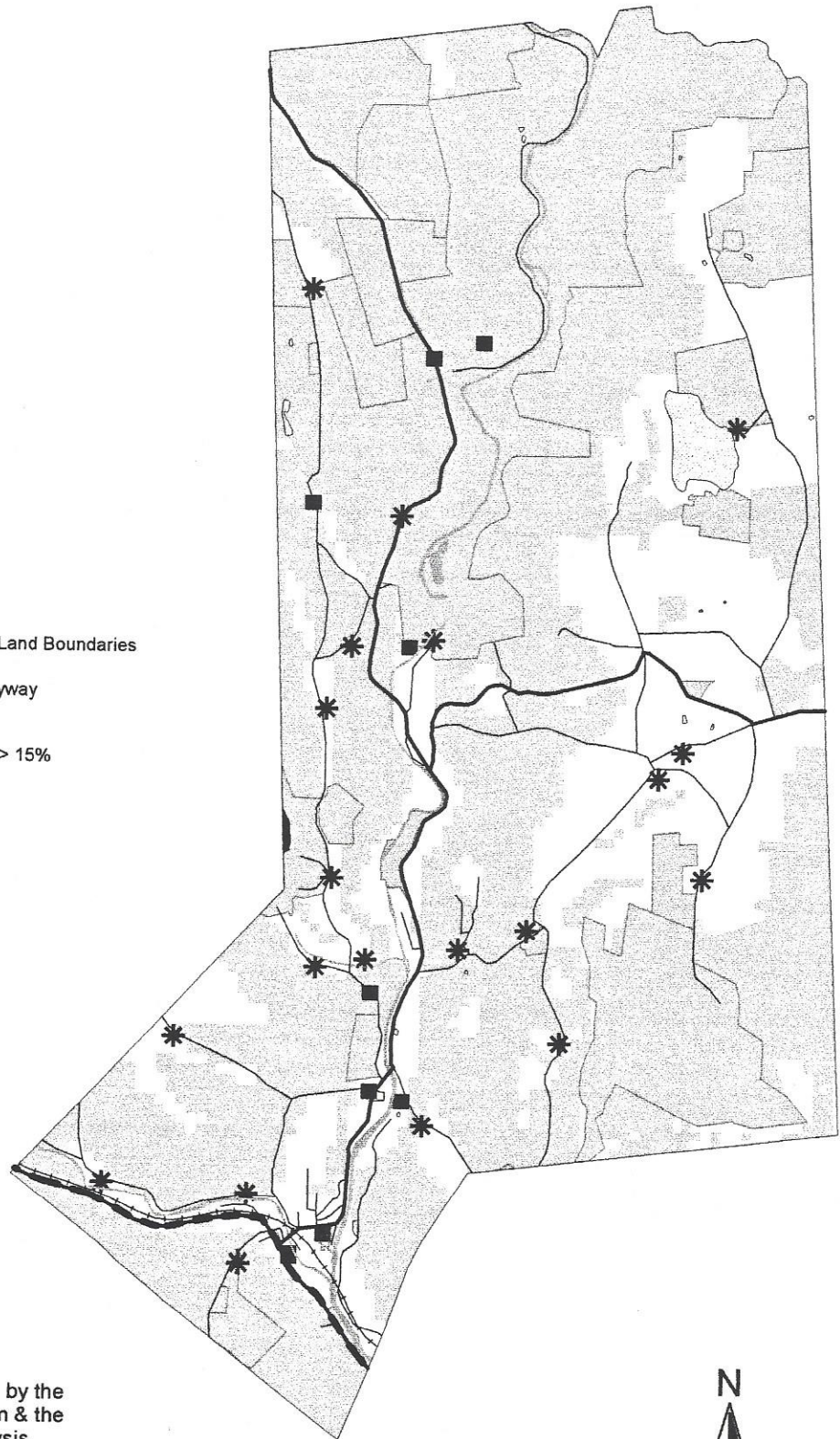


This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



Alternative 3

-  Main Roads
-  Streets
-  Railroad
-  Stream
-  Pond
-  Reservoir
-  Recreation and Conservation Land Boundaries
-  Views
-  Jacob's Ladder Trail Scenic Byway
-  Historic Sites
-  Existing Open Space & Slope > 15%



This map was created using MassGIS data by the University of Massachusetts Planning Team & the Office of Geographic Information and Analysis. MassGIS data summary can be found in the appendix.



Section Nine. Analysis of Needs

This section serves as a conclusion to the paper by suggesting methods of preservation, commercial development, and the need for communication amongst the different local boards and the PVPC. These are our final recommendations for the town.

A. Resource Protection Needs

With an understanding of the goals of community and the results of the survey, it is clear that the natural character of the town should be preserved. To do this various natural resources should be preserved. The topography of Huntington represents one of varied terrain and presents one of the reasons much of Huntington is considered difficult to develop. Much of the town is over 15% slope, which creates a hardship for developers, yet it offers a means of natural protection for the town.

An agricultural protection district as a means of preserving the remaining agricultural areas in town would be an appropriate land management option to preserve the landscape character of Huntington. Though agricultural land only encompasses under 2% of the town, it is a visible land use and is often the location of extraordinary vistas. It is widely recognized that agricultural land is inexpensive to develop, thereby enhancing the need to protect the remaining land.

The water resources of Huntington are valuable because of the importance of water quality and recreation. It is a rare occurrence while travelling through the town not to view a water body, either the rocky and scenic Westfield

River, or ponds and streams that occur throughout the town. Currently, the water quality of the Westfield River is B class, that is protected by a River Protection District that creates a 150-foot buffer around the branches of the Westfield River. This does not include wetlands, perennial ponds, or streams. This buffer also does not include areas that are already developed. Although this is an improvement of the Wetlands Protection Act, which requires a 100-ft buffer of a river, it is below the State River Protection Act, which calls for a 200-foot boundary. Although adequate, this buffer could be extended to 200-feet in most areas which would offer additional protection to this invaluable resource. This is especially desirable because of the river's proximity to the main thoroughfare, route 112, that parallels most of the river. This buffer bylaw should also extend to streams and perennial ponds, and acknowledge the 50-foot buffer for certified vernal pools under the Forest Cutting Practices Act, MGL 132, should be abided by when considering any alternations around these two pools.

When determining which areas deserve protection, areas thought to have "land with potential for development" were located. The methodology is described in detail in the analysis section. From this map it could be seen that the eastern portion of Huntington was vulnerable to both development and migration, while land along the Westfield River was also prime for small-scale development. It would be unreasonable to protect all of the land most likely to be developed, but when looking at the natural resources that exist on this land it is easy to recommend what should be protected from development.

Because Huntington is so hilly, with 49 percent of land above 15% slope, and 27 percent above 25% slope there is a natural barrier to most development. That is, as the slope of land increases, the amount of engineering costs to develop that land also increase. Therefore, since engineering costs begin to increase at 15% slope, it can be generalized to state that the terrain in Huntington offers a method of natural protection. This is not to say that development will cease at 15% slope, but that it will be made more difficult. However, where important resources occur without natural protection, the areas must be given further protection. These include the additional aquifer, surface water protection areas, and the Interim Well Head Protection Areas located outside the Aquifer restriction district.

B. Community Needs

To alleviate the river access problem, areas along the river should be designated as public access points and signs should accentuate their existence to prevent trespassing on private lands. A comprehensive field observation is recommended to determine the suitability of the chosen site. Things to look for are thickness of brush, distance to the river, and ease of getting to the river from the access point.

It is also ideal if the Department of Environmental Management purchases the Springfield College land because it would surely ensure the swimming needs of the community are met. If the DEM does not purchase this land the town should apply for grants to purchase it from the college to prevent private development on the land.

A greenway trail, that connects existing open space, is seen as a potential valuable resource for hikers, nature lovers, mountain bikers and the overall public. It not only creates additional recreation opportunities, but it links the recreation, conservation lands and historical, scenic and cultural resources. For a greenway trail to succeed it would need to connect these existing resources, therefore, it would be beneficial to protect lands with steep slopes between these areas. Steep slopes can also provide excellent greenway opportunities therefore protection of these lands is seen as important to prevent new developments of houses and protect this greenway opportunity. In the appendix is a list of land management options that may prove to be helpful when determining how to protect these lands

A teen center is clearly needed in the town to offer teenagers additional locations to gather and participate in group activities. Currently, the students of the town gather in the public common area to the disapproval of local business owners. The existence of a teen center in the downtown area would provide an alternative to the public loitering that currently exists in the town.

The analysis consists of an inventory of businesses in Huntington in order to assess historical trends and establish a baseline for successful commercial practices in the town. Owing to a variety of factors, the analysis seeks to address the primary issues contained within the open space criteria. The issue of maintaining rural character limits commercial development to a scale and nature that are compatible with the town's current, undeveloped nature. The emphasis on locating and protecting additional areas of open space limits the development

of new sites or businesses in keeping with efforts to avoid sprawl outside the town's established central business district. The area currently contains several of the town's restaurants, small professional offices, and an antique store.

Based on these guidelines and working from the existing base of businesses, the most viable alternative for economic development is the expansion or further promotion of existing recreation and tourism based businesses currently operating in the town. In addition to the lodging (bed and breakfast), the restaurants and the seasonal activities (canoe race, sugar shacks, festivals), the town should coordinate activities that encourage local businesses to work in concert, share information and coordinate their efforts toward organized, consolidated events. An example would be creating a town web page or establishing a chamber of commerce.

Huntington is a beautiful, unspoiled place with an abundance of natural resources. If the town wishes to capitalize on these assets, it can do so by promoting these qualities and providing local commerce with trade information and opportunities to attract business.

C. Management Needs, Potential Change of Use

In order to offer the best possible active and passive recreation resources, there needs to be clear communication between the open space committee, conservation commission, recreation commission, and planning board. This will help ensure the preservation of town resources that contribute to recreation and conservation activities. For instance, in a letter to the Open Space Committee,

the Huntington Recreation Committee suggested the need for a downtown outdoor activity (i.e. skating rink and basketball courts), a teen center, and additional camp grounds. In turn the Open Space Committee should address these issues in their Open Space Plan.

Any plan for the town of Huntington should be consistent with the long-term, short-term and regional goals of the Pioneer Valley Planning Commission. The recommendations made in this study for the town of Huntington, Massachusetts are consistent with the PVPC objectives listed below, from the PVPC Valley Vision brochure. These goals listed from Valley Vision apply to this open space project.

- The overall vision of the PVPC for the Pioneer Valley is to Promote diverse, economically and environmentally healthy communities framed by open space and connected by an intermodal transportation system.
- Naturally resources and environmental quality are conserved and improved.
- Cities and towns are made more livable by re-greening them with ample open space, squares, greens, parks, and improved access to cleaner waterways.
- Supporting farming and forestry, clustered or village-centered housing and traditional rural centers preserves rural Character.

- Environmental Quality

Ensure that the regions important assets are protected, restored, and enhanced by adopting regionally consistent land use controls, create a regional system of open space and recreational uses protect water resources and prime agricultural land.

D. Economics of Open Space

Convincing the public is a potential barrier to the protection of these lands because residents see the preservation of lands as taking away from the tax base. However, it is necessary to explain the true economics of open space, and that it is an economically efficient method of land use control. Between the cost of land acquisition, maintenance, and facility construction open space is often seen as expensive. However, it is important to note the economic benefit of open space. Based on cost of community service studies, it has been shown that open space is the least expensive land use cost of municipal services. Quality of life is another important factor Americans consider when determining place of residence. In a community like Huntington, which has the benefit of vast amounts of open space, the social benefits resulting from open space are an important factor when deciding where to live. Social benefits can include recreation, ecological diversity, and historic and scenic preservation (Little 1990 2).

It is widely understood that when asked what attracts a person to buy a specific house, among the answers are the town or neighborhoods appearances. Therefore, if Huntington is wants to attract businesses, and residents it is necessary to be concerned about the towns overall physical appearance, and character.

Protected open space can increase the value of the surrounding land while creating little demand for additional infrastructure needs, therefore we can say it is in the best interest of the community to preserve open space.

It is advisable that economic activity supports the use of the open space, thereby providing an economic return into the town because of the open space.

Increased tourism and economic growth adds to the tax base and can create jobs. Lastly, it is important to recognize that once open space is gone, it is gone forever.

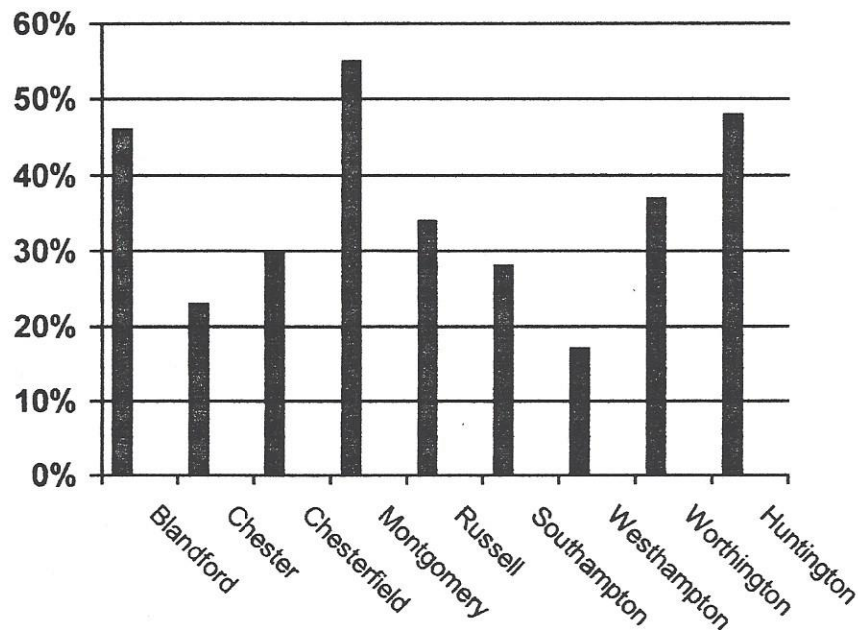
E. Detailed Greenway Recommendation

From the map labeled Alternative 3, it is seen that our recommendation is not truly a method of land acquisition for additional open space lands, rather it is to protect existing open space lands and areas of steep slope (greater than 15 percent). Because 48 percent of the town is existing open space, and 49% of the town is a slope greater than 15 percent, it is not economical to purchase additional lands for open space protection. The following formula was used to determine the 68 percent of total slope over 15 percent and open space in Huntington.

$$\text{Total open space} + \text{slope} > 15\% - \text{intersecting acreage} / \text{total town acreage}$$

These areas also help create a continuous greenway network throughout the town. A greenway is identified by Charles Little in *Greenways to America*, links parks natural resources, cultural, historic and scenic features with each other (Little 1990 1). These linear corridors also connect town centers, recreational areas, and schools.

Chart 9.1 Regional Open Space as a Percentage of Total Land Area



Regionally, it is seen that Huntington has the second highest amount of open space. Therefore, if additional areas were not specifically protected, relative to the surrounding communities, Huntington would still have a great deal of open space.

It is advised to protect these areas through the greenway vision because greenways enhance connected natural resources more than isolated patches. Greenways around streams and rivers, brooks protect the water quality, and fragile ecosystems, while allowing flooding to occur without damage to man made structures that may have otherwise been built there. Greenways which connect habitat areas can protect prevent the elimination of habitat which cannot

survive in a fragmented environment. Lastly, greenways offer a more natural preservation of the landscape character than protected pockets of open space.

The linkage of conservation and recreation land, water and the Huntington town center are linked through this greenway of river and wooded corridors. This network, based both on the landforms and preservation need of the town, hopes increase the town's recreational access points along the Westfield River, while creating a potential for trails throughout the towns forested lands. These trails could help link the existing recreation and conservation lands, while the existing river protection buffer links the town center and recreation areas. It is recommended, however, to enhance the vegetative buffer that surrounds the river to increase the potential for additional sources of recreational activity.

Protecting the town's views, historic and cultural resources are an important aspect of this analysis because most are unique and irreplaceable qualities of Huntington. This is accomplished by the existing River Protection District, and would be enhanced if this district were enlarged to meet the state requirement 200 feet where possible. This is especially important if the Huntington Village Center become listed on the National Register, and due to the scenic quality of the Jacobs Ladder Scenic Byway. If marketed, this greenway network could enhance the tourism of the area.

F. Conclusion

In closing, it is understood that Huntington has numerous invaluable resources that define its rural character. These resources need both protection and public access in order to take full advantage of the value they offer the

residents and visitors to the area. By preserving these natural, cultural, historical, scenic, recreation and conservation resources, future generations of people will continue to have the ability to take advantage of numerous outdoor activities. It is understood that there are economic advantages of open space. However, all of the land within the town can not be permanently preserved. Therefore, the lands that are preserved should create a greenway network that connects the various resources of the town. Thus, creating greater recreational opportunities and economic benefits.

APPENDIX

Commonwealth of Massachusetts
Town of Huntington
Board of Selectmen

Sharon Lumbis
Judith A. Guyette
Telephone: 413-667-3500
E-Mail: HuntingtonSB@juno.com

PO Box 430
Huntington MA 01050
Fax: 413-667-3507

January 12, 1999

Dr. John R. Mullin
Department of Landscape, Architect & Regional Planning
Hills North
University of MA
Amherst, MA 01003

Dear Dr. Mullin,

It is with sincere pleasure that the Huntington Board of Selectmen contacts you to proceed with the special project of having a team of graduate students and faculty members assist our Open Space Committee in the development of a viable open space/growth management plan for the Town of Huntington.

The sum of \$2800.00 for use as scholarship funds for your students is hereby confirmed for use by your team, by this Board. Please be in touch as to how these funds should be transferred from the Town of Huntington into the department's respective account.

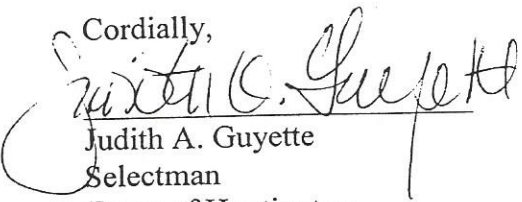
Attached is a letter from Ruth Pardoe, Chair of the Open Space Committee. Please know that her committee is poised and ready to go. All were very impressed with your presentation on Monday evening, January 4th and eagerly await the "next step."

Please do not hesitate to contact me with any further questions or instructions you might have at this time.

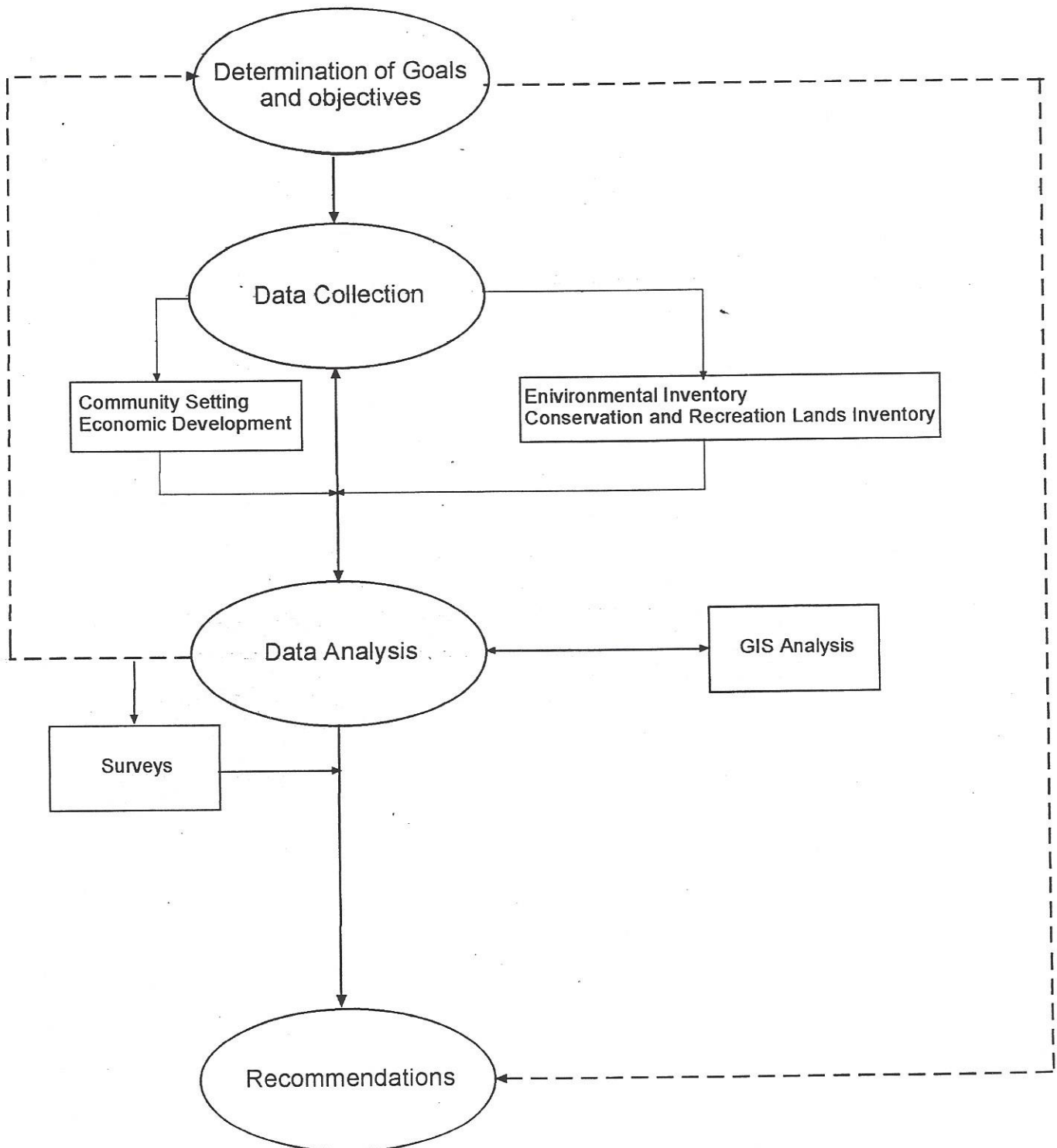
Again, many thanks for your quick response to our initial inquiry and for so graciously arranging a site visit in "less than perfect" traveling weather on such short notice.

Your time and attention is greatly appreciated.

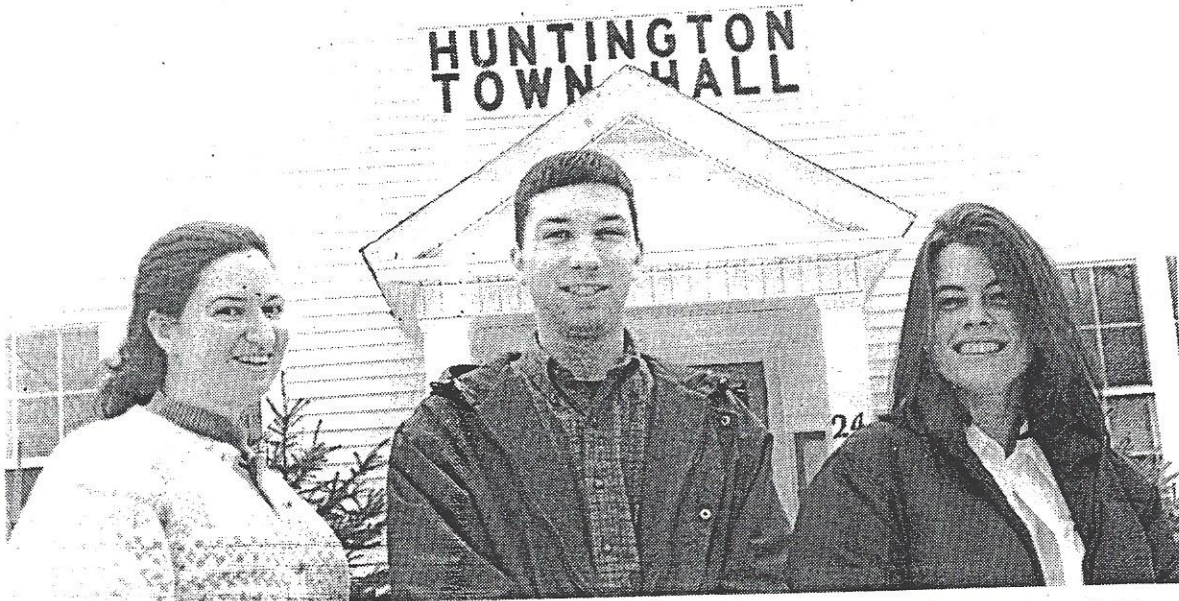
Cordially,


Judith A. Guyette
Selectman
Town of Huntington

Methodology



Mike Donovan
667-3212



UMass students Michelle Lenihan, Jason Bachand and Rachel Sinclair, assigned the 15-week project by the University's Department of Landscape, Agriculture and Regional Planning, are studying Huntington's Open Space needs.

Photo by Mike Donovan

Survey is key to open space plan

By Mike Donovan

HUNTINGTON— Three graduate students from the University of Massachusetts are working with the town to create an open space plan that will be based in large part on the results of a survey being circulated in the town.

The students were assigned the 15-week project by the University's Department of Landscape, Agriculture and Regional Planning. Of several possible projects, Huntington's was considered the plum, according to student Michelle Lenihan.

"We were lucky to get it," she said.

Lenihan, who lives in Natick, said she grew up in a mill town and her experience convinced her that, "you don't have to stand back and let the cycle take its course."

The other two students are Jason Bachand, of Easthampton, whose primary interest is in the historical and social background of the area; and Rachel Sinclair of Chatham, who is more focussed on the town's natural resources and environmental protection.

The town benefits from the knowledge and work of the students, and the students earn academic credit and gain hands-on experience, she said.

Their first action was to broaden the base of the survey, which was first sent out with tax bills last month. The students felt this method of distribution would miss many residents

who do not own property in the town.

They've already reviewed surveys residents have handed in, noting residents generally want to restrict development and keep the town the same. Planning board Chairman Nick Sattler, who is also on the Open Space Committee, has said much the same thing, noting that a majority of residents favor limiting development to areas where it already exists.

Once they've reviewed and analyzed the surveys, the students will focus on various aspects of open space planning. Although in the same program at the University, each of the students has a special area of interest.

Areas they will focus their attention on include the historical aspect of the town's past development and growth; development of a geological information system, including identification of areas prone to flooding; and study of population densities and characteristics of the town's current open space.

They will also develop a public presentation of their findings, and plan to hold a public meeting on March 6, and another on April 18, when they will present their findings and recommendations.

Their final presentation will take place at U-Mass the first week of May, and will also be open to the public.

The town began the work of updating its open space plan last fall

when selectmen appointed Ruth Pardoe as the first member of a newly reconstituted Open Space Committee. Since then the Committee has enlisted several other members, including Linda Siska, Jeff Penn, Ed Grabowski, Margaret Jordan, Nancy Paradysz, Miriam Watkins, David Pardoe (who is also on the Conservation Commission), and Nick Sattler (who is also Chairman of the Planning Board).

Mrs. Pardoe, who was on the town's original Open Space Committee about ten years ago, has been elected chairman. She was on the town's original Open Space Committee about ten years ago. She noted that the work of the original committee will make it easier to put a new open space plan together because much of the work has already been done. The plan needs updating, however, and must be brought in line with current state standards, which are more demanding than they were ten years ago.

The state requires that Open Space Plans be updated every 5 years, but Huntington's original Open Space Committee, after completing its initial plan, just "faded away," over the next few years, according to Mrs. Pardoe.

Planning Board Chairman Sattler has said an Open Space Plan is essential because there are signs that the town will experience considerable growth in the near future, which must be planned for and kept under control.

"Friends" for Liz
uary 20.

Photo by Lori Belhumeur

els mosquitoes and
tings.
m plant and its antidote
and near each other,
red.

to identifying each
so mentioned growth
season for best harvest-

ioned against look-
g that leaves of wild
ps" resemble lily of the
is poisonous.

ommends that begin-
plan"ld guide ("the
ries good") when
food in the wild. She
hat some people have
ions, usually digestive,
foods, and advises
n their use.

n to her recipe book,

Huntington Open Space Survey

1. How important is Huntingtons rural character to you?
 Very important Somewhat important not important

2. Please rate the following characteristics according to their importance to you:

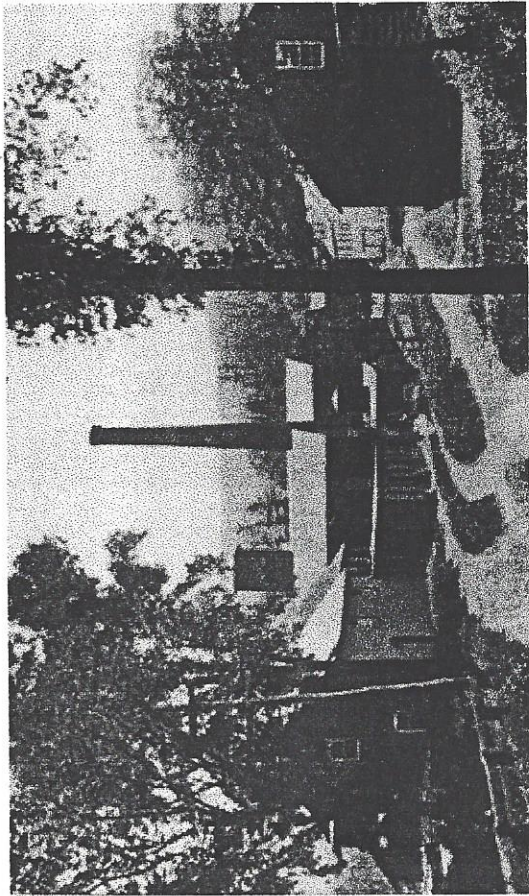
Forest land	very	somewhat	not important
Scenic vistas	very	somewhat	not important
Open fields	very	somewhat	not important
Rivers	very	somewhat	not important
Wildlife	very	somewhat	not important

3. Do you find recreational facilities in Huntington for:
 (please note you may check more than one and please rate your top 5 choices)

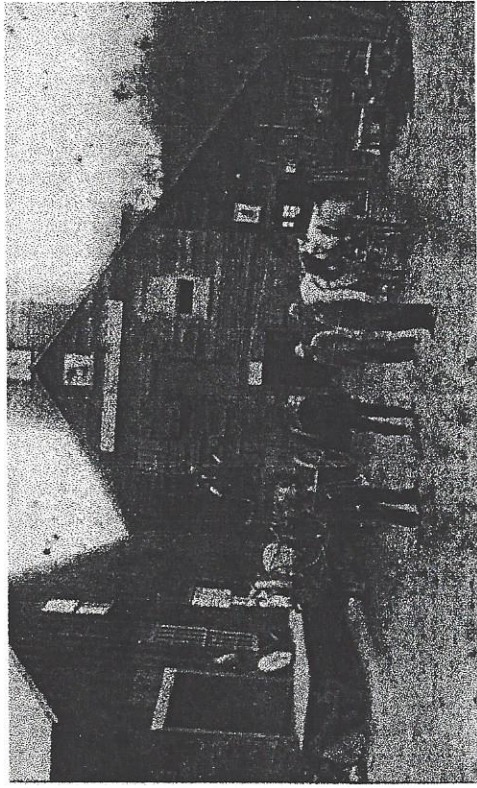
	adequate	inadequate	never use	rating
Fishing				
Picnicking				
Swimming				
Playgrounds				
Camping				
Canoeing				
Hunting				
Skating				
Basketball				
ATV's				

	Adequate	Inadequate	Never use	Rating
Athletic Fields				
Tennis Courts				
Boating Ramps				
Cross Country Skiing				
BMX Biking				
Dirt/ trail Biking				
Skateboarding				
Snowmobiling				
Birdwatching				

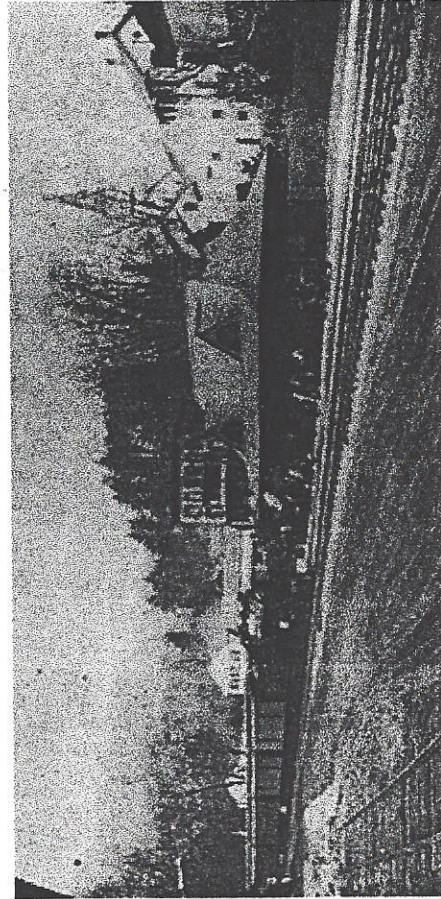
4. Please name the recreational areas in town that you or your family use:
5. In future planning how much emphasis should be placed on protection or improvement of the following:
- | | | | |
|--|------|------|------|
| | more | some | less |
| historic sites | | | |
| agricultural land | | | |
| natural scenic areas | | | |
| wetlands, rivers and streams | | | |
| underground water resources | | | |
| (aquifers, wells etc.) | | | |
| wildlife, forests, natural land | | | |
| facilities for formal recreation (trails) | | | |
| facilities for organized recreation (playing fields) | | | |
6. Do you think Huntington should seek state and federal grants to acquire land to be



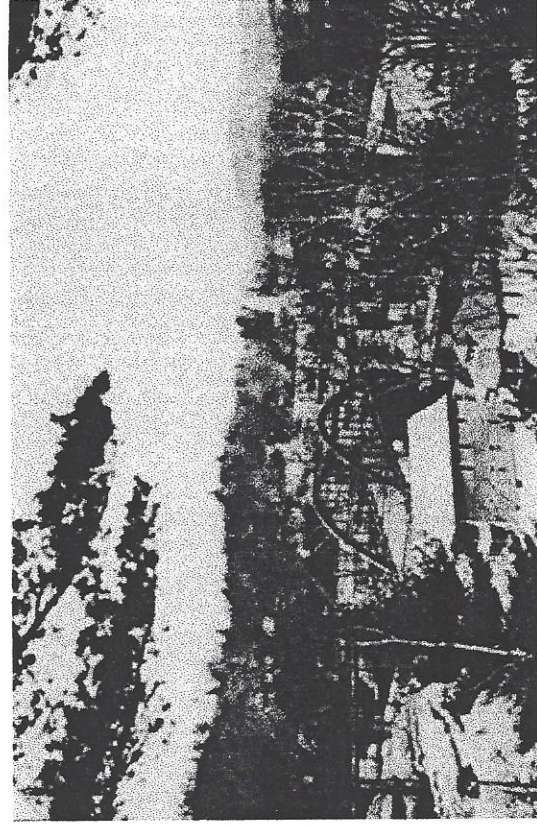
Chester Paper Company
c. 1850



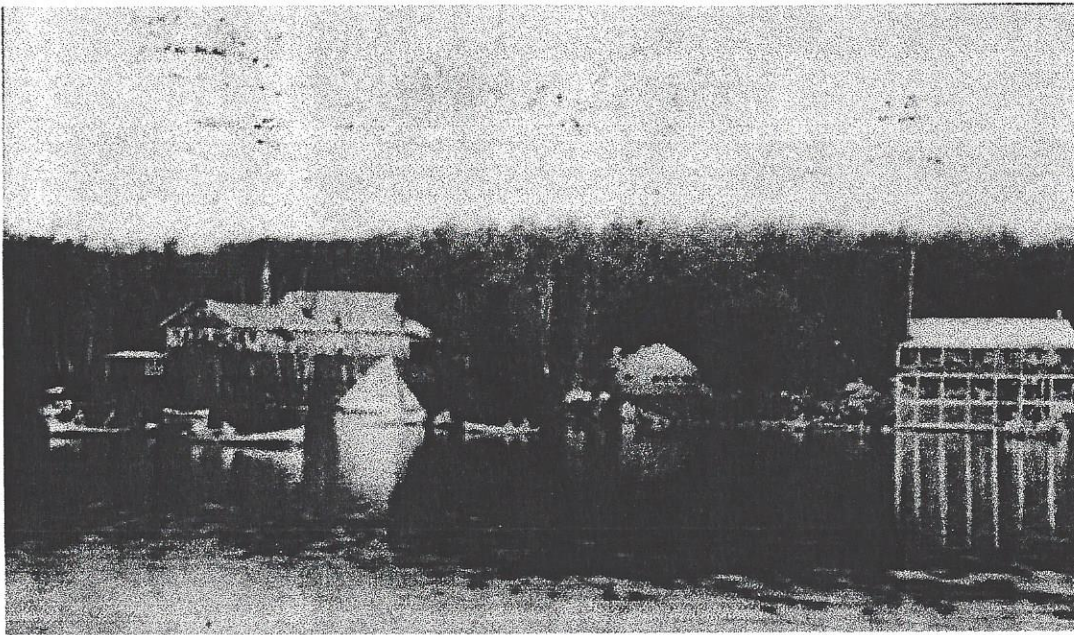
Williams Lumber Mill
c. 1890



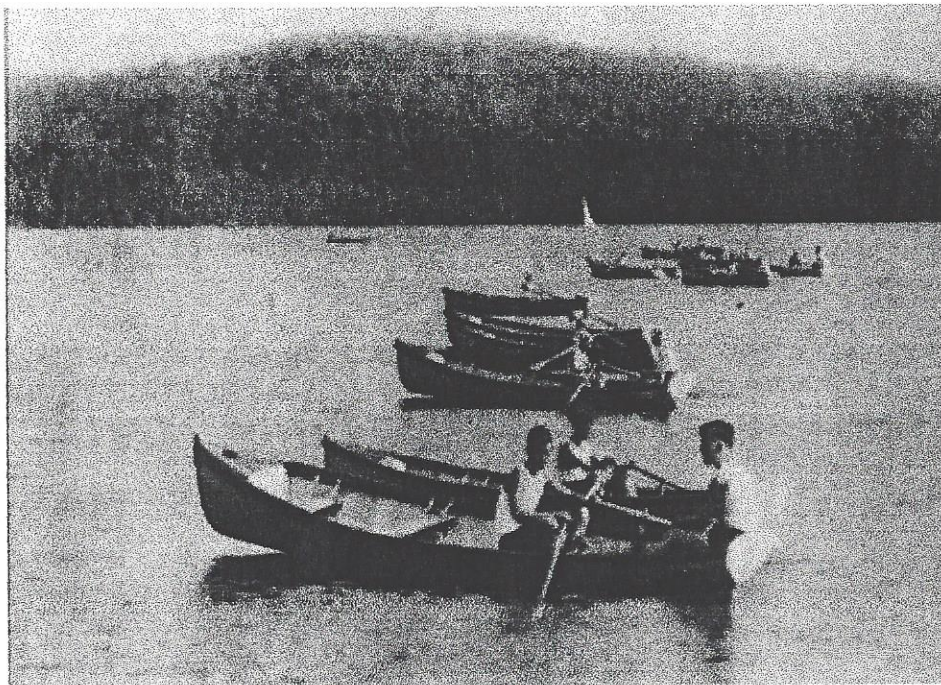
Boston/Albany Rail Station
c. 1900



Downtown Huntington
c. 1920

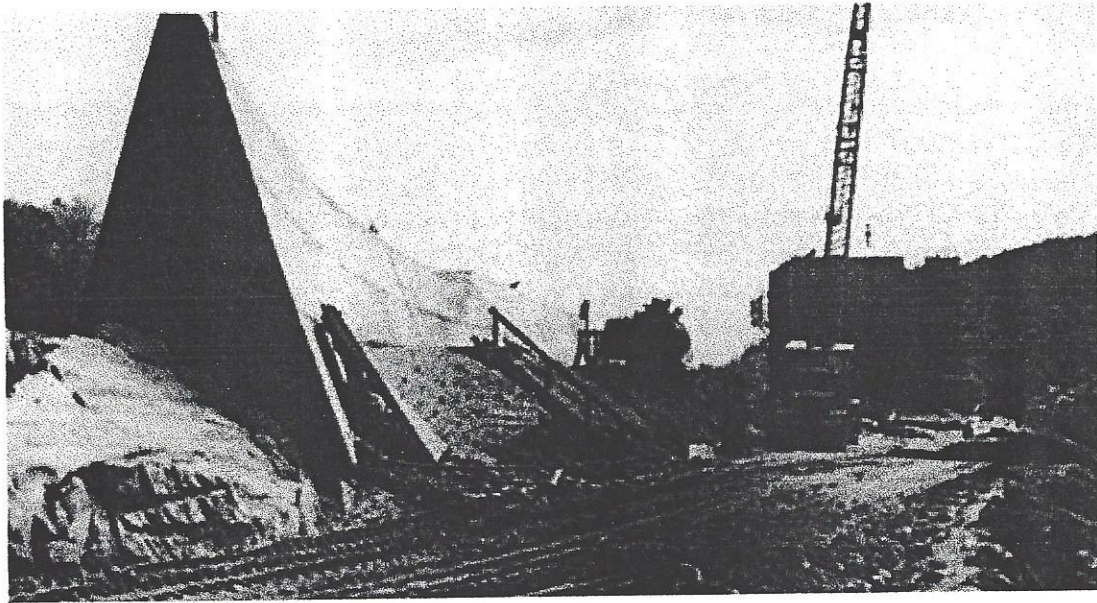


Camp Norwich, opened in 1908

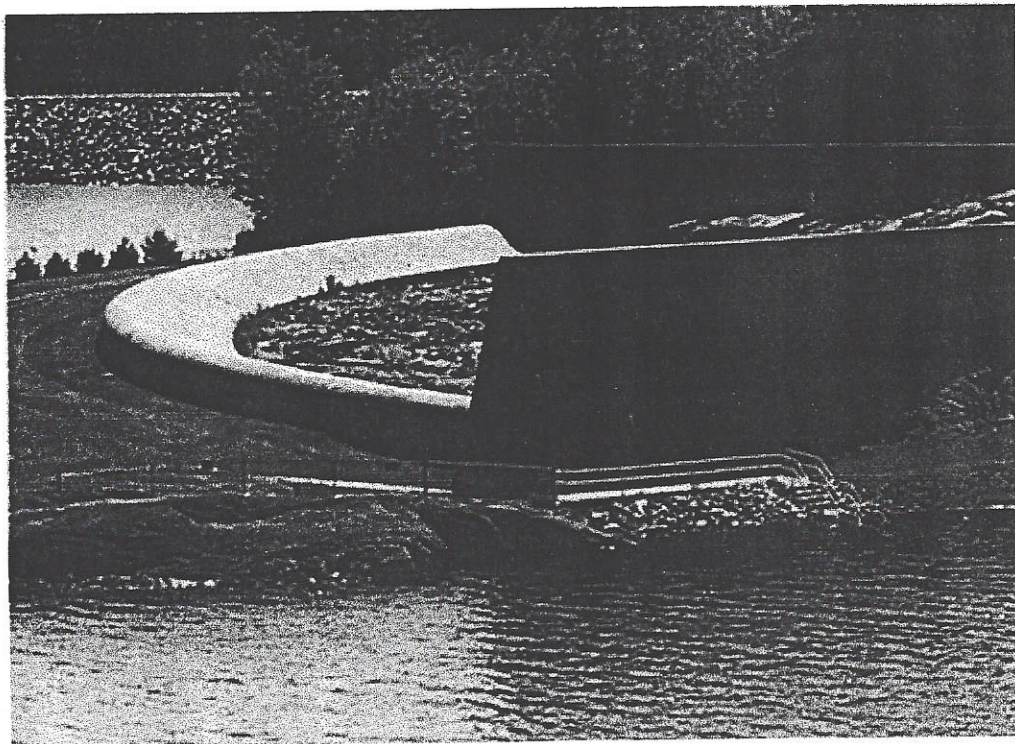


Norwich Lake, circa 1936

Littleville Dam Construction 1962



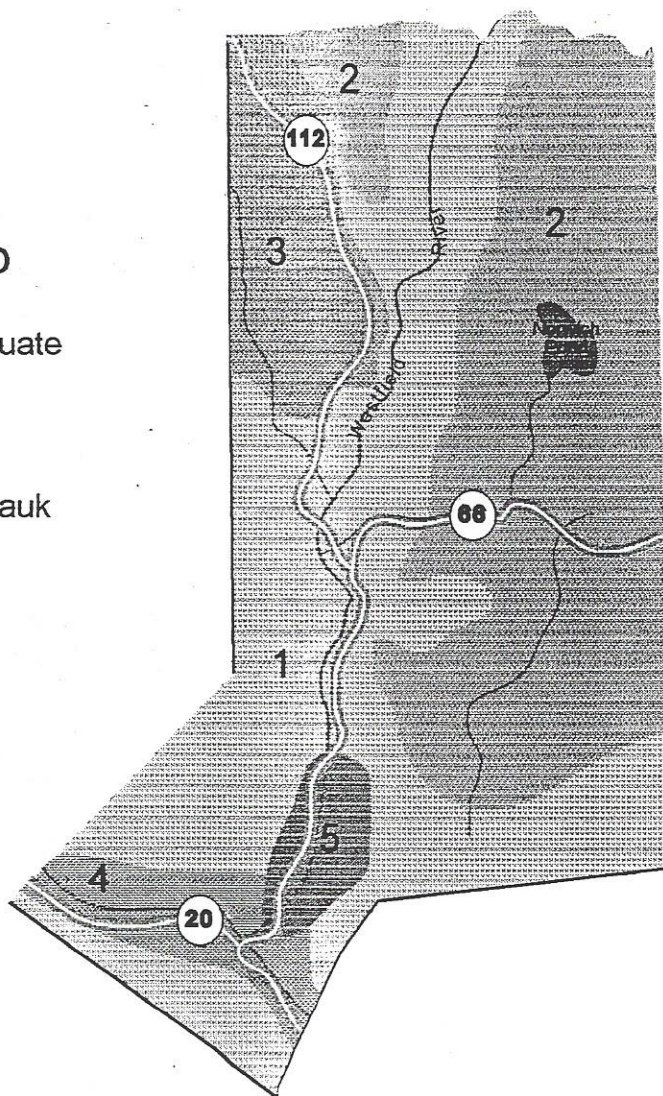
Littleville Dam Today



Source of images: Army Corp of Engineers, Littleville Dam Brochure, 1995

General Soil Map

- | | |
|---|--------------------------|
| 1 | Montauk-Paxton-Scituate |
| 2 | Westminster-Millsite |
| 3 | Ashfield-Shelburne |
| 4 | Chatfield-Hollis-Montauk |
| 5 | Merrimac-Hinckley |



Source: Soil Survey of Hampden and Hampshire Counties, Western Par, Massachusetts, 1995

 30-foot contours



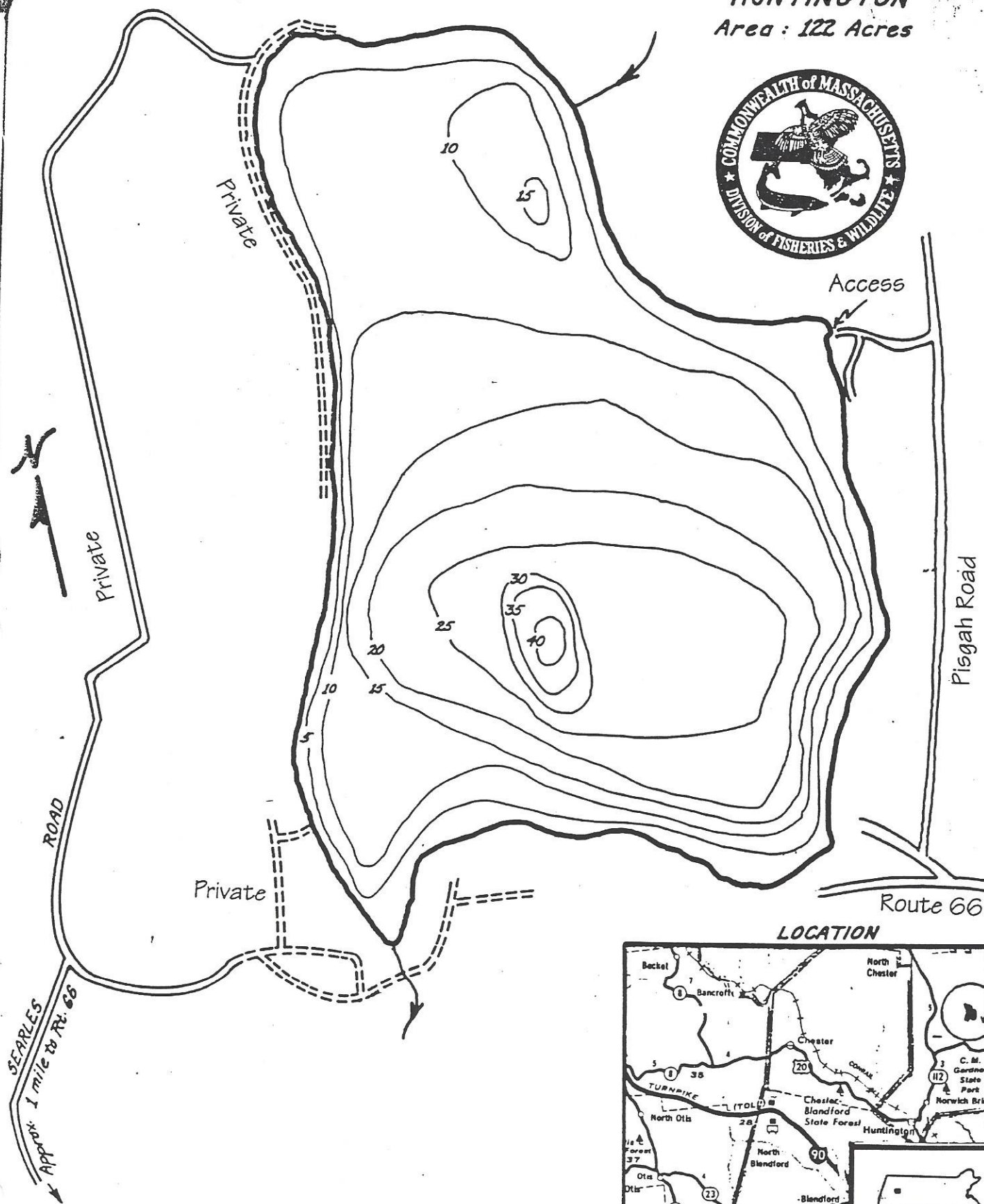
This map was created using MassGIS data by the University of Massachusetts Studio Team & the Office of Geographic Information Analysis. MassGIS data summary can be found in the appendix.



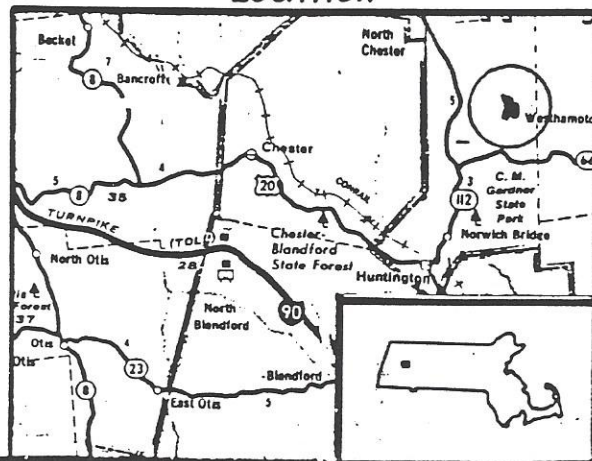
NORWICH POND

HUNTINGTON

Area: 122 Acres



LOCATION

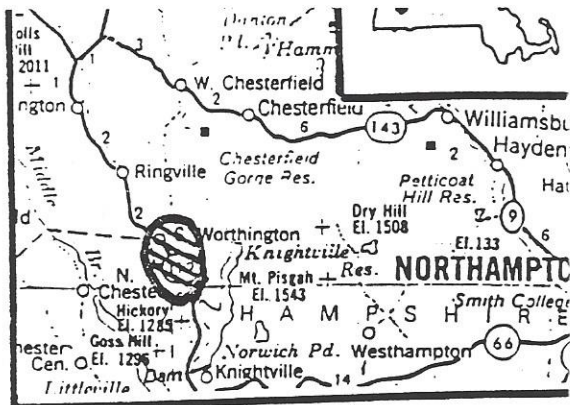


NOT TO BE USED FOR NAVIGATIONAL PURPOSES



WILDLIFE MANAGEMENT AREA

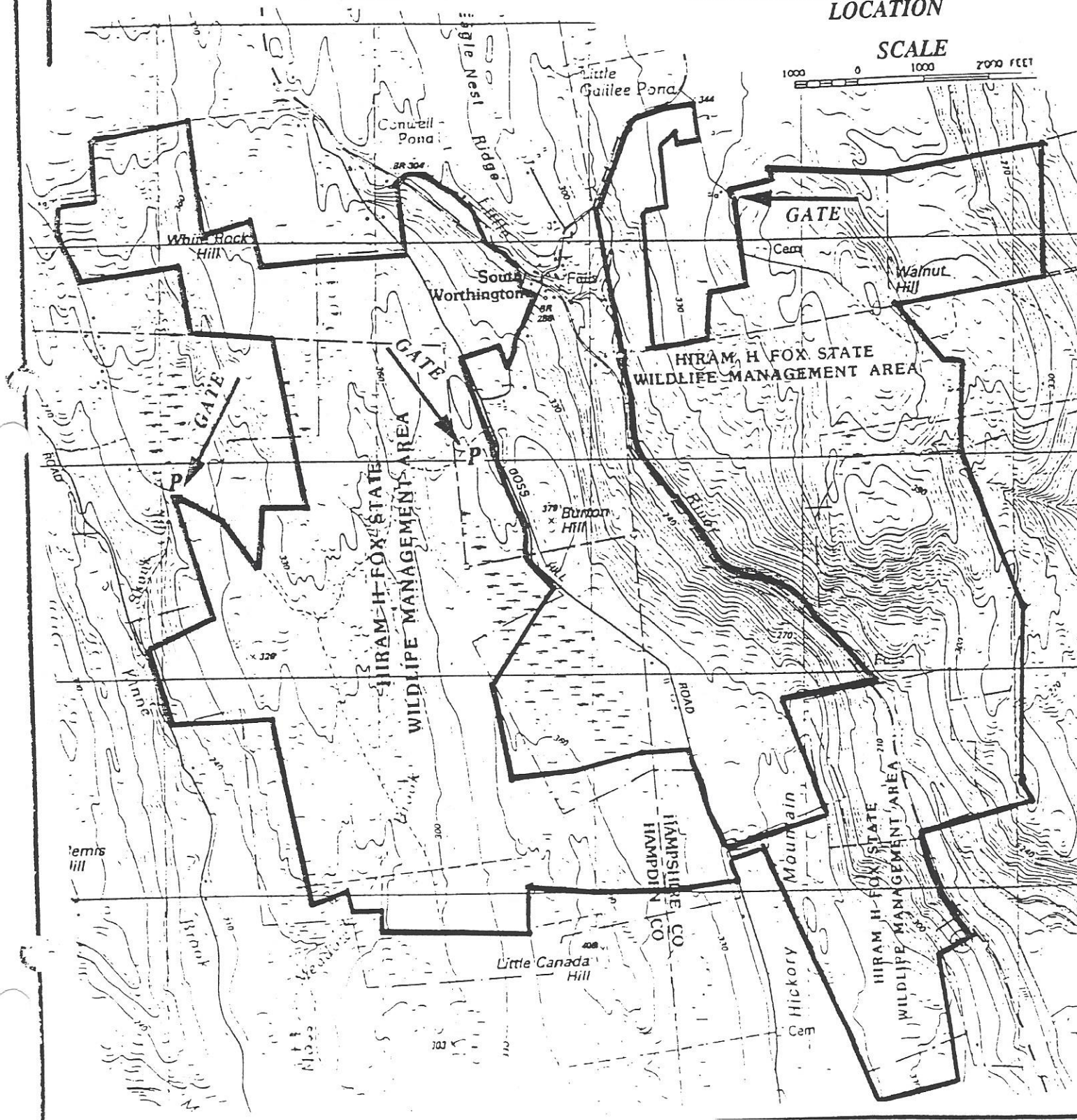
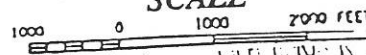
(CHESTER, CHESTERFIELD,
HUNTINGTON, WORTHINGTON)



LOCATION

P = PARKING

SCALE





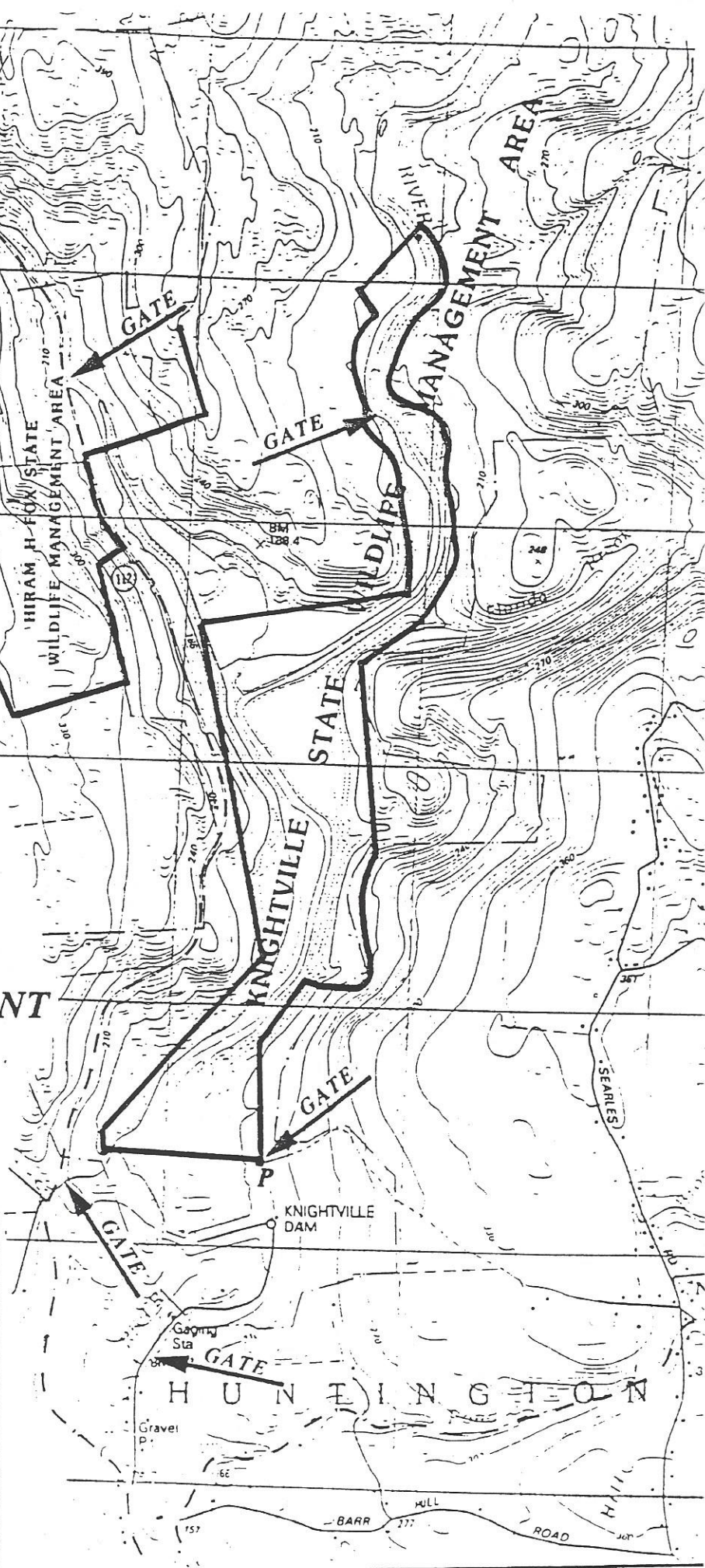
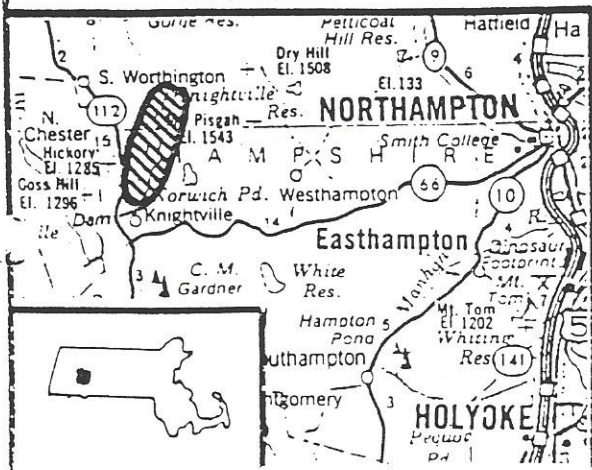
P = PARKING

SCALE
1000 0 1000 2000 FEET

KNIGHTVILLE DAM WILDLIFE MANAGEMENT AREA

(HUNTINGTON)

LOCATION



WILDLIFE MANAGEMENT AREA REGULATIONS

1. No person shall possess any alcoholic beverage except under permit or dump or discard any can, bottle or rubbish.
2. No person shall remove vegetation, soil or stones from any wildlife management area except under permit.
3. No person shall use excessive speed in driving a vehicle.
4. No person, unless under permit, shall drive or possess any vehicle except on roads or trails maintained for public traffic.
5. No person shall deface or molest any sign, building or equipment.
6. No person shall build or maintain a fire without written permission from the Director of the Division of Fisheries and Wildlife or his designated agent.
7. No person shall camp within any wildlife management area without written permission from the Director of the Division of Fisheries and Wildlife or his designated agent.
8. No person shall engage in target practicing without written permission from the Director of the Division of Fisheries and Wildlife or his designated agent.
9. No person shall use any weapon other than shotgun or bow and arrow during the pheasant and quail season on areas stocked with pheasant or quail except for hunting raccoons between 9PM and 3AM only.
10. No person shall hunt on any wildlife management area where pheasant or quail are stocked, before sunrise or after sunset during the open season on pheasant or quail, Oct. 20 to Nov. 28, except for the hunting of raccoons between 9 PM and 3 AM.
11. No person shall hunt during the pheasant or quail season on wildlife management areas where pheasant or quail are stocked without wearing a "hunter orange" cap or hat except while night hunting for raccoons or while hunting from a blind or boat.
12. No person, except under permit, shall dig or disturb any artifact or archaeological remains.
13. The Director may make special regulations to handle special situations peculiar to any wildlife management area. Controlled hunts are in effect at certain times on Burns, Delaney and Ludlow WMA. Contact District Supervisor for details.

Huntington New House Building Locations 1987-1998

		% of total
Harlo Clark Road	24	17%
Basket Street	20	14%
Pisgah Road	11	8%
Pond Brook Road	9	7%
Goss Hill Road	8	6%
Church Road	6	4%
Rte. 112	6	4%
Searle Road	6	4%
Brookside Glen	5	4%
Nagler Cross Road	5	4%
Rte. 20 (includes Upper Russell Road)	5	4%
County Road	4	3%
Allen Coit Road	3	2%
Kimball	3	2%
Old Chester Road	3	2%
Skyline Trail	3	2%
Tucker Road	3	2%
Birchwood Drove	2	1%
Lake, The	2	1%
Montgomey Road	2	1%
Blandford Road	1	1%
Broomley	1	1%
Cullen Road	1	1%
Kennedy Drive	1	1%
Knightville Road	1	1%
Littleville Road	1	1%
Park Ridge	1	1%
Rocky Point	1	1%
Total	138	100%

Massachusetts Natural Heritage & Endangered Species Program
 Div. Fisheries & Wildlife, Route 135, Westborough, MA 01581
 Rare plant species documented in Huntington.
 This list does not include data sensitive species.

Element Name	Common Name	Global Rank	State Rank	State Status	Federal Status
*** VERTEBRATES					
HEMIDACTYLUM SCUTATUM	FOUR-TOED SALAMANDER	G5	S3	SC	
*** INVERTEBRATES					
CICINDELA DUODECIMGUTTATA	TWELVE-SPOTTED TIGER BEETLE	G5	S3	SC	
DESMOCERUS PALLIATUS	ELDERBERRY LONG-HORNED BEETLE	G?	S2S3	SC	
OPHIOMPHUS CAROLUS	RIFFLE SNAKETAIL	G5	S1	T	
STROPHITUS UNDULATUS	SQUAWFOOT	G5	S3	SC	
*** VASCULAR PLANTS					
CAREX HITCHCOCKIANA	HITCHCOCK'S SEDGE	G5	S3	SC	
MIMULUS MOSCHATUS	MUSKFLOWER	G4G5	S2	T	
PODOSTEMUM CERATOPHYLLUM	THREADFOOT	G5	S3	SC	
SENNA HEBECARPA	WILD SENNA	G5	S1	E	
*** ECOSYSTEMS					
SNE RIVERSIDE/STREAMSIDE				-	
MESIC, DECIDUOUS FOREST					
*** Other types					
CERTIFIED VERNAL POOL				-	

11 Records Processed

KEY TO DFW RANK: E = Endangered. T = Threatened. SC = Special Concern. - WL = Unofficial Watch List. - H = Historic.
 KEY TO FEDERAL RANK: LE = Federally Endangered. LT = Federally Threatened.



PRIORITY SITES OF RARE SPECIES HABITATS AND EXEMPLARY NATURAL COMMUNITIES
Note: NOT equivalent to SIGNIFICANT HABITATS as designated under MA Endangered Species Act
NOT for use with MA Wetlands Protection Act regulations.
Produced by Natural Heritage & Endangered Species Program, MA Division of Fisheries & Wildlife



0 1 mile
0 1 kilometer

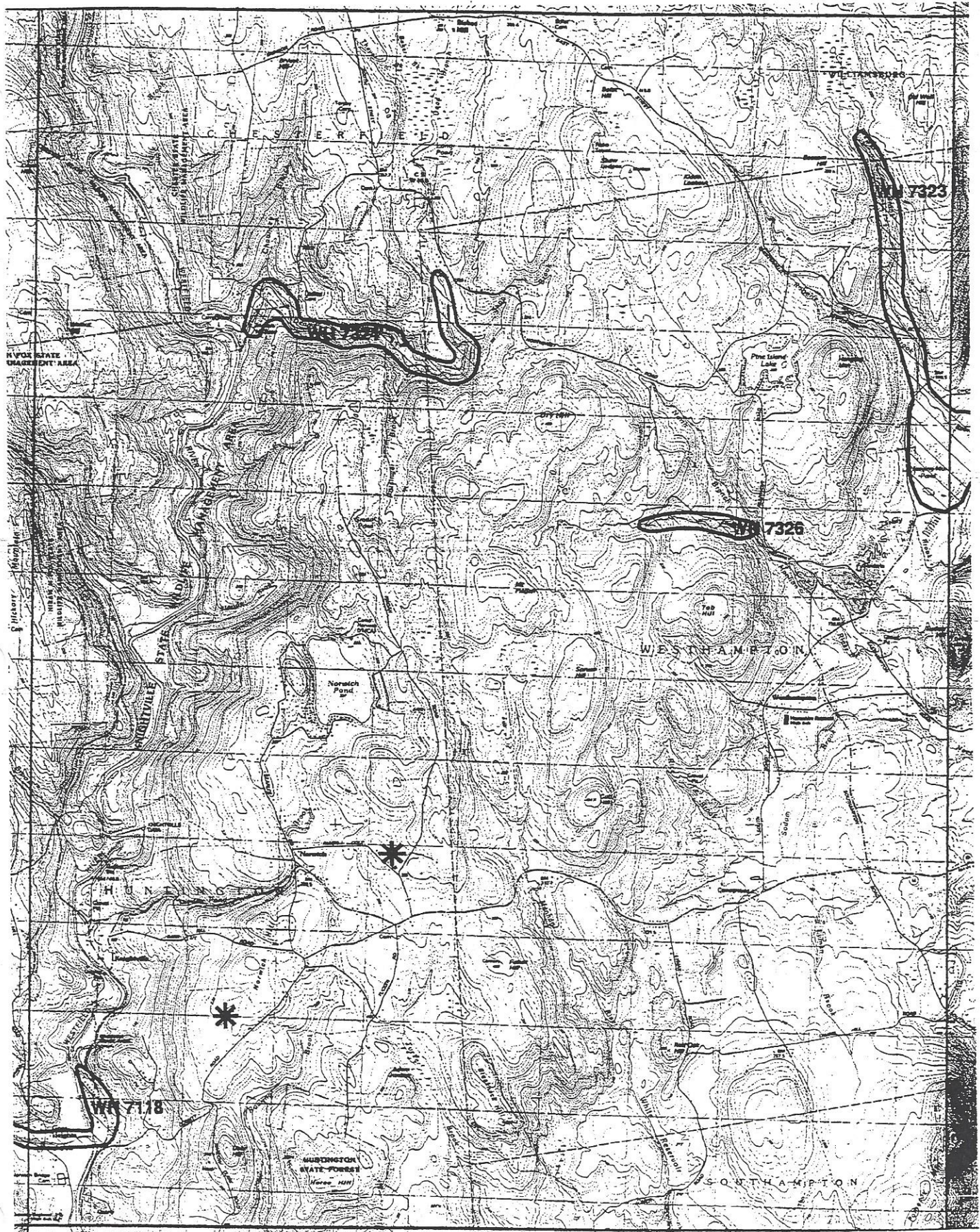
See County Index Maps to
locate adjacent quadrangles



WESTHAMPTON QUAD 1997



ESTIMATED HABITATS OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS
For use with the MA Wetlands Protection Act regulations (310 CMR 10).
Produced by Natural Heritage & Endangered Species Program, MA Division of Fisheries & Wildlife



0 1 mile
0 1 kilometer

See County Index Maps to
locate adjacent quadrangles



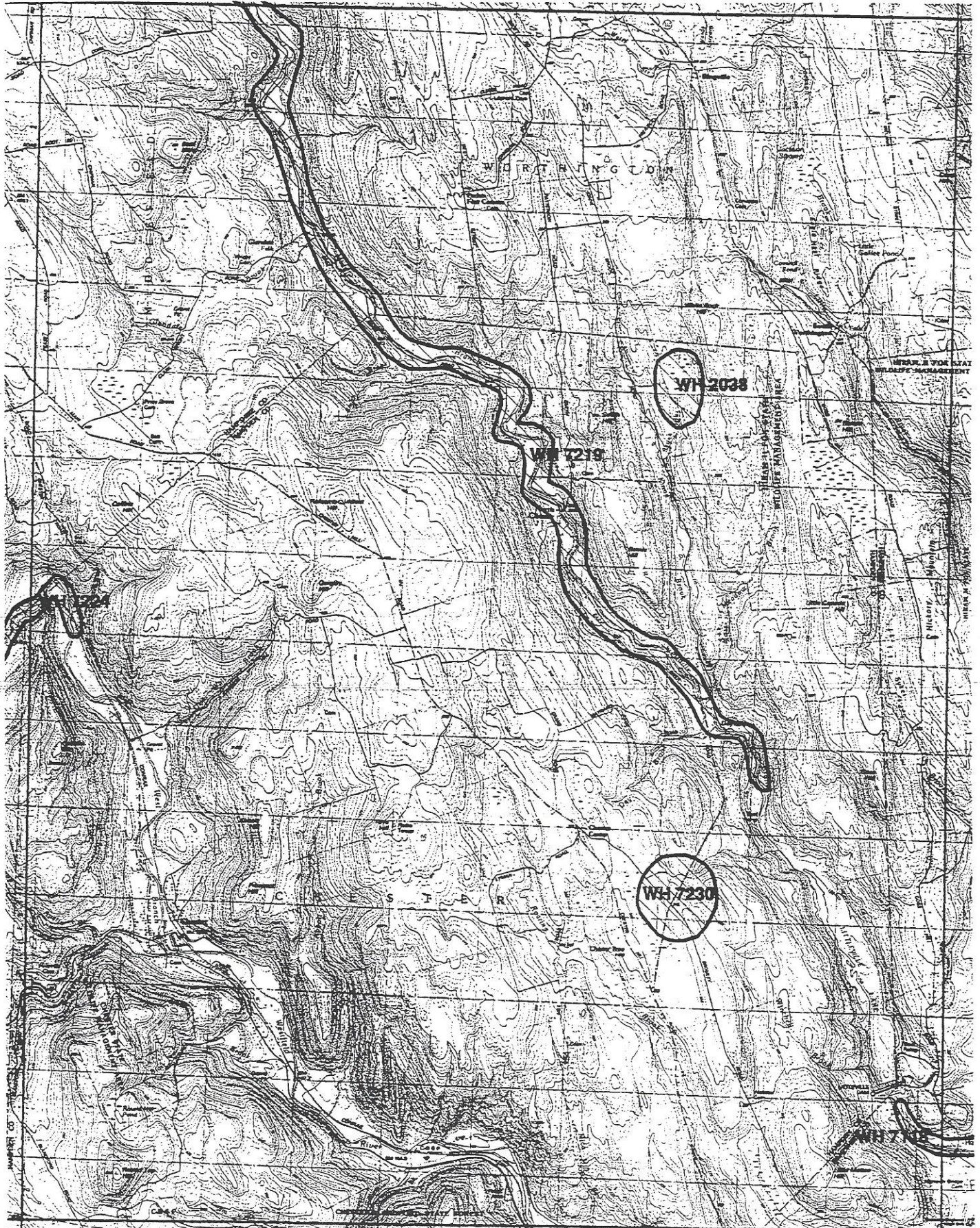
WESTHAMPTON QUAD 1997



ESTIMATED HABITATS OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS

For use with the MA Wetlands Protection Act regulations (310 CMR 10).

Produced by Natural Heritage & Endangered Species Program, MA Division of Fisheries & Wildlife



0 1 mile
0 1 kilometer

See County Index Maps to
locate adjacent quadrangles



CHESTER QUAD 1997

Massachusetts List of Endangered, Threatened and Special Concern Species*

Definitions

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

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

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

* Natural Heritage Atlas



Natural Heritage & Endangered Species Program

Commonwealth of Massachusetts
Division of Fisheries & Wildlife
Route 135
Westborough, MA 01581
(508) 792-7270 ext. 200

Natural Community Fact Sheet:

RICH, MESIC FORESTS

Community Description:

Rich, mesic forests are nutrient-rich, moderately moist (mesic) hardwood forests that are patchily distributed and restricted to areas of calcareous (calcium-rich) bedrock and alkaline groundwater. The nutrient-rich soils that develop over calcareous bedrock are less acidic than usual for New England, and they typically have a high calcium content that supports a plant community with a diverse and distinct flora.

The terms "rich" and "mesic" are used as modifiers to describe variants of communities that have either more nutrients ("rich") or more moderately moist soils ("mesic") than are typical for the community. For example, a transitional hardwoods forest with a higher proportion of moisture-loving tree species may be called a mesic transitional hardwoods forest; an oak-hickory forest with a diverse herbaceous layer may be called a rich oak-hickory forest. When "rich" and "mesic" are used together as we use here, they are used to describe a variant of northern hardwood forests where sugar maple and/or basswood are dominant and where there is a diverse herbaceous layer with abundant spring ephemerals.

Rich, mesic forests have a tall (often >20 m), full tree canopy, and a sparse subcanopy and shrub layer. They have an unusually diverse herbaceous assemblage that can include more than 100 different species, many of which are spring ephemerals that complete all or most of their annual growth cycle during the brief period of high light, water and nutrient availability after spring snowmelt and before leaf-out and canopy closure. Rich, mesic woods are considered a climax forest community meaning that without major disturbance, the community will maintain itself. The dominant tree species are very shade-tolerant and able to establish and grow under low-light conditions of a full canopy. The ability to root sprout further enables the dominant overstory tree species to persist.

Environment

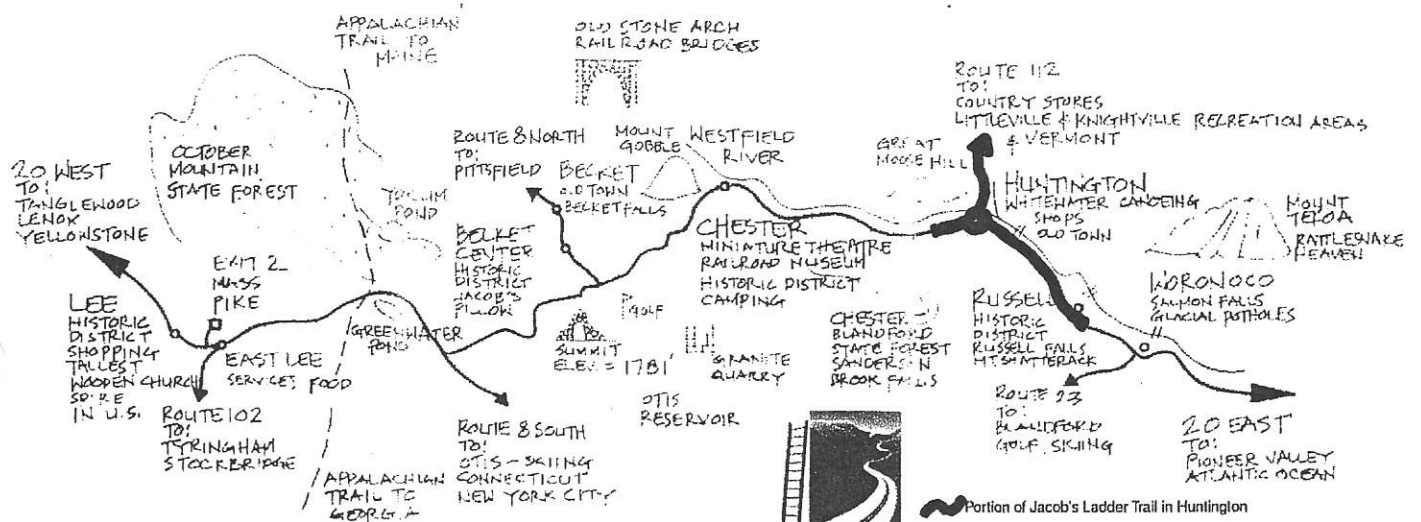
Rich, mesic forests are found on slopes or talus below calcareous bedrock (such as marble, sandstone or limestone) or on level areas where calcareous bedrock is near the surface. In the Northeast, they are restricted to low to moderate elevations below 2,400 ft. and usually occur on north or east-facing, concave, middle to lower slopes that experience downslope movement of nutrients and organic matter.

Soils are humus-rich, meaning they contain abundant decomposed organic material in the surface layers, and high in nutrients; they are moist, but not saturated and there is a marked absence of flooding. High soil nutrient concentrations are related both to nutrient-leaching from the underlying calcareous bedrock and to nutrient-loading from leaf litter. Whereas most trees reabsorb nutrients from their leaves prior to leaf-fall, sugar maple and basswood leaves retain their nutrients creating a rich leaf litter in autumn. Basswood leaves have especially high concentrations of nitrogen, calcium, magnesium and potassium. Abundant worms and snails found in rich, mesic forest soils aid in breaking down leaf litter, and a high soil pH facilitates microbial activity and rapid decomposition. Sugar maple and basswood leaves also have fewer tannins than other deciduous leaves making them easier to breakdown by soil microorganisms.

Plant Species of Rich, Mesic Forests
draft 3 June 98

Species name	Common name	Status
TREES		
<i>Acer saccharum</i>	sugar maple	
<i>Betula alleghaniensis</i>	yellow birch	
<i>Betula lenta</i>	sweet birch	
<i>Carya cordiformis</i>	bitternut hickory	
<i>Fagus grandifolia</i>	beech	
<i>Fraxinus americana</i>	white ash	
<i>Ostrya virginiana</i>	Hop hornbeam	
<i>Tilia americana</i>	basswood	
SHRUBS		
<i>Dirca palustris</i>	leatherwood	
<i>Hamamelis virginiana</i>	witch hazel	
<i>Kalmia latifolia</i>	mountain laurel	
<i>Viburnum lentago</i>	nannyberry	
HERBS		
<i>Agrimonia pubescens</i>	hairy agrimony	T
<i>Allium tricoccum</i>	wild leek	
<i>Aplectrum hyemale</i>	putty-root	E
<i>Asarum canadense</i>	wild ginger	WL
<i>Caulophyllum gigantea</i>	purple cohosh	WL
<i>Caulophyllum thalictroides</i>	blue cohosh	
<i>Claytonia virginica</i>	spring beauty	
<i>Corallorhiza odontorhiza</i>	autumn coralroot	SC
<i>Dentaria diphylla</i>	toothwort	
<i>Dicentra canadensis</i>	squirrel-corn	
<i>Dicentra cucullaria</i>	Dutchman's breeches	
<i>Erythronium americanum</i>	trout-lily	
<i>Hepatica acutiloba</i>	sharp-lobed hepatica	
<i>Hydrastis canadensis</i>	golden seal	E
<i>Hydrophyllum canadense</i>	broad waterleaf	E
<i>Panax quinquefolius</i>	ginseng	SC
<i>Sanguinaria canadensis</i>	bloodroot	
<i>Trillium erectum</i>	red trillium	
<i>Uvularia grandiflora</i>	large-flower bellwort	WL
<i>Viola rostrata</i>	long-spurred violet	WL
<i>Waldsteinia fragaroides</i>	barren strawberry	SC
GRASSES/SEDGES		
<i>Carex formosa</i>	handsome sedge	T
<i>Carex hitchcockiana</i>	Hitchcock's sedge	SC
<i>Milium effusum</i>	Millet grass	T
FERNS		
<i>Adiantum pedatum</i>	maidenhair fern	
<i>Diplazium pycnocarpon</i>	glade fern	WL
<i>Dryopteris goldiana</i>	Goldie's fern	WL
<i>Polystichum braunii</i>	Braun's holly-fern	

E=State Endangered
T=State Threatened
SC=State Special Concern
WL=State Watch List



Maps: H. Mason and Jeff Penn

Source: Jacob's Ladder Trail Scenic Byway Inc.



Printer credits: Steve Hamlin and Susan Kallergos

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Huntington Village Historic District

other names/site number _____

2. Location

street & number Primarily E. Main, Main, Russell, Upper Russell ☐ not for publication

city or town Huntington ☐ vicinity

state Massachusetts code MA county Hampshire code 015 zip code 01050

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____

Date _____

State of Federal agency and bureau _____

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title _____

Date _____

State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:

☐ entered in the National Register.
☐ See continuation sheet.

☐ determined eligible for the
National Register
☐ See continuation sheet.

☐ determined not eligible for the
National Register.

☐ removed from the National
Register.

☐ other, (explain:) _____

Signature of the Keeper _____

Date of Action _____

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- ☒ **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ **B** Property is associated with the lives of persons significant in our past.
- ☒ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- ☒ **A** owned by a religious institution or used for religious purposes.
- ☒ **B** removed from its original location.
- ☐ **C** a birthplace or grave.
- ☐ **D** a cemetery.
- ☐ **E** a reconstructed building, object, or structure.
- ☐ **F** a commemorative property.
- ☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Architecture

Government

Town Hall

Commerce

Period of Significance

1800-1947

Significant Dates

1841

Significant Person

(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Desmond and Lord

George H. Delano, George H. Harkness

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey

- ☐ recorded by Historic American Engineering
Record # _____

Primary location of additional data:

- ☒ State Historic Preservation Office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Name of repository:

Views and Historic Sites Listing

Views	Site		Location
	Description		
	Elevation @ 1285 Huntington Dam Reservoir	Pisgah Road	
	White water along brook	Goss Hill Road on Sykes Brook	
	Westfield River valley and hills	Nagler Cross Road, off Rte. 112 West of Knightville Dam	
	Valleys and hills	Sampson Road, southeast corner of Huntington	
	Hills and valleys to the south and west	Harlow Clark Road	
	Town, river, etc...@ elevation 1201	Great Moose Hill, access of Fiske Ave.	
	West Branch of Wetfield River	Off Rte. 20 had Fiske Ave.	
	Hills and valleys	Off Blandford Road, power line right of way	
	Westfield River rapids, Dam	Knightville Dam Road	
	Agriculture land, distance hills west and east	East, West; Goss Hill Road	
	Great Moose Hill	South; Bromely Road	
	Panoramic of Hills, Knightville Dam, floodway	East; Rte 112	
	Agriculture land	North, South; Pond Brook Road	
	Agriculture land	Emerson Gorham & County Road	
	Agriculture land	County Road	
	Agriculture land	Montgomery Road	
	Hills	South; Old Chester Road	
	Hills	Littleville Dam	
	Goss Heights	South; Goss Hill Road	

Historic Sites	Site		Location	Description
	Description			
	Whetston Mill Site	Off Rte. 112 below entrance to Knightville Dam		Old raceway and rock foundation to Whetstone Mill
	Mica Mine	Knightsville Reservoir		Tailings of mine and foundation for hoists and several small pits
	Mill Remains	Goss Hill Road on Sykes Brook		Remains of Mill Foundation and old cellar hole and dam
	Mill Remains	Below Knightville Dam at gaging station		Mill foundation
	Well and old mine hole	Rte 66 near power line		Old well, small pit and tailings of small galena mine.
	Old Tavern	Corner of Rte. 112 and Woodruff Road		Old tavern used for Boston and Albansy stage coaches
	Stanton Saw Mill and Dam Abutment	Westfield River 3000 feet from Rte. 112 bridge		Remains of foundation, raceway, and dam for stanton saw mill
	Mill Remains	Off Rte. 20 on Russell St.		Foundation to Woollen Mill
	Paper Mill Remains	Mill Street by town barn		Mill Remains, raceway, dam abutments

03/30/99
9:33 AM

TOWN of HUNTINGTON
LAND USE BREAKDOWN

PAGE 32

442 - UNDEV

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
<hr/>							
442 - UNDEV TOTAL			0	0	0.100	700	700

601 - C61 10Y

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
<hr/>							
253	25	0 1	0	0	77.500	1,610	1,610
255	1	0 1	0	0	45.000	2,845	2,845
255	12	0 1	0	0	19.500	1,870	1,870
255	12	A 1	0	0	2.000	65	65
255	25	0 1	0	0	40.000	2,600	2,600
328	12	0 1	0	0	58.800	2,460	2,460
328	17	0 1	0	0	46.200	3,215	3,215
328	19	0 1	0	0	52.300	3,445	3,445
328	22	0 1	0	0	56.000	3,585	3,585
328	23	0 1	0	0	202.800	9,095	9,095
440	13	0 1	0	0	103.500	5,370	5,370
440	15	0 1	0	0	125.000	6,175	6,175
440	19	0 1	0	0	114.000	5,765	5,765
440	20	0 1	0	0	218.700	9,690	9,690
442	47	0 1	0	0	84.000	3,380	3,380
504	8	0 1	0	0	41.710	3,045	3,045
506	6	0 1	0	0	106.000	5,465	5,465
506	10	0 1	0	0	228.510	8,810	8,810
508	2	0 1	0	0	100.460	5,255	5,255
512	7	0 1	0	0	256.000	11,095	11,095
512	7	A 1	0	0	0.302	1,085	1,085
512	13	0 1	0	0	52.000	3,435	3,435
L7	1	A 1	0	0	114.250	5,450	5,450
<hr/>							
601 - C61 10Y TOTAL			0	0	2,144.532	104,810	104,810

712 - VEGTBLE

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
<hr/>							
442	18	0 1	0	0	13.430	6,857	6,857
444	15	0 1	0	0	44.500	8,360	8,360
<hr/>							
712 - VEGTBLE TOTAL			0	0	57.930	15,217	15,217

713 - HAY/GRN

* - INDICATES OVERRIDE ASSESSMENT

253 4 0 1 0 0 89.600 19,053 19,053

03/30/99
9:33 AM

TOWN of HUNTINGTON
LAND USE BREAKDOWN

PAGE 33

713 - HAY/GRN

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD. VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
324	2	0 1	0	0	34.000	7,940	7,940
326	40	0 1	0	0	14.040	2,637	2,637
326	40	B 1	0	0	10.750	1,819	1,819
326	41	D 1	0	0	3.300	679	679
328	8	0 1	0	0	80.600	16,458	16,458
328	11	0 1	0	0	16.500	4,453	4,453
328	15	0 1	0	0	21.800	4,161	4,161
328	26	0 1	0	0	2.610	647	647
328	27	0 1	0	0	2.430	639	639
328	28	0 1	0	0	2.420	639	639
440	6	0 1	0	8,100	102.153	19,688	27,788
440	7	0 1	0	0	27.000	7,708	7,708
440	16	0 1	0	0	24.000	6,920	6,920
440	17	0 1	0	5,800	40.600	11,261	17,061
442	23	0 1	0	0	11.000	3,410	3,410
442	26	B 1	0	0	5.560	1,724	1,724
442	26	C 1	0	0	3.740	1,159	1,159
442	65	0 1	0	0	9.000	2,790	2,790
506	10	0 1	0	0	12.520	3,418	3,418
506	28	0 1	0	0	4.043	1,253	1,253
508	34	0 1	0	0	44.270	8,532	8,532
508	103	0 1	0	0	6.920	2,145	2,145

713 - HAY/GRN TOTAL 0 13,900 568.856 129,133 143,033

714 - ORCHARD

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD. VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
508	49	0 1	0	0	19.000	4,045	4,045

714 - ORCHARD TOTAL 0 0 19.000 4,045 4,045

718 - PASTURE

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT CARD	BLD. VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
324	2	A 1	0	0	40.000	9,150	9,150
324	4	0 1	0	0	47.350	8,523	8,523
326	41	0 1	0	0	29.800	4,014	4,014
326	41	C 1	0	0	9.215	685	685
328	9	0 1	0	18,600	88.000	9,360	27,960
442	17	0 1	0	0	64.000	11,520	11,520
442	19	0 1	0	2,500	21.000	3,780	6,280
442	25	0 1	0	0	8.000	1,440	1,440

03/30/99
9:33 AM

TOWN of HUNTINGTON
LAND USE BREAKDOWN

PAGE 34

718 - PASTURE

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT	CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
442	26	A	1	0	0	14.200	2,556	2,556
444	1	0	1	0	0	19.430	3,497	3,497
444	66	0	1	0	0	41.400	7,452	7,452
446	3	0	1	0	0	19.700	3,546	3,546
446	3	A	1	0	700	74.800	13,464	14,164
506	19	0	1	0	0	98.375	17,708	17,708
506	20	0	1	0	0	23.000	4,140	4,140
508	73	0	1	0	0	9.370	1,687	1,687
512	3	0	1	0	0	58.000	10,440	10,440

718 - PASTURE TOTAL	0	21,800	665.640	112,962	134,762
---------------------	---	--------	---------	---------	---------

722 - NONPROD

* - INDICATES OVERRIDE ASSESSMENT

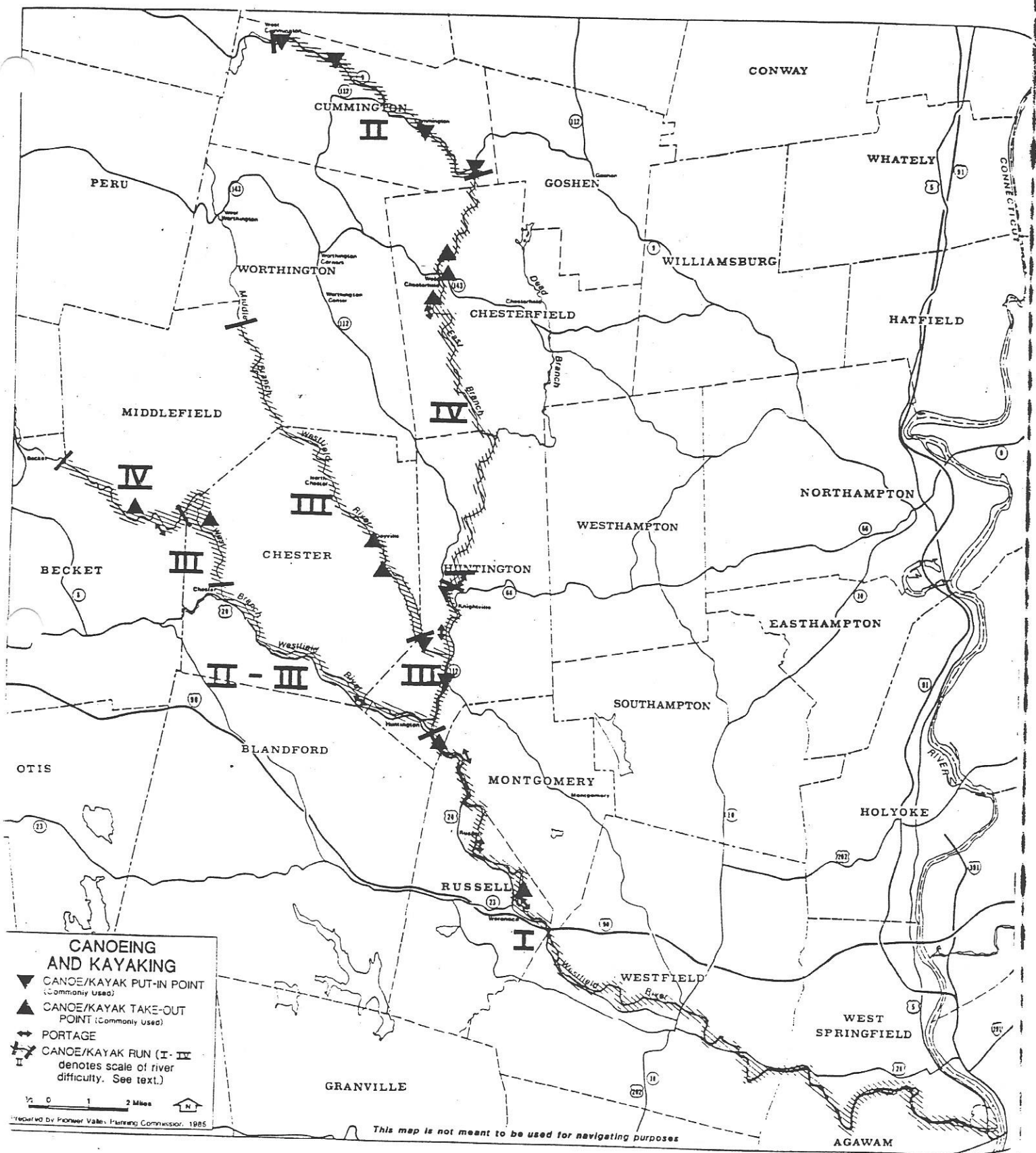
MAP	BLOCK	LOT	CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
328	6	0	1	0	0	6.400	288	288
504	6	0	1	0	0	10.000	450	450
508	32	0	1	0	0	4.600	207	207

722 - NONPROD TOTAL	0	0	21.000	945	945
---------------------	---	---	--------	-----	-----

803 - 61BNATR

* - INDICATES OVERRIDE ASSESSMENT

MAP	BLOCK	LOT	CARD	BLD.VAL	YARD VAL	ACRES	LAND VAL	TOT ASS'D
328	13	0	1	0	0	8.200	8,675	8,675
330	4	0	1	0	0	46.340	16,100	16,100
444	11	0	1	0	0	25.000	5,575	5,575
444	20	0	1	0	0	15.250	3,900	3,900
444	23	A	1	0	0	6.400	2,200	2,200
444	24	A	1	0	0	18.260	4,600	4,600
446	17	A	1	0	700	91.800	25,100	25,800
504	1	0	1	24,200	100	41.370	15,150	39,450
506	8	0	1	0	0	111.840	22,250	22,250
506	29	0	1	0	0	80.181	22,450	22,450
508	67	0	1	0	0	5.000	1,875	1,875
512	15	0	1	0	0	1.000	850	850
512	16	0	1	0	0	22.930	5,600	5,600
H5	42	0	1	0	0	109.000	21,675	21,675
N2	11	0	1	0	0	42.180	8,800	8,800



MassGIS Data Summaries

Layer	Scale	Date	Comments
Hydrography	1:100,000	1995	many small ponds/streams were not automated by USGS and therefore are missing.
Protected and Recreational Open Space	1:25,000	1997	conservation lands and outdoor recreational facilities. Federal, state, county, municipal, nonprofit, and privately owned lands with deeded restrictions or Chapter 61 designation.
Community Boundaries	1:25,000	1991	
Major Roads	1:100,000	1995	Data is either interstate, US or State highway
Roads	1:100,000	1997	
Transportation: Railroads and Transmission	1:100,000	1995	
Contours	1:250,000	1990	30-foot interval, should be used at the regional scale, and may not line up with hydrography. Graphic Output may not be reliable.
Aquifer	1:48,000	1997	Defined by 310 CMR 22.00 with an accuracy of 2-5 meters. Based on boundaries of major drainage basins as defined by Massachusetts Contingency Plan (MCP) (CMR 40.0000). The Yield is 100-300 gpm.
Public Water Supplies	1:25,000	1997	Community water supply is part of community water system which serves at least 15 service connections used by year-round residents or regulatory serves at least 25 year round residents Non-Community Water System is a single connection that has potential to serve 25+ people, such as a school or restaurant. Transient water supplies have a usage period of less than 6 months.
Surfical Geology	1:250,000	1993	Not accurate for site specific analysis.
Landuse	1:25,000	1985	From the MacConnell Land Use study. 21 category land use codes.
FEMA Q3 Flood	1:25,000	1997	Intention is to support floodplain management, and is not meant to substitute the FIRM paper maps. Data represents zones of uncertainty and possible risk associated with flooding. There has not been an effort to update incorrect data because FEMA does not recommend alterations.
DEP Solid Waste Facilities	1:25,000	1997	Facilities regulated by Department of Management.
Slope			Was created by the studio team as a Digital Elevation Model using the MassGIS contour data in ArcInfo

BIBLIOGRAPHY

- Army Corp of Engineers, *Littleville Lake Brochure*, February 1995
- Army Corp of Engineers, *Knightville Dam Brochure*, July 1998
- Becket Open Space Plan, 1998
- Belchertown Open Space Plan, 1995
- Department of Environmental Management, Areas of Critical Environmental Concern Program, 1999 www.magnet.state.ma.us/dem/programs/acec.htm
- Department of Environmental Management and UMass Extension Bulletin, *Forest Land Taxation in Massachusetts*, August 1998
- Department of Environmental Management and UMass Extension Bulletin, *Massachusetts Forest Cutting Practices Act*, February 1998
- Douglas Way, *Terrain Analysis, A Guide to Site Selection Using Aerial Photographic Interpretation*, "Issues in Site Development" Stodsbury, PA: Dowden, Hutchinson & Ross, 1978.
- Economics of Greenways, www.cibowling-green.ky.us/economics_greenway.htm
- Economics of Open Space
www.epa.gov/owow/wtr1/watershed/proceed/brabec.html
- Emerging Markets for Outdoor Recreation in the United States
<http://216.32.36.29/infosource/nsre/chap2/CH2.htm>
- Feinstein, Mark. 1999. Crowds Race, Watch Whitewater Challenge. Daily Hampshire Gazette, 19 April, final edition.
- Huntington Community Information, www.state.ma.us/cc/huntington.html
- Hampshire County Natural Resource Atlas*, Massachusetts: n.p. 1977 .
- Huntington, *Zoning By-law*, revised 1986.
- Huntington, *Open Space Plan*, 1987.
- Jacobs Ladder Trail Scenic Byway, Inc. *Discover Jacob's Ladder Trail; The First of the Great Mountain Crossovers*, 1996

Jennifer Jillson Soper, Gail Swett, Susan Zieglar, Executive Office of Environmental Affairs, DCS and DEM, *The Open Space Planner's Workbook; Companion to the 1990 Open Space and Recreation Plan Requirements*. n.p. 1993.

Kittredge, David B., Jr., Parker, Michael, *Massachusetts Forestry Best Management Practices Manual*. n.p. 1996.

Little, Charles E., *Greenways for America*, Baltimore: Johns Hopkins University Press, 1990.

MassGIS, Executive Office of Environmental Affairs, *MassGIS Datalayer Descriptions and Guide to the User Services*, n.p. 1997.

Massachusetts Division of Fisheries and Wildlife Natural Heritage & Endangered Species Program, *Massachusetts Natural Heritage Atlas, Rare Wildlife & Certified Vernal Pools & Sites of Rare Species Habitats & Exemplary Natural Communities*, 1997-1998 ed. n.p. 1998.

Massachusetts Division of Fisheries and Wildlife, www.state.ma.us/dfwele

Massachusetts Division of Fisheries and Wildlife, *Western Massachusetts Pond Maps*, n.p. 1993.

Massachusetts Department of Environmental Protection, *1990 Westfield River Study, Water Quality Data, Wastewater Discharge Data Water Quality Analysis*, n.p. 1990.

Massachusetts Division of Fisheries and Wildlife, *Massachusetts Wildlife Management Area Maps*; Western Wildlife District, n.p. 1992

National Resource Technical Team of Hampshire County, *Inventory of Sites with Natural Resource Potential*, 1977.

Mayhew, Susan, *A Dictionary of Geography* (1997) , s.v. "Rural", Hardpan, "alluvium deposit"

Natural Resources Conservation Service, *Soil Survey of Hampden and Hampshire Counties, Western Part*, n.p. 1995.

Pioneer Valley Planning Commission, *Jacobs Ladder Trail Scenic Byway Study; Cultural Resources Inventory*, 1994.

Pioneer Valley Planning Commission, *Lower Pioneer Valley Open Space and Recreation*, n.p. 1970

Pioneer Valley Planning Commission, *Water 2000; Inventory and Assessment Needs Through 2000*. n.p. 1983.

Pioneer Valley Planning Commission, *Westfield River Greenway Plan*. n.p. 1993.

Pioneer Valley Planning Commission Valley Vision,
www.pvpc.org/land_use/vvision.htm

Recreation.GOV
<http://www.recreation.gov/detail>

Teaming with Wildlife
<http://www.teaming.com/massneeds.htm>

Westfield River National Wild and Scenic Rivers System, March 26, 1999,
www.nps.gov/rivers/westfield.html

Vespe, Frank, *Scenic America Names Jacob's Ladder Trail Outstanding Byway; Massachusetts Scenic Roads as One of America's Most Important, Scenic America*, n.p. 1994.

45th Annual Westfield River Wildwater Canoe Races; Official Souvenir Book, 1998

INTERVIEWS

Mike Donovan interview by author, phone, March 3, 1999
reporter Country Journal

Grace Wheeler interview by author, phone, March 2, 1999
Huntington historian

Nancy Paradycz interview by author, phone, various dates
Huntington Realtor

Lori Belhumeur interview by author, in person, February, 20, 1999
Country Journal staff

Jeff DeFeo, interview by author, phone, February 24, 1999
Annual Westfield River Wildwater Canoe Race Coordinator

Steve Hamlin, interview by author, phone, February 28, 1999
Jacob's Ladder Business Association

Jeff Penn, interview by author, phone, March 6, 1999
Huntington historian

Melinda Scloe, interview by author, phone, March 8, 1999
Huntington Recreation Department

Nick Satler, interview by author, person, April 7, 1999
Huntington Planning Board

Eric Johnson, interview by author, phone, March 26, 1999
Archeologist at the Massachusetts Historical Commission

Phil Bergin, interview by author, phone, April 2, 1999
Historian at the Massachusetts Historical Commission

Chris Curtis, interview by author, phone, March 5, 1999
Natural Resource Planner, PVPC

Shaun Hayes, interview by author, phone, March 6, 1999
Open Space Planner, PVPC

Jim Gobell, interview by author, in person, March 1999
Huntington Water and Sewer Department

Tom Keefe, interview by author, phone, March 1999
Wildlife District Supervisor at Mass Wildlife

David Loomis, interview by author, phone, April 30, 1999
Forestry Department, UMASS

Stephen Mabee, interview by author, in person, April 1999
Geosciences Department, UMASS

Catherine Corrigan, interview by author, phone, April 24, 1999
Owner, Carmelwood Bed & Breakfast

Penny Smith, interview by author, phone, April 21, 1999
Owner Smith's Sled Shop

Ben Scranton, interview by author, phone, April 30, 1999
Greater Springfield Board of Realtors

Bob Shukis, interview by author, phone, May 4, 1999
Franklin Hampshire Board of Realtors

M.J. Adams, interview by author, by phone, April 30, 1999
Pioneer Valley Planning Commission, Economic Development

Ruth Pardoe, interview by author, phone, various dates
Huntington Open Space Committee Chairperson

Sue Kellam, interview by author, phone, March 1999
Town Assessor in Huntington