FEB 06 2014

The Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Deval Patrick
GOVERNOR

Richard K. Sullivan, Jr.
SECRETARY

Tel: (617) 626-1000
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January 22, 2014

Richard Harris
Planning Department
116 Main Street, Room 204
South Hadley, MA 01075

Re: Open Space and Recreation Plan

Dear Mr. Harris:

Thank you for submitting South Hadley's Open Space and Recreation Plan to this office for review for compliance with the current Open Space and Recreation Plan Requirements. I am pleased to write that the plan is approved. This final approval will allow South Hadley to participate in DCS grant rounds through July 2019.

Congratulations on a great job. Please call me at (617) 626-1171 if you have any questions or concerns about the plan.

Sincerely,

Melissa Cryan

Melissa Cryan
Grants Manager

THE

RANGE and RIVER:

An Open Space and Recreation Plan for South Hadley, Massachusetts: 2012-2019

June 27, 2012

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

RE: Town of South Hadley Open Space and Recreation Plan

Dear Ms. Cryan:

The Town is pleased to submit the attached update of its original Open Space and Recreation Plan which reflects a thorough assessment of the Town's open space and recreation needs. As in the past, the Town will be using this plan as a guide to protect and manage its open space and recreation resources and to develop new resources to meet its recreational needs. This plan update is also based on the Town's 2010 Master Plan and several related efforts which focused on preservation and enhancement of the community's character and resources.

The Selectboard, at its June 26, 2012 meeting, unanimously voted to endorse this update, authorize its submittal, and urge the Division to approve the plan. Additional letters of endorsement have been provided by various Town departments and boards, which reflect the broad community support for the recommendations contained herein.

Should there be any questions regarding this draft, please contact Mr. Richard Harris, Town Planner at (413) 538-5017 Ext 128.

Sincerely,
TOWN OF SOUTH HADLEY

John Hine, Chair
South Hadley Selectboard

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SECTION 1 - PLAN SUMMARY

The Town of South Hadley is unique in that it is located in a critical transition zone between developed urban centers to the south, and the more agricultural and rural communities to the north and east. This dichotomy serves as the single most important influence on the Town's growth and development and, hence, its' open space and recreation planning. Range and River – An Open Space and Recreation Plan for the Town of South Hadley, Massachusetts is intended to provide a basis for open space and recreation planning opportunities for the citizens of the Town of South Hadley consistent with this theme. Further, the plan focuses on protection and recreational development of the two major landscape features which dominate the landscape of South Hadley, the Mount Holyoke Range and Connecticut River, as well as, increasing recreational opportunities throughout the more developed southern section of Town.

This plan begins by describing the process of open space planning in South Hadley, as well as the various methods used for soliciting public input. The reader is then "introduced" to the Town in terms of its regional context, history, demographics, and growth and development patterns. This is followed by a discussion of the physical environment of the Town, its geologic origins as they influence soils and topography, a description of flora and fauna, water resources and primary environmental problems. An "inventory of lands of conservation and recreation interest" is also developed. Community goals are discussed and the community's open space and recreation needs are analyzed. Based on all these considerations, a seven-year action plan is designed to implement the community's goals and objectives for open space and natural resource protection. This document represents the fourth update to the original Open Space Plan prepared in 1988.

As a preface to Section 9 - Seven Year Action Plan is a summary of the accomplishments realized over the past five years within the Town of South Hadley.

SECTION 2 - INTRODUCTION

2.1 STATEMENT OF PURPOSE

This plan, Range and River - An Open Space and Recreation Plan for the Town of South Hadley, Massachusetts, presents a broad outline for the management and stewardship of the town's open space and recreational areas. This is the fifth version since the original five year plan that was prepared and approved in 1988. It is being reissued to continue South Hadley's planning process and it is intended to guide the town's decisions and initiatives for the period 2012 – 2019.

In 2007 the town of South Hadley started a more comprehensive planning process. This resulted in a Master Plan, adopted August 30, 2010 by the Planning Board and endorsed September 15, 2010 by Town Meeting, that includes sections about the open space and recreational resources in the town. Some of the Master Plan's goals and objectives specifically concern open space and recreation. This document is intended to support and elaborate on those portions of the Master Plan.

In addition, this plan provides a basis for participating in various grants and programs, thus bringing funds that support the town's goals and objectives for open space and recreation. It will be submitted to the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) for review and approval. When approved, it will maintain South Hadley's eligibility to participate in certain EOEEA-DCS grant programs. These include Self-Help (Chapter 132A, Section 11), Urban Self-Help (Chapter 933, Acts of 1977 as amended) and Federal Land and Water Conservation (Public Law 889-578) funds which will allow for future acquisition of lands.

Finally, the 2012 – 2019 version of Range and River - An Open Space and Recreation Plan for the Town of South Hadley, Massachusetts establishes South Hadley's goals and objectives for open space and recreation based on recent experience and priorities.

As mentioned above, this is the fifth Open Space and Recreation. The first plan was approved in December 1988 for the period 1988 – 1993. The second version covered the years 1993 – 1998. The third version was for the years 1999 – 2007 and the current fourth plan is for 2007 – 2012. This proposed plan is to cover the next seven years.

Funds from these programs have been instrumental in the Town's recreation and open space efforts.

- Between 1964 and 1992, the Town received $430,000 in Self-Help funds to acquire nearly 500 acres of open space and recreation land.
- In 1975-1976, Bicentennial Canal Falls Park was developed through the use of Land and Water Conservation Funds.
- During the 1993-1999 period, South Hadley received $600,000 for the acquisition of 244 acres of land dedicated for multi-purpose recreational use, and some 103

acres along Elmer Brook were purchased for public use under the Forest Legacy Program.

- In 2004, South Hadley received another $500,000 in Self-Help funds to acquire approximately 288 acres along Bachelor Brook and Stony Brook to permanently preserve this important and diverse natural ecosystem.
- In 2007, South Hadley received a $500,000.00 Urban Self Help grant from the State for the Beachgrounds project. Funding was also received from the Town and Various fundraising projects. The money was spent to rededicate existing town-owned land to parkland, expanding the park by a quarter acre, adding a basketball court and additional parking, developing a water park/splash pad, and installing a new playground structure, bathhouse, lighting, irrigation, picnic tables, and fencing.
- Also in 2007, South Hadley received another $ 237,088 in Urban Self Help funds to complete funding to construct the clubhouse at the Ledges.
- In 2011, South Hadley received a grant of $250,000.00 to use on improvements at Buttery Brook Park in accordance with local priorities. It is not tied into any one particular improvement; however, the original request was to build a wading pool/spray park fun area.

Over 400 additional acres of land has been placed under the protection of the South Hadley Conservation Commission since 1993. A number of these parcels lie along rivers and streams, and others are located in the Mount Holyoke Range, meeting town goals to protect land in both of these areas. Town meeting has also given land to the Conservation Commission for protection to further other community goals of protecting scenic views, agricultural resources, and sites of environmentally significant habitat.

The Department of Conservation and Recreation acquired approximately 600 acres on the Mount Holyoke Range from Fire District #2 for permanent conservation purposes. This acquisition centered around the former Lithia Springs Reservoir. Additional lands, though of less acreage, on the Mount Holyoke Range were acquired by DCR in separate purchases from private property owners.

2.2 PLANNING PROCESS AND PUBLIC PARTICIPATION

Open Space Committee leadership. The Open Space Committee is the primary Town organization responsible for developing and maintaining the Open Space and Recreation Plan. Since this is an issue that cuts across multiple departmental and other areas of responsibility, Town Meeting structured the composition of the committee to reflect a balance between inclusion of the institutional interests of various Boards/Departments and the general public with the Bylaw creating the committee providing that the committee is to have no less than five (5) and no more than nine (9) members to be appointed by the Selectboard. Membership of the Committee is intended to include representatives of the following agencies/departments:

a) Conservation Commission
b) Planning Board
c) Historical Commission
d) Recreation Commission

The bylaw provides that membership should reflect diverse interests including persons engaged in real estate, development, or other business interests; community character and landscape preservation; environment and natural resource conservation; trail development and use; and rare and endangered species.

Relationship to Master Plan. This updated plan and the formation of the Open Space Committee originated from and are tied to the South Hadley Master Plan. Therefore, the planning process for the Open Space and Recreation Plan began with the community's master planning process.

In the Fall of 2007, South Hadley began work on its first Master Plan in 30 years. The consulting firm of VHB, Inc. was hired to assist the community in this effort using funds appropriated by Town Meeting. With input from the firm, the Planning Board appointed the Comprehensive Plan Advisory Committee (CPAC) in November/December 2007 and charged this committee to draft the plan with the professional assistance of VHB, Inc. and the Town Planner.

Over the ensuing 24 months, the 16 members of this committee held many meetings with local/regional officials, local businesses, and residents. Their work came to fruition with the submission of a draft Master Plan. CPAC submitted their recommended plan to the Planning Board on Tuesday, November 17, 2009. Subsequently, the Planning Board initiated a 6 month review of the plan and made numerous edits - typically with the active participation of CPAC members.

The Planning Board held a public hearing on Monday, June 28, 2010 at 7:00 p.m. which began the public comment phase of the plan review/adoption process. Beginning at the public hearing and through August 16, 2010, the Planning Board accepted public comment on the proposed Master Plan.

Following review of the public comments received on the proposed Master Plan, the Planning Board made several changes to the proposed document. At their meeting on Monday, August 30, 2010, the Planning Board, by unanimous vote, adopted the Master Plan as revised. On September 15, 2010, Town Meeting unanimously voted to endorse this Master Plan.

The Master Plan presents a long range vision based on South Hadley's needs and characteristics. It considers land use and community design, economic development, municipal services and facilities, natural resources, cultural and historical resources, housing, transportation and transit as well as open space and recreation. One chapter is devoted to open space and recreation. More broadly, the chapters about natural resources and cultural and historical resources also address open space and recreation.

Among the core initiatives set forth in the first chapter is number 4 "Secure open space in the range, river and rural areas.

The last section of the Master Plan, the Implementation Matrix, contains an extensive list of recommended actions with principal responsibility assigned to town agencies. The Open Space Committee is responsible for actions under Cultural and Historical Resources (CHR), Natural Resources (NR) and Open Space and Recreation (OSR).

Open Space and Recreation planning process. All of the work on the Master Plan has provided an initial context for the new open space and recreation planning process which began with the creation of a standing Open Space Committee by Town Meeting in May 2010. In the Winter and Spring of 2011 the Selectboard appointed members to the Open Space Committee. These members currently include:

- Nicole Simpson
- Dennis Swartwout (Conservation Commission)
- Dawn Archambault (Agricultural Commission)
- Richard Harris (Town Planner)
- Roger Beer
- Ronald Michalski (Recreation Commission)

The Open Space Committee began meeting in May of 2011. Recognizing the foundation provided by the 2010 Master Plan and the previous 2007 Open Space and Recreation Plan, the Committee immediately began reviewing both of these documents, particularly the Master Plan Implementation Matrix. Development of the 2012 – 2019 Update of the Open Space and Recreation Plan was identified as the Committee's highest priority.

The committee then focused on the following work:

- Review of the current plan and discussion about necessary changes
- Development of a schedule for the work to be done

- Planning and creating a survey to solicit citizen views about open space and recreation as well as priorities for future open space activity
- Conducting a public forum to educate citizens about open space and recreation in the town and then solicit feedback

To obtain community input, the committee established several steps:

- Community Surveys
- Community Forums
- Town Board/Department reviews
- Selectboard review and approval

➢ *Community Surveys.* During October-December 2011, the Committee distributed surveys via the Council on Aging, Town Hall, Main Public Library, email lists, and the Town's website (a copy of this survey instrument is provided in Appendix A). Notices of the survey efforts were distributed via the Town's website, newspaper articles, emails, and notifications by various community boards and organizations.

Recognizing that the survey effort needed additional measures, the Committee created an on-line survey using the website surveymonkey.com. This survey was activated on December 15, 2011 and concluded on January 15, 2012. Again, notice of this survey instrument was distributed via the Town's website, newspaper articles, emails, and notifications by various community boards and organizations.

Collectively, 142 responses were provided to the various surveys. These responses were tabulated and analyzed. Tables reflecting the summary and tabulation of the surveys are included in Appendix A.

➢ *Community Forum.* The Master Plan included several community forums and a public hearing which addressed Open Space and Recreation needs/issues and related topics. Therefore, the committee determined that extensive forums were not needed to develop this plan. Rather, the members decided to utilize the input from the Master Plan, surveys, and their own community forum and focus efforts on development of the contents and recommendations in this plan.

A public forum on Open Space and Recreation was conducted by the committee on January 26, 2012. This forum focused on obtaining community input regarding the level of community awareness of the existing recreation and open space facilities and identification of issues and needs which the plan should address. Approximately 40 persons attended this forum which was held in the South Hadley Town Hall. Generally, the participants reaffirmed the priorities and issues identified in the Master Plan but also identified additional approaches for implementing recommendations as well as priorities including

- maintenance of existing facilities and open spaces
- an increased focus on the website
- recruitment and increased utilization of volunteers
- dedication of financial resources for acquisition and development of facilities
- integration of open space and recreation with economic development efforts
- interconnection of the various community spaces through a system of bike/pedestrian paths

Town Board/Departmental Reviews. The Committee consulted with the Master Plan Implementation Committee (MPIC) which has overall responsibility for management the implementation of the Master Plan. With a Master Plan that contains over 300 Action Recommendations, consultation with the MPIC provided the Committee obtained a better understanding of the Master Plan' priorities for Open Space and Recreation.

Various other departments/boards have been invited to comment on the draft plan, including:

- Agricultural Commission
- Conservation Commission
- Historical Commission
- Recreation Commission
- Department of Public Works
- Planning Board

Letters of review have been received from many of these committees. All such letters are/will be included in Section 10 of this plan.

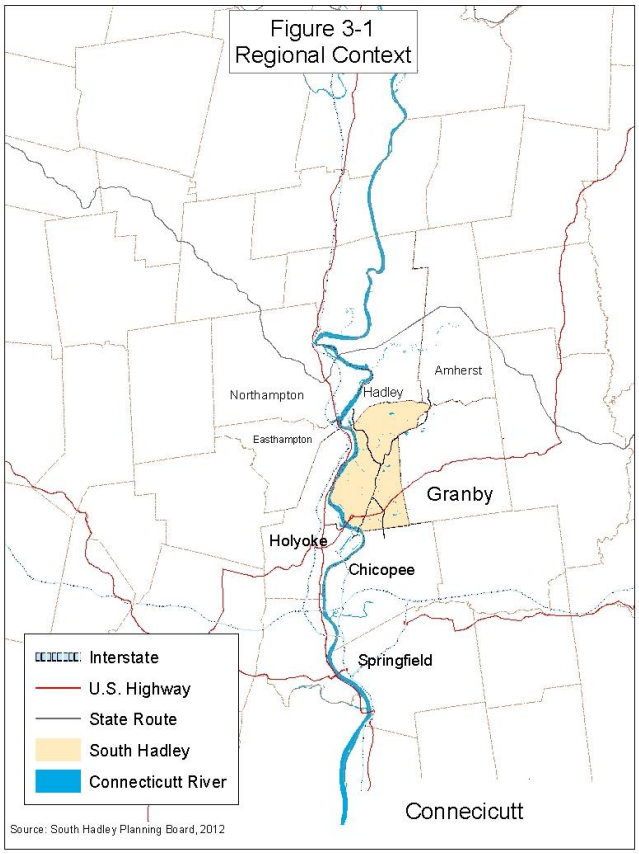
Selectboard Review and Approval. The Selectboard is the approval authority for the Town and a public review by the Selectboard was scheduled and advertised for Tuesday, June 26, 2012 as part of the Selectboard regular meeting. Prior to the Selectboard meeting, a summary of the draft of the Open Space and Recreation Plan was posted on the Town's website. Subsequent to the public review and comment on June 26, 2012, the Selectboard unanimously voted to approve submittal of the plan for review and approval by the Executive Office of Energy and Environmental Affairs.

SECTION 3 - COMMUNITY SETTING

3.1 REGIONAL CONTEXT

The Town of South Hadley occupies approximately 11,712 acres (18.41 square miles) and is bounded by the ridgeline and southern slopes of the Mount Holyoke Range to the north and the Connecticut River to the west. Adjacent communities include Amherst, Chicopee, Granby, Hadley, and Holyoke. The cities of Easthampton, Northampton, and Springfield are all within 10 miles of South Hadley (see Figure 3-1)

It is situated at the southern edge of Hampshire County and within the Pioneer Valley, a stretch of land along the Connecticut River than generally extends from the Vermont border to the Connecticut border of the state. For any given community, certain regional characteristics often serve to influence open space and recreation planning to the greater extent than others. This is particularly true for the Town of South Hadley with respect to both the Mount Holyoke Range and the Connecticut River.



Although much of the land within the Pioneer Valley is primarily Connecticut River floodplain, the boundary which South Hadley shares with Hadley straddles a large portion of one of the few mountain ranges in Eastern North America which runs from east to west. This orientation provides a sharp contrast between the types of vegetation found on the north and south facing slopes of the range.

Mount Holyoke Range. The Mount Holyoke Range in South Hadley is a chain of mountains stretching from Mount Holyoke at the eastern bank of the Connecticut River in an easterly direction to Bare Mountain. The gaps, or so-called "notches" which occur between the individual peaks in the chain, are a result of the cracking of underlying volcanic basalt by geologic faults, followed by erosion of the cracks over time. The Range's distinctive profile dominates South Hadley's skyline. The significance of the Mount Holyoke Range to the community and the region cannot be overstated.

The cultural, recreational and economic aspects of South Hadley have been historically influenced by a dramatic variation in landforms: from the nearly level Connecticut River floodplain of the south and west, through gently sloping, fertile eastern terraces, to the steep intrusive outcroppings of the Mount Holyoke Range which rise to elevations of over 800 feet above the valley floor to the north. Together, these two aspects of South Hadley's physical environment, the range and the river, serve to create a strong base for recreation and open space planning, not only within the Town of South Hadley but also within a regional context both to the north and south as well as to the east.

The bony spine of the Mount Holyoke Range defines the entire northern boundary of South Hadley. Included in this area is a large portion of the Joseph Allen Skinner State Park, approximately 86 acres of which are located within South Hadley. A six (6) mile segment of the Metacomet-Monadnock Trail (familiar to many of the more adventurous of the region's inhabitants) traverses the ridgeline of the Mount Holyoke Range along the northern border of South Hadley through the Skinner State Park. Another 5.5 miles of the Trail continues easterly through the Mount Holyoke Range State Park along the Granby-Amherst-Belchertown borders. Recent efforts were successful in having the Connecticut and Massachusetts portions of the Metacomet-Monadnock Trail from Long Island Sound designated as a National Scenic Trail. Also, included in the state park is the Summit House, which housed a very popular and prestigious resort and restaurant during the nineteenth century.

Built in 1851 as a hotel, complete with a steam-powered tramway and 70 guest rooms, the "Prospect House" drew distinguished guests and internationally known celebrities such as Charles Dickens, William Wordsworth and Jerome Napoleon Bonaparte. Those who retreated here were, typically, the wealthy who could afford the time and money to get away. The resort managed to survive its harsh mountain environment until 1938 when the tramway and most of the buildings on site were destroyed in the powerful hurricane of that year. The Mount Holyoke Summit is nationally important for its historical and cultural attributes. The view of the Oxbow from Mount Holyoke after a thunderstorm was the setting for Thomas Cole's 1836 painting which led to the Hudson River Romantic painting period which culturally dominated early American art.

The overgrown remains of the cable car track that served to transport visitors to the top are still present upon the slopes below the former hotel. The so-called Summit House is currently owned and operated by the Department of Conservation and Recreation (DCR) as part of the Mount Holyoke Range State Park. In 1988, the DCR completed renovations of the remaining hotel structure and the building now serves as a historic site, information center and scenic viewing area offering panoramic views of the Connecticut River Valley and the Town of South Hadley.

The history of the Mount Holyoke Range State Park actually began in the year of 1940 with the donation by Joseph Allen Skinner to the DCR (formerly DEM) of the remains of the "Prospect House" and 375 adjoining acres of mountainous land. Until the mid-

1950's, the Park was operated as a passive recreation area with the emphasis on trail use. In 1953, the first long-range acquisition and development planning was proposed for the area. It was not until the formation of the Mount Holyoke Range Citizen's Advisory Committee (HRCAC) in 1969, however, that planning was actually taken seriously, resulting in "A Plan for the Protection of the Mount Holyoke Range" in 1973. With this proposal, the DCR established its primary objective for the Mount Holyoke Range State Park: to preserve the scenic and recreational values of the range. This was to be accomplished through the acquisition of all unprotected lands above an elevation of 450 feet, as well as other lands located below this baseline, which meet the above scenic and recreational objectives.

The resulting "ultimate acquisition boundary" map, endorsed by the HRCAC in 1982, outlined approximately 5,000 acres targeted for protection, 2,000 of which were, at the time, already under public ownership of some type. In 1975, acquisition began in earnest with the purchase of 320 acres in Amherst. To date, over 2,500 acres have been added to the total Mount Holyoke Range State Park system. Currently, public use of the park centers around relatively "passive" recreation only, including year-round hiking, cross-country skiing, limited snowmobiling, horseback riding, and limited picnicking. Motorized recreational vehicles are prohibited due to the potential for erosion impacts, and hang-gliding, though tolerated, is not actively promoted on the mountain.

The Mount Holyoke Range was designated by Scenic America in 2000 as one of ten "Last Chance Landscapes" due to the threat of development and relative lack of controls.

In 2001, the Kestrel Land Trust (formerly Kestrel Trust) a local land trust serving the Pioneer Valley area, working in partnership with other organizations and municipalities throughout the Mount Holyoke and Mount Tom region held a "Summit on the Range" and launched an initiative to encourage more regional consideration of the Mount Holyoke Range and the Mount Tom Range on the west side of the Connecticut River. This initiative began with the day-long community planning session where people from throughout the region met to consider issues and concerns confronting the Mount Holyoke Range. Subsequently, the trust and the Pioneer Valley Planning Commission cooperated with regional municipalities and nonprofit organizations in an effort to create a regional framework for protection of the Mount Holyoke Range. This effort included a Memorandum of Agreement signed by the various communities committing to take actions to protect the resources of the range. Other related steps included work on a model Zoning Bylaw amendment to regulate development on the Mount Holyoke Range.

Connecticut River. Over six and one half miles of the Connecticut River form the western boundary of the Town of South Hadley. South Hadley joins the cities of Holyoke, Chicopee and Springfield, and the towns of Agawam, West Springfield and Longmeadow to comprise the so-called "urban riverfront". This important section of the river (also known as the "urban reach") is described in a September 1987 study by

the Connecticut River Action Program as one of four distinctive "reaches" of the river's 68-mile course through Massachusetts. The Connecticut River Action Program was established in the Summer of 1984 by the DCR to work with riverside communities on long-term planning initiatives for the cleanup and protection of the Connecticut River corridor.

As part of the relicensing of the Holyoke Dam, the Federal Energy Regulatory Commission (FERC) in 2000 required measures to protect a portion of the property along the Connecticut River, Bachelor Brook, and Stony Brook. Northeast Utilities established a Conservation Restriction with Holyoke Gas & Electric (HG&E) for a depth of 300 feet along the Connecticut River on properties then-owned by Northeast Utilities along the Connecticut River, Bachelor Brook, and Stony Brook. After acquiring the Holyoke Dam and some related properties from Northeast Utilities in 2001, to fulfill its requirements under the FERC license, HG&E began planning development of the Lower Riverside Park in the South Hadley Falls area, developed a Conservation Restriction on Cove Island, established new licenses for occupants of Cove Island, and began developing a dock and water withdrawal permitting system to regulate activities along the Connecticut River. The Lower Riverside Park, consisting of several short walking trails, picnic areas, an overlook of the South Hadley Canal, and views of the Holyoke Dam and the Connecticut River is nearing completion. Similarly, as mitigation for removal of the Texon Building boiler room, HG&E has developed an Upper Gatehouse Park which will accommodate guided walks along a portion of the South Hadley Canal site and the historic gatehouses. HG&E is anticipated to demolish the Texon Building and create a third passive recreation park which will connect the Lower Riverside Park and the Upper Gatehouse Park providing visual access to the Connecticut River for a stretch of over one-third of a mile through a formerly industrial site.

With a collective population of over 350,000, according to the 2010 U.S. Federal Census Decennial, the urban reach of the river offers opportunities unavailable in many urban environments, including water-based recreational activities, such as canoeing, fishing and riverside strolls. The strong presence of this major water resource in South Hadley serves to provide not only aesthetic beauty, but also opportunities for the psychologically soothing effects that such a water oasis can offer people living in an urban setting. Development of the historic riverfront park encompassing the Gatehouses above the dam and the passive recreation area below the Texon Building, as required by FERC and the Corps of Engineers, will significantly enhance community use.

Situated less than twenty miles from prominent industrial, commercial, and educational centers, South Hadley is a bedroom community to surrounding municipalities including Springfield, Chicopee, Holyoke, Westfield, Northampton and Amherst (which houses the largest employer in the region, the University of Massachusetts). However, South Hadley also enjoys an industrial, commercial and educational base of its own. Intellicoat (formerly Rexam Graphics) is located in South Hadley Falls and the Industrial Drive/New Ludlow Road Industrial district has continued to develop and

attract new tenants. However, the Town is running out of land available for industrial use.

Commercial development has been largely characterized by a few large centers (The Village Commons, the Big Y Center on Newton Street, and the Big Y Center on Willimansett Street). Other commercial developments have generally consisted of small shops/office developments or restaurants on Newton Street or Granby Road.

Further adding to the Town's frame and character is Mount Holyoke College, a prestigious educational institution founded in 1837 as the first women's college in the United States. The College also owns considerable amounts of open space including a tract on the Mount Holyoke Range and an historical golf course. Presently, the Town's inhabitants enjoy a predominantly residential environment in close proximity to major employment and service centers and within a forty-five minute drive from Bradley International Airport in Enfield, Connecticut.

3.2 HISTORICAL OVERVIEW

1. BECOMING A MUNICIPALITY

According to the Historical Review – Town of South Hadley 1753-1953 compiled by H.L. Goodwin, F.A. Brainerd, R. Barrett and P. Adams, Hadley, the so-called "Mother town" of what is now known as South Hadley, was originally settled in 1661 by colonists from Hartford and Wethersfield, Connecticut. These settlers traveled north to find a land well endowed with very rich soils. This condition would form the basis for a very successful agricultural community, a success which persists to the present day. As was most of the Pioneer Valley during the seventeenth and early eighteenth centuries, the Town of Hadley soon became a predominantly agricultural community with a strong affiliation to churches of different denominations. In 1727, the settlers south of the Mount Holyoke Range petitioned the General Court to grant them permission to be established as a separate precinct. The advantages to this proposal centered around the issue of local worship as an alternative to observing the Sabbath at the parent church in Hadley eight miles north.

The journey to church involved the laborious task of traversing the Mount Holyoke Range through gaps between the mountain peaks, commonly known at the time as "the cracks". In light of this hardship, the General Court finally agreed to grant the parishioners their precinct, but not without a number of attached conditions. This list included construction of a meeting house, selection of a minimum number of settlers, and the settlement of a minister within a given period of time. Having met all but one of the requisites by 1732, South Hadley was granted a second opportunity for a precinct with the stipulation that they settle an orthodox congregation, and proceeded to erect a parsonage for the Harvard graduate.

Pursuant to an order by the British Government to the Governor of Massachusetts prohibiting the establishment of any town requiring representation in the legislature, the precinct was precluded from becoming its own political entity. Precinct status, however, would soon yield to "district" establishment, complete with powers of authority similar to those of a town, but without the rights of representation in the General Court. District representation soon followed the war for independence, and in 1786, a declaration granted that all Districts established prior to 1777 were to become officially incorporated towns.

2. THE IMPACT OF RIVER TRANSPORTATION

Some of the Town's early engineering and construction projects were to earn national recognition. The canal, which began in 1795, was the first commercially-operating navigational canal. It was completed during a two-year period ending in 1795 as a way of overcoming the obstacle formed by the natural falls of the Connecticut River at the southern portion of the Town of South Hadley. The canal covered a distance of approximately two and one half miles through swamp and bedrock, beginning just north of what is now called Cove Island and continuing to a point just below the South Hadley and Chicopee line.

This wondrous engineering solution transported vessels over a 53-foot drop at the "Great Falls" at South Hadley and removed a serious obstacle to the free shipment of goods between upriver towns and larger regional centers in Springfield, Hartford, and New York. The first version of the canal included a 275-foot long "included plane" which was used to raise and lower the riverboats from above and below the falls. In 1805, this canal was altered to include a series of locks for the purpose of creating greater draft for larger riverboats. This technology was the first of its kind to be employed and served as a model for the construction of canal systems throughout the country.

With the transformation of the formerly agricultural South Hadley Falls into a community known throughout as "Canal Village", the area soon began to prosper. Travelers and riverboat workers found the growing need for eating and drinking establishments, entertainment and overnight lodging in the area. Taverns began to pop up everywhere to serve an expanding number of people moving an increasing volume of freight through the canal. Local merchants were beginning to take full advantage of an economy which was flourishing as a result of both the canal and the several mills which were highly active throughout the area. The mills of the era included such varied types as saw, grist, shingle and plaster, to name a few.

In addition, the canal served to attract the first tourists to South Hadley. "Man-made" features such as this were rare at the time and tended to draw sightseers from miles around, often to stay the night at The Tavern, a common meeting place of the Proprietors of Locks and Canals. The Proprietors were the legal entity empowered by the State Legislature as the authorizing entity charged with making the Connecticut River navigable to boats from the confluence of the "Chicopee River"

northward to the furthermost limits of the Commonwealth of Massachusetts. It is interesting to note that, in contrast to the more familiar present-day regional attractions of South Hadley, the natural geologic amenities of river networks, mountains, foliage and open spaces, it was the canal, a "man-made" structure, which drew the first sightseers to South Hadley from all over the surrounding countryside during the colonial period.

The popularity of river transportation systems, primarily involving the flat bottom boat, continued into the 19th century. Though many of the flat bottom boats which traveled the river were propelled by sail, most often they were pushed by planning "setting-poles" into the river bottom and walking the length of the deck from bow to stern, and then carrying the pole back to the bow to repeat the process. This was the routine executed as the boats carried loads of stone, shingles, hides and lumber as far north as White River Junction, Vermont, and returned with heavier cargo such as iron, sugar, grindstones, salt and occasionally rum. The trip from Hartford to Wells River, Vermont took approximately sixteen days to complete, and the return trip took about half as long.

The most prosperous period in operation of the Proprietors of Locks and Canals proved to be between the years 1808 and 1847. With the development of the steam engine in the 1820's, the flat bottom boat owners began to adopt this technology in the operation of their own vessels. In 1826, "The Barnet", owned and operated by the Connecticut River Navigation Company of Hartford, became the first steam boat to pass through the South Hadley Canal locks. The canal peaked in operation in the year 1833 when it reached a total of $20,016 in tolls collected.

Ironically, however, steam technology would ultimately spell disaster for the use of the river as a principle navigational system, as development of the railroad and the steam locomotive began to intensify. Finally, on Thanksgiving Day 1847, the last steamboat passed through the canal.

During the mid-19th century, use of the canal for navigation began to decline seriously with the construction of the 1848–1849 water power dam and the move of transportation facilities from water to rail systems. Eventually the canal system was employed by the paper mills to harness the hydrologic power for consumption by their facilities.

According to some historians, it was the country's first commercially-operating navigational canal which brought prosperity to the communities of South Hadley and Holyoke; a prosperity which persists to a great extent today. In December, 1992, the National Park Service placed the South Hadley Canal District on the National Register of Historic Places commemorating the rich history of this engineering and cultural wonder. Only canal remnants may be seen today due to the filling of segments of the canal and submergence by the rising river level. Most of the canal has been covered over by the development of the human environment and other parts have been grown over by maturing vegetation as it experiences the

process of ecological succession. Located along eastern portion of the peninsula commonly referred to as Cove Island are the skeletal remains of what was once the northern section of the famous South Hadley Canal. Despite its overgrown condition, select portions of the old canal are still navigable by canoe.

3. CROSSING THE RANGE

At the western end of the Mount Holyoke Range, at the base of Mount Holyoke, lies the site of a narrow gorge called The Pass of Thermopylae. As history recalls, this is the location at which early settlers began construction of a route through the range. Clearing of the Pass was accomplished through the curious method of pouring water over exposed rock within the intended passageway, allowing the rock to freeze, and raking away the resulting debris.

A second passageway to the North used by the early settlers was the natural migratory path through the Mount Holyoke Range at "Round Hills Pass", now known as "The Notch". The construction of a road connecting Amherst and Granby through this pass, later to become Route 116, was recognized as a major regional accomplishment of the late 18th century era. This access continues to be the primary passageway across the range.

4. THE COLLEGE

Mount Holyoke Seminary located in the eastern section of South Hadley was founded in 1837 by Mary Lyon as the country's first institution dedicated to the higher education of women. This occurred 200 years after the first men's college was established.

With the establishment of the Seminary, which finally became Mount Holyoke College in 1893, came acquisition and protection of the many expanses of open spaces which today forms the campus. In subsequent years, the college would acquire more land for its expansion to include a golf course, wooded areas with nature trails, and athletic fields.

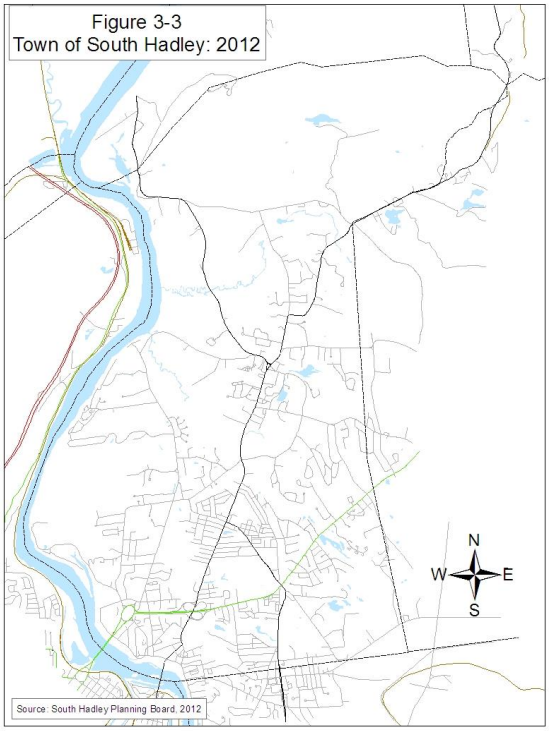
5. EARLY DEVELOPMENT PATTERNS

Beginning in 1892, South Hadley embarked upon a development technique which spread through the Town as more and more land was developed. The first standard subdivisions were planned at the location of Canal, North Main and Abbey Streets. Despite being used in the Town since 1892, the typical subdivision was not a land consumptive pattern until after the Second World War.

The post-war era marked the point at which that the rectilinear "cookie cutter lot" subdivisions became standard practice for most residential developers capitalizing on the pledge to provide a "decent home for every working American". This pattern is clearly represented by subdivisions off of Newton Street, just north of the

Falls Village area at Lincoln, Roosevelt, Washington, and McKinley Avenues. This type of housing development forms the structure of development that exists today in South Hadley. Together, the aforementioned occurrences created the patterns which were instrumental in the evolution of the Town as its character shifted from an agricultural to an industrial and commercial economy, and finally to the predominantly bedroom community that it is today. A comparison of Figures 3-2 and 3-3 provide an indication of the shift in the development patterns between 1865 and 2012 through an examination of the roadway patterns.

Figure 3-2: 1865
Map of South Hadley



3.3 POPULATION CHARACTERISTICS

Total Population and Population Growth. The 2010 U.S. Federal Decennial Census showed South Hadley had a population of 17,514 persons which represented a 2% increase over the 2000 population. This rate has generally been consistent for the last 30 years. This modest growth, reflective of a lower-density pattern of development, could have dramatic impacts on the town's landscape and public services. This growth has had, and will continue to have, impacts as to the availability of open space and recreational amenities. Such growth will result in increased housing needs which will, in turn, induce increased building and development which will continue to draw families in town. These impacts are reflected in the increased level of condominium and subdivision development over the past 20 years.

Phase out of the Westover Air Force Base in the neighboring city of Chicopee, resulted in significant decline in population in the early 1970's (See Table 3-1 and Chart 3-1). With the exception of that "event", the Town has and continues to show steady positive growth through the year 2010. Projections through 2020 show a continuation of this increase in this growth rate.

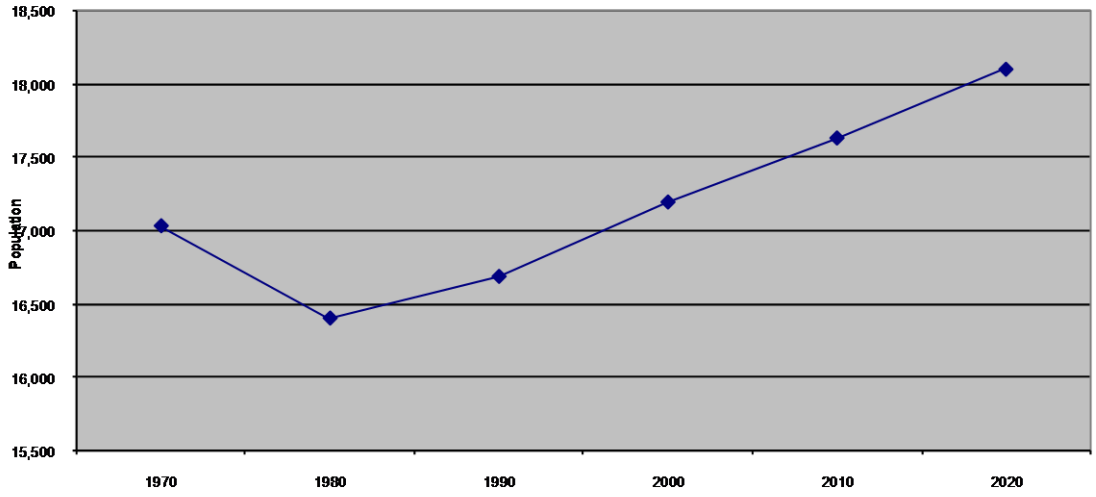
TABLE 3-1

TOWN OF SOUTH HADLEY
POPULATION 1970 - 2010 AND PROJECTION FOR 2020

YEAR	POPULATION
1970	17,033
1980	16,399
1990	16,685
2000	17,196
2010	17,514
2020	18,108 (Projection)

Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.
MISER Population Projections for 2020, University of Massachusetts.

Chart 3-1
South Hadley Population: 1970-2020



Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.
MISER Population Projections for 2010 and 2020, University of Massachusetts.

Population Density. South Hadley has historically maintained an overall suburban/rural population density. With a total community area of 18.41 square miles, the overall density has varied from a low 890.2 persons per square mile in 1980 to 951.3 persons per square

mile in 2010 (See Table 3-2). Population densities' impacts on recreational facilities and space needs vary within the community as the density increases or decreases in specific neighborhoods with urban neighborhoods generally needing more park space as the amount of private space on individual lots decreases. Within the community, the 2010 population density among the four census tracts varies from a high of 4,538 persons per square mile in the Mount Holyoke College area and 2,349 in South Hadley Falls to a low of 368 in the western and northern sections of town.

TABLE 3-2

TOWN OF SOUTH HADLEY
POPULATION DENSITY 1970 - 2010 (Persons Per Square Mile)

Year	Density
1970	925.2
1980	890.8
1990	906.3
2000	934.1
2010	951.3

Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.

While, over time, South Hadley's population will continue to shift northerly, this change is expected to be slight with the northern development being of a suburban nature. Therefore, the more urban densities are expected to remain in the southern portions of the community in the South Hadley Falls area.

Age Distribution. Three census periods of data on age distribution of the population provides a good picture of the changing face of South Hadley. In 1980, 35% of the population was in the 20-45 year age group, this level increased to 40% in 1990, but fell again to 35% in 2000 (see Table 3-3). The pre-teen segment (0-9 years of age) mirrored this pattern. During the same 20 year period, the 65 years and over population steadily increased in numbers and share of the population from 11.9% in 1980, 15.5% in 1990 to 17.4% in 2000. Significant as well is the steady decline in the relative size of the teenage population from 21.2% in 1980 to 16.7% in 1990 to its most recent low point of 15.3% in 2000.

Recent housing developments have focused on the 55 years and over population. Few developments are focusing on serving the housing needs of families and youth. The relative decline in the younger population segments and growth in the mature age segments has significant implications for a variety of planning issues. The type of recreation programs and public facilities that the residents will desire can be expected to shift. Recreation and social service planning will need to accommodate these changes.

TABLE 3-3
TOWN OF SOUTH HADLEY
POPULATION BY AGE GROUPS 1980 - 2010

Age	1980		1990		2000		2010	
Group	Number	%	Number	%	Number	%	Number	%
0-4	692	4.2%	895	5.4%	783	4.6%	685	3.9%
5-9	805	4.9%	857	5.1%	945	5.5%	788	4.5%
10-14	1,108	6.8%	827	5.0%	1,015	5.9%	896	5.1%
15-19	2,364	14.4%	1,625	9.7%	1,616	9.4%	1,730	9.9%
20-24	2,121	12.9%	1,935	11.6%	1,588	9.2%	1,947	11.1%
25-44	3,646	22.2%	4,776	28.6%	4,406	25.6%	3,670	21.0%
45-54	1,786	10.9%	1,573	9.4%	2,300	13.4%	2,558	14.6%
55-64	1,932	11.8%	1,615	9.7%	1,552	9.0%	2,219	12.7%
65-74	1,210	7.4%	1,571	9.4%	1,447	8.4%	1,370	7.8%
75+	735	4.5%	1,011	6.1%	1,544	9.0%	1,651	9.4%
	16,399		**16,685**		**17,196**		**17,514**	

Source: 1980 U.S. Census STF-1A
1990 U.S. Census STF-1
2000 U.S. Census STF-1
2010 U.S. Census SF-1

According to the 2000 U.S. Census (CPH-L-83-1990), the median household income in 1999 for the Town was $46,678. Data from 2010 indicate that the median household income had increased to $62,236 (American Fact Finder).

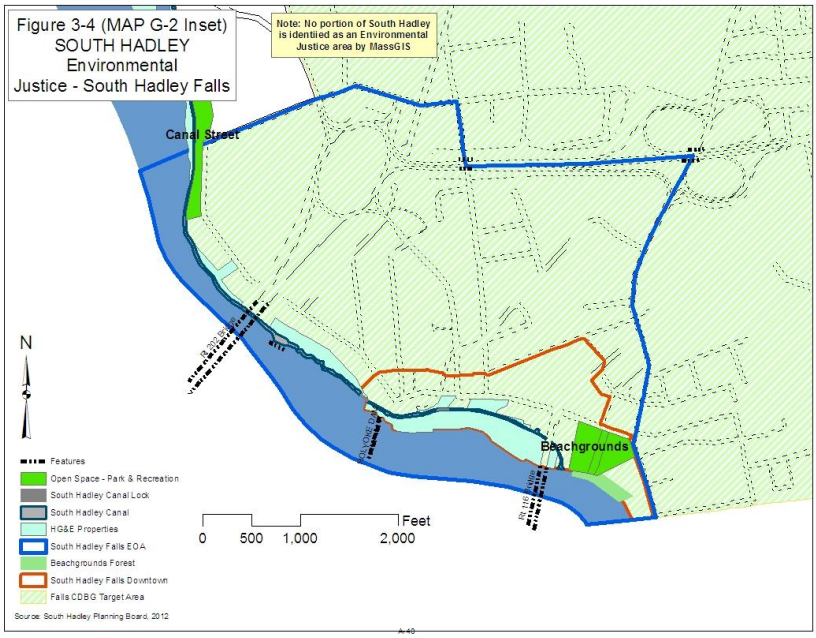
Comparison of the 2000 and 2010 U. S. Census data reveals some shift in the employment sectors for South Hadley's residents. The number of employed persons over 16 years of age increased slightly less than the overall growth in the population – perhaps reflecting the community's aging population. Service sector businesses continued to be the dominant employment sector growing from slightly over half of the employment in 2000 to nearly 2/3's in 2010. Manufacturing, wholesale trade, and transportation and related industrial sectors diminished as a share of employment from 1/5th in 2000 to approximately 15% in 2010. Similarly, retail trade diminished slightly from 13% to 11.4%. Various levels of government accounted for 17% of the employment in 2010, up from 14% in 2000 These shifts suggest that less land will be needed for industrial and similarly large facilities. However, the shifts also highlight the community's continuing role as a "bedroom community" with a greater need for leisure time activities and facilities.

Commuting patterns for those employed according to the Census figures, have not shifted from 2000 to 2010 with 84% of those employed continuing to drive to work with two-thirds of them commuting to locations outside of the town. The average commute time to

work was 21 minutes. This is consistent with the "bedroom community" nature of the town where people reside and return at the end of the working day. Reflecting the advent of home computers, the portion of persons working at home has increased from 4% to 8.4%.. Both concepts have resulted in the steady growth of the residential community which will require enlarged and/or new recreational opportunities, both active and passive, to meet the needs and correspond to the characteristics of this growing population.

The largest private employers (excluding the Town itself) include Mount Holyoke College, EInk, Intellicoat (formerly Rexam Graphics), two Big Y food stores, and Wingate at South Hadley (formerly Meadowood Nursing Home). While these businesses are located throughout Town, there are a number of businesses located at the industrial park in the southeastern part of Town. Lots available at the park, which is zoned for industrial use, with complete infrastructure available, provide the opportunity for industrial growth or the expansion of existing businesses.

Environmental Justice Population. The MassGIS maps do not denote any Environmental Justice populations in South Hadley. However that is not say that South Hadley does not have one or more areas of social and economic distress. In South Hadley, the South Hadley Falls neighborhood (see Figure 3-4 below – a larger copy is included in Appendix G) is generally considered the most distressed neighborhood in the community.



It has been the focus of the Town's CDBG program and has been designated as an Economic Opportunity Area for economic investment focus. From a recreational perspective, the Falls is the location of one of the community's major parks – Beachgrounds and several small parks/open spaces as well as proposed riverfront passive recreation areas being developed by Holyoke Gas & Electric.

Data from the 2000 Census and other sources was used to have this area designed as an Economic Opportunity Area in 2007. This data provide a picture of the relative distress of this area compared to the Town as a whole. While less than 6% of the Town's households were below the poverty level, 6.37% of the Falls area households were so classified. Data for one significant subsector of the Falls indicated that 11.83% of the population of that area was below the poverty level.

Households with a median income that is 80% or less of the area wide median income are considered low-moderate income. Over one-third of the Falls area residents resided in a household considered low-moderate income in 2000.

While rental households constitute less than 30% of the town's households, at least half of the Falls area households were tenants. Over 16% of the Falls households were headed by a female compared to less than 14% for the town as a whole.

Historically, the South Hadley Falls business district was the center of the community's major employers. At one time, over 1,000 people worked on a daily basis in the Falls area. Today, only one of the major private employment centers is located in the Falls and fewer than 300 persons are estimated to be employed in private businesses in the area.

Recreationally, the Falls area continues to be a center of the community's recreational activities and is likely to become more of a regional center. The Beachgrounds Park is the site of the Town's only spray park and also the location of the major nonschool recreational facilities. Holyoke Gas & Electric is developing a series of riverfront parks along Main Street. These new parks will cater to passive recreational needs and historical interpretive displays.

South Hadley is an auto-dependent community. For the most part, residents need to have a private auto to access work and shopping. The Falls area is served by the Pioneer Valley Transit Authority's routes which serve South Hadley, but the level of service is minimal and inadequate for daily travel for work, shopping, etc.

Municipal facilities continue to be a major element of the South Hadley Falls area as the Town Hall and the Library are located in the area – within easy walking distance of the residences. A new, much larger, library is being constructed in the area. Much of the infrastructure (water, sewer, sidewalks, and streets) have been upgraded over the past 20 years using a combination of local, state, and federal funding.

In summary, while no portion of the Town is designated as having an Environmental Justice population, the Falls area is the home to the most distressed population of community. The residents of this area have access to considerable recreational facilities and opportunities within easy walking distance of their homes. The town has and continues to focus considerable resources – recreational and other on this neighborhood.

3.4 GROWTH AND DEVELOPMENT PATTERN

1. PATTERNS AND TRENDS

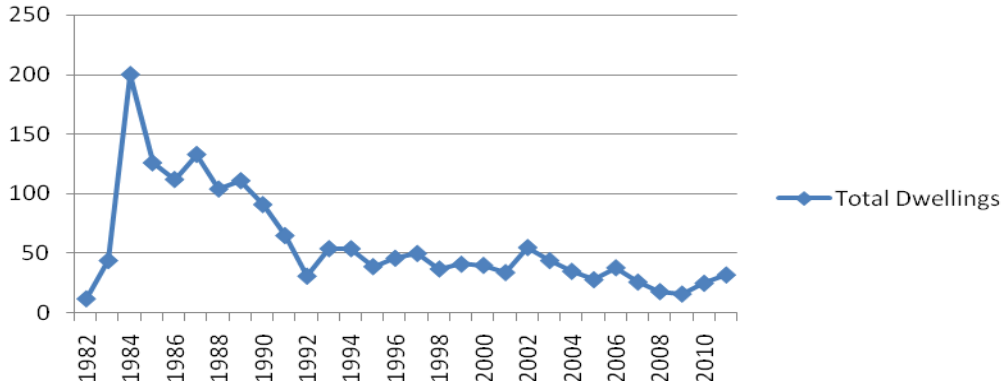
South Hadley was established by the General Court as a district with its own local self government separate from Hadley in 1753. It was then incorporated as a town with its own representation in General Court in 1775. The centers of growth and development came as a result of the canal and incline plane in 1794 in the southern part of town and in the central area of town with the establishment of Mount

Holyoke Seminary in 1837. Transportation routes, in particular, County ways, provided a framework for development up to the present time.

In the early 1900's, there were several subdivisions of land for development, but it was not until 1946 that the Town approved its first Zoning By-Law and 1954 when the Subdivision Regulations were adopted. While these tools regulated height, density and use, the location of the infrastructure, in particular, water and sewer lines has always played a significant role in the current and future development patterns.

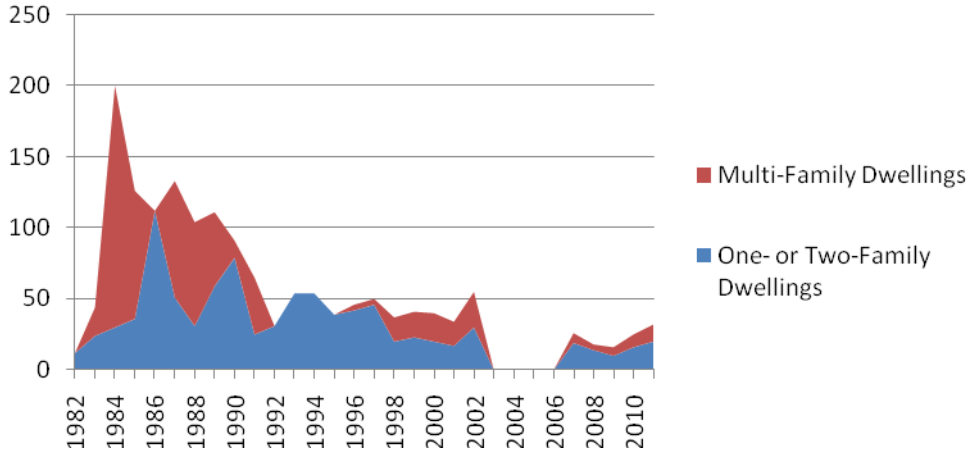
South Hadley experienced intense development pressure during the real estate boom of the late 1980's with development continuing through the 1990's into the 2000 decade. Records of building permits issued within the Town from 1982 to 2011 (see Charts 3-2 and 3-3) are a good indicator of the rate at which development occurred and the numbers of units that resulted. An analysis of the dwelling units permitted reflect a rapid growth during the 1980's, especially in the multi-family sector, but a slower, more balanced mix of housing types during the last 20 years.

Chart 3-2
Total Dwellings: 1982-2011



Sources: Town of South Hadley Building Commissioner; South Hadley Planning Board; and Town of South Hadley Annual Reports. 2012

Chart 3-3
Number of Dwellings Permitted by Type:
1982-2011



Note: Data by type were not available for 2003-2006

Sources: Town of South Hadley Building Commissioner; South Hadley Planning Board; and Town of South Hadley Annual Reports. 2012

Residential construction steadily and significantly grew during the 1980's with an average of over one-hundred (100) new units added annually between 1984 and 1989. Most of these new units were multi-family (apartment and condominium units). While growth in multifamily housing has clearly been a factor in South Hadley's development, addition of single-family homes has usually outpaced multifamily developments. The Alvord Street and Main Street corridor growth largely took place following the installation of the interceptor sewer line in the 1970's. In some cases this growth converted agricultural lands into residential use.

While total annual residential construction peaked in 1984 at 200 units with the construction of the Riverboat Village Apartments, single-family construction peaked at 112 units in 1986 and dropped to 31 by 1988. Over the past 30 years, annual residential construction averaged 58 units per year. However, there has been a noticeable decline by decade during this time with the 1980's averaging 105 dwellings per year, the 1990's averaging 51 dwelling per year, and the first decade of the 2000-2009 averaging only 33 dwellings per year. Reflecting the National and Regional economic recession, residential construction over the last five years has averaged only 23 dwellings per year. However, the last three years have shown a slight increase in housing construction.

Plan approvals by the Planning Board also reflect changes in the character of the residential development as shifting more from single-family subdivisions to multi-family (predominately condominiums). From 1985 to 2012, thirty-seven (37).

single-family subdivisions were approved and initiated. These subdivisions have created 417 new building lots – nearly all have been constructed. The largest subdivision during this time period was the Stonegate on the River with 80 lots. Slightly over half of the subdivisions created 10 or fewer lots. While subdivision activity of the 1940's to 1970's largely created relatively small lots (10,000 to 15,000 square feet), much of the subdivision activity of the last 3 decades has resulted in lots in the half-acre or larger range. Most significantly, no new single-family subdivisions were approved during the period 2007-2011 with a four lot subdivision having only recently been approved.

To encourage more open space in developments, in 2004, the Town repealed its "cluster housing" provision which had only been used once in 30 years and replaced it with a "Flexible Development" provision. This development option was used for the 52-lot Mountainbrook subdivision that is partially constructed which preserves 50% of the land for common open space and the lots are in the 14,000 to 15,000 square foot range.. If the property was developed as "conventional" subdivisions, the only portions which would not have been developed would likely have been the wetlands. Due to the economic downturn, build out of this development has been much slower than anticipated with no work having begun on the second phase.

While single-family subdivisions dominated the development activity of the 1980's and 1990's, thirteen (13) multi-family developments were also permitted. These developments account for 580 permitted dwelling units. Half of these developments accounting for 137 dwellings were granted Planning Board approval between 2001 and 2007. Five (5) more multi-family developments were approved by the Planning Board during the past five years. These additional developments were approved for an additional 73 dwellings. However, reflecting the economic downtown, two of these newer developments accounting for 42 dwellings have never broken ground. Similar to the single-family subdivisions, the larger (25 dwellings or more) multifamily developments approved since 2005 have generally been slower to develop.

Although the entire Town felt the pressures of development in the late 1980's and early 1990's, some areas experienced greater impact than others. As a result of the installation of an interceptor sewer line, the Alvord Street area realized the addition of over 300 new dwelling units. Nearly all of these new units were constructed on land previously used for farming. In 1991, a research team from the UMASS projected that land in this area could accommodate an additional 308 single-family units along this corridor.

Development may never again meet the level of the late 1980's, however, changes will nonetheless continue to impact the Town's fiscal condition, environment, infrastructure and community character and such change must be planned for and directed. Often times, the increase in residential units will add a disproportionate share to the tax burden of a town because of the concomitant increase in school

needs and other services. Now is the time to plan for retaining space for both passive and active recreation as well as the planned availability and expansion of industrial and commercial land.

South Hadley has not lost all of its agricultural land to development, yet it is steadily becoming a more densely populated "bedroom community", which will utilize what land remains to meet the growing demand. Realizing this, it is important for the Town to plan and equip itself for the protection and conservation of open land by identifying planning goals associated with existing and future development.

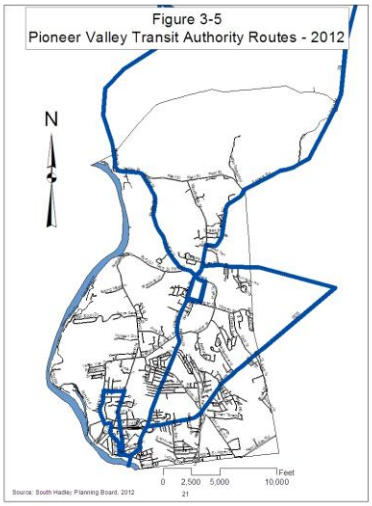
To help guide development activity, the town completed a new Master Plan for the community in 2010. The plan provides a vision for the future and was based on significant public discussion and input through a two year planning period.

2. INFRASTRUCTURE

A. TRANSPORTATION

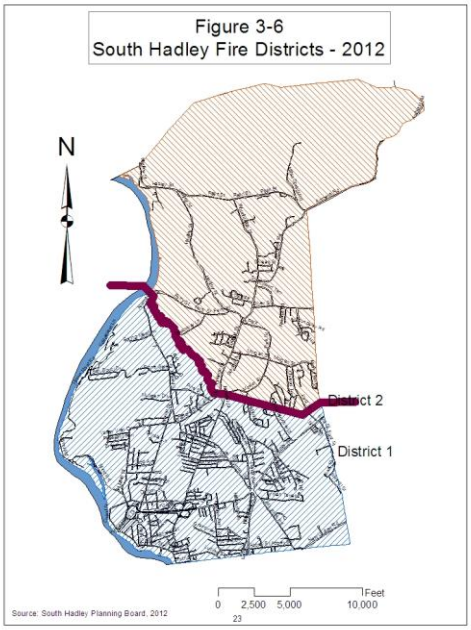
Although the Town of South Hadley does not have in-Town access to any of the major interstate highways, there is direct linkage to Interstate 91 via Mass. Route 202 west through Holyoke and to Interstate 90 (Mass Pike) via Route 33 south through Chicopee. Routes 116 and 47 north link the Town with commercial areas and employment and educational centers in Amherst and Northampton. Due to the absence of major interstates and railroad facilities in South Hadley, the potential for large scale industrial development appears to be limited to the industrial park in the southern portion of Town nearest to the major transportation routes. Locally, the transportation systems which are favorable for commercial, light industrial and expanded residential development exist throughout town. Completion of the rebuilding of the Route 116 County Bridge, linking South Hadley Falls with the City of Holyoke, in the mid-1990's has provide increased access between the industrial section of South Hadley, Holyoke, Chicopee and Springfield.

The Pioneer Valley Transit Authority (PVTA) has several regularly serviced routes linking the Town with the cities of Springfield, Holyoke and Chicopee as well as free bus service throughout the five (5) college area linking South Hadley with the towns of Amherst, Hadley and Northampton (see Figure 3-5). The PVTA also provides support for van service in and around town for people with disabilities and senior citizens by providing the vans themselves and financial reimbursement of operation costs.



B. WATER

South Hadley has two (2) water/fire districts which serve the Town's potable water needs (see Figure 3-6). Fire District #1 supplies the southern portion of the Town from the Chicopee line northward to Stony Brook and the intersection of Mosier and Newton Streets, Parkview East and Parkview Drive, Cypress and Westbrook and across East Street into Granby. From here to the northernmost limits of the Town, residents are supplied by Fire District #2. The two systems are interconnected at five (5) locations for emergency situations only.



Fire District #1 receives its supply from the Quabbin Reservoir while Fire District #2 is supplied by the Dry Brook wells. Due to the sensitive nature of the well supply, the Town and Fire District have worked to develop a regulatory framework to protect the groundwater supply. A 36-unit residential condominium development was approved in 2007 which would sit atop a portion of Dry Brook Hill in the well recharge zones. However, a special community septic system was to be installed to ensure that the groundwater would not be adversely impacted. With the economic downtown, this development has not broken ground. Legislative actions to extend expiration of permits have allowed this development to maintain its "permitted status" even though no work has begun on the project. Efforts have been under way to pursue acquisition of the site using a variety of funds including Federal Highway Administration "Scenic Byway" funding.

C. SEWER

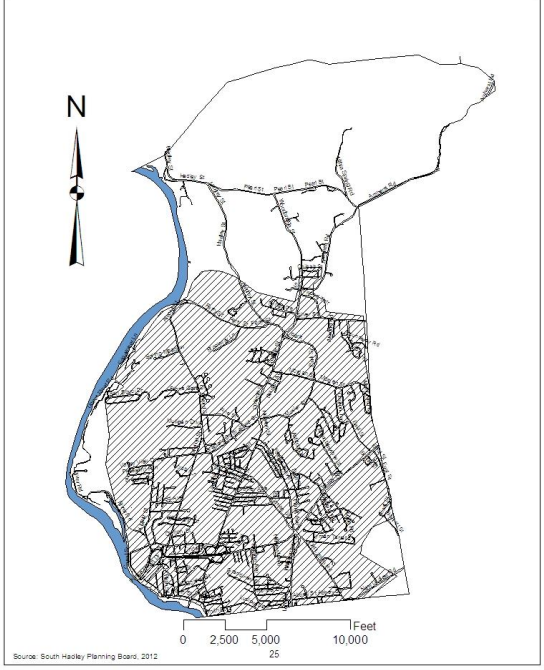
The Town of South Hadley currently operates a wastewater treatment plant which serves a total of 7,300 households including 240 in neighboring Chicopee and approximately 300 homes in Granby. An average of 2.75 million gallons of sewage is treated every day. The facility is currently operating at approximately 65% of capacity, and has the potential of treating 4.2 million gallons per day. At least 85% of the total suspended particles are removed, and the resulting sludge is disposed of privately.

As noted previously, the installation of a 30-inch sewer trunk line parallel to the Connecticut River in 1976 allowed some more intense land uses to develop in the Alvord Street and Main Street corridors (for example, Riverboat Village apartments, Alvord Place condominiums, Loomis Village, and five (5) larger single-family subdivisions with over 175 approved building lots. In some of these instances, the development involved conversion of prime agricultural land.

It should be noted that the Ledges Golf Course involved conversion of planed industrial land which had been in use for agricultural purposes.

Although most of the town is serviced by the public sewer system, private septic handles all of the area north of Bachelor Brook (see Figure 3-7). A primary reason for the lack of public sewer north of Bachelor Brook includes the prohibitive cost of installing sewer infrastructure along the radically changing topography in the northern areas at the foot of the Mount Holyoke Range.

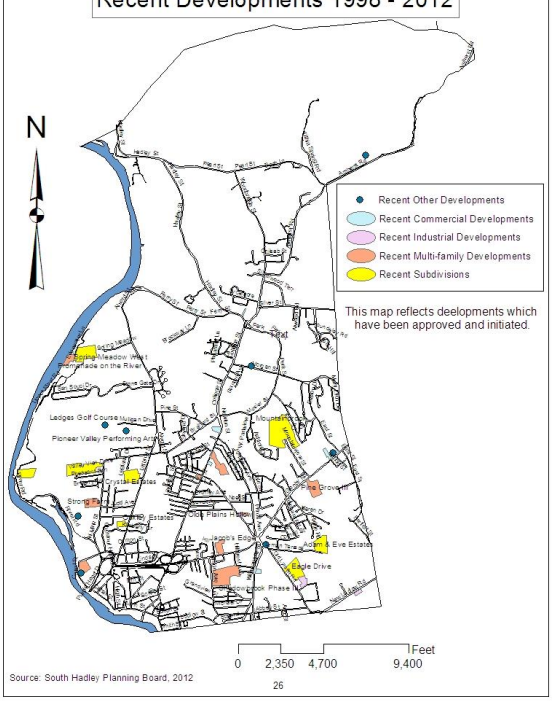
Figure 3-7
Generalized Area of Sanitary Sewer Service - 2012



3. LONG-TERM DEVELOPMENT PATTERNS

As the street patterns demonstrate (see Figures 3-2 and 3-3), over the past 150 years, South Hadley has developed northerly. Overall, the southern portion of the town is developed much more densely due to a variety of factors including access, zoning, and utilities. Most recent developments (see Figure 3-8 have focused on "in-fill" sites and modern, multi-family communities. As land has developed in the southern half, the first multi-family development was recently approved for the northern third of the town.

Figure 3-8
Recent Developments 1998 - 2012



Zoning and utility infrastructure have largely dictated the Town's development pattern and will likely continue to do so. Most of the undeveloped land in South Hadley is zoned either Agricultural or Residence A-1 *(See Appendix G, Map 3for the current Zoning Map)***.** Under the Zoning Bylaw, residential development in the Agricultural district generally follow the Residence A-1 requirements, but with larger lot and frontage requirements.

Residence A-1 dimensional requirements generally include:

- a maximum lot coverage is limited to 30%,
- lot size is limited to a minimum of one half acre lots, and
- for specially permitted properties (i.e., churches, schools), building lots are required to be a minimum of two (2) acres.

Agricultural dimensional requirements generally include:

- thirty thousand (30,000) square feet is the minimum lot size,(forty thousand (40,000) square feet in the Aquifer Protection Overlay District), and
- again, a maximum lot coverage of 30%.

To illustrate the application of the Zoning Bylaw, the Alvord Street corridor, with the exception of the "Industrial Garden", is primarily zoned Residential A-1 and Agricultural. Under this zoning, the landscape along Alvord Street has been drastically altered from its previous farm dominated landscape to its present pattern of predominately residential uses with open farm landscape interspersed.

Finally, the Planning Board is currently reviewing existing zoning maps and anticipates a Zoning Map update in the near future.
A concern over the loss of agricultural land resulted in the Alvord Street Corridor Study which showed, among other things, that 285 acres along the Alvord Street corridor had been in an unprotected open space status and should result in further proposals for protective measures as amendments in the Zoning By-Law or by other means. To this end, the Town, in 1997 by an arrangement with James River Corporation, purchased some 244 acres of this land with the assistance of the State's Urban Self-Help funds for the purpose of developing a regional multi-purpose recreational site including an eighteen (18) hole golf course.

In 2003-2004, the Pioneer Valley Planning Commission conducted a "Build-Out Analysis" based on South Hadley's current Zoning Bylaw and an assessment of the constraints on land for development. The study concluded that there were 4,374 acres of land which could be developed without any known constraints. Further, the available land, under current, "by-right" zoning, could result in an additional 4,537 households, 12,839 residents, and 1,724 students. This would represent a 75% increase in the Town's population, a dramatic decrease in the community's open space – under current zoning regulations. The implications for community services and recreation needs are significant as such growth could result in the community which is characterized by the "Range" and the "River" becoming characterized by the "condo" and the "mansion" with little open space in between and views and access to the "Range" and the "River" becoming illusory and a fleeting memory.

Finally, the above noted "Build-Out Analysis" is considered the most intense scenario based on a variety of assumptions as to the extent to which properties can and will be developed. Therefore, it is presented here for information purposes only.

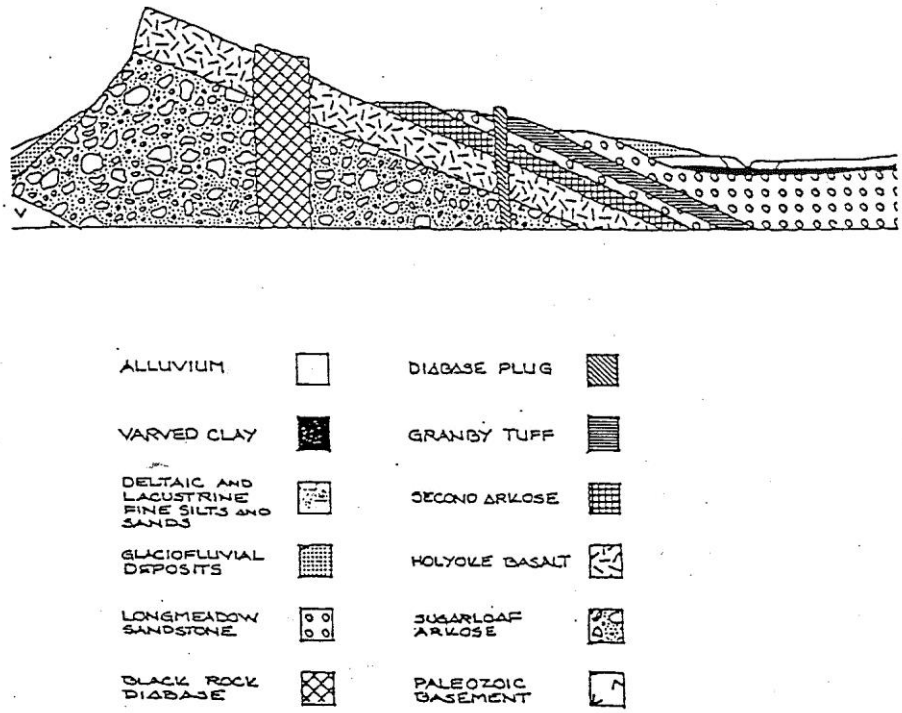
SECTION 4 - ENVIRONMENTAL INVENTORY AND ANALYSIS

4.1 GEOLOGY

The geological history of South Hadley is both dramatic and significant. Continental drift, the formation of the Appalachian Mountain chain, volcanoes and glacial scouring, have all played a role in the physical development of the Connecticut River Valley. These factors have influenced the topography and soils which, in turn, have determined surface and ground-water characteristics, forest cover and finally land use.

During the Triassic Period (220 to 180 million years ago), two faults formed on either side of what is now the Connecticut Valley. The forces of continental drift pulled these faults apart causing the land between to drop and form the Triassic basin (the Connecticut Valley). The subsequent geological activity formed the topography, rocks and soils of the Valley have given present day South Hadley its landscape characteristics**.** Figure 4-1 shows a cross section of the sedimentary and igneous rocks in the Range and Valley and is to be used as a reference for the following discussion.

Figure 4-1
Cross Section of Sedimentary and Igneous Rocks



Generalized Cross-Section of Mount Holyoke Range showing major rock formations and deposits (as viewed from the west, portions adapted from Randall, 1962)
Source: Berkowitz, 1974

- Sugarloaf Arkose: Sugarloaf arkose was the first deposit in the Triassic basin arriving from streams in the east which first deposited larger rocks in the eastern portion of the Valley and then dropped smaller rocks gradually westward as the streams slowed. The rock is a buff to pale red arkose (a sandstone with a high percentage of feldspar fragments) that gets its color from both iron found throughout the cement of this sediment and the pinkish to orange grains of orthoclase feldspar.

- Hitchcock Volcanics: The Triassic era was unusually active with volcanism. Lava from volcanic fissures and low vents is manifested in different forms such as the Hitchcock Volcanics. These are stacked, volcanic cones that shot up through the early, uncemented arkoses. The arkose mixed with the bases of the cones which formed sections of diabase and basalt (a dark igneous rock).

- Holyoke Basalt: This rock is one of the most prevalent in the Mount Holyoke Range today and has been quarried for use in road beds. The rock is also called diabase or traprock and is reddish brown with feldspar crystals when weathered and light to dark gray when freshly exposed. Most Holyoke basalt was formed from a lava flow that extended southward through the basis while smaller amounts spread east and west against alluvial fans. The thickness of the flows range from 100 to 700 feet. A phenomenon known as columnar jointing occurred when the basalt cooled from its parent lava. These are hexangular joints or cracks that occur perpendicular to the cooling surface. Titan's Piazza in South Hadley is probably the best example of columnar jointing in the Range.

- Second Sugarloaf Arkose: This arkose is much like Sugarloaf Arkose but was formed after Holyoke basalt came into existence. The sediments in the second are coarser as well. This is due to the fact that westward flowing streams at this later date were running at great volume and were able to carry heavier material. Second Sugarloaf arkose outcrops are found only on the south side of the Range.

- Granby Tuff: Granby tuff is made up of volcanic ash and fragments, crumbles easily and is dark in color. Like the Second Sugarloaf arkose, this rock occurs on the south side of the Range. Purer layers resulted from violent, volcanic eruptions while mixed fragments indicate formation from quieter lava flows. The tuff can be up to 1000 feet thick.

- Intrusions: Sills, dikes and pipes of fine-grained basalt bisect the Granby tuff and nearby sedimentary material. These intrusions are between 15 and 200 feet in diameter and rise 10 to 30 feet above the tuff surface. South Hadley's Black Rock Dike is the largest intrusion in the Range.

- Longmeadow Sandstone (or the Portland Formation): Many of the brownstones in New York City are constructed from this valuable sandstone. This rock is a

brownstone containing quartz and iron oxide cement. Layers were deposited before and after the Granby tuff and may be 2,000 feet thick at one point. This unit is also known as the Longmeadow Shale.

- Chicopee Shale: This rock, which is finer grained than the sandstones above, is found just south of the Mount Holyoke Range and was formed toward the end of the Triassic Period. The Triassic Period laid the geological foundation for what was to develop millions of years later. The Pleistocene Era, or what is commonly referred to as the ice age, arrived approximately 1 million years ago and lasted until roughly 7,000 years ago. Glacial advance and retreat during this period had a significant effect on the Valley and Range. The glaciers came in thicknesses of up to 10,000 feet scouring and carrying Triassic bedrock, clay and sand.

The sedimentary and igneous rocks described above are summarized in Table 4.1 below. South Hadley is also home to Titan's Pier, a columnar structure of greenstone along the Connecticut River that was the subject of many 19th century illustrations and writings.

Table 4-1 Geological Rock Characterization of South Hadley

Formation	Description
Sugarloaf Arkose	Weather resistant sandstone containing fragments of feldspar.
Hitchcock Volcanics	A dark igneous rock, formed as a result of volcanic cones mixing with uncemented arkoses.
Holyoke Basalt	Also known as diabase or traprock, a type of stratified rock containing feldspar crystals.
Second Surgarloaf Arkose	The second formation of Sugarloaf Arkose, containing coarser sediments than the first.
Granby Turf	Combination of fragments including volcanic ash.
Chicopee Shale	Fine grained rock formation resulting from glacial advance and retreat.
Titans Piazza	Columnar traprock formation.

South Hadley Master Plan, August 2010

Till deposits (the unsorted "mix" of clay, silt, sand and boulders deposited by glacial ice) can be found on both sides of the Mount Holyoke Range today. A dam of till was formed on the Connecticut River just north of Middletown, Connecticut at Rocky Hill during one glacial retreat. This formed a series of lakes known collectively as Lake Hitchcock that extended 160 miles north to Lyme, New Hampshire. Except for seasonal flooding, Lake Hitchcock provided the most recent important sediments in the Valley. Deltaic and lacustrine fine sands and silts were deposits on the interior Valley floor. These deposits have contributed to the rich, alluvial soils that dominate the farmlands of the region.

4.2 SOILS

In terms of development constraint, soils can be considered to be the most critical element of the physical environment, the understanding of which can help the community to decide, for any given location, which land uses are realistic and which are not realistic. Therefore, careful attention to the various properties and geographic concentrations of soils can prove to be an advantage in planning for a community's open space and recreation needs.

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) makes soils information available in the form of soil surveys, of which Soil Survey of Hampshire County, Massachusetts, Central Part provides the reference material for South Hadley. Although the NRCS maps many different soil classifications for the town land base, it is helpful for our purposes to distinguish between the various so-called "soil associations". These are groups of soils named for the dominant soil type, and characterized primarily by common geographic patterns, parent material, and limitations for particular uses *(see Appendix G, Map G-4 for the Soils and Geologic Features Map, and see Figure 4-2, "Estimated Limitations of Soils for Specific Uses*.

References to limitations contained in the following section provide a general guide only. Due to the wide variation of potential recreation development, reference to the NRCS Soil Survey should always precede the design of any specific recreational or open space project. The NRCS recognizes five soil groups or associations for the Town of South Hadley, as follows:

Figure 4-2
Estimated Limiations of Soils for Specific Uses

Uses / Soil Name Association	Farming	Forest Management	Recreation Facilities	Recreation Trails	Open Land Wildlife Potential	Woodland Wildlife Potential	Wetland Wildlife Potential	Building	On-Site Septic
Rock outcrop-Narragansett-Holyoke	Severe	Slight-Mod.*	Severe	Slight	Poor	Fair	Very Poor	Severe	Severe
Amostown-Scitico-Boxford	Slight	Slight*	Mod.-Severe	Severe	Fair	Fair	Poor	Severe	Severe
Hinkley-Merrimac-Windsor	Mod.	Slight	Slight	Slight	Fair	Fair	Very Poor	Slight	Severe
Gloucester-Mantauk-Paxton	Severe	Slight-Mod.	Mod.	Slight	Good	Good	Very Poor	Mod.-Severe	Severe
Hadley-Winooski-Limerick	Slight	Slight	Severe	Mod.	Good	Good	Poor	Mod.	Severe

Slight* - Except on saturated soils where windthrow potential & access limitations exists.
Slight-Mod.* - Erosion Potential.

Sources: Soil Survey of Hampshire County, Massachusetts, 1981

Roughly 38% of the Town is underlain by the **Hinkley-Merrimac-Windsor** association concentrated primarily in the eastern and southern sections of Town, including South Hadley Falls. The Hinkley and Windsor components are described as excessively drained, draughty soils, upon which plant growth is limited by the lack of available moisture. Despite the poor filtering capabilities of these soils for on-site septic systems, all of this association is currently in residential or commercial use supported by an existing public sewer system. Few limitations exist for forest management operations in this soil group, with the exception of those associated with tree growth itself. Conditions in this association are described as excellent for most recreational development.

The moderately well to poorly drained **Amostown-Scitico-Boxford** group represents roughly 34% of the soils of South Hadley. These soils are concentrated in the lowlands which spread eastward from the Connecticut River, and are predominantly loamy and clayey soils formed in postglacial outwash, that is, sorted material deposited by glacial melt water, or "lacustrine sediments". Though most of the association is in agricultural or forest use, it is described by the NRCS as limited for building and on-site septic due to wetness and slow permeability typical of the Scitico component. In general, there are limitations for recreational development in this association, especially with regards to actual construction, due to soil saturation conditions. To be successful, the scheduling of forest management operations may need to be limited to times of frozen ground conditions to be successful.

The **Rock Outcrop-Narragansett-Holyoke** association covers approximately 22% of the town land base located primarily at the northern (essentially the south-facing slopes of the Mount Holyoke Range) and southwestern sections of the town. This grouping is characterized by high, massive ridges, and shallow to bedrock conditions typical of the Holyoke soils component. This group is also a result of glacial ice deposition. All of this association is currently in forest use, with severe limitations for residential development, as described by the NRCS. The soil survey rates this association as being moderate to severe in limitation for forest management purposes, primarily due to steep slope conditions. Mitigating measures to protect these soils against erosion are necessary for successful forest management. Recreational development will be limited to trail system and associated construction, with particular attention to erosion potential.

Approximately 4% of the Town falls into the **Gloucester-Montauk-Paxton** association, soils which are deep, well and somewhat excessively drained, sandy and loamy, and formed in glacial tills. This grouping is confined to uplands along the eastern boundary which South Hadley shares with Granby. Most of this association is currently in forest use, and is described as having severe limitation for building and on-site septic due to the existence of surface stones. Limitations are slight to moderate for forest management in this association. A preponderance of small to large surface stones could be the primary drawback to development of recreational facilities.

Finally, 2% of the South Hadley's land base is underlain by the **Hadley-Winooski-Limerick** association which is characterized by deep loamy soils formed in alluvial material, typical of the floodplains within the Connecticut Valley. This association consists of well drained Hadley soils, moderately to well drained Winooski soils, and the more poorly drained Limerick soils, located in depressions throughout the northeastern section of town. Limerick soils are those which exhibit high water table conditions. This association is generally suited to tree and crop growth. This group is limited, however, for building purposes due to its propensity for flooding and wetness.

4.3 WATER RESOURSES

The Town of South Hadley lies within the 11,250 square mile Connecticut River Basin. The Connecticut River is the longest river in New England and is designated as an American Heritage River, which allows the communities to work in partnership to carry out several conservation and development projects. The Town enjoys the distinction of marking the dramatic transition between the primarily agricultural and predominantly industrial segments of the Massachusetts portion of the river *(see Appendix G, Map G-6 for the Water Resources Map).*

A significant portion of South Hadley's major streams in South Hadley are located in the northern half of the community. Bachelor Brook and Stony Brook are two major waterways which flow westward from neighboring Granby to the Connecticut River. Elmer and Dry Brooks run south and westward from the slopes of the Mount Holyoke Range to the River. The Town is also home to Leaping Well Brook and Judd Brook although these streams and their contributing watersheds are not especially well-documented. Finally, White and Buttery Brooks feed into the Connecticut River from wetlands in the south section of Town.

There are four major open water bodies in the community. At the base of the Mount Holyoke Range lies the Lithia Springs Reservoir (formerly a source of drinking water for Fire District #2) which is now part of the Mount Holyoke Range State Park. Within the Mount Holyoke College campus are the Upper and Lower Lakes parts of the Stony Brook waterway. Leaping Well Reservoir, formerly a source of drinking water for Fire District #1, is along the south side of Granby Road in the southern portion of the community. Smaller ponds include Black Stevens Pond, Titus Pond, Hillcrest Pond, and a few unnamed ponds in the Bynan Conservation Area.

The Buttery Brook corridor includes 9.8 acres of publicly owned greenbelt within the total 29.2 acres of Buttery Brook Park. A canoe launch or dock is available for public use at Bicentennial Canal Falls Park on the Connecticut River. Other private recreational facilities including Brunelle's Marina and the Red Cliff Canoe Club, also utilize these streams and the Connecticut River.

The inhabitants of the Town of South Hadley derive their potable water supply from both surface and ground water sources, administered by two separate political bodies,

Fire Districts #1 and #2. District #1 serves approximately 70% of the Town's population, as well as sections of both Granby and Ludlow under a contract to purchase water from the Quabbin Reservoir. Within this district, two water sources, Leaping Well and Buttery Brook Reservoirs, were abandoned circa 1950 due to poor water quality, in favor of the currently operated hookup to Quabbin via the Chicopee Valley Aqueduct system which went on line in 1952.

The water supplied from District #2 is pumped from the 108-foot deep Dry Brook wells located near Dry Brook Hill. This well is situated in saturated sand and gravel deposits sandwiched between the approximately 80 feet of confining clay layer above, and impervious bedrock below. In 1992 the Town set up the Water Supply District to restrict the intensity of development in this area to protect the aquifer.

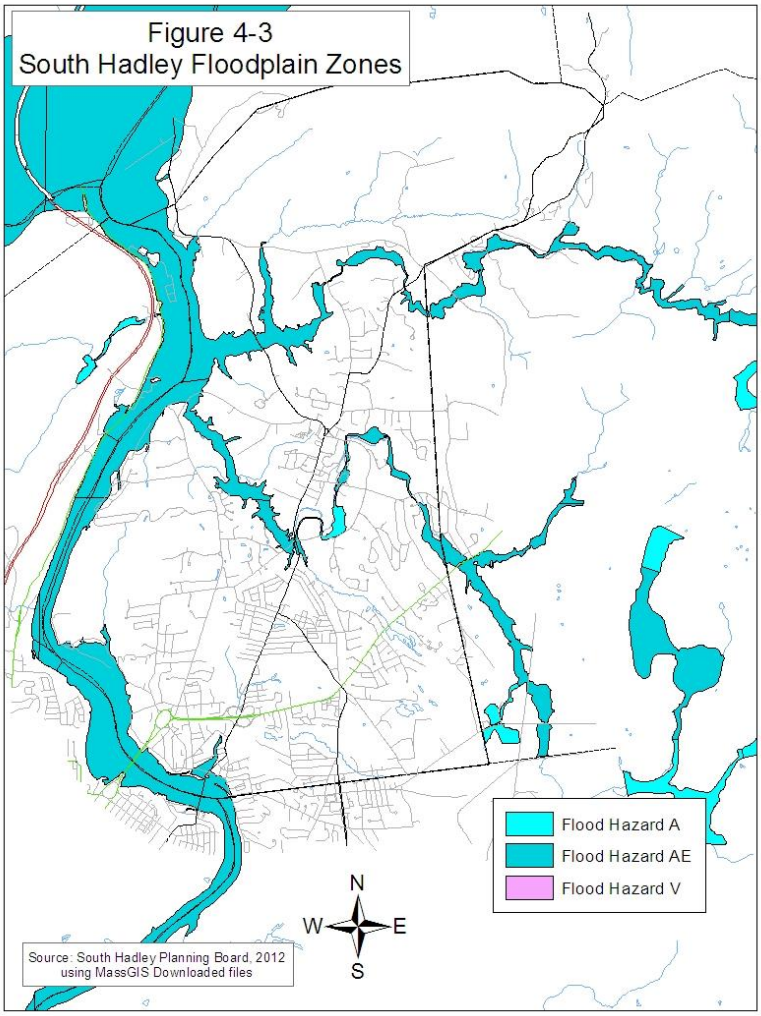
1. FLOOD HAZARD AREAS

Historically, the Connecticut River has flooded both from excessive rainfall and from rain in combination with snowmelt runoff. The greatest flood of record in South Hadley occurred in March 1936, as a result of heavy spring rains accompanied by melting snow. The second greatest recorded flood, in September 1938, resulted from intense rains associated with a hurricane (Federal Insurance Administration's Flood Insurance Study, 1979). Tributaries of the Connecticut River, particularly Stony Brook and Bachelor Brook, are also subject to considerable flooding.

Floodplain areas are defined and delineated based on their probabilities of being flooded. The level that flooding will reach on the average of every 100 years (the 100-year flood, which has a 1% chance of occurring any given year) is shown as the 1% flood zone (also called the 100-year flood plain). Generally, the 100-year floodplain is used for regulatory purposes while larger areas such as the 500-year floodplain is considered in planning for major flood control projects.

The Flood Insurance Rate Maps prepared in conjunction with the National Flood Insurance Program delineate zones A and V (areas of 100-year flood). It is not surprising that the 100-year floodplain dominates the Connecticut River shoreline but also portions of Bachelor Brook, Stony Brook, and the South Hadley Falls area along Buttery Brook (see Figure 4-3).

The Federal Insurance Rate Maps for South Hadley are available at the office of the South Hadley Planning Board and are identified as Community Panel Number 250170 0005 A and 250170 0010 A: Effective Date August 15, 1979 from U.S. Department of Housing and Urban Development, Federal Insurance Administration.



2. <u>WETLANDS</u>

Wetlands play an important role in any community. Their functions and values include flood control, aquifer recharge and discharge, pollution control, fish and wildlife habitat, increased biodiversity, recreational use and aesthetic appreciation. The Water Resources Map *(see Appendix G, Map 3)* shows the areas of forested and non-forested wetlands in South Hadley. The floodplain forest along the Connecticut River and the mouths of Bachelor and Stony Brooks are of great value to the town. (See a complete discussion of floodplain forest in Section 4.4, Vegetation.) White Brook, east of River Road, is another area of special consideration. This location includes many acres of relatively undisturbed

wetlands, but is under pressure for future development potential. The Town may want to determine this area's importance as an undisturbed wetland. Most of the Natural Heritage and Endangered Species Program's rare habitat areas are in wetland areas and the Mount Holyoke Range.

Town Meeting recognized the importance of wetlands in 2005 by adopting the Town's first Wetland's Bylaw. This Bylaw established a 50-foot no disturb zone adjoining all wetlands and larger vernal pools. The Conservation Commission adopted regulations to this Bylaw in 2011.

Recognizing the need (and the Federal requirement) for regulation and management of storm water runoff associated with development, in 2008, the Town adopted the Stormwater Management Bylaw which establishes minimum requirements and procedures to control the adverse impacts associated with stormwater runoff pre- and post-construction and site development. The Planning Board serves as the Stormwater Permit Granting authority, but works with and relies upon the Department of Public Works, Conservation Commission, Board of Health, and Building Commissioner to administer and enforce the provisions.

Through adoption of these Bylaws and regulations, the Town has taken a major step towards utilization of its regulatory tools to further protect the functions and values of its natural resources/open spaces.

3. AQUIFER RECHARGE AREA

The Mount Holyoke Range constitutes the watershed for the former Lithia Springs Reservoir and recharges the underground aquifer in the northern section of South Hadley. This aquifer supplies water for District #2's Dry Brook Hill wells. A Water Supply Protection District (Section 7N of the South Hadley Zoning By-Law) was established in 1992 to protect and preserve the quality and quantity of surface and ground water in this area of Town *(see Appendix G, Map G-3 for the Zoning Map including the Water Supply Protection Overlay District)*.

4.4 VEGETATION

1. GENERAL INVENTORY

South Hadley has a diverse vegetative cover reflecting its mixture of lowland and mountain settings. Forests dominate the vegetative communities. But, the forests are themselves diverse and have played a significant role in the community's development.

In general, the forest cover in South Hadley is typical of that found in central New England and the Connecticut River Valley. The warmer, south slopes of the Mount Holyoke Range are composed predominantly of oak-hickory including northern red

oak and shagbark hickory, in direct contrast to the hemlock-white pine-northern hardwood mix found on the cool, moist northern slopes of the range.

In addition to the above, typical species throughout South Hadley include eastern hemlock, yellow birch, paper birch, as well as white pine, red maple, sugar maple, American beech, white ash, balsam fir, red spruce and white spruce, red spruce and white spruce. Associated understory vegetation and ground cover include such plants as common witch-hazel, viburnums, mountain laurel, pink lady's slipper, trilliums, tree club moss, Canada mayflower, and wintergreen.

During the Industrial Revolution of the 19th century, wood from the Range fed the kilns which baked the bricks for mill construction in Holyoke and South Hadley. The eventual use of oil and coal for fuel served to ease the pressure on the Range forests, allowing them to regenerate. Today, the forest and adjacent agricultural land provide the Town with a pleasant landscape and visual link to its past, a good supply of timber, wildlife habitat, as well as climate moderation, erosion control, and watershed protection.

The Massachusetts Natural Heritage and Endangered Species Program (MNHESP) has mapped 959 acres of lands classified as priority habitats for 59 threatened and endangered species in South Hadley. Of the 59 species listed, 23 are animals (fish, amphibians, reptiles, birds, mussels, dragonfly/damselfly, and butterfly/moth) and the remaining 36 species are vascular plants (*see Appendix I*).

The Connecticut River riparian zone contains a northern floodplain forest, a unique forest type especially adapted to the seasonal flow of water over the river's banks. This special forest composition exists in successive waves of vegetation out from the river and into the floodplain. The first flank is comprised primarily of the willows and green ash which survive the immediate riverside environment to stabilize the river's banks. Farther out on the low ridges of heavy course sediment created by river flooding grows the eastern cottonwood, which pushes taproots deep into the alluvial soil. A relatively undeveloped shrub or intermediate layer of vegetation can been seen beneath the sheltering canopy of the cottonwood, due in large part to both the shade of the overstory and the scrubbing effect of river flooding. Seedlings of silver maple, elms, box elder, and white ash can be found here, as well as ostrich fern, and sedges, and grasses, depending on the light levels in a given area of the forest floor. Grapevines and American black currant are among the prolific under story plants in this section of the floodplain. Still farther back from the river, trees such as sycamore, sour gum, tulip-poplar, red maple and American beech comprise the over story. These species grow close enough to the river to be rooted in moist floodplain soils, yet far enough away from serious flooding.

According to the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife (MNHESP), the lower portions of Bachelor Brook and Stony Brook are excellent examples of "Small River

Floodplain Forest", a natural community targeted as a priority for protection in the state. These floodplain forests provide habitat for several state-listed rare plant species, as well as for state-listed mussels. MNHESP advises that the greatest threat to these communities and their rare plant populations is the invasion and spread of non-native plant species. Other unique natural communities in South Hadley consist of a wet meadow off of River Road near the Connecticut River and a black ash swamp, circumneutral rocky summit/rocky outcrop community on the Mount Holyoke Range. The southeast corner of Town also has extensive and unusual pine barren habitat.

MNHESP has indicated that the Bachelor Brook/Stony Brook area harbor two of the best examples of the state's small river floodplain forest (only 10 exist statewide). The general area of the Bachelor Brook/Stony Brook floodplain forests are known to be habitat for thirteen documented rare species – an exceptional concentration of rare species. Most of the species in this area are sensitive to the likely deleterious effects of development. Due to the very unique qualities of these lower portions of Bachelor Brook and Stony Brook, the MNHESP strongly supported and endorsed the Town's successful application for Self-Help funds to assist in acquisition and permanent protection of a 288-acre tract in 2004. This acquisition ensured that these unique areas are protected from development, clearing of the nearby upland forest, and cutting and grazing within the floodplain forest itself.

2. FOREST LAND

Forest is a major part of the open space picture in Massachusetts. The 2000 USDA Forest Service publication, Forest Statistics for Massachusetts – 1985 and 1998 reports that, of the state's 5 million acres of total land area, forest land covers 62% or 3.1 million acres. As expected, the eastern, more urban counties showed a drop in forest land, while the western part of the state showed a slight increase since 1985. Across the state, there was a 3-percent drop in forest land since 1985, when forest land covered 64 percent of the area. If Massachusetts Audubon Society projections of open space consumption (over 2 million acres by 2030 based on current rates) prove correct, the lion's share of conversion will likely occur in our state's forest environment. In addition, the Massachusetts forest is undergoing fragmentation into an ever increasing number of even smaller private ownerships causing a nightmare for the planning, protection and management of our forest recreation, watershed, aesthetic, products and wildlife functions.

In many cases, the fragmentation of forest ownership into many smaller parcels marks a prerequisite to conversion. This will result in the fragmentation of larger forest tracts into even smaller parcels, causing the disruption of the necessary functions performed by our forestland.

South Hadley's forest land reflects this conversion pattern. Forest lands covered approximately 6,965 acres or 59% of the total town land base at the beginning of

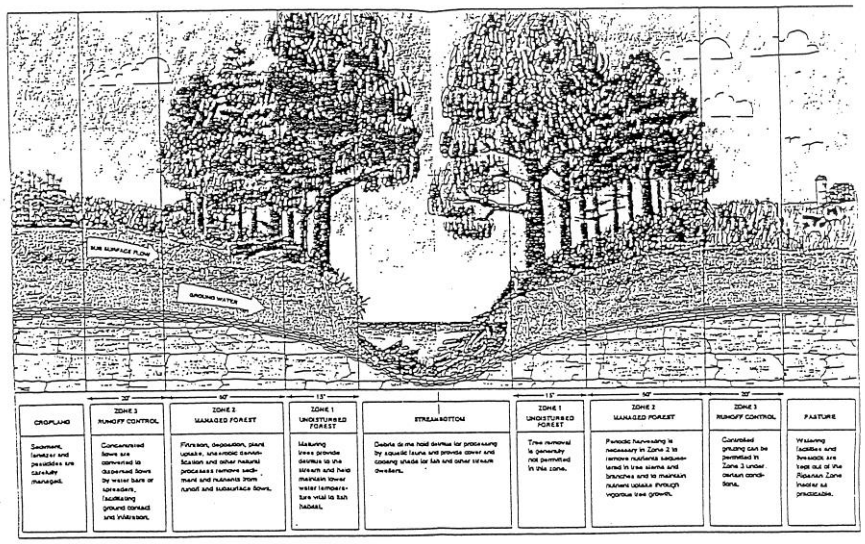
the 1990's. According to data from the MassGIS (2003 forest lands now account for only 5,639 acres or 48% of the land area – an 11% decline in slightly more than one decade. The June 1991 Mass. Agricultural Experiment Station Research Bulletin #735 Forest Productivity Mapping of Massachusetts, indicated that 55.7% of the forest lands were considered of prime productivity for growing eastern white pine and red oak. As detailed in the Master Plan for the Town of South Hadley, today only 48% of the forest lands are considered of prime productivity.

The many functions of forest use are well documented (Report of the State Forestry Committee on Minimum Forest Cutting Practices Regulations). The State's primary forest activity, recreation, is critical for a state ranked 15th in the nation in population density (taken from US Census Bureau online resident population rankings from 2009).

The watershed function of the forest involves the sheltering of South Hadley water supplies by regulating the amount of water, its flow and quality. Watershed protection is an important characteristic of forest cover in South Hadley.

Streamside stands remove excess nutrients and sediment from surface runoff and shallow groundwater. They also shade the Town's streams and the Connecticut River to optimize light and temperature conditions for aquatic plants and animals. Streamside forest buffers against some pesticides and provides organic food to maintain the biological integrity and diversity in the adjacent stream. Figure 4-4, "Streamside Forest Buffer", describes these characteristics as well as management considerations for water resource protection.

Figure 4-4
The Streamside Forest Buffer



Source: Welsch, 1981

The South Hadley forest serves an important wildlife habitat function as home to a large and diverse population of mammals, birds, reptiles, amphibians and fish, particularly within the Mount Holyoke Range ecosystem, as well as the floodplain forest along the Connecticut River and tributaries and the remaining open space.

The scenic quality of forestland defines the "rural character" of a Mount Holyoke Range community like South Hadley. Forest production, according to sound management principles, is critical to local economies and open space retention. In many cases, keeping the land productive is the key to keeping the land "open".

Forest cover affects air quality in many ways. The forest filters particulates from the air, shades and cools forest interiors through evapotranspiration, and reduces wind and consequent drying. It is also becoming widely recognized that forests may play an important role in the helping to mitigate the effects of global warming. Every forest parcel is part of a regional and global "system" which both affects and is affected by temperature and air quality on a much larger scale.

The above describes the various forest functions which are, in fact, integral parts of each other; functions which are often misinterpreted as forest uses, such as wildlife use, recreation use, etc. In fact, the functions are interrelated and cannot be separated out from the whole. The "use" itself is forest.

Chapter 61 of the Massachusetts General Laws, the Massachusetts Forest Tax Law represents the best state-level effort to maintain forestland productivity through local use assessment and sustained-yield management planning. This program offers forest landowners the option of reduced taxation, emphasizing the long-term nature of forest growth rather than short-term building lot value, in exchange for carrying out activities outlined in a forest management plan.

All parties to the Chapter 61 program financially benefit through its participation:

- The property owner receives a direct benefit through reduction in taxes
- Communities, such as South Hadley, are entitled to bill for and receive an 8% tax on all products removed from these "classified" lands.

Of most significance from the perspective of long-term open space protection, Chapter 61 gives the community a 120-day first refusal option to purchase the land upon notification that a particular forestland parcel will be converted to another use. This aspect of the program is obviously important as part of South Hadley's overall open space planning strategy.

The Forest Tax Law program is usually a reliable measure of a community's efforts at retention of land in forest use. Based on the most current data, however, the total amount of forestland managed under the authority of this planned program in all of South Hadley is negligible: currently less than 1% of the Town's forestland (South Hadley Assessor's Office, 2012). The Town's recent Master Plan states that 551 acres of private forest land is protected through Chapter 61 or Forest Legacy.

Opportunities exist to encourage more South Hadley landowners to participate, especially within the slopes of the Mount Holyoke Range.

Wildlife Corridors. Given South Hadley's development, historic wildlife migration and habitat corridors have likely been interrupted by house lots, roadways, etc. The current wildlife corridors are largely confined to the streams which traverse the area (Elmer Brook, Bachelor Brook, Stony Brook, and Buttery Brook) and the Mount Holyoke Range area. The Northeast Utilities transmission corridor provides a wide north-south wildlife corridor which links several of the major and minor streams. However, the interruption of these corridors by roadways, bridges, culverts, etc. limit the migration of wildlife. Vernal pools provide some significant habitats for wildlife.

4.5 FISHERIES AND WILDLIFE

Typical wildlife found in South Hadley includes such species as the eastern cottontail, beaver, northern flying squirrel, gray squirrel, Virginia opossum, wood thrush, morning dove, and downy woodpecker, to name only a few.

The larger areas of contiguous forest land in the northern portion of town are also home to white-tailed deer, bobcat, red fox, wild turkey, ruffed grouse, pileated woodpecker, barred owl, coyote, great horned owl, and red-tailed hawk.

Wetlands and the northern floodplain (found in such areas of town as the mouths of Bachelor and Stony Brooks and along the Connecticut River) are important habitat for a great variety of wildlife species such as the bald eagle. This legally protected bird relies on the relatively undisturbed waters of the Connecticut River for forage and nearby tall trees for nesting. Although there are no known nesting pairs in South Hadley at this time, potential areas for such activity presently exist within town boundaries.

Other floodplain and wetland wildlife includes the wood duck, great blue heron, red-winged blackbird, silver-haired bat, mink, spotted turtle, red-spotted newt, wood frog and spring peeper. Certified vernal pools are located throughout the Town with most located within the Mount Holyoke Range.

Bachelor Brook, Elmer Brook, Stony Brook and particularly the Connecticut River are important fisheries resources for the town. The Massachusetts Division of Fisheries and Wildlife has identified 37 fish species in the Massachusetts portion of the lower Connecticut River. Common species include large mouth bass, pickerel, bullhead catfish, carp, white suckers, bluegill, and yellow perch. American shad arrive in great numbers in the spring and the federally-designated endangered shortnose sturgeon has a significant breeding population in these waters. The reintroduced Atlantic salmon (Salmo salar) also make their way from the Atlantic and up the Connecticut River every spring.

The Massachusetts Natural Heritage Program has identified several areas that bear special consideration in the design of development projects in South Hadley. The entire 6.6 miles of Connecticut River riparian zone is considered protected wetlands wildlife habitat. In addition, both the area along Lithia Springs Road between Lithia Springs Reservoir and Elmer Brook, and along the Moody Corner section of town, south of Pearl Street along Bachelor Brook, are habitats for rare wetlands vertebrates. Under provisions of the Massachusetts Wetlands Protection Act, any proposed activity within these areas is to be reviewed by the Natural Heritage and Endangered Species Program for potential impact and possible modification of the project.

The Town of South Hadley should pay considerable attention to proposed development along the Connecticut River. The two protected species mentioned, the Bald Eagle and Shortnose Sturgeon, depend on waterways that are relatively uncontaminated from non-point and point source pollution and on a somewhat contiguous buffer along the river's banks. The river also acts as an important nesting and feeding area for migrating waterfowl in the Atlantic flyway. The Town should also be careful to maintain the contiguity of its forest land in the northern part of the town. Further development could result in fragmentation and elimination of habitat for a number of species.

The Town was notified on July 30, 1998 that the Connecticut River, seven (7) miles of which forms the western boundary of South Hadley, along with thirteen (13) other rivers in the country gained national recognition as an American Heritage River. The town now shares a particular status along with other communities along the river enabling them to work in partnership to carry out 29 conservation and development projects that were proposed during the nomination process, and made specific in the nomination's Action Plan. As the process now evolves, the nomination will take on greater importance in terms of the Open Space and Recreation Plan.

4.6 SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

South Hadley is rich in scenic, cultural, and unique resources and environments. Many of these resources derive from the community's unique setting along the Connecticut River and the Mount Holyoke Range.

1. SCENIC LANDSCAPES

According to the 1981 Massachusetts Landscape Inventory, prepared by the Massachusetts Department of Environmental Affairs, most of the southern slope of the Mount Holyoke Range within the Town of South Hadley is considered Class A "Distinctive" by virtue of the visual quality of this landscape. The land along the Connecticut River is described as Class B "Noteworthy". Supporting this high visual quality ranking and the threatened condition of the Mount Holyoke Range, in 2000, the Mount Holyoke Range was designated by Scenic America as one of 10 "Last Chance Landscapes". The scenic value of the Mount Holyoke Range arises from both an external view as one looks toward the range from the lowland

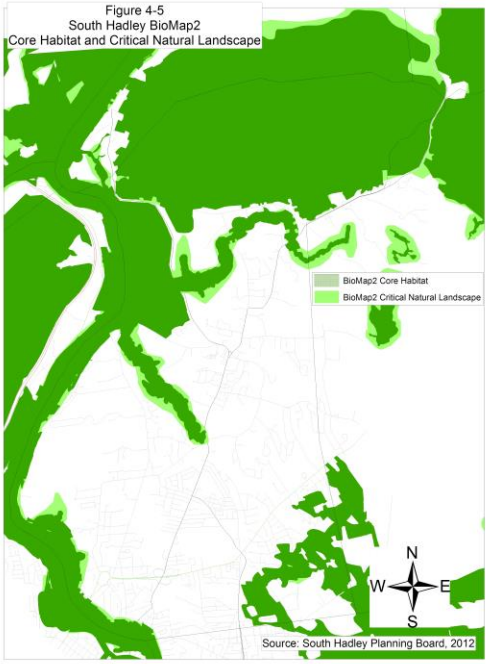
areas and from looking down to the lowland areas from atop the range *(see Appendix G, Map G-5 for Unique Features).*

2. BIOMAP2 – CRITICAL AND CORE HABITAT AREAS

The Massachusetts Department of Fish and Game's Natural Heritage and Endangered Species Program (NHESP) and the Nature Conservancy's Massachusetts Program developed BioMap2 to protect the state's biodiversity in the context of projected effects of climate change. BioMap2 combines NHESP's 30 years of rigorously documented rare species and natural community data with spatial data identifying wildlife species and habitats that were the focus of the Division of Fisheries and Wildlife's 2005 State Wildlife Action Plan (SWAP). BioMap2 also integrates the Nature Conservancy's assessment of large, well-connected, and intact ecosystems and landscapes across the Commonwealth, incorporating concepts of ecosystem resilience to address anticipated climate change impacts. BioMap2 provides a framework for protection and stewardship of those lands and waters that are most important for conserving biological diversity in Massachusetts. It was created with an objective set of analyses to identify species habitats and intact ecosystems across the state that are critical for biodiversity and that, if protected, will enhance ecological resilience to climate change and other threats.

Most of the areas in South Hadley included in the BioMap2 encompass the Core Habitats (see Figure 4-5). These areas are centered around the Mount Holyoke Range on the north, the Connecticut River on the west, and along Bachelor Brook and Stony Brook. With 207 acres of identified vernal pool core located within the Mount Holyoke Range stretched across five towns, it is understandable that the Mount Holyoke Range would dominate the Core Habitat of the BioMap2.

Figure 4-5
South Hadley BioMap2
Core Habitat and Critical Natural Landscape



3. MAJOR CHARACTERISTICS OR UNUSUAL GEOLOGIC FEATURES

Titan's Piazza and the Black Rock area (see Section 4.1 Geology)

4. CULTURAL AND HISTORIC AREAS

Historic Districts. The Town of South Hadley has two significant Historic Districts which contribute to the Town's character. On March 1, 1992, the National Park Service placed the South Hadley Canal District, including one piece of property located at 315 River Road on the National Register of Historic Places commemorating the rich history of this engineering and cultural wonder (included in Section 3.2 HISTORICAL OVERVIEW).

Also significant to the Town's historical and cultural resources is the Woodbridge Street Historic District which was established and added to the list of properties of the Massachusetts Historical Commission on November 14, 1983, and includes properties at the following locations:

7 Silver Street	-	Rev. John Lovell, Willard House
25 Woodbridge Street	-	Daniel House
28 Woodbridge Street	-	The Sycamores
29-31 Woodbridge Street	-	Lyman House
32 Woodbridge Street	-	Graves House
33 Woodbridge Street	-	Skinner Museum
35 Woodbridge Street	-	White, Joseph III
36 Woodbridge Street	-	Skinner-Harris House
40 Woodbridge Street	-	White, Dea J. House
41 Woodbridge Street	-	
43 Woodbridge Street	-	Clark Isreal House
48 Woodbridge Street	-	Skinner
49 Woodbridge Street	-	Chapin House
51 Woodbridge Street	-	Tinkhas House
53 Woodbridge Street	-	
61 Woodbridge Street	-	
63 Woodbridge Street	-	Montague House
64 Woodbridge Street	-	White Cyrus House
68 Woodbridge Street	-	
69 Woodbridge Street	-	
70 Woodbridge Street	-	
71 Woodbridge Street	-	Seith-Steven House
77 Woodbridge Street	-	Saith, Arthur House
78 Woodbridge Street	-	White, Major J., Sr, House
82 Woodbridge Street	-	White J. Sr. House
92 Woodbridge Street	-	Barrett House

This district is limited to a portion of Woodbridge Street north from the Town Common and extends for about one mile (see Figure 4-6).

Individually Historic Buildings. In addition to the two districts listed on the National Register of Historic Places, three properties in South Hadley are individually listed on the National and State Registers of Historic Places:

- South Hadley Canal (in 1978)
- The Sycamores at 28 Woodbridge Street (in 1983)
- U. S. Post Office Main Branch at 1 Hadley Street (in 1986)

The South Hadley Historical Commission (a Town board) and the South Hadley Historical Society (a private, nonprofit organization) have worked together to promote the preservation and restoration of the South Hadley Canal and The Sycamores. The South Hadley Historical Society acquired The Sycamores from Mount Holyoke College and has invested substantial funds in restoration of the building as well as planning for the restoration of the property's historical gardens.

Other Historic Properties. In addition to the properties and districts listed on the National and State Registers of Historic Places, numerous locally and nationally significant historic properties have been inventoried and/or listed in South Hadley. Property inventory forms have been filed for 212 properties with the Massachusetts Historic Commission including:

- 7 structures and objects

- 2 cemeteries
- Buildings dating back to 1735, 1742, and three from 1750

Heritage Landscapes. Heritage landscapes have been described as ". . . special places created by human interaction with the natural environment that help define the character of a community and reflect its past. They are dynamic and evolving, reflect the history of a community and provide a sense of place. They show the natural ecology that influenced land use patterns and often have scenic qualities." (*South Hadley Heritage Landscape Inventory Report, PVPC; 2009*)

During 2008-2009, South Hadley participated in the DCR Heritage Landscape Inventory Reconnaissance Program. At a local identification meeting held December 2008, 30 residents identified a total of 53 Heritage Landscapes ranging from an individual home to the Mount Holyoke Range and Mount Holyoke College. Out of this broad list, six areas were identified as Priority Landscapes (see *Appendix G, Map G-5, Unique Features*):

- South Hadley Canals-Falls Village area
- Mount Holyoke College Campus including Lower and Upper Lakes and dam
- Town Center including Post Office and the Yarde House
- McCray's Farm
- Pearl Street-Route 47 area
- Mount Holyoke Range

Some of these areas involve significant open spaces and several of the areas overlap.

The Pioneer Valley Planning Commission (PVPC) prepared a Reconnaissance Report which identifies specific issues confronting each of these areas as well as recommendations for the preservation/enhancement of these areas. This report served as a significant input into the development of the South Hadley Master Plan.

5. AREAS OF CRITICAL ENVIRONMENT

With its setting bounded by the Connecticut River and the Mount Holyoke Range and its abundant and rich history, and extensive vegetation, it is of no surprise that South Hadley has several areas of "critical environment". Generally, these areas fall into six categories:

- The Mount Holyoke Range
- Large woodland tracts
- Farmland
- Scenic roads
- Riverfront
- Aquifer recharge

Mount Holyoke Range. A relatively large portion of the Mount Holyoke Range in South Hadley, as it is generally identified, is in public ownership with permanent protection. However, an equally significant portion of the Mount Holyoke Range is not in permanently protected status. Public lands can be sold. Private lands can change hands from a conservation-oriented owner to one who is not committed to conservation. As development moves northward and land prices continue to rise in South Hadley, the potential for owners to sell land for development and the amount developers are willing to pay will increase. Development of just a few of the larger tracts could result in irreversible loss of habitat.

A regional Land Use Task Force initiated an effort in 2004 to explore designation of the Mount Holyoke Range as an "Area of Critical Environmental Concern". However, after reviewing the criteria for designation, particularly the rules governing the definition of the boundary for such an area, the Task Force elected not to pursue such designation even though the members were in agreement that the "Mount Holyoke Range" as it is commonly identified met the environmental criteria for such designation.

Large Woodland Tracts. The Town has several large woodland areas on the Mount Holyoke Range that abut the Towns of Amherst, Granby and Hadley. Some of these are not in conservation status, thus, they are subject to being sold for development. A few other large woodland tracts on and off the Mount Holyoke Range are in private ownership and could be sites for residential development, quarry development, or other ecologically disruptive uses. Several of these parcels are in public ownership and efforts must continue to obtain additional parcels currently in private ownership either through gifts, easements, outright purchase, or by a combination of these if the opportunities for hiking, camping, hunting, nature studies and the enjoyment of views and vistas are to continue.

Farmland. McCray's Dairy Farm continues to be operated on a full-time basis – the only significant remaining actively operated farm. Several smaller farms continue to operate on at a least a part-time basis. However, much of the other land that is considered "farmland" by the general public are no longer used for active farm purposes. As the farm operations cease and residential development occurs, pressures increase on the remaining farms to convert to growing houses versus crops or dairy. Most apparent in this change is the Alvord Street area which has seen a rapid decline in open, agricultural lands. If this trend is left to continue, it will be the demise of the rural/farming community that this Town has been identified with.

Through the Agricultural Preservation Restriction (APR0 program, during the 1990's, the State purchased the development rights to a 130-acre parcel on this street. Subsequently, this property was purchased by and added to the McCray Dairy Farm. More recently, over 100 acres of the McCray's Dairy Farm was

included in the APR Program. Continued efforts should be made to promote this type of land protection for the future.

Scenic Roadways. Town Meeting has designated three roadways as "scenic roads" pursuant to MGL, Chapter 40, Section 15C: Pearl Street, Alvord Street, and a portion of River Road. This designation offers protection for trees and stone walls when their alteration is to be part of a roadway improvement. While this offers some protection to the roads themselves, it does not protect the corridors or the adjacent land from the impacts of land development. Of particular concern are the properties at the foot of the Mount Holyoke Range and along the Connecticut River. In the case of River Road, the corridor along the Connecticut River has already been largely developed. Through the provisions of MGL, ANR lot development can occur along any of these roadways and have the effect of disrupting the features that make these roadway scenic.

Riverfront. South Hadley is graced by having over 6 miles of river along the Connecticut River and many more miles of frontage along numerous perennial streams and brooks. Increasingly, these sites are being viewed as attractive for residential development. Unfortunately, as noted earlier, these sites are increasingly being subject to development pressures.

Aquifer Recharge Areas. Fire District #2 obtains its water supply from wells on Dry Brook Hill. As development moves northerly in a more dense and concentrated fashion, the potential harm to the water supply increases. Much of the land which is the recharge area for these wells is private ownership. Some of the existing uses, such as quarrying, is adverse to the operation of the wells. While the Town has a Water Supply Protection Overlay District, this level of protection is not adequate for the most critical portion of the recharge area. Accordingly, public acquisition of the immediate areas around the wells should be a high priority. Additionally, the Town, working with Fire District #2 – Board of Water Commissioners, should take aggressive action to ensure that existing and future developments do not jeopardize these wells either from direct contamination or by deferring runoff which is needed to recharge the water supply.

6. PUBLIC SHADE TREES

South Hadley has a diverse and unique selection of street trees, some of which date back to the late 1700's.

The Bicentennial White Oak dates back to around 1776. Old sugar maples that line some of our oldest streets date back to the 1800's when there were dirt roads. These trees were most likely tapped for syrup and the sap collected using horse and sleigh.

South Hadley also has 3 state record trees. The state record Bur Oak (Quercus macrocarpa) is located on Taylor Street. A unique osage orange (Maclura

pomifera), also a state record, which is located within one block of the record oak, is growing on North Main Street. The state record Cucumber Magnolia (Magnolia (Magnolia acuminata) is located on Lamb Street.

Unfortunately, due to lack of maintenance, many of South Hadley's older shade trees are declining. Utilities, road and sidewalk construction, and road salts are some of the factors leading to the decline.

Some of the unusual shade trees located in South Hadley are the Groenveldt Elms growing on Westbrook Drive and Saybrook Circle. These trees were developed in Holland through the assistance of Dr. Francis Holmes and were planted by Edwin Warner, Tree Warden during the 70's and 80's. Also planted by Ed Warner were the Hardy Rubber Trees (Eucommia ulmoides), located on Meadowood Drive.

4.7 LANDSCAPE CHARACTERISTICS

South Hadley's natural landscape is framed and has been shaped by two dominant regional features – the Mount Holyoke Range on the north and the Connecticut River on the west. As described elsewhere in this Section, the Mount Holyoke Range is a unique mountain range in that it runs east-west in contrast to the typical north-south alignment. Elevations along the ridgeline range up to a high point of approximately 1,100 feet on Mount Hitchcock and down to 550 feet in some of the cols. A section of the ridgeline is identified as the "Seven Sisters" for the seven all women colleges in the northeast – tying the natural landscape to a dominant element of the community's cultural and economic landscape.

The Connecticut River is the other dominant landscape element along the community's western edge. Just as the Mount Holyoke Range is tied to the community's cultural and economic landscape, so is the Connecticut River. In the northern reaches of the stretch bordering South Hadley lies such unique geologic elements as Titan's Pier (described in the Geologic portion of this section). Near and alongside the Holyoke Dam lies remnants of the South Hadley Canal which is listed as a National Historic District.

Recreational elements of varying kinds can be found within and along both of these features. The Mount Holyoke Range is a favorite destination for passive recreation, hikers, birders, etc. Similarly, the Connecticut River is a haven for fishermen, boating, canoes, kayaks, etc.

Historically, the landscape within South Hadley was dominated by the urbanized South Hadley Falls area, the Mount Holyoke College/Town Center and farmlands in between and surrounding. Over the centuries and decades, as farms became subdivisions, factories, and retail centers, the areas between the South Hadley Falls neighborhood and the Mount Holyoke College/Town Center became more urban and suburban in character. Today, much of the areas have a surburban character with relatively few farms remaining. McCray's Farm along Alvord Street remains the

largest active farm in the community and is a significant feature on the community's landscape.

Environmentally, within the community, as one travels south and east from the mountains and the river, the terrain becomes more rolling and is divided by various streams – the dominant ones being Elmer Brook, Bachelor Brook, Stony Brook, and Buttery Brook. Recreational use of these streams is limited.

4.8 ENVIRONMENTAL CHALLENGES

Due to its largely bedroom-community character, South Hadley is not as threatened by environmental problems as much as some of the nearby communities. However, the community does have two potential sources of environmental problems unique to South Hadley:

- Sanitary landfill operation
- Hazardous waste sites

Sanitary Landfill. In 1992, the Massachusetts Department of Environmental Protection found that the unlined South Hadley sanitary landfill was leaking 1,4-dioxane into the groundwater. The landfill has been designated a priority "21E site." The Chapter 21E legislation, titled the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, was enacted in 1983 to protect supplies, wetlands and wildlife habitat.

This contamination of groundwater continues being assessed for its threat to public health and to determine what remedial action needs to be taken. Owners of wells in the vicinity were notified and advised to use municipal water. Surface waters in the area are also being monitored for contamination, and Buttery Brook has been posted to alert the public to avoid using the waters for recreation.

Contamination from the landfill could potentially affect open space and recreation in several ways. Buttery Brook Park is downstream of the contaminated groundwater plume. People picnic and play along the brook, which also passes through animal pens in the park. The Bynan Conservation Area, with its extensive wetlands and ponds, abuts the landfill. Local children play here year round. Wildlife in the wetlands could also be affected. Thus, the Town and the landfill operator maintain controls and monitoring protocols to ensure that contamination associated with a landfill is contained on site and properly managed.

Independently of this problem, the Town closed and capped its unlined sanitary landfill, as is legally required by the State. With DEP approval, the Town contracted operation of the landfill to a private vender and opened a lined, expanded cell in 2005. The Town and its contractor have taken necessary measures to ensure that this new operation will keep any leachate out of the groundwater. Operation of the landfill has resulted in issues of odors affecting surrounding neighborhoods. The Town's Board of

Health continues to monitor the area and respond to complaints to ensure that no toxic or hazardous fumes are being emitted.

Since 2005, the Town and its landfill operator have undertaken a vertical expansion of the landfill. Additionally, a horizontal expansion of the landfill towards the east is being considered and evaluated. Both expansions could result in extending the life of the landfill by 10 years.

Hazardous Materials. Though largely a bedroom community, South Hadley has several industrial operations utilizing hazardous materials. These plants have, historically, not created any environmental issues. In the Fall, 2006, an industrial accident at one plant created a hazardous materials incident of a temporary nature. Generally, the use of hazardous materials does not impact open space or recreation since the materials are generally confined indoors and do not escape to the groundwater supply or water bodies.

Erosion. The principal challenges of erosion are associated with the impacts of development. These situations are largely addressed through the Town's Stormwater Management Bylaw, administration of the Town's Wetlands Bylaw, and the building permit process. While the operation of the Holyoke Dam and use of the impoundment area have some impacts on erosion of the riverbanks, regulation of the dam and boating operations have reduced the potential for such erosion. The principal area of erosion impact associated with the operation of the dam is around Canal Park where a portion of the historic canal appears to be undergoing erosion.

Chronic Flooding. Areas of chronic flooding are those areas which have frequent flooding –which is not the same as being within a 100-year floodplain. The chronic flooding areas are few and generally limited to the River Road and Cove Island areas along the Connecticut River. Even within these areas, the most significant impacts are on the roadways and utilities.

Sedimentation. Sedimentation impacts the functioning of the streams, ponds, and lakes. Generally, the impacts are most problematic in areas downstream from developments, but not exclusively. Recreational opportunities (such as canoeing and fishing) have been impacted by the sedimentation and erosion in some of the streams for a long period of time. The principal areas where sedimentation has been noticed and impacted recreation and open space activities are the Cove Island/River Road area and the Black Stevens pond off Route 116.

Development Impact. As noted previously, conversion of land to housing and other developments have resulted in loss of farmland and is the single largest challenge to maintaining open space and wildlife corridors. Other impacts, as noted elsewhere, include erosion, sedimentation, and surface water pollution. The Planning Board has sought to promote a balance of open space and development through use of the Flexible Development method of housing development. However, such measures do not replace the need to protect vital spaces from development.

Ground and surface water pollution. The Board of Health has not identified any areas where wells have been discontinued due to groundwater pollution. The Town is well aware of the potential for groundwater impacts on the District 2 water supply from the gravel pit and potential development of Dry Brook Hill. Surface water pollution has been a problem in Buttery Brook from Buttery Brook Park. The pollution, according to the Conservation Commission, seems to originate from upstream developments and unknown sources of iron. To address the issue of potential and historic ground water issues from the landfill, a well protection zone was established around the landfill.

Forestry. The amount of land cover in forest use has diminished over the decades as development has increased. Few parcels are under Chapter 61 taxation policies. A lack of forest management planning, encroaching development, and invasive species are the primary concerns in regards to the community's forests. Within the more developed portions of the community, public attention needs to be given to the care and enhancement of the public shade trees.

Environmental Equity. Environmental equity concerns itself with disparities in access to recreation and open space facilities and opportunities. Generally, South Hadley's relative small size (only 6-7 miles from north to south and 2-4 miles east to west) and reliance on vehicular travel suggests that all sectors of the community have good access to recreational areas. There are, however, some differences in how the types of parks and recreation areas are distributed - most developed urban type parks (Beachgrounds and Buttery Brook parks) are located on the southern fringes of the community while the largest nature areas are located on the northern fringes (Mount Holyoke Range State Park, Skinner State Park, and Bachelor Brook-Stony Brook Resource Conservation Area). Additional smaller nature areas are distributed throughout the community except for the area south of Route 202 and west of Old Lyman Road – the more urban portion of the community. Even though the more urban, multi-use parks are located in the denser, southern portion of the community; parks with athletic fields are located throughout the community. The Town's only community garden is located in the northern third of the community. However, efforts are being undertaken to develop a community garden in the southern region south of Route 202 – possibly in South Hadley Falls.

SECTION 5 - INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

Open Space protection can provide multiple benefits to a community's economy, fiscal health, and environmental resources. It provides connection to the community's history while providing passive recreational opportunities for its residents and visitors. Some farmers need large areas of open space on which to raise their crops and support their operations.

"Open Space Protection" as used in this plan refers to measures which prevent, in the "permanent" or long-term, conversion of the land to "urban development" other than recreational use. As such land is considered permanently protected if the property's development rights are held for conservation purposes by a public or private entity such as the Town's Conservation Commission. Recreation lands are similarly considered permanently protected for recreational purposes only if the development rights are held for such purpose by a public entity such as the Town's Recreation Commission. Land subject to short-term taxation approaches (Chapter 61, 61A, or 61B) are not considered protected since they merely provide a "right of first refusal" to the local community.

Lands having conservation and recreational interest were identified utilizing a four-step process which involved the following inventory and mapping activities:

1.) Inventory and mapping of the following vacant and recreational lands *(see Appendix H – Open Space Inventory)*:
   - Vacant parcels of 10 acres or larger;
   - Vacant parcels abutting the Connecticut River or north of Pearl Street;
   - Parcels under Chapter 61, 61A, or 61B or the APR Program;
   - Vacant and recreational parcels owned by public entities (including, but not limited to, the Town of South Hadley and the Commonwealth of Massachusetts) and non-profit entities (including, but not limited, to the Kestrel Trust, Connecticut River Watershed Council, etc.);
   - Parcels owned by organizations with a recreational interest (including, but, not limited to the Gun Club, Redcliffe Canoe Club, South Hadley Swimming Club, Girl Scouts, etc.);
   - Parcels owned by special entities (such as, Mount Holyoke College, Northeast Utilities, Holyoke Gas & Electric, etc.)

2.) Identification as to which of the inventoried and mapped parcels from step 1 are permanently protected *(see Appendix G, Map 7 - Open Space Land and Appendix H – Part 1)*

3.) Application of wetland and other natural resource attributes and/or values associated with recreation potential to the inventoried properties

4.) Identification of those parcels mapped in step 1 which have natural resource or recreation potential significance but are not permanently protected open space *(see Appendix G, Map 7 - Open Space Land and Appendix H – Part 2)*

Lands abutting the Connecticut River or located north of Pearl Street/Amherst Road are deemed to have significant natural resource and open space value due to their relationship to the river and the range. A total of 5,918 acres of vacant land were either classified as 10 acres or larger, abutting the Connecticut River or located north of Pearl Street/Amherst Road. Further analysis of these parcels determined that there are approximately 2,818 acres of land which are permanently protected open space. However, a slightly larger amount, 3,100 acres of land are not permanently protected, but have been identified as having either natural resource or recreation potential *(see Appendix G, Map G-7 - Open Space Land).*

5.1 AGRICULTURAL PROGRAM PARCELS

According to records of the Town Assessor's office, there are currently 62 properties totaling 1,590 acres in some form of agricultural protection. However, most of the properties and acreage are in "Chapter land" status which do not afford permanent protection status:

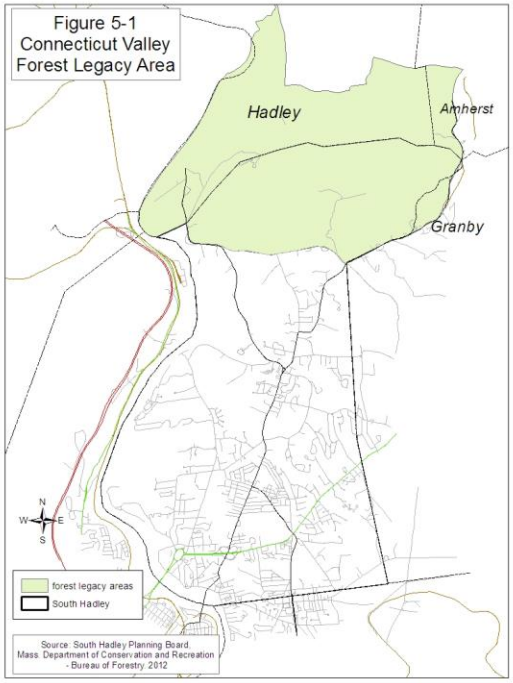
- 2 parcels totaling 30 acres under Chapter 61 designation;
- 50 parcels totaling 983 acres under Chapter 61A;
- 4 parcels totaling 245 acres under Chapter 61B; and,

This reflects the removal of one of the parcels from, and a reduction in the coverage of another parcel under, the Chapter 61A program since 2007. But, the reduction of one parcel was the result of most of the McCray's Farm property being preserved under the APR program. Only agricultural lands having an Agricultural Preservation Restriction (APR) placed on them are protected in perpetuity. Thus, the amount of agricultural lands afforded "permanent" protection under the APR or Forest Legacy Program has increased since 2007 to:

- 2 parcels totaling 232 acres under the APR program
- 4 parcels totaling 100 acres under the Forest Legacy Program

Both of the APR parcels are owned and operated as part of McCray's Farm which remains as an active dairy farm and includes a creamery, small animal farm, and site of various community activities during the year. Efforts are underway, as a result of the latest APR funding to expand the farms dairy operations into milk pasteurization which will enhance the farm's long-term sustainability.

Since the Connecticut Valley Forest Legacy program focuses on the Mount Holyoke Range area (see Figure 5-1 and Appendix C), it is understandable that all four of these parcels are located on the Mount Holyoke Range north of Pearl Street. Three of the parcels are currently in private ownership while one of the parcels is owned by the Commonwealth of Massachusetts (Department of Conservation Recreation – formerly DEM).

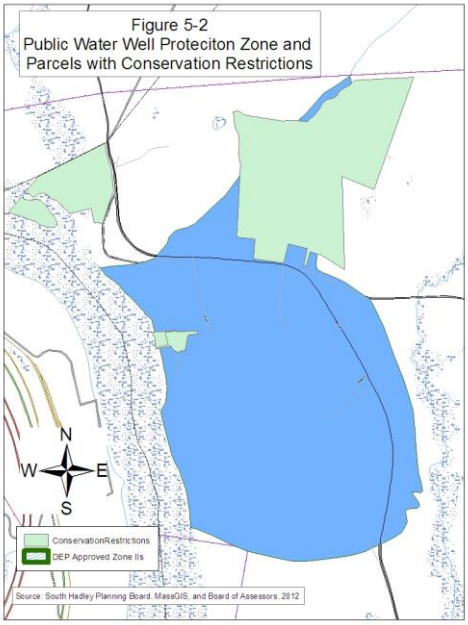


The 1,258 acres under the Chapter 61, 61A, and 61B programs afford the Town the right of first refusal. Therefore, even though these parcels are not permanently protected at present, they are a bit closer to being protected than most privately held properties. (Lands subject to APR and Chapter 61, 61A, or 61B are listed in Appendix H.)

5.2 CONSERVATION RESTRICTION PARCELS

Privately-owned parcels with conservation restrictions are the result of voluntary conveyance of development rights to a public agency and non-profit conservation organizations empowered to hold such restrictions. The Assessor's data reflects only five such parcels in South Hadley totaling 76 acres (see Figure 5-2 and Appendix G, Map G-7). These parcels range in size from slightly less than an acre to slightly over 58 acres.

- In 1994, 58.4 acres of the 75-acre Lyman property was placed under a deeded Conservation Restriction with the Commonwealth of Massachusetts/Department of Environmental Management. This property, north of Route 47, partly abuts the Skinner State Park property owned by the Commonwealth of Massachusetts and Town of South Hadley Conservation Commission property.
- Two of the remaining four parcels abut the Connecticut River and land one Dry Brook Hill owned by Fire District #2 for the district's wells.



- The other two parcels are situated off Hadley Street/Titan's Pier Road and abut the Connecticut River within 1/4 mile of the Fire District #2 land on which the wells are situated.

To fulfill a condition of the Federal Energy Regulatory Commission (FERC) attached to the license for the Holyoke Dam, Northeast Utilities, Inc. (Holyoke Water Power and Holyoke Power & Electric) attempted to place a conservation restriction on approximately 100 acres abutting Bachelor Brook, Stony Brook, and the Connecticut River. The purpose of this "conservation restriction" was to protect the floodplain forest habitats. However, they conveyed this restriction to Holyoke Gas & Electric and did not follow procedures set forth by the Department of Conservation and Recreation. Subsequently the Holyoke Gas & Electric subsequently conveyed a conservation restriction on the same property to the DCR and the Town of South Hadley in 2007. However, the fact that the Town purchased the entire surrounding 284 acres from Northeast Utilities in 2005 and imposed a restriction on the entire 284 acres, made the issue of the conservation restriction a moot point.

As part of the approval of the Stonegate Subdivision off Alvord Street in the late 1980's, conservation restrictions were conveyed for a number of "lots" and parcels in the subdivision. However, these restrictions were conveyed to the agency which preceded the Department of Environmental Protection. A subsequent owner challenged their legality alleging they were not conveyed pursuant to Massachusetts law and procedures. The end result of the legal challenge was that the owner was able to develop some of the lots with single-family homes and conveyed title to the Conservation Commission to four contiguous parcels totaling five acres.

5.3 PRIVATE RECREATION PARCELS

Four private organizations own land used for recreational purposes primarily for use by their members.

South Hadley Swim Club. The South Hadley Swim Club owns a site of approximately 10 acres off Amherst Road. A member-owned organization run by a Board of Directors, the club's purpose is to encourage athletic exercise, namely swimming and outdoor recreational activities. On the ten acre site, the club owns and maintains several facilities consisting of a concrete swimming pool 75 feet long by 28 feet, 8 inches wide, an octagonal shaped wading pool approximately 19 feet across, a basketball court, locker rooms and a covered picnic area. Membership in the Swim Club is open to anyone. There is an initial membership fee and yearly dues. The Club facilities are open for member's use from Memorial Day through Labor Day.

Redcliffe Canoe Club. The Redcliffe Canoe Club, a private club with membership fees and yearly dues, owns a 27,000 square foot parcel along Canal Street abutting the Connecticut River. This site is used for boating, swimming, fishing and has a boat launch ramp on the River.

Mount Holyoke College. Mount Holyoke College started in 1837, with a single building on a single lot on what is now called College Street, has since grown into a complex of academic buildings, residence halls, sports facilities, woodlands, a brook including three ponds and many wooded areas. The College's property is available to Mount Holyoke College students, faculty, staff, alumnae and invited guests. While the College has liquidated some of its unused parcels over the past 7 years, the College retains significant open space lands and facilities including:

- The Orchards Golf Course which was built in the early part of the 20th century by Joseph Skinner and given by him to the College. This ownership continues but the management and operation of the club has been contracted to Arnold Palmer Golf, Inc.
- The College's Athletic Fields and Track sit on land abutting Silver Street and have been made available for limited community and resident use. This open use policy may become slightly more limiting as the College undertakes a major redevelopment of the fields and track to bring them into compliance with NCAA requirements during 2007. However, the College has assured the Town that the high school's use of the facilities may be continued.
- An 8.25-acre parcel of land along the Connecticut River and north of Ferry Street, acquired in 2005 from Northeast Utilities, Inc. The College has developed the site as a boathouse for use by the College's student and community rowing programs.
- An 18-acre parcel on the Mount Holyoke Range which includes a cabin that is used by the students.

Western Massachusetts Girl Scout Council. The Western Massachusetts Girl Scout Council own and operate Camp Lewis Perkins, a 21.7 acre outdoor facility with frontage on Bachelor Brook and the Old Pearl City Pond lake bed. Facilities at the camp include a lodge, troop cabin, 9 small cabins, a maintenance building, two platform tents, one hard-roofed tent, latrines, flush toilets, an in-ground pool, hiking trails, a playing field, and an outdoor cooking area. During July and August, four to six sessions of week-long camp are conducted. Each session serves about 100 campers. Weekends from March through October, troop camping takes place. Troops also camp for longer periods during school vacation and occasional day events take place during winter. Site use fees are charged. The camp is available (when space permits) on an occasional basis to groups with similar missions to the Girl Scouts. A small portion of the property has been leased to a wireless communications company which has constructed a cellular communications tower on the site.

5.4 PUBLIC AND NONPROFIT PARCELS

Commonwealth of Massachusetts. The Commonwealth of Massachusetts owns at least 56 parcels of land totaling 1,298 acres including some buildings within the Town of South Hadley. All but 8.69 acres of this land is on the Mount Holyoke Range managed as part of the Skinner State Park and Mount Holyoke Range State Park under the

auspices of the Department of Conservation and Recreation (DCR). Thus, within the Mount Holyoke Range, in South Hadley, the DCR manages approximately 1,290 acres:

Mount Holyoke Range - State Owned Lands, 2012

Skinner State Park		486
Mount Holyoke Range State Park		804

Source: South Hadley Assessor's Office, Planning Board, and MassGIS, 2012.

- Skinner State Park not only contains the Summit House, an historic hotel described in Section 3 of this report, but also provides scenic views of the Connecticut River Valley and links to the Metacomet-Monadnock hiking trail (also identified as the New England Scenic trail). The park is located at the far westerly end of the Mount Holyoke Range. Tourists, hikers, and cyclists come for the views from the top and the challenge of climbing to the Summit and/or traversing the ridgeline. The only vehicular access to Skinner Park is via Summit Road off of Route 47 in Hadley, Massachusetts.

  Though the Summit House is located in Hadley, the view of the building and ridgeline from South Hadley makes the building and ridgeline a significant visual asset for South Hadley residents. An inspection of the Summit House in 2010 determined that the porch and portions of the building were not structurally sound and the building was closed until renovations could be completed. Due to public access requirements and the historical significance of the building, the project is to be undertaken in two phases with the first phase of construction having begun in Spring 2012 with plans to reopen the building in the Fall 2012.

- Holyoke Range State Park occupies the center and eastern portions of the Mount Holyoke Range in South Hadley. During the past 12 years, DCR has increased its holdings for this park including the purchase of approximately 600 acres from South Hadley Fire District #2.

Outside of the Mount Holyoke Range, the Commonwealth owns only four parcels totaling 8.81 acres – all but one of which are highway related. The largest of these parcels totals 7.2 acres and is the site of the state highway garage which sits on Route 33 at Old Lyman Road.

The former State Pool site totaling slightly over 1 acre is also located on Route 33 adjacent to Buttery Brook Park. Approximately 5 years ago, the pool was demolished and the State is planning to transfer the property to the Town of South Hadley which will add it to the Buttery Brook Park.

Nonprofit Organizations. Two parcels totaling 5.3 acres within South Hadley are owned and managed by local land trusts:

- The Kestrel Land Trust parcel, is located in the Mount Holyoke Range and is 4.3 acres in size.
- A second parcel approximately 1 acre in size and situated in the Stonegate subdivision off Alvord Street was acquired by the Valley Land Fund (now Kestrel Land Trust).

Town-owned Land. Municipal entities (the Town Fire Districts/Water Departments, Housing Authority, and Electric Light Department) own 164 parcels of land totaling approximately 1,622 acres – inclusive of parcels which have been developed with a variety of buildings (such as schools, town hall, offices, fire stations, etc.). This section will focus on the Town-owned parcels as the Fire Districts/Water Department parcels are addressed separately in a subsequent section.

A significant portion of the land owned by the Town of South Hadley has been set aside and permanently preserved for conservation and recreational purposes. Generally, these protected lands are managed by either the Conservation Commission or the Recreation Commission. It should be emphasized that municipal ownership does not convey that the land is protected from development. This section will distinguish between those lands that are municipally-owned and protected from those that are not permanently protected.

Municipal Land Ownership/Management, 2012

Town	
Conservation	948.16
Recreation/Parks	254.48
School Department	77.22
Other	195.42
SHELD	13.37
Housing Authority	9.92
Fire District #1	38.90
Fire District #2	84.61

Source: South Hadley Assessor's Office, Planning Board, and MassGIS, 2012.

- *Town of South Hadley.* The Town (excluding SHELD, Housing Authority, and the Fire Districts) owns 130 parcels of land totaling approximately 1,475 acres – inclusive of parcels which have been developed with a variety of buildings (such as schools, Town Hall, etc.). For the purposes of this plan, only lands owned or reserved to be managed by the Conservation Commission, Open Space Committee, or established as park/recreation commission lands are inventoried as protected lands. Exclusive of the lands owned/managed by the Conservation Commission, Open Space Committee, or Recreation Commission/Parks Department or developed and used for Recreation Commission purposes (such as the ballfields at the schools or Town Farm, etc.), the Town only owns approximately 55 acres of vacant/unprotected lands. These vacant Town-owned lands are evaluated as unprotected lands which may have conservation or recreation interest. It should be noted that some lands are under management by the Conservation Commission by vote of a Town Meeting.

  Conservation Commission. Approximately 2/3's of the town-owned lands (or 948 acres) are owned or reserved to be managed by the Conservation

Commission. These parcels are distributed throughout the community from the southeastern corner of New Ludlow Road to the northern reaches of the Mount Holyoke Range. Westerly, the Commission manages several different areas which abut the Connecticut River.

Three priority goals have guided land acquisition for conservation/preservation:

- Mount Holyoke Range;
- Land along streams ("greenbelts"); and,
- Buffering for existing conservation areas.

Protecting land in these areas helps to preserve water quality, wildlife habitat, and the Town's aesthetic and recreational resources. Recent acquisitions have met these objectives. Over the past 12 years, the most significant acquisition of land for conservation purposes was the 2005 purchase of the 284-acre Bachelor Brook/Stony Brook Conservation Resource Area along the Connecticut River and Ferry and Hadley Streets. A $500,000 Self-Help Grant, a $300,000 donation from Mount Holyoke College, and assistance from the Trust for Public Lands aided this acquisition.

Much of the Conservation Commission acquisitions have been through land donations. These donations have principally included the 3.4-acre LeBlanc Conservation Area on Brainerd Street and small additions to the Bagg Conservation Area and the Bynan Conservation Area. Recently, a 6 acre tract was given to the Conservation Commission for addition to the Trompke Conservation Area. Another 6 acre tract previously owned by the Connecticut River Watershed Council was also transferred to the Conservation Commission.

The Conservation Commission administers at least 14 distinct Conservation Areas including:

- <u>Bachelor Brook/Stony Brook Conservation Resource Area (284 acres).</u> Acquired in 2005 with a $500,000 Self-Help Grant and a $300,000 donation from Mount Holyoke College, this parcel is the largest and most biologically diverse of the properties managed by the Commission. Most of the property lies north of Ferry Street, abuts the Connecticut River and Bachelor Brook. A smaller portion of this area lies south of Ferry Street, along Stony Brook. At present, the area is largely undisturbed, but is traversed by major power line easements and a small portion is farmed by a local farmer under an agreement with the Town. Among the unique features of this property are two of the best examples in the state of small floodplain forests and numerous rare habitats as noted previously. With its access to the Connecticut River and proximity to the Mount Holyoke Range, there is interest in developing a very limited trail system which would link the central portion of the town with the Mount Holyoke Range.

- Bynan Conservation Area (142 acres). Lying in the southeast corner of town, the Bynan Conservation Area was part of an acquisition of approximately 142 acres in 1978 from the Bynan family. Of this land, purchased with the assistance of Self-Help funds, about 40 acres were reserved to accommodate expansion of the South Hadley Sanitary Landfill. The remainder were reserved for conservation and recreation purposes. Several smaller abutting parcels have recently been protected also. The area consists of pine barren type of habitat; pitch pine and oak woodlands are interspersed with wetlands and ponds that often dry up in the summer. Old wood roads wander throughout the area, facilitating hiking and cross-country skiing. One trail loop has been marked, and periodic cleanups remove trash and abandoned vehicles. Further work is needed to develop and reroute trails as the landfill expands. Access by off-road vehicles that dump trash and tear up woods and wetlands needs to be blocked more effectively. Entrances to this area are from the east end of Lyman Terrace, New Ludlow Road, and Bartlett Street Recent discussions have arisen regarding the possible expansion of the Landfill into a small portion of this property.

- Black Stevens Conservation Area (62 acres). Perhaps the most visible and used of the conservation areas due to its proximity to South Hadley High School and location on Newton Street, the Black Stevens Conservation Area provides marked walking trails extending from Newton Street to the Plains Elementary School at the corner of Route 33 and Route 202. Situated along Newton Street, Stevens Pond is probably the most publicly identifiable feature of this area. This property was acquired in three sections: smaller tracts in 1963 and 1966, and then in 1981, a 47-acre parcel from the Stevens Paper Mill, all with financial assistance from the state Self-Help Program. Newton Smith Brook flows through a wooded ravine into the pond. The forested site includes oaks, maples, paper birch and hemlocks, with wildflowers such as pink lady's slippers in the spring. Great horned owls have been seen here. Classes from both schools use this area for nature study. Currently trails are kept open primarily by use, with occasional maintenance by volunteers and the high school cross country track team. The Conservation Commission has sought funding for assessment of the causes and potential solutions for rapid filling of the pond with sediment, and then implementation of the recommended measures of restoration of the pond.

- Titus Pond Conservation Area (3.8 acres). Consisting of 3.8 acres of pond and its feeder stream and associated wetlands, this site is located on Newton Street between Queen Circle and Camden Street. The pond had been used for fishing by local children for years, but is plagued by eutrophication and an unsightly growth of duckweed on the surface in the summer.

- Warner Conservation Area (9 acres). Accessible from Mosier Street, this area has a path which leads into a wooded honeysuckle grove on a hill, and then down to a wet meadow and stream crossed by a boardwalk to an open hayfield. These nine acres were acquired from the Warner family in two portions, in 1983 and 1987, with assistance from the Self-Help funds. The area is named after Edwin Warner, former South Hadley Tree Warden. Yearly mowing is necessary to keep the hayfield on this parcel open. Development of the Mountainbrook subdivision is underway, but nearing completion, along the southern edge of the area. While this development has a considerable amount of preserved open space (compared to a conventional subdivision), it may increase use of the area and potentially poses some hazards of uncontrolled access.

- Warner Arboretum. At the Annual Town Meeting in May 2012, Town Meeting approved transfer of a 6-acre portion of the property abutting the Michael E Smith Middle School to the custodial care of the Conservation Commission. The purpose of this transfer was to provide for the long-term care and protection as well as access to the Warner Arboretum.

- Hawkins Conservation Area (3 acres). The Hawkins Conservation Area is a wooded wetland bisected by a stream at the corner of Silver Street and Chapel Hill Drive. It was sold to the Conservation Commission in 1977 for a small sum, to be used as a bird sanctuary in memory of Professor Everett D. Hawkins of Mount Holyoke College.

- Bagg-Pierce Wildlife Sanctuary (32 acres). Lying along the Connecticut River, this area was begun in 1997 with the donation of 30 acres by Malcolm Bagg to honor his wife and mother-in-law. Five additional acres have been added to this sanctuary with a recent purchase funded by the Valley Land Fund. This site is partly in the 100-year floodplain. Several trails and an old woods road traverse the site providing access for wildlife viewing and enjoyment.

- Edward Trompke Conservation Area (10.1 16.1 acres). Half of this area was acquired from the South Hadley Conservation Society. The remaining 5.26 acres was donated in 1998 by Alice Trompke to honor her late husband. It is characterized by floodplain forest which run along Stony Brook. This area adjoins a similar conservation area in Granby (also donated by Mr. Trompke). Trails were proposed in the South Hadley portion to connect to an existing trail in the Granby conservation area; however, neighbors objected and the proposal was set aside. A 6.03 acre tract of land abutting this area was recently donated to the Conservation Commission.

- Connecticut River Conservation Land (37 acres). The Commission also oversees 31 wooded acres along the Connecticut River, which includes a narrow strip between Upper River Road and Lower River Road, and land

which abuts the municipal golf course parcel. The section between Upper and Lower River Road is bisected by a graded gravel road, with a high, steep bank dominated by hemlocks along the river, and a wetland on the other side. The Town has improved the road just enough to allow access of emergency vehicles if local residents are trapped by flooding of Lower River Road. Access to the river from this land is made impossible by the height and steepness of the bank. The Commission hopes to see development of walking trails that begin on the River Road parcel and continue on the Municipal Golf Course land. A 5.94 acre tract of land previously owned by the Connecticut River Watershed Council was recently donated to the Conservation Commission.

- Mount Holyoke Range – Western Part. Conservation lands now include a number of undeveloped wooded parcels on the Holyoke Range and a number of smaller parcels along streams. On the western section of the Holyoke Range in South Hadley, the Town now protects 148 acres of conservation land, including the eight (8) parcels transferred from the Conservation Society. Several parcels totaling 111 acres along Dry Brook abut Skinner State Park. Other scattered parcels add to the mosaic of protected land west of Lithia Springs Reservoir.

- Mount Holyoke Range – Eastern Part. On the eastern part of the Holyoke Range, between the Notch and Lithia Springs Reservoir, about 200 acres are now under the management of the Conservation Commission. These parcels include a 20-acre Conservation Society parcel, a 59-acre parcel given to the Town in 1972 by Elvina Ball Stewart, the Bourbonais Parcel, and several parcels recently found to belong to the Town and now protected as conservation land. A number of the steeper parcels in this area harbor rare plants on the south-facing rocky slopes. Rare reptiles and amphibians have also been found here, and on nearby private parcels. Additional land protection is still needed on the Mount Holyoke Range, if habitat for these rare species is to be preserved.

Recreation Commission and Golf Commission. Approximately 17% of the town-owned lands (or 254 acres) are reserved (via deed restrictions) for more active recreational activities under the auspices of the Recreation Commission, Golf Commission and/or Parks Department. Another 69 acres (Buttery Brook Park, Town Farm, and ballfields at several schools are administratively provided to the Recreation Commission/Parks Department for recreation use (generally, these 69 acres are not considered protected). Inclusion of this additional 69 acres of land brings this total to 323 acres of 21% of the town-owned lands. Generally, the parcels are more concentrated than the Conservation Commission land and are located in the southern half of the town. South Hadley has a variety of playgrounds and athletic and recreation facilities:

- Beachgrounds Park. Located in the South Hadley Falls area, this park is the central focus of many community and neighborhood activities and includes three (3) baseball/softball fields, one of which is lighted. The same fields are used for soccer and practice football in the fall. Facilities include: One (1) basketball court and individual playground equipment.

  A wading pool was closed and removed in 2006 ago due to maintenance and demand issues. However, with the assistance of $ 500,000 in Urban Self-Help funds, the town rededicated existing town-owned land to parkland - expanding the park by a quarter acre, added a basketball court and additional parking, developed a water park/splash pad, and installed a new playground structure, bathhouse, lighting, irrigation, picnic tables, and fencing.

  The Playground Committee noted in 1998 that Beachgrounds Park was in need of new playground equipment some of which had been in place for over forty years. The 2007-2008 redevelopment of Beachgrounds Park finally addressed this significant deficiency and transformed the Beachgrounds Park into a significant community asset which is anticipated to be a cornerstone in the redevelopment of South Hadley Falls.

- Buttery Brook Park. This facility is located on Route 33 just north of Chicopee, near several areas of active residential and commercial development. Adjoining the site is the former state swimming pool facility which was closed and demolished approximately 5 years ago. Facilities include: Two (2) basketball courts, one (1) playground lot, individual playground equipment, picnic area, and skate park.

  Buttery Brook Park was the community's focus as the Town's recreation centerpiece; however, the changing population and antiquated facilities resulted in a recognition that the park needs a significant renovation. To that end, the Selectboard established a Revitalization Committee to review the site and recommend how to better utilize the property. This committee evolved into a volunteer organization which has developed plans for revitalization of the park and carried out different recreational programs at the park. A skate park opened during the summer of 1999 through the efforts of various volunteers. Current plans call for addition of the former pool site to Buttery Brook Park and development of new facilities, possibly including:

  - Constructing tennis courts, replacement basketball courts, a spraypark, and new bathroom facilities
  - Reshingle pavilion roofs
  - New landscaping, fencing, and signage
  - Relocation of the park entrance

The town received some State funding in FY 2011 and FY 2012 which can assist in implementing some of the planned improvements. However, substantial additional funding will be needed to implement the full scope of improvements which the advisory committee has recommended be completed.

Potential acquisition of public/private property that abuts the park would help provide needed additional space for the site. The proposed transfer of the State pool site to the Town would be a significant benefit in this regard. Additionally, several years ago, the condo association which owns the land at Shadowbrook Estates indicated they may be willing to donate some abutting land for expansion of Buttery Brook Park. This effort has stalled but should be revisited.

The Town lacks sufficient areas to play soccer, lacrosse, baseball, and softball and this property would be an ideal choice to develop for athletic purposes.

- High School. Located adjoining the South Hadley High School, this complex of facilities are primarily used for school-related activities during the school year. Facilities include: One (1) lighted multi-purpose field (football, soccer, lacrosse), two (2) baseball fields, one (1) softball field and one (1) running track which is or marginal use. The athletic fields were upgraded and slightly reconfigured as part of the building renovation project completed in 2001.

- Michael E. Smith Middle School. Located along the north side of Mosier Street, this facility is also located in proximity to substantial residential developments and the Mosier Elementary School. Facilities include: Three (3) multi-purpose fields (soccer, lacrosse). A soccer/lacrosse field was developed as part of the building renovation project in 2001.

- Plains Elementary School. Facilities include: One (1) baseball/softball field which is also utilized for mini soccer fields in the fall. Three (3) separate playground areas.

- Center School site (Hampshire Christian Academy). Facilities include: One (1) baseball/ softball field which is also utilized for soccer in the fall.

- Woodlawn School site (Council on Aging). Facilities include: One (1) basketball court, one large playground area installed in 1998; one (1) baseball/softball field which is also used for soccer in the fall.

  As a result of this analysis at the Woodlawn School site where the Council on Aging is located, a new playground and equipment was installed through the efforts of the Playground Committee. The Committee examined all the

playgrounds in Town, documented their findings and designated the Woodlawn site to fill a void where playground equipment has been removed. Buttery Brook and Beachgrounds Park have been identified by the Committee to upgrade the existing playground facilities.

- Mosier School. Two (2) basketball courts, one (1) playground area, two baseball/softball fields which are also used for soccer in the fall.

- Town Farm. Located along Route 47 (Hadley Street) and abutting the Bachelor Brook/Stony Brook Resource Conservation Area, this land was considered for many years as a possible site for a new school. However, in 2003, recognizing the Town's growth pattern and more immediate and long-term needs for outdoor recreation fields, the Town worked with the Marine Corps to have a portion of this site transformed into several athletic fields. A portion of the site is more appropriately reserved for natural resource conservation. Consideration should be given to exploring the possibility of adding a portion of the Town Farm to the Bachelor Brook/Stony Brook Resource Conservation Area.

- Ledges Golf Course. With the assistance of a $500,000 Urban Self-Help Grant, in 1998, the Town acquired a 244 - acre tract west of Alvord Street and adjoining Lower River Road in 1998. Acquisition of this land was for the purpose of developing a multi-purpose recreation area, primarily through development as an 18-hole golf course. In 1999-2000, the Town developed the golf course including a temporary clubhouse. Subsequently, the Town developed a driving range along the Alvord Street frontage. This acquisition has preserved this parcel for passive recreation including the enjoyment of views of the Mount Tom Range and the wildlife and foliage which characterize the area. Without this acquisition, this tract would likely be developed into large-lot subdivisions as is the case with the land to the south of the property.

  In 2007, South Hadley received another $ 237,088 in Urban Self Help funds to complete funding to construct the clubhouse at the Ledges. With this additional support, the Town was able to construct a clubhouse which is appropriate in scale, form, and function for the Ledges Golf Course. It has seen increase in use and is believed to have brought additional visitors to the Ledges Golf Course.

Fire District #1. Fire District #1 is a separate public entity which provides fire protection and water service to the southern half of the town. At one time, the district utilized the Leaping Well Reservoir as a primary water supply. Consequently, to protect that water supply, the district owned land abutting the reservoir. With the district's conversion to Quabbin Reservoir as the source of their water supply, they discontinued use of the reservoir. However, the district continues to own 10 parcels totaling 38.9 acres. Most of the acreage involves the former Leaping Well Reservoir and several

parcels off Bartlett Street. While a portion of this land is used for the District's garage and Water Department offices, most of the land is vacant. The district has contemplated selling a portion of the property with access off Bartlett Road.

Fire District #2. Fire District #2 is a separate public entity which provides fire protection and water service to the northern half of the town. At one time, the district utilized the Lithia Springs Reservoir as a primary water supply. Consequently, to protect that water supply, the district owned over 600 acres of land in the Mount Holyoke Range. With the district's conversion to wells as the source of their water supply, they discontinued use of the reservoir. Subsequently, in 2004, the Department of Conservation and Recreation (DCR) acquired most of this land from the district. However, Fire District #2 continues to own 84 acres of largely undeveloped land in South Hadley, principally:

- Mount Holyoke Range. The district owns three parcels totaling 65 acres which lie north of Pearl Street or Amherst Road. None of these parcels are used for either district operations nor retained to protect the water supply. Therefore, these parcels should be considered surplus. Discussions have been held regarding the possible sell of the land.

- Dry Brook Hill. The district owns 15 acres on Dry Brook Hill as part of the water supply system. The district's current wells are located on a portion of the property.

5.5 OTHER SIGNIFICANT PRIVATE PARCELS

Within South Hadley, there are also a number of privately-owned parcels which have the potential for providing usable open space. Approximately 37 such parcels totaling over 700 acres lie within the Ultimate Acquisition Boundary outlined by the Department of Environmental Management (DEM) (now, Department of Conservation and Recreation – DCR) and could provide access to and views of the Mount Holyoke Range. Other significant parcels abut the Connecticut River and could provide access to the river and/or a potential trail leading to the Mount Holyoke Range.

5.6 UTILITY COMPANY PARCELS

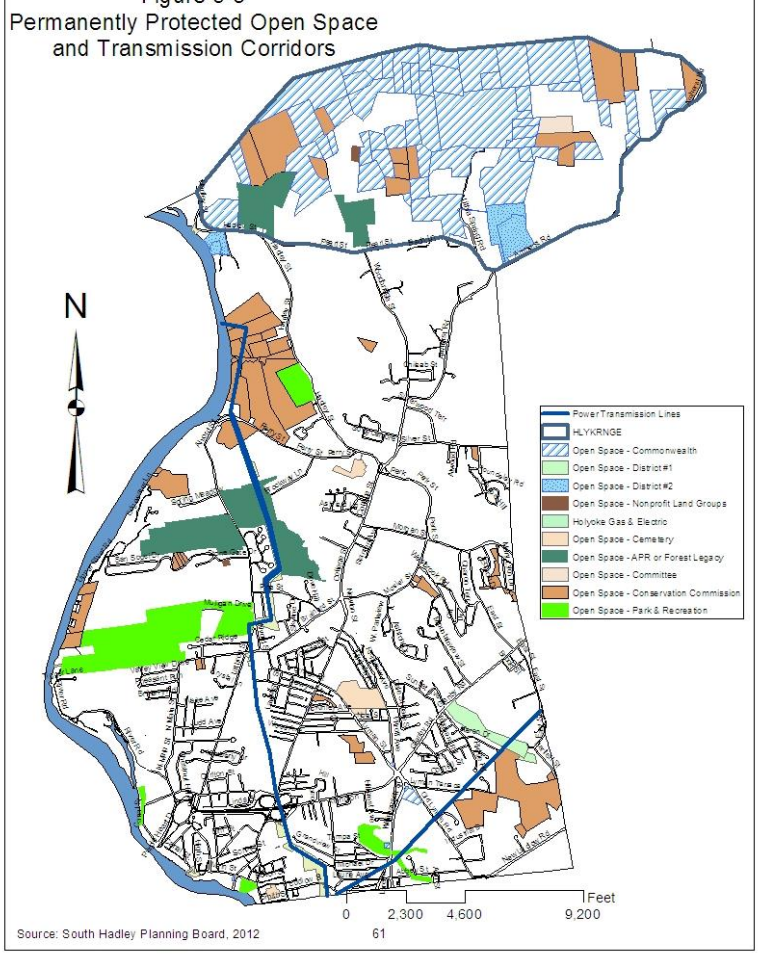
Historically, Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company has been a major owner of utility lands in South Hadley. However, they sold a considerable portion of their land holdings in 2003 to the Holyoke Gas & Electric Department (HG&E) as part of the transaction whereby they sold the Holyoke dam to HG&E. Another significant transaction occurred in 2005 when Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company sold the 284 acres abutting Ferry Street and Hadley Street to the Town of South Hadley for the Bachelor Brook/Stony Brook Resource Conservation Area. Another 2.85 acres located on Main Street/Canal Street were sold to the Town of South Hadley partly as a site for a new public library. Therefore, the remaining South Hadley land holdings of

Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company appear to be primarily associated with transmission lines and substations. While the land holdings are significant less, their location are significant when considering recreational opportunities such as hiking and biking trails.

Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company. Despite selling over 300 acres during the past 10 years, Northeast Utilities (or its subsidiaries) still retain ownership of approximately 58 acres in some potentially beneficial locations in South Hadley principally in the power transmission corridor:

- <u>Alvord Street/Lamb Street corridor.</u> Thirteen parcels totaling 58 acres and additional acreage in easements form a right-of-way for high tension wires paralleling portions of Alvord Street and Lamb Street from the South Hadley/Chicopee line northward to a point north of the mouth of Bachelor Brook at the Connecticut River. This corridor is long and narrow in shape and would provide an opportunity for a public access corridor linking several publicly-owned parcels including the Bachelor Brook/Stony Brook Resources Conservation Area. At present, these parcels are informally used for recreation trails and provide linkages from the surrounding neighborhoods to Bachelor Brook and Brunelle's Marina. As reflected in Figure 5-3 the transmission corridor provides a significant potential link between various parts of South

Figure 5-3
Permanently Protected Open Space
and Transmission Corridors



Source: South Hadley Planning Board, 2012

Hadley and the protected lands in Town. With only minor interruption, connecting the Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company land with the other public and protected private lands could provide the potential for public access running continuously from South Hadley Falls to the top of the Mount Holyoke Range.

Holyoke Gas & Electric (HG&E). Holyoke Gas & Electric (HG&E) now owns some small, but relatively significant land parcels in South Hadley, predominately in the area of South Hadley Falls.

- Holyoke Dam and riverfront parcel. HG&E now owns the Holyoke Dam and a 15-acre parcel which contains the Texon Building, and buildings accessory to the dam, and undeveloped land along the Connecticut River adjoining the Route 116 bridge and Main Street. As part of the License for the Holyoke Dam, the Federal Energy Regulatory Commission (FERC) is requiring Holyoke Gas & Electric to construct a Riverside Park which will have passive recreation (fishing, picnic areas, and viewing areas) in a portion of this parcel. As a condition of permitting alteration of the Texon Building to install a modification of the dam, HG&E has been developing the gatehouse area into a limited access park. The entire reach of the canal area is listed on the National Register and this entire area falls under the Historic Preservation Act.

  The HG&E also owns a related parcel north of the dam abutting the Connecticut River along Canal Street. This parcel is not proposed for any development, but is maintained as open space.

- Cove Island. HG&E also owns the 51.4-acre peninsula known as Cove Island (acquired from Northeast Utilities). A Conservation Restriction has been developed for a large portion of this area which is not currently developed. The HG&E will be applying this CR to the property in the near future. The remaining portion of Cove Island is developed with dwellings which began as "seasonal" homes. The occupants lease their area from HG&E under very limiting conditions. Under the Comprehensive Recreation and Land Management Plan required by FERC, the long-term expectation is that all of Cove Island will become a natural area as the "seasonal" homes are eventually phased out.

- Bicentennial Canal Park. HG&E also owns the Bicentennial Canal Park located off Canal Street. This park is leased to the Town which maintains nature trails, footpaths, picnic areas/park areas, and associated other uses.

SECTION 6 - COMMUNITY VISION

6.1 DESCRIPTION OF PROCESS

Background – Master Planning Process. This update is an outgrowth of the Town's three-year master planning process which culminated in adoption of the Town's new Master Plan in August 2010. With funding appropriated by Town Meeting, the Planning Board appointed a 16 member Comprehensive Plan Advisory Committee and hired the firm of VHB, Inc. to develop a new Master Plan which included chapters on the following topics:

- Housing
- Land Use and Community Design
- Economic Development
- Municipal Facilities and Services
- Open Space and Recreation
- Natural Resources
- Cultural and Historic Resources
- Housing
- Transportation and Transit

During the time that the Master Plan was being developed, South Hadley received approval to participate in the Department of Conservation and Recreation's Heritage Landscape Inventory program. Results from this programmatic effort provided inputs into the master planning process.

Development of the Master Plan involved numerous committee and subcommittee meetings, several survey efforts – including surveys regarding open space and recreation needs. There were also more than a half dozen community forums on a variety of topics including recreation and open space, natural resources, historic and cultural resources, and heritage landscapes.

Following completion of the draft plan in December 2009, the advisory committee and consultants submitted the draft to the Planning Board for their review and consideration. After 6 months of extensive public meetings in which the Board and members of the public critically reviewed each aspect of the Master Plan, the Board conducted a well-attended public hearing in June 2010, made a number of subsequent revisions and adopted the Master Plan in August 2010. At a Special Town Meeting in the Fall of 2010, Town Meeting endorsed the Master Plan.

Current Open Space and Recreation Planning Process. One of the many recommendations of the Master Plan was creation of an Open Space Committee to provide on-going guidance for the planning for and management of the Town's open space and recreational resources. This Committee was created in the Fall of 2010 with appointments made in the Spring of 2011.

Development of this specific plan update involved a multi-step, interactive approach:

- Review of the previous Recreation and Open Space Plan and the relevant aspects of the 2010 Master Plan
- Inventory and assessment of the actions taken since 2007 regarding open space and recreation facilities and improvements
- Assess the status of the previous action plan recommendations
- Analysis of the Master Plan's survey and public forum input
- Undertaking a focused survey and public forum input process
- Updating of the previous Recreation and Open Space Plan database
- Review of the recommendations of the 2010 Master Plan as they relate to the requirements of this Recreation and Open Space Plan.
- Consultation with the various community organizations and town departments regarding recreation and open space issues.
- Drafting of the update and review of the draft by various community organizations and town departments.
- Public hearing and review by the Selectboard at a televised meeting
- Approval of the proposed plan by the Selectboard.

Public Input and Involvement. Public input was vital to development of this update. The first aspect of this involvement was through the 2007-2010 master planning process which involved several key and successful approaches to obtaining community input:

- Community Survey. The survey efforts involved distribution of an extensive survey through the schools, public library, Council on Aging, Town Hall, the Chamber of Commerce, and other community organizations via email.

- Public Forms. A series of six public forums were held focusing on different issues. Additionally, a separate forum was held on the Heritage Landscape Inventory project.

- Public Meetings. Upon conclusion of the public forums, the Planning Board conducted at least a dozen special meetings focused on the draft Master Plan.

To further the community involvement in this Recreation and Open Space plan update, the following steps have been taken to encourage involvement in this planning effort:

- During the Fall 2011, the Committee distributed surveys through the Town's website, schools, civic groups, the public library, and Council on Aging. The Committee also used "SurveyMonkey" in this effort. The survey instruments were also distributed via email to all the municipal departments and many town boards and committees as well as persons who have been involved in or expressed interest in the Town's Master Planning efforts.

- Various community officials, boards, and community organizations were consulted regarding recreation and open space issues and needs.

- A public forum was conducted in February 2012 to solicit public input to identify the community's priorities as to the principal open space and recreation issues and needs.

- A draft of the proposed goals and action plan were posted on the Town's website to solicit public input.

- The proposed plan was submitted to key town and community boards for review and comment.

- The Selectboard reviewed the proposed goals and action plan at a televised public hearing.

Final Review and Approval. The draft update of the Recreation and Open Space Plan was distributed to key boards/commissions/departments for their review and comments including the Conservation Commission, Recreation Commission, Planning Board, Department of Public Works, and Agricultural Commission. A public review was held on June 26, 2012 by the Selectboard to obtain public input on the final plan recommendations. Following the public review, the plan was finalized.

6.2 STATEMENT OF OPEN SPACE AND RECREATION GOALS

Throughout the survey and public input processes, residents expressed clearly that the Town's priority should be to maintain the community's existing open space and recreational resources. Accordingly, the primary goal of this plan is to . . .

> *continue the effort to achieve the community's Open Space and Recreation objectives of preserving, protecting and expanding the existing cultural and natural resources, and maintaining and expanding the available open space and recreational opportunities which make South Hadley such a beautiful community in which to live and play*.

SECTION 7 - ANALYSIS OF NEEDS

Significant open space and recreation needs have been identified. The most vital need is for maintenance of existing facilities and resources. Every effort should be made to fully maintain and upgrade, where necessary, existing open space and recreational facilities. With limited staffing, maintenance of the facilities is often times inadequate, and adding new facilities without proper maintenance personnel would only worsen the situation.

Generally, the open space and recreation needs have been classified into several categories:

- Natural Resource protection including conservation
- Recreation, parks and facility needs
- Funding and resources
- Community awareness of facilities and programs

7.1 SUMMARY OF RESOURCE PROTECTION NEEDS

A number of resource protection needs have been identified. While protection and access to the Mount Holyoke Range and protection of the Connecticut River have historically been and remain prime concerns, broader conservation needs have also been identified as issues of prime concern. The Conservation Commission has expressed various key resource protection needs:

- riparian areas along all waterways in South Hadley, particularly the Connecticut River and Bachelor and Stony Brooks,
- increased protection of the Conservation Areas from motorized vehicles and vandalism,
- expansion of the Mount Holyoke Range trail system for hiking, skiing, cross-country skiing, etc., as well as increased access to the Connecticut River. The largest single owner on the South Hadley section of the Mount Holyoke Range, the Massachusetts DCR, included in its GOALS (Appendix B) recommendations for continued purchase of lands within the "ultimate acquisition boundary", as well as for expansion of the local trail network around the regionally significant Metacomet-Monadnock Trail which runs along the spine of the mountain.

Floodplain and riverfront development. Any type of development within the 100-year flood boundary area as delineated on the Flood Insurance Rate Maps for the Town under the National Flood Insurance Program should be avoided in the future, and the efforts of organizations such as the Connecticut Valley Action Program (see Appendix B) should help protect the river and other streams in Town.

An apparent lack of awareness of wetlands and their importance is a shortfall that needs attention. While the Town has acquired significant wetland areas and adopted a Wetlands Bylaw which offers significant protections, there is an apparent lack of public awareness of the need to protect these areas. This results in intentional and unintentional damage to

wetlands and vernal pools, vandalism of conservation areas, and other actions which degrade these vital resources.

Conservation Commission lands. Conservation Commission lands have been adversely affected by the lack of resources and the limited resources available for their management. Specific needs identified in regards to the Conservation lands include:

- Some of the lands have no or insufficient trails while in some other locations, the existing trails are in need of maintenance.
- Illegal use of the some lands by persons using motorized vehicles have damaged parts of the properties.
- Installation of effective signage for each of the properties noting their availability and restrictions.

Mount Holyoke Range and environs protection. The Mount Holyoke Range provides significant environmental, recreational, and aesthetic benefits to the community and the region. Additionally, located within the Range's nearby environs are farms and the Dry Brook Hill area. The latter is significant as a public water supply but is at peril for such use due to the presence of a gravel pit and the threat of potential development. Preservation of the natural, recreational, and infrastructure benefits of this area is a vital community need. Conservation easements, fee simple acquisition and more emphasis on the Mount Holyoke Range GOALS Plan are needed for further protection of the range.

South Hadley Landfill. At present this facility occupies approximately 48 acres and is operated by a contractor. Current plans involve a vertical and horizontal expansion which may extend the use of the landfill another 5-10 years. Eventually, this facility will be closed and is to be converted to recreational purposes. Therefore, from an open space and recreation perspective, the most vital need is to plan for and manage the transition of this property. This transition planning needs to begin with assuring that measures to develop and operate the landfill are balanced with the eventual plan for reuse of the site.

Habitat Sensitivity. Increased sensitivity to the habitats of the diverse species which populate South Hadley and its environs, including the bald eagle and the shortnose sturgeon, is needed. Any future development or point and non-point source pollution activities should undergo great scrutiny, because these are federally protected species.

Stormwater Management. South Hadley's natural resources, particularly the wetlands, streams, and the Connecticut River are impacted by how storm water is managed. There needs to be greater emphasis on ensuring the State and Federal requirements for treating and managing storm water runoff are fulfilled. Encouraging use of methods which promote infiltration on the site of the development is needed.

Survey Responses. Responses to the 2012 Open Space and Recreation surveys provide some quantitative insight into residents' resource protection concerns and priorities as well as changing perceptions of the community (see Appendix D – Community Survey).

- Over 80% of the respondents indicated that it was very important to protect the Land protecting water resources and drinking water, Mount Holyoke Range, and/or Conservation or wildlife habitat. Protection of agricultural lands also was rated as very important by three-quarters of the respondents.
- Protection and maintenance of existing conservation land was considered the most important conservation/recreation priority with slightly over 50% of the respondents rating this as the most important priority.
- Four out of every five respondents felt that more should be done by the Town to protect/conserve open space and natural resources or to create or maintain recreational areas.
- Use of regulatory tools (such as zoning and mandatory dedication of lands) were the preferred approach to protect/conserve open space and natural resources or to create or maintain recreational areas although purchase of additional land was supported by nearly 2/3's of the respondents.

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7.2 SUMMARY OF RECREATION, PARKS AND FACILITY NEEDS

Over the past 5 years, community groups have continued efforts to expand the active and passive recreation facilities. These efforts have led to an expansion in the number of fields, programs, and other facilities including:

- Revitalization of Beachgrounds Park
- Spray parks
- Additional athletic fields

But, these efforts have also led to a recognition that the community's parks and facility needs include:

- Revitalization of Buttery Brook Park
- Maintenance of existing facilities
- Additional fields
- Bikeway/Walking trails
- Tennis courts
- Space for indoor fitness programs
- Neighborhood parks

Revitalization of Buttery Brook Park. This park, located on Route 33, is the center of several community events including Cruise Nights, etc. Working with a local volunteers group, the DPW Superintendent and the Recreation Director have been developing a revitalization plan. The first significant step in this effort was taken several years ago when the State demolished a pool on adjoining land which has been added to the park. Some of the needs which have been identified for this park include:

1. Constructing tennis courts, replacement basketball courts, a spraypark, and new bathroom facilities
2. Reshingle pavilion roofs

3. New landscaping, fencing, and signage
4. Relocation of the park entrance

Maintenance of Facilities. Existing fields are well-maintained to the extent that budgets permit and volunteer resources are available. However, tight budgets limit the ability to maintain fields and other facilities. Additionally, expansion of the quantity of fields increases the demand for maintenance, but the budgets have not increased to correspond with the needs.

Additional Fields. While the Town has increased the number of fields and redeveloped others over the past 5-10 years, the growth in interest in sports requiring fields has also grown. At times, the demand for fields is greater than the available inventory and scheduling the fields' usage limits some activities.

Bikeway/Walking Trails. Individual and group use of the outdoors has also grown. South Hadley is lacking in bikeways – there are no designated bikeways or bike lanes in the Town. There is also a need for an interconnected system of trails. At present, walking and bicycling involves driving to a "trail head" or walking along a roadway. Additionally, except for the trails in the Mount Holyoke Range, the available trails are of a relatively short length.

Tennis Courts. South Hadley does not have any municipal tennis courts. Mount Holyoke College makes their courts available on a limited basis to the community. Efforts have been explored over the past 10 years to try to develop a tennis facility. However, the lack of funding has hampered these efforts.

Indoor Fitness programs. An appropriately equipped and located facility is needed for the continuation and growth of this activity. The Town's Recreation Commission contracts with an independent contractor to conduct a variety of exercise classes in the Town Hall Auditorium. However, the space has a number of limitations including limited parking, poor ventilation, etc. Therefore, while it "works" for the use, it is not optimal. Additionally, the programs must be relocated from time to time to accommodate use of the space for public meetings.

Neighborhood Parks. Existing recreation areas tend to fall into two categories: fairly large community parks with "athletic fields" and Conservation Lands used for passive recreation. The community does not have a system of neighborhood parks which are easily accessible by bicycle or on foot. Development of neighborhood parks would require commitment of additional resources for maintenance and for policing. But such facilities could also provide needed areas to bring residents in small neighborhoods together and local recreational opportunities for smaller children within the neighborhood.

Ledges Golf Course. This 18-hole facility and club house were developed using a variety of Urban Self-Help, municipal, and donated resources. It has been envisioned as a multi-purpose facility. However, the non-golf use has been limited and the golf use has been successful but not financially successful. Suggestions for converting the course to other uses and for expansion of the non-golf use have been offered for the past decade. There is a need

to enhance the finances of the course while also developing other uses which do not conflict with the golf use.

Survey Responses. Responses to the Master Plan and the 2012 Open Space and Recreation surveys provide some quantitative insight into residents' recreational interests (see Appendix D – Community Survey):

- While bike paths and walking trails were identified as the highest community needs, the third and fourth highest community needs were outdoor playgrounds and multipurpose athletic fields with almost as many respondents identifying the need for small neighborhood parks
- Protecting existing Conservation Lands and improving existing recreational facilities were identified as the two most important conservation/recreation priorities (50.7% and 43%, respectively) with maintaining existing recreational facilities being given the ranking as the third most important priority (30.3%)
- If the Ledges Golf Club were to be closed, nearly 3 out of 4 respondents indicated that they would prefer that the facility be retained for passive recreation (walking trails, etc.) with 2/3's of the respondents indicating that the clubhouse should be converted to a year-round recreation facility.

7.3 SUMMARY OF FUNDING AND RESOURCE NEEDS

Funding for development and operation of recreation facilities, preservation of open space, and related passive recreation opportunities is presently dependent upon grants, Town Meeting appropriations, and volunteers. This results in limited ability to acquire land and develop and manage programs as opportunities arise. With the economic downturn, the Town has been unable to provide the resources needed to fully develop and operate the recreational programs and services requested or to develop the facilities needed for some of the programs.

Funding Source. A funding source which is at least partly dedicated to these purposes is sorely needed. The most direct source for such activities would be adoption of the Community Preservation Act. Adoption of such a funding source would provide an "earmarked" source for acquisition of land and development of needed facilities including trails, signage, etc.

Volunteer System. Volunteers are presently recruited as a need arises and for operation of various recreation programs. During the public forum, the need for a system of recruiting and maintaining volunteers was expressed as a means to develop and implement programs without increased funding. Suggestions were made that the Town should develop a list of needs and job skills required and recruit volunteers in much the same manner as they do employees.

7.4 SUMMARY OF PUBLIC AWARENESS NEEDS

Though three-quarters of the survey respondents indicate they use South Hadley's Recreational Facilities or Conservation Areas, slightly over 2/3's of the respondents indicated

that they were not aware of the range of South Hadley's Recreation Facilities and Open Space areas. Recreation participants use the areas which are known to them and lack sufficient access to information about other areas. Survey respondents and public forum participants noted that there is a need for greater information, maps, etc. about the available recreation facilities and open space areas. Signs identifying an area as a Conservation Area do not convey sufficient information about the uses allowed on the property or walking/biking trails which are accessible.

While there is information about the recreation facilities and open space areas on the Town's website, this information is limiting in that there is not a "clear path" to all of this information. Additionally, everyone does not have access to the website – particularly when they are not at home.

Thus, there are several public awareness needs in regards to recreational facilities and open space areas.

Better use of municipal website. The Town's website is largely structured to find materials by individual departments. With recreational facilities (such as fields) being under the responsibility of the Recreation Commission and open space areas (primarily Conservation Areas) being under the responsibility of the Conservation Commission and other areas being under the authority of State and private organizations, the structure of the website does not readily lend itself to a search for the range of recreational opportunities. While maintaining the current overall structure of the website, some modifications need to be made to allow someone searching for recreational facilities, programs, and areas to be able to locate all of the resources without going through each of the separate departments. The website should provide a "one click" access to all of the recreational opportunities in the Town – active, teams, passive, etc. In the long term, this may necessitate some reorganization of programs and activities so that all of the recreational opportunities are managed and promoted by one department.

Kiosks. Information materials on the community's recreational facilities and programs and open space/passive recreation areas are generally only available at Town Hall offices. However, many people never venture into Town Hall for such materials. Providing the information at one or more informational kiosks around the community would reach more people and make the information much more usable. Possible locations could include the Town Common, Beachground park, etc.

Public awareness program. Residents are not informed as to the availability of the recreational facilities and programs and open space/passive recreation areas. An organized program to inform the public of these resources would likely result in their increased use and recognition of the need for more resources. Articles in area publications, notices at the Town Meetings, public information meetings are some of the methods which need to be part of an outreach/awareness program.

7.5 SUMMARY OF COMMUNITY NEED

South Hadley is a unique Connecticut Valley community by virtue of its location in the transition zone between the densely populated urban centers to the south and the more rural agricultural communities to the north. In the past, both of these conditions have influenced the Town's open space and recreation planning and are expected to do so in the future as well. Add to this geographic blend the dominance of the two most important regional landscape features, the Mount Holyoke Range and the Connecticut River, and the community's growth as a bedroom community with an aging population; the framework is established for defining and meeting South Hadley's open space and recreation needs which have largely been defined in the previous sections.

Reflecting the community's physical and social character, in particular its aging population, several broader community needs stand out:

Interconnections. South Hadley has a variety of recreational resources which serve the community and the larger region. Mount Holyoke Range and the Connecticut River stand out among these regional resources but also the major parks (such as the Beachgrounds, Buttery Brook Park, etc.), athletic fields, diverse Conservation lands, the Ledges, and private recreational resources (such as the Orchards). At present, access to these resources is sketchy at best and requires vehicular travel. These areas need to be interconnected through a network of walking and biking trails and corridors including sidewalks.

"Mini parks" can provide readily accessible recreation areas for residents of all ages. Development of these parks within the various neighborhoods can provide places for conducting summer programs for arts and crafts and games for school children as well as older adults.

Biking & Hiking facilities. As noted previously, many persons have expressed the need for improved biking and hiking facilities. With the distribution of the community's facilities and population, access to the facilities is difficult for many and currently requires provision of parking areas. A system of biking and hiking facilities would provide another means of recreation by itself while also providing an alternative mode of transportation to the existing facilities.

Sidewalks should be constructed or repaired for walkers, and there should be a dedicated bike path through town, developed in coordination with the regional bikeway system.

Recreation Center. Development of a place for youth recreation has been voiced as a need for many years. The recently established Youth Commission has added its voice to this chorus. It should be noted that the Senior Center provides some space for senior recreation, but it is limited. The use of Town Hall for indoor fitness, while accommodating, is really inadequate.

Canoe Access. The Connecticut River and the streams/brooks flowing into it are a natural resource which offers recreational opportunities. However, canoe access (on a community basis) is limited to one location on the Connecticut River. Since much of the Connecticut

River riverfront is inaccessible due, in large part, to the topography and environmental constraints there is a need to examine the provision of access points on the tributaries to the River as an alternative to the River itself.

Both Bachelor and Stony Brooks would provide for these linkages, in particular, non-motorized boats and canoes and is proposed in the five year Action Plan *(see Appendix G, Map 6, Action Plan and Section 9)*. However, beaver dams and blow downs pose major obstacles to providing such access points.

Restoration of access to, and making use of, the Connecticut River shoreline for both active and passive recreational/open space opportunities is vitally needed.

The Ledges as a Multipurpose Recreational Facility. The Golf Commission, which assists in the management of the Ledges Municipal Golf Course in concert with other community boards and commissions, is focused on maximizing the use of the facility by the community. At the same time, while protecting the course, it has sought to open the facility to other recreational purposes. Unfortunately, the facility is not being used during the non-golf season.

Bicentennial Park. The Bicentennial Canal Park Committee has identified a variety of needs and opportunities. Chief among these needs and opportunities are expansion of the area covered by the Bicentennial Park to include a portion of Cove Island, restoration of a portion of the South Hadley Canal, and development of a Gate House Park near the Texon Building. Achievement of these objectives would increase the passive recreation and tourist-oriented recreation opportunities available in South Hadley. The Gate House Park and a nearby Lower Riverside Park are nearing completion by Holyoke Gas & Electric.

Land Protection. The South Hadley Conservation Commission expressed the need to protect the riparian areas along all waterways in South Hadley, particularly the Connecticut River and Bachelor and Stony Brooks. Protection of the community's remaining farm land and scenic views are also of interest to the Conservation Commission.

Massachusetts Outdoor 2006. The statewide SCORP report, Massachusetts Outdoor 2006, analyzes the outdoor recreational use and needs by region. South Hadley lies within the Connecticut River Valley region. Analysis of the region versus statewide results provides a basis for evaluating the local and regional needs more so than merely examining the statewide results.

Participation rates for several activities varied significantly for the region when compared to statewide participation. Within the Connecticut River Valley, reflecting a less urban environment, participants are more significantly involved in hiking and fishing but much less involved in recreational walking and sunbathing. Similarly, given the region's resources, it is no surprise that the region's residents have more recreational experience with mountains, rivers, streams, and forests than the state as a whole.

A key difference between the regional and state perspectives on funding priorities was also reflected in the South Hadley survey respondents:

- The region (and South Hadley) place greater emphasis on maintaining/enhancing existing facilities versus acquiring new land and facilities

The 2006 SCORP identifies some areas in which recreational facilities needs are greater in the region than the statewide data suggests. Only in the need for mountain biking trails did the region lead all other regions of the state.

- *Field Sports:* Little difference was evidenced when viewing the ten sports analyzed – principally, the region showed greater need for playground activities (11.3%) than shown statewide and a slightly stronger need for golf than shown statewide.

- *Passive Recreation:* Of the four activities analyzed, the principal differences were in the areas of picnicking (5.5%) and watching wildlife (3.9%) which were in relatively significantly greater need regionally than in the state.

- *Trail-Based and Wilderness Activities:* Mountain biking (10.3%), road biking (14.5%) as well as cross-country skiing (4.1%) were in significantly greater need in the region than the state. Reflecting the character of the region, all three wilderness activities analyzed – camping (5.3%), hiking (10.7%), and hunting (0.6%) – were in significantly greater need in the region than the state.

- *Water-Based Activities:* The region outpaces the state in the need for fishing (5.5% versus 4.3%) facilities. There is also a slightly greater need for motorized and non-motorized boating facilities in the region than the state.

Special Community Focus. The aging of the population and the growing awareness of the need to be inclusive, suggests that the community needs to analyze how its' facilities and programs are accessible to the elderly and persons of different levels of mobility. With the redevelopment of Beachgrounds Park, the Town took special efforts to ensure that mobility impairment did not preclude utilization of the facilities. Similarly, in working with Holyoke Gas & Electric while planning their riverside parks, the Town has endeavored to ensure that the various parks accessible by persons with mobility impairments by placement of handicapped parking spaces, grades of walkways, and style of fixtures such as picnic tables and viewing platforms. As Buttery Brook Park is redeveloped, a similar awareness will need to be paid to the accessibility of the facilities. The community needs to continue to ensure that as new parks are developed and trails reconstructed, consideration is given, where appropriate and feasible, to making the areas enjoyable and usable by all residents.

The notion that an aging population means recreational facilities are passive and limited to short trails and shuffle board is quite passé. Instead, the aging population means the community will have a greater demand for recreational facilities in general. At the same time, there will be a greater portion of the user population which can be expected to have mobility

limitations. While conservation areas are intended to remain in a largely natural state, some trails and viewing platforms accessible by persons with mobility limitations will need to be provided.

7.6 MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

Management of the Town's existing recreation and open spaces and addressing the opportunities which the changes in usage will offer are significant challenges which must be addressed. The fragmentation of the recreation resources among diverse departments have proven to be a challenge for visitors and residents seeking to learn about the community's resources. A single entity that manages all of the community's recreational resources (passive and active) would enhance the ability for the public to learn and use the full range of recreational opportunities while providing an efficient management structure.

This plan is developed with a recognition of the need to balance the need/desire for land protection and the need for Fiscal resources. In many cases, the impact on the tax revenues of protecting land through acquisition is minimal. In some cases, the alternative use of the property suggests that conservation of the land is actually a fiscal plus for the town. However, the fiscal impact of public acquisition and use of land raises serious concerns as nearly half of the land in South Hadley is either not taxed or taxed at below full value due to easements, restrictions, etc. This suggests that a strategic view should be taken as to which lands should be given permanent protections and which lands could be used for other purposes.

The Town owns several parcels on the Mount Holyoke Range which are not subject to permanent protection. The Town should consider establishing permanent protection for the land on the Mount Holyoke Range.

The landfill offers the most significant short-term and long-term management concern. As the landfill is eventually closed, the Town will need to address the potential for recreational use of the land. However, for the landfill to horizontally expand in the short term, it will be necessary to identify the boundary between the area appropriate for the landfill and the adjoining Bynan Conservation Area.

Meeting the athletic field needs will require the most effective utilization of available land. The most obvious means to meet the needs for athletic fields is to include such fields as part of any new school facility and to consider existing public lands which are already disturbed and could be effectively used for athletic fields. As the landfill is eventually completed, reuse of the landfill will offer new recreation opportunities, which might include parks.

Development in the western and northern areas of town can be perceived as a threat to the remaining agricultural community and the water supply of District #2. Accordingly, measures must be taken to assure retention of agricultural land and ensure that development in proximity to the water supply does not have a detrimental effect on the water quality. Dry Brook Hill is the source of the District #2 water supply. Protection of the recharge through area is vital.

Every effort should be made to fully maintain and upgrade where necessary for existing open space and recreational facilities. With limited staffing, maintenance of the facilities is often times inadequate, and adding new facilities without proper maintenance personnel would only worsen the situation. One exception to this is to give consideration to outdoors ice skating areas and/or cross country skiing/hiking trails during the winter as part of the Ledges Golf Course developed on approximately 244 acres of land off Alvord Street.

SECTION 8 - GOALS AND OBJECTIVES

While many of the goals contained in the 2007 Open Space Plan are still important and continually need to be addressed, the development and adoption of the 2010 Master Plan has resulted in a reassessment of how those goals relate to the Open Space Plan. Reflecting the growth in development and the shifting demographic composition of South Hadley's residents, the often stated need for more active recreational opportunities and passive recreation and open space protections, some new goals and objectives related to development of active recreational opportunities have also been included in this update.

Section 6 stressed the importance of establishing a strategy to preserve, protect and expand the existing cultural and natural resources of the Town and to maintain and expand the available recreational opportunities available in the Town. The overall goal and the ensuing goals and objectives outlined in this section resulted from comments made throughout the public participation process (including the community survey responses and public forums), and a complete review of the 2010 Master Plan and 2007 Open Space Plan.

Goal 1: Conservation - Protect and maintain existing conservation land while recognizing opportunities to expand conservation lands for passive recreation such as walking and hiking.

1) Protect Conservation Areas from motorized vehicles.
2) Utilize appropriate land use controls to protect natural resource areas (including streams, ponds, vernal pools, floodplains, and wetlands).
3) Enhance access and usability of passive recreation areas.
4) Expand conservation protected natural resource areas.

Goal 2: Recreational Connectivity - Improve connectivity between and among the Town's open space and recreation areas, adding walking and biking opportunities wherever possible.

1) Encourage community-wide and regional non-motorized connectivity.
2) Regional links to various town natural and cultural attractions (bike path along old trolley line, hiking trails along utility corridors, etc.).
3) Improve access to the River and the Range

Goal 3: Recreational Facilities & Spaces - Improve and maintain the Town's existing recreational resources and utilize effective management of the Town's parks and recreational facilities.

1) Broader/expanded Community Garden Program.
2) Increase active recreation opportunities for all areas of Town.
3) Expand recreational use of Town-owned lands.
4) Increase land available for active recreation purposes
5) Promote increased active recreation opportunities for young children (i.e. neighborhood playgrounds).
6) A community center providing recreational opportunities for persons of all ages.

Goal 4: Historical Preservation - Preserve and enhance the historical landscapes, districts, and individual resources of the Town of South Hadley.

1) Identify/inventory resources of historical and cultural significance.
2) Increase awareness of resources of local cultural and historical significance.
3) Increase community collaboration for preservation/enhancement of South Hadley's historical character.
4) Ensure that the historical character and role of the Canal is reflected in the reuse/redevelopment of the surrounding riverfront properties.

Goal 5: Resources & Awareness – Increase resources and awareness for preservation of agricultural land, continued farm operations, and natural and scenic resources.

1) Improve management of the Town's Forest Lands
2) Communicate need and techniques for preservation/conservation of properties for open space, passive, and active recreational purposes.
3) Community involvement with clean-up and maintenance efforts.
4) Incorporate greater protection of natural resources and provision of open space and recreation amenities within proposed developments.
5) Provide opportunities that will communicate the importance of South Hadley's natural resources and their functions and values.
6) Encourage greater use of the APR Program to protect the limited remaining farmland
7) Integrate communications that provide residents with clear and useful information about all public recreation opportunities, facilities, parks and open spaces.
8) Communicate the location, history, significance, and current conditions of South Hadley's historical and cultural resources and historical landscapes.
9) Continue to develop educational materials on town heritage.
10) Develop a dedicated funding source for preserving open space and recreational facilities.

SECTION 9 - FIVE-YEAR ACTION PLAN

1. ACCOMPLISHMENTS

The 2012-2019 Action Plan is based to a large degree on the successful completion of the past five-year Action Plan. Many successes were achieved under that plan including:

- An $800,000+ redevelopment of the Beachgrounds Park on Main Street in South Hadley Falls was accomplished with assistance from private groups and a $500,000 Urban Self-Help Grant. This redevelopment included the addition of a Spray Park, field improvements, renovated storage facility/restrooms, playground, basketball court, river view picnic area, etc.
- Renovated baseball fields at the following parks: Landers, Beachgrounds, Woodlawn Field
- Improved playing fields at various other parks.
- Construction of a new club house to serve the Ledges Golf Course was completed with assistance of an Urban Self-Help Grant.
- The DPW has agreed to undertake an annual cleanup of the riverfront abutting the Beachgrounds Park.
- Lower Riverside Park and an Upper Gatehouse Park have been substantially completed by Holyoke Gas & Electric along the Connecticut River in South Hadley Falls.
- A Community Garden has been developed and expanded at the Town Farm under the auspices of the Community Garden Committee and working with GroSouth Hadley.
- Renovations have taken place at the Buttery Brook Park including construction of a new playground and demolition of the adjoining State pool.
- Added new summer camps and seasonal sports programs that utilize the Town's parks.
- Began Summer Concert Series on the Town Common in conjunction with the Village Commons.
- Increased community programming including exercise/Zumba programs at Town Hall.
- Trail links were established to the Connecticut Rive via Bagg-Pierce, Bachelor Brook/Stony Brook, and Carver/Newton/Jones Conservation Areas.
- The Connecticut River Watershed Council has continued to effectively promote community involvement with river and stream clean-up efforts.
- Through work with the US Army Corps of Engineers, the Town has been in discussions with Holyoke Gas & Electric to determine the reuse of the "Texon" building in a manner that will reflect the historical character of the area.
- The Conservation Commission acquired additional land (the Popp property) which will develop access to and protect greenways along rivers and streams. The Commission is working on several more such acquisitions which may be completed this year.
- Obtained protection of 100 acres of farmland (McCray's Farm) through the APR program.

- Acquired protected land (East St Court CR) adjoining the Stonybrook/Trompke property.
- Two (2) new trails were created on Bachelor Brook/Stonybrook Conservation Resource Area by a volunteer and eagle scouts.
- Wheelchair access was provided for the Beachgrounds picnic area and Lower Riverside Park.
- Working with the Pioneer Valley Planning Commission to develop a hiking/biking trail system that provides access to the Connecticut River and through and from the Bachelor Brook/Stony Brook Conservation Resource Area to the Mount Holyoke Range. The feasibility phase of this effort is funded by a Scenic Byway Grant.
- Worked with girl scouts to paint trail markers on 3 trails at Black Stevens and with eagle scouts on 2 trails at Bachelor/Stonybrook.
- Using a GPS tool, all trails in the Conservation Areas were digitized resulting in some new, more accurate trail maps.
- A bench was added to the trail in the LeBlanc Conservation area.
- To discourage motorized vehicle use of the Conservation lands, the Town has installed signs, intensified police enforcement efforts, and notified offenders of violations.
- Adopted a "Right to Farm" Bylaw.
- Created an Agricultural Commission.

While not complete, this list of accomplishments over the past five years highlights the major accomplishments that have been effected as a result of the Town's Open Space and Recreation Plan titled "The Range and the River". What follows is the 2012-2019 Action Plan which provides guidance and direction for the preservation and expansion of land uses that make South Hadley a "Great Place to Live". The Action Plan lists numerous proposed actions, some of which would be undertaken by the Town while others would be supported by the Town, but undertaken by private organizations.

2. 2012-2019 SEVEN-YEAR ACTION PLAN

In accordance with the guidance from the Executive Office of Energy and Environmental Affairs, this plan lays out an action plan for the next seven years. Implementation of this plan, like all community-driven plans will need to be a joint effort among many parties. The Open Space Committee will take the role of working with existing boards and committees to promote and facilitate the plan's implementation.

Goal 1: Conservation

a. Develop a comprehensive, ongoing inventory and assessment of the Town's natural resources to provide the basis for actions to enhance the environmental quality and conditions of our air, land and water.
b. Work to preserve land adjoining existing protected lands.
c. Develop more trails on conservation land.
d. Provide wheelchair accessible trails.

e. Develop a hiking/biking trail system that provides access to the Connecticut River and through and from the Bachelor Brook/Stony Brook Conservation Resource Area to the Mount Holyoke Range.
f. Maintain/improve existing walking trails in Conservation Areas (markings, maps, signage, trail work, etc.)
g. Work to acquire additional lands on the Mount Holyoke Range for permanent protection.
h. Work to develop and protect greenways along rivers and streams through land acquisition or easements.

Goal 2: Recreational Connectivity

a. Increase access to range in the central part of the Mount Holyoke Range within South Hadley (Pearl Street).
b. Establish a marked bicycle route through Town, linked to other bikeways in adjoining Towns.
c. Establish trail links to the shoreline of the Connecticut River from other point of access (i.e. roadways and other trails).
d. Develop a riverside park and trails in South Hadley Falls below the dam

Goal 3: Recreational Facilities & Spaces

a. Develop more fields for team and group recreational activities.
b. Establish municipal tennis and other alternative recreational facilities.
c. Acquire additional lands for recreational facilities
d. Prior to disposal of municipally-owned land, evaluate its potential for recreational use.
e. Prior to releasing the Town's rights under Chapter 61/61A/61B regarding the right to purchase lands which are to be converted or sold, evaluate the potential for recreational use.
f. Redevelop/reinvigorate the community's parks and facilities, particularly Buttery Brook Park consistent with community needs

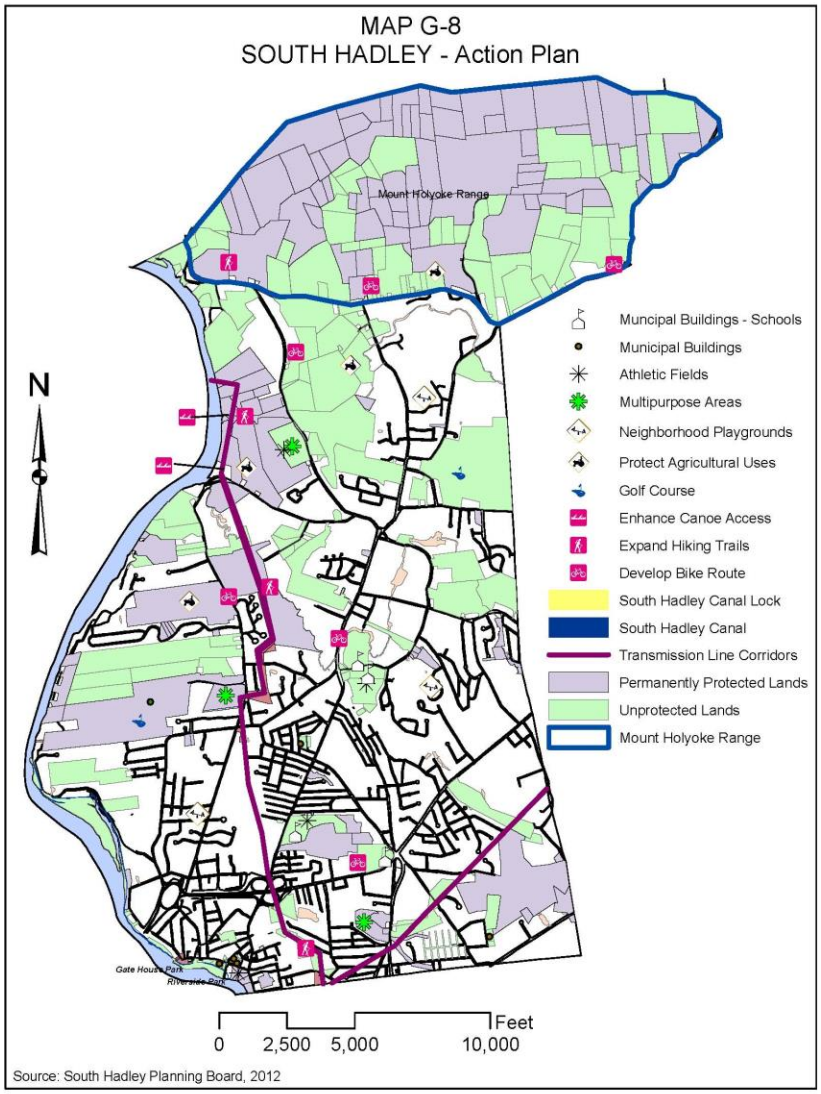
Goal 4: Historic and Cultural Resources

a. Develop a town-wide inventory of buildings and properties of historical significance.
b. Establish one or more local historic districts.
c. Apply for designation as a Certified Local Government to designate the community's commitment to Historic Preservation and enhance the community's funding opportunities.
d. Incorporate impacts on significant historical resources into Town by-laws as criteria in assessing development proposals.
e. Develop design review standards and a design review process to protect the character of historically significant buildings/properties.

Goal 5: Natural Resources and General Management

a. Develop, adopt, and implement a Forest Management Plan to enhance the stewardship of the community's forests and funding opportunities.

b. Provide opportunities to educate residents about estate planning and the future of their land.
c. Adoption of the Community Preservation Act.
d. Work with current and future developers for the provision of additional open space and recreational opportunities.
e. Promote education of the environmental significance of South Hadley's natural resources.
f. Develop stream teams to assist in protection and enhancement of wetlands and waterways.
g. Expand access to programs and resources through the Town's website.
h. Establish/expand a system for recruiting, training, and organizing volunteers to undertake preservation, open space, and recreation activities.
i. Encourage and promote town stormwater management activities.
j. Encourage use of on-site retention and infiltration of storm water.



Proposed Actions	*Ref.*	*Fund Source*	*Plan Years*			*Priority Rank*	*Primary Responsibility*
			1-3	*3-5*	*5-7*		
Inventory and assessment of natural resources	Goal 1:a	**Local/ Grants**	**X**			**Long-Term**	**Conservation Commission**
Preserve land adjoining existing protected lands	Goal 1:b	**Local Grants /Don**		**X**		**Medium**	**Conservation Commission**
Develop more trails on conservation land	Goal 1:c	**Grants /Vol**		**X**		**Long-Term**	**Conservation Commission**
Provide wheelchair accessible trails	Goal 1:d	**Local/ Grants**			X	**Rank 7**	**Selectboard**
Hiking/biking trail system to Connecticut River, Bachelor Brook/Stonybrook Conservation area & Mount Holyoke Range	Goal 1:e	**Local/ Grants /Don**			**X**	**Medium**	**Selectboard**
Maintain/improve existing Conservation Areas' walking trails	Goal 1:f	**Local**	**X**			**Rank 3**	**Conservation Commission**
Permanently protect lands on the Mount Holyoke Range	Goal 1:g	**Local/ Grants**			**X**	**Medium**	**Conservation Commission**
Greenways along rivers and streams	Goal 1:h	**Local/ Grants**			**X**	**Long-Term**	**Conservation Commission**
Increase access to the central part of the Mount Holyoke Range	Goal 2:a	**Grants**		**X**		**Long-Term**	**Selectboard**
A marked bicycle route in/through South Hadley	Goal 2:b	**Local/ Grants**			**X**	**Long-Term**	**Selectboard**
Trail links to the Connecticut River	Goal 2:c	**Local/ Grants**			**X**	**Long-Term**	**Conservation Commission**
Riverside park and trails below Holyoke Dam	Goal 2:d	**HG& E/ Grants**	**X**			**Rank 5**	**Selectboard**
Develop more fields for team and group activities	Goal 3:a	**Local/ Grants**			**X**	**Medium**	**Recreation Commission**
Municipal tennis and other alternative facilities	Goal 3:b	**Local/ Grants**			**X**	**Long-Term**	**Recreation Commission**
Additional lands for recreational facilities	Goal 3:c	**Local/ Grants**		**X**		**Rank 4**	**Recreation Commission**

Proposed Actions	*Ref.*	*Fund Source*	*Plan Years*			*Priority Rank*	*Primary Responsibility*
			1-3	*3-5*	*5-7*		
Evaluate surplus Town property for recreational facilities	Goal 3:d	**Local**	**X**			**Medium**	**Community & Economic Development**
Evaluate Chapter lands for recreational use before releasing the Town's rights	Goal 3:e	**Local**			**X**	**Long-Term**	**Recreation Commission**
Redevelop/reinvigorate community parks – Buttery Brook Park	Goal 3:f	**Local/ Grants**		**X**		**Medium**	**Recreation Commission**
Town-wide inventory of buildings/properties of historical significance	Goal 4:a	**Local/ Grants /Vol**			**X**	**Medium**	**Historic Commission**
Establish local historic district(s)	Goal 4:b	**Local**		**X**		**Medium**	**Selectboard**
Attain Certified Local Government designation	Goal 4:c	**Local**		**X**		**Medium**	**Selectboard**
Assess impacts on historical resources	Goal 4:d	**Local**			**X**	**Long-Term**	**Historic Commission**
Design review standards and a Design Review process	Goal 4:e	**Local**	**X**			**Medium**	**Planning Board**
Forest Management Plan	Goal 5:a	**Local**		**X**		**Medium**	**Forestry Commission**
Education of residents about estate planning and future of their land	Goal 5:b	**Local**		**X**		**Long-Term**	**Open Space Committee**
Adopt Community Preservation Act	Goal 5:c	**Local**	**X**			**Rank 1**	**Open Space Committee**
Work with developers to provide for additional open space and recreation	Goal 5:d	**Local**	**X**			**Medium**	**Planning Board**
Promote education of the environmental significance of the natural resources	Goal 5:e	**Local**	**X**			**Medium**	**Conservation Commission**
Stream teams	Goal 5:f	**Local**			**X**	**L ong-Term**	**Conservation Commission**

Proposed Actions	*Ref.*	*Fund Source*	*Plan Years*			*Priority Ranking*	*Primary Responsibility*
			1-3	*3-5*	*5-7*		
Expand access to programs and resources through the Town's website	Goal 5:g	**Local**	**X**			**Rank 2**	**Open Space Committee**
System for recruiting, training, and organizing volunteers	Goal 5:h	**Local**		**X**		**Rank 6**	**Selectboard**
Encourage and promote Town stormwater management activities	Goal 5:i	**Local**	**X**			**Medium**	**Department Of Public Works**
Encourage use of on-site retention and infiltration of stormwater	Goal 5:j	**Local**	**X**			**Medium**	**Planning Board**

SECTION 10 - PUBLIC COMMENTS

In addition to having the draft plan reviewed at several public meetings (Open Space Committee and Selectboard), the draft plan was submitted to various departments and agencies for their review and comments. On the following pages are the letters of review/endorsement submitted by the responding departments and agencies:

- Planning Board
- Conservation Commission
- Department of Public Works
- Recreation Commission
- Pioneer Valley Planning Commission

TOWN OF SOUTH HADLEY

JOAN ROSNER
Chairman

JEFF SQUIRE
Vice-Chairman

MARK CAVANAUGH
Clerk

HELEN FANTINI
Member

MELISSA O'BRIEN
Member

JEREMY KING
Associate Member

RICHARD L. HARRIS, AICP
Town Planner

DORIS LECLAIR
Senior Clerk

OFFICE OF THE PLANNING BOARD
116 Main Street, Room 204
South Hadley, MA. 01075-2896
Telephone: (413) 538-5017 Ext 206 * Fax: (413) 538-7565
www.southhadley.org
Email: planning@southhadleyma.gov

June 26, 2012

Mr. John Hine, Chair
Selectboard
Town of South Hadley
South Hadley, MA 01075

RE: Open Space and Recreation Plan Update

Dear Mr. Hine:

The South Hadley Planning Board has been actively involved in the development and implementation of the Town's Open Space and Recreation Plan since 1988. This history has continued through development of the current 2012-2019 update but in a different manner.

Development and adoption of the 2010 Master Plan provided the community an opportunity to more fully relate the Open Space and Recreation Plan to the town's larger development environment. Subsequent creation of a standing Open Space Committee provides continuity in open space and recreation planning which can use the framework of the Master Plan for framing the various issues.

The Open Space and Recreation Plan: 2012-2019 provides a comprehensive approach to our community's open space and recreation needs. This new plan sets forth goals, objectives, and actions to direct our efforts for the next 7 years consistent with and supportive of the 2010 Master Plan. The committee did an excellent job on this update and it reflects the continued and expanded coordination with other boards and residents.

As Chair of the South Hadley Planning Board I am pleased to endorse this Open Space and Recreation Plan update. I urge the Selectboard to endorse the update and the Massachusetts Executive Office of Energy and Environmental Affairs, Division of Conservation Services to approve the update and support the community's efforts to implement the Plan's recommendations.

If you have any questions regarding this matter, please call me.

Sincerely,

Joan B. Rosner

Joan B. Rosner
Chair

rlh

Town of South Hadley
CONSERVATION COMMISSION
Town Hall 116 Main Street
South Hadley, MA 01075
Telephone (413) 538-5017 ext 208
Fax (413) 538-7565

June 25, 2012

Mr. Richard Harris, Town Planner
Town of South Hadley
South Hadley, MA 01075

Re: South Hadley Open Space and Recreation Plan Update

Dear Mr. Harris,

The South Hadley Conservation Commission has reviewed the draft Open Space and Recreation Plan for 2012-2019. The Town of South Hadley has been continuing its efforts since the last plan was created in 2005 to maintain and expand on the open space and recreation opportunities available to the public, and the Plan has done well describing these efforts. The Conservation Commission supports the Goals of the updated Open Space and Recreation Plan, and especially Goal 1 and its Objectives on Conservation. Our Conservation Commission is committed to preservation of the Town's natural resources, especially the wetlands, river and stream corridors, the Mount Holyoke Range, agricultural land, and scenic landscapes.

On behalf of the Conservation Commission, I strongly endorse this Open Space and Recreation Plan for 2012-2019 and urge its approval. We look forward to working with the Planning Board and other community groups to achieve the goals and objectives outlined for the next seven years.

Sincerely,

John Fleming

John Fleming,
Conservation Commission Chair

Town of South Hadley

DEPARTMENT OF PUBLIC WORKS
10 Industrial Drive
South Hadley, MA 01075
Telephone: (413) 538-5033
Fax: (413) 534-0884

Jim Reidy
Superintendent

June 26, 2012

Richard Harris
Town Planner
116 Main Street
South Hadley, MA 01075

Dear Richard:

I would like to take this opportunity to express my strong support of the recent update to the Town's open space plan, Range and River – An Open Space and Recreation Plan for the Town of South Hadley, Massachusetts.

As the Town's Superintendent of Public Works, I am responsible for the maintenance and upkeep of the Town's parks and public grounds. The updated plan provides a detailed and accurate description of the needs and goals relating to these properties.

The updated plan is very well written and provides the information in a very organized manner. The goals are ambitious – as they should be. I am happy to pledge my commitment to accomplishing the goals specified in the plan to the extent that funding is available to do so.

I truly appreciate your efforts on this plan. You have done an excellent job.

Sincerely,

Jim Reidy
Superintendent

Town of South Hadley

RECREATION DEPARTMENT

116 Main Street, South Hadley, MA 01075-2864

Email: arogers@southhadleyma.gov
www.southhadleyrecreation.org

ANDREW ROGERS, Recreation Director
(413) 538-5017 x203 • Fax (413) 538-7565

June 26, 2012

Richard Harris, Town Planner
Town of South Hadley
South Hadley, MA 01075

RE: 2012-2019 Open Space and Recreation Plan

Dear Mr. Harris;

On behalf of the Recreation Department/Commission, I have reviewed the Open Space and Recreation Plan for 2012-2019. The plan has clearly identified the full range of the communities' short and long-term recreational needs. On behalf of the Recreation Department/Commission, I strongly support the proposed Open Space and Recreation Plan.

The Recreation Department/Commission has had the opportunity to offer input throughout the process of preparing this plan. Our core goals of providing additional athletic fields and playgrounds are included in this plan and we hope to see them built over this period. There is a great need for those in this very active community.

If you have any questions, please feel free to contact me.

Sincerely,

Andrew Rogers
Recreation Director

Pioneer Valley Planning Commission
50 Years 1962-2012

Timothy W. Brennan, Executive Director

December 23, 2013

Melissa Cryan
EOEEA- DCS
100 Cambridge Street, 9th Floor
Boston, MA 02114

RE: South Hadley 2013 Open Space and Recreation Plan

Dear Ms. Cryan:

The Pioneer Valley Planning Commission (PVPC) has reviewed the South Hadley Open Space and Recreation Plan (OSRP). The 2013 update is consistent with the regional land use plan *Valley Vision 4*.

South Hadley's goals, objectives and actions seek to build on past accomplishments and focuses on the maintenance and expansion of existing open space and recreation resources. The OSRP plan is intended in part to support South Hadley's 2010 master plan, and considers the input and feedback received from the public during that earlier process. The OSRP also aims to increase the amount and accessibility of open space in its community through several strategies, and recognizes the unique open space challenges associated with its location between urban areas to the south and rural communities to the north. PVPC supports the actions outlined in the action plan.

Timothy W. Brennan, Executive Director

TWB/ jb
\\DC2\LandUSE\Open Space Plans\Local Plans\South Hadley

Pioneer Valley Planning Commission 60 Congress Street - Floor 1, Springfield, MA 01104-3419
phone 413.781.6045 *fax* 413.732.2593 *TTY* 413.781.7168 www.pvpc.org

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