

Creating Connections - Open Space and Recreation Plan

Town of South Hadley
2019 - 2026

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Commonly Used Abbreviations	Definition
ANR	Approval Not Required
DCR	Department of Conservation and Recreation
DCS	Division of Conservation Services
DPW	Department of Public Works
EEA	Executive Office of Environmental Affairs
GIS	Geographic Information System
HG&E	Holyoke Gas & Electric
HRCAC	Mount Holyoke Range Citizen's Advisory Committee
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MassGIS	Massachusetts Geographic Information System
MCP	Massachusetts Contingency Plan
MS4	Municipal Separate Storm Sewer System
MVP	Municipal Vulnerability Preparedness
NHESP	Natural Heritage and Endangered Species Program
NRCS	Natural Resource Conservation Service
PVTA	Pioneer Valley Transit Authority

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 west, 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. In addition, South Hadley has significant natural features that have further influenced open space and recreational planning that include the Mount Holyoke Range to the north, the Connecticut River to the west and Elmer Brook, Bachelor Brook, Stony Brook and Buttery Brook that flow east to west across South Hadley. Creating Connections - South Hadley Open Space and Recreation Plan (2019-2026) 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 of key ecological resources and increasing recreational opportunities, including sidewalk and bike connections, throughout 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. Relevant context is provided in the opening chapters, including descriptions of 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. The plan includes an update of the inventory of lands of conservation and recreation interest. 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 fifth update to the original Open Space Plan prepared in 1988.

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



*South Hadley High School
Students participating in the
Source to Sea Cleanup on Buttery
Brook*

Section 2

Introduction

2.1 Statement of Purpose

This plan, *Creating Connections - 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 sixth 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 2019 – 2026.

In 2019, the Town started a joint Comprehensive Master Plan and Open Space and Recreation Plan update process. The themes for the initial public outreach for the Master Plan were coordinated to incorporate open space and recreation planning issues. Visioning and public input for the Master Plan and Open Space and Recreation Plan were conducted simultaneously to reach a broader audience. The Master Plan update process is anticipated to be completed in 2020. Key goals and objectives from the Open Space and Recreation Plan will be incorporated into the open space and recreation, natural resources, and other related elements of the Master Plan.

The 2019 – 2026 Open Space and Recreation Plan establishes South Hadley's goals and objectives for open space and recreation based on community input, recent accomplishments and experience and priorities. A few key terms used in this plan are defined below:

- Active recreation is recreational activities that require significant infrastructure, facilities, and management and have a larger footprint; examples include playgrounds, sports fields, and swimming pools
- Passive recreation is less structured recreational activities that require a minimum of facilities and development and have a small environmental footprint; examples include natural surface trails, wildlife observation, biking, fishing, and canoeing.
- Greenways are corridors of undeveloped land near an urban area, set aside for recreational use or environmental protection.
- Placemaking is the process of creating quality places that people want to live, work, play, and learn in.

As mentioned above, this is the sixth Open Space and Recreation Plan. 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. The fourth plan was for the years 2007 – 2012 and the fifth plan is for 2012-2019. This proposed plan is to cover the next seven years, as several years ago DCR changed the allowable time frame for an OSRP from five to seven years. Certain elements of the previous plan were incorporated into this plan, particularly from Sections 3, 4, and 5, and updated as needed. The focus of this planning effort was to identify current open

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space and recreational needs through the public outreach process, and develop goals, objectives and action items that address current and anticipated needs. The previous Open Space and Recreation Plans were focused on the “River to Range” elements of the community, but this plan expands upon this theme and focuses on the full range of connections in the human and natural environments.

This plan also 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 (EEA) Division of Conservation Services (DCS) for review and approval. When approved, it will maintain South Hadley’s eligibility to participate in certain EEA-DCS grant programs for future acquisition of lands and upgrades to recreational facilities. These grants include Conservation Partnership, Drinking Water Supply Protection, Local Acquisition for Natural Diversity (LAND), Landscape Partnership, Parkland Acquisitions and Renovations for Communities (PARC), Recreational Trails Program (MassTrails), and Federal Land and Water Conservation Fund.

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 Grants 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 a Self-Help Grant 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 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 an Urban Self-Help Grant to complete funding to construct the clubhouse at the Ledges.
- In 2011 and 2012, South Hadley received a grant totaling \$375,000 from the Department of Conservation and Recreation and in 2012 also received a \$400,000 state Parkland Acquisitions and Renovations for Communities Grant for improvements at Buttery Brook Park, including a water spray park, new playground equipment, an additional new play area, a centrally located restroom and storage building and improved access and parking.
- In 2013, Kestrel Land Trust received \$7,500 a Conservation Partnership award to fund due diligence and other acquisition costs for the Stony Brook Conservation Restriction.

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- In 2013, Kestrel Land Trust was also awarded \$30,500 Conservation Partnership funds for the protection of 46 acres of high priority floodplain forest in the Bachelor Brook Floodplain.
- In 2016, South Hadley received a \$49,854 grant from the Recreational Trails Program for construction of an accessible trail with views of the Connecticut River at Bachelor-Stony Brook Conservation Area
- In 2017, South Hadley was awarded a \$1,025,800 MassWorks Infrastructure Program Grant to improve Gaylord Street including adding bike lanes, sidewalks and two crosswalks with flashing beacons and improving underground infrastructure, including stormwater.
- In 2018, the Town received a second Recreational Trails Program Grant for \$42,000 to improve and expand the trail system connecting the accessible loop trail off Ferry Street to the improved trail head on Hadley Street.
- In 2018, the Town received a \$50,000 Land and Water Conservation Fund Grant to improve and expand the trails on the water side of Bachelor Brook in the Bachelor-Stony Brooks Conservation Area.
- In 2018, South Hadley received \$385,000 from the MassDOT's Complete Streets Program for improving pedestrian and bicycle infrastructure on Lamb Street and possibly Grant Street. Projects will include sidewalk ramps that comply with the Americans with Disabilities Act, and widening of streets where possible.

Approximately 1,080 acres of land are under the protection of the South Hadley Conservation Commission, as outlined in Section 5. A number of these parcels lie along rivers and streams, and others are located in the Mount Holyoke Range, addressing Community goals to protect land in both of these areas. Town Meeting has also in the past transferred land to the care and control of the Conservation Commission to further other community goals including protecting scenic views, agricultural resources, and sites of environmentally significant habitat.

2.2 Planning Process and Public Participation

Open Space and Recreation Plan Advisory Committee leadership

The Open Space and Recreation Plan Advisory Committee is the primary Town organization responsible for developing the Open Space and Recreation Plan. The Selectboard appointed committee members with experience and interest in the various issues assessed through the open space and recreation planning process. The Committee includes members of the Conservation Commission, Recreation Commission, Bike Walk Committee, Master Plan Implementation Committee and Tree Committee. The Town Planner and Conservation Administrator/Planner gave support to the Committee.

Relationship to Master Plan

This plan update occurred simultaneously with the update of the 2010 Master Plan, with the initial survey and the four public forums focusing jointly on Master Plan and Open

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Space and Recreation Plan issues. The planning process for the Open Space and Recreation Plan is closely linked with the community's master planning process.

In late 2018, South Hadley began work on updating the Master Plan and Open Space and Recreation Plan. The consulting firm of Harriman was hired to assist the community in this effort using funds appropriated by Town Meeting. Harriman teamed with Tighe & Bond to concurrently develop the Open Space and Recreation Plan update. Both firms worked closely with town staff and their respective advisory committees to develop the vision, goals, and action items for each 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. The Open Space and Recreation Plan was on a more compressed timeline, and the results of the Open Space and Recreation Plan will be incorporated into the relevant sections of the updated Master Plan.

Town Department/Committee Interviews

Interviews were held with Town staff, department heads, and committees to discuss issues relating to the planning needs of South Hadley and to gain a better understanding of the town's needs and issues. Interviews were conducted with representatives from the following departments/committees:

- Town Administrator
- Conservation Commission
- Bike Walk Committee
- Department of Public Works (DPW)
- Fire District #1
- Water Department Fire District #1
- Fire District #2
- Water Department Fire District #2
- Recreation Department
- Council on Aging
- Police Department
- Planning Board
- Master Plan Implementation Committee
- Public Health Department

Open Space and Recreation Planning Process

The public process for the Open Space and Recreation Plan was performed in coordination with the Master Plan. In February 2019, the Selectboard appointed the Open Space and Recreation Plan Advisory Committee. These members currently include:

- Judy Gooch Dobosh (Master Plan Implementation Committee, Chair)
- Linda Young (Tree Committee)
- Michelle Wolfe (Master Plan Implementation Committee)
- Lucia Foley (Bike Walk Committee Committee)
- Marie Rohan (Gro-South Hadley)
- Peter Blain (Resident-at-Large)
- Bill DeLuca (Conservation Commission, Chair)
- Mariann Millard (Bike Walk Committee Committee, Chair)
- Richard Harris (Director of Planning and Conservation)
- Anne Capra (Conservation Administrator/Planner)

The Open Space and Recreation Plan Advisory Committee held its initial meeting as a joint meeting with the Master Plan Advisory Committee on February 13, 2019 to discuss planning objectives, the planning process and schedule. As the Town was kicking off a new planning process, the initial focus of the Committee was on the planning process, including the results of the survey and public forums to inform the process, and updated mapping to understand opportunities and constraints within town. The Committee continued to meet through the Spring of 2019. Once public input was received, the Committee reviewed the goals and objectives from the 2012-2019 plan to revise them to the current needs.

To obtain community input, the committee established several steps:

- Community Surveys
- Community Forums
- Community “Meetings in a Box”
- Town Board/Department reviews
- Selectboard review and approval

Community Surveys

The survey was open to the public through the Town’s website via [surveymonkey.com](https://www.surveymonkey.com) (a copy of this survey instrument is provided in Appendix A). Town Staff and Committee members distributed notices of the survey via the Town’s website, newspaper articles, emails, social media and notifications by various community boards and organizations. The survey was available from February 1, 2019 to March 4, 2019. It should be noted that the surveys were designed to get a sense of the community’s issues and needs but was not a formal “scientific” survey.

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- Collectively, 237 responses were provided to the survey. These responses were tabulated and analyzed. Tables reflecting the summary and tabulation of the surveys are included in Appendix A.

Community Forum

Updating the Open Space and Recreation Plan involved a broad public outreach and engagement process that included four thematic forums to identify a vision for the future of South Hadley, and strategies for achieving it. Community Forums were advertised on the Town's website, social media, and fliers at public locations. The following community forums took place to gain a better understanding of open space and recreation needs throughout the community:

- February 27, 2019: Balancing Preservation and Development – This forum focused on providing an overview of the Master Plan and Open Space and Recreation Plan planning processes, covering the Town's development patterns over time, and discussing opportunities for additional open space planning. An exercise took place that identified areas for potential protection and development. Approximately 46 persons attended this forum, which was held in the South Hadley Town Hall Auditorium. Generally, the participants voiced opinions on:
 - Protecting water supply resources, particularly Fire District #2 wellhead and aquifer
 - Increased protection of existing farmland
 - Development of existing parks and conservation areas, focusing on interconnectivity to various community spaces
- March 27, 2019: Neighborhoods for All Ages – This forum reviewed the results of the community survey and Community Forum #1. The participants discussed what makes South Hadley great, how South Hadley can be improved, and how the town can support healthy neighborhoods for all people. Additionally, there was a discussion around the community's vision for the town in the future (2035). Approximately 38 persons attended this forum, which was held in the South Hadley Town Hall Auditorium. Generally, the participants reported that open space, recreation, and common areas were their favorite things about South Hadley. Participants noted the undersupply of retail and restaurants and that roads, sidewalks, and public transportation could be improved. Generally, the improvements that residents would like to see between 2019-2035 include:
 - Affordable housing
 - Less development
 - More commercial businesses
 - More trails/nature/open space
 - Improve South Hadley Falls development
 - Arts/entertainment space
- April 24, 2019: People, Prosperity, Housing, and Connections – This forum reviewed population data, auto-dependency in the Town, economic trends, housing trends, retail/restaurant opportunities, and current connections. Three separate breakout sections were held to facilitate conversation around appropriate economic development, housing types, and connections within the Town. Approximately 29 persons attended this forum which was held in the

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- South Hadley Public Library. Generally, the participants identified types of uses in specific core areas, and where non-motorized pathways would be appropriate to provide connections among key locations in Town.
- May 26, 2019: Sustainability and Resiliency – This forum focused on the topics of sustainability and resiliency. Participants identified the chronic stresses that weaken sustainability and resiliency in South Hadley, mapped the areas prone to flooding, discussed municipal spending, and prioritized areas for strengthening stewardship within the community. Approximately 17 persons attended this forum which was held in the South Hadley Town Hall Auditorium.
 - Meetings in a Box. In order to provide a broad public outreach and engagement process, the Master Plan Implementation Committee held small group meetings to supplement the community forums. These “Meetings in a Box” allowed community members to learn about the topics discussed at each community forum and to further share their ideas and concerns with the Committee. Information obtained through the Meetings in a Box were incorporated into the forum summaries. The following meetings were held:
 - March 12, 2019 at the South Hadley Public Library
 - March 20, 2019 at the District 2 Fire Station
 - March 21, 2019 at the South Hadley Senior Center (two meetings)
 - April 9, 2017 at the Lathrop Village
 - April 13, 2019 at the South Hadley Public Library
 - April 16, 2019 at the South Hadley Senior Center
 - April 18, 2019 at Loomis Village
 - May 4, 2019 at the South Hadley Public Library
 - May 9, 2019 at the Community Room at Riverboat Village
 - May 16, 2019 at Fire District 2
 - June 8, 2019 at South Hadley Public Library
 - June 11, 2019 at Newton Manor
 - June 13, 2019 at Loomis Village
 - June 13, 2019 at Pine Grove Condominiums
 - Additional meetings. Committee members held additional meetings to reach additional stakeholders, including:
 - April 4, 2019 meeting with Mount Holyoke College Athletic Department
 - April 20, 2019 information table at Plains School, Arts and Crafts Fair
 - May 29, 2019 meeting with South Hadley High School Student Focus Group
 - June 5, 2019 meeting with Mount Holyoke College Operations and Policy Committee
 - June 11, 2019 meeting with South Hadley/Granby Chamber of Commerce

Town Board/Departmental Reviews

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

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

Letters of review have been received from many of these boards and committees. All such letters are 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 January 7, 2020 as part of the Selectboard regular meeting. Prior to the Selectboard meeting, the draft of the complete Open Space and Recreation Plan and a summary of the Plan was posted on the Town's website. Subsequent to the public review and comment, the Selectboard voted to endorse the plan, and their letter is included in Section 10 of this plan.



Bioretention area and pollinator garden serves as stormwater management system at Plains School parking lot

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 and Appendix B; Map B-1 Regional Context)

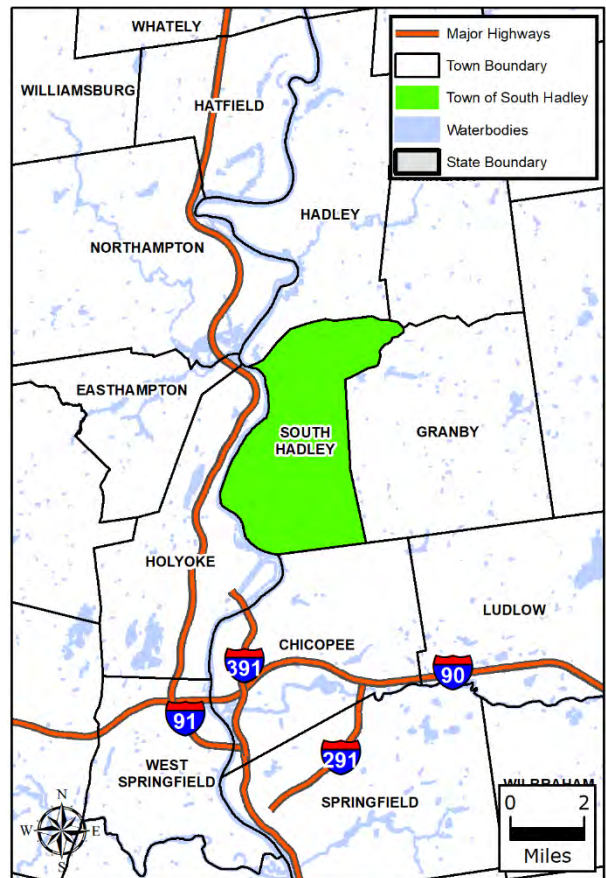
South Hadley is located at the southern edge of Hampshire County and within the Pioneer Valley, a stretch of land along the Connecticut River that generally extends from the Vermont border to the Connecticut border of the state. For any given community, certain regional characteristics often serve to influence open space and recreation planning to a 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 along the Mount Holyoke Range 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 in the west, at the eastern bank of the Connecticut River, to Bare Mountain at the eastern end. 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.

FIGURE 3-1
Regional Context



Section 3 Community Setting

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 398 acres of which are located within South Hadley. A six (6) mile segment of the Metacomet-Monadnock Trail (M&M Trail) traverses the ridgeline of the Mount Holyoke Range along the northern border of South Hadley through 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. The M&M Trail is maintained largely through the Berkshire Chapter of the Appalachian Mountain Club (AMC), and is part of the New England National Scenic Trail (NET). The NET extends 215 miles from the Long Island Sound in Connecticut to the Massachusetts-New Hampshire border, and includes much of the 114 miles of the M&M trail which extends from the Massachusetts-Connecticut border to Mount Monadnock in New Hampshire. These trail systems draw hikers from all over, including internationally. 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, summer entertainment venue, and scenic viewing area offering panoramic views of the Connecticut River Valley and the Town of South Hadley. More recent renovations which make portions of the Summit House ADA compliant were completed in 2014.

The history of the Mount Holyoke Range State Park actually began in the year 1940 with the donation by Joseph Allen Skinner to the DCR (formerly Department of Environmental Management) of the remains of the "Prospect House" and 375 adjoining acres of mountainous land. Until the mid-1950s, the Park was operated as a passive recreation

Section 3 Community Setting

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. Over 600 acres were purchased by the DCR from South Hadley Fire District 2 in 2002 and added to the State park, including the former District 2 Lithia Springs Reservoir. 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.

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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.

In 2015, HG&E opened three parks in South Hadley to fill its requirements under the FERC license and other permit requirements: Lower Riverside Park, Texon Mill Park, and Gatehouse Park. The Lower Riverside Park consists of several short walking trails, picnic areas, an overlook of the former South Hadley Canal, and views of the Holyoke Dam and the Connecticut River. Walking trails connect the Lower Riverside Park and Texon Mill Park, which provides views of the Town's historic canal system. Lower Riverside Park and Texon Mill Park are open to the public during the summer season, from 7AM to 7PM. Upper Gatehouse Park accommodates guided walks along a portion of the South Hadley Canal site and the historic gatehouses by appointment only.

With a collective population of over 350,000, according to the 2010 U.S. Federal Census, 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 parks encompassing the Gatehouses above the dam and the passive recreation area below the former Texon Building, as required by FERC and the U.S. Army Corps of Engineers, has significantly enhanced community access to the riverfront during the permitted time of day and time of year, however community feedback throughout this planning process has consistently stated that residents would prefer greater access to these parks year round.

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 of Bradley International Airport in Windsor Locks, Connecticut. Situated less than twenty miles from prominent industrial, commercial, and educational centers, South Hadley is a largely 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. Mohawk Fine Paper, Inc.'s Northeast Envelope Converting Center, Fuel Services, Inc. and E Ink are located in the Gaylord Street industrial complex 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 on the intersection of Route 47 and Route 116, the Woodlawn Plaza (former Big Y Center) on Newton Street at the intersection of Route 116 and Route 33, and the Big Y Center on Willimansett Street on Route 33). Other commercial developments have generally consisted of small shops/office developments or restaurants on Newton Street or Granby Road.

Further framing the Town's 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 a historical golf course called The Orchards off Amherst Road.

3.2 Historical Overview

3.2.1 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. Like 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.

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.

3.2.2 The Impact Of River Transportation

Some of the Town's early engineering and construction projects were to earn national recognition. The canal, which began operation in 1795, was the first commercially-operating navigational canal within the United States. 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 inclined 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 fueled 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 began to take full advantage of an economy which was flourishing as a result of both the canal and several mills which were highly active throughout the area. The mills of the era included such varied types as saw, grist, shingle and plaster.

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 furthestmost 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 that traveled the river were propelled by sail, most often they were pushed by planting 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

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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 1820s, 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 in 1848–1849 of the 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.

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 development 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.

3.2.3 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.

3.2.4 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 became Mount Holyoke College in 1893, came acquisition and protection of the many expanses of open spaces which today form 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.

3.2.5 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 as the development was on smaller lots and was closer to existing development.

The post-war era marked the point at which 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 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 1939 and 2017 through an examination of building patterns.

Section 3 Community Setting

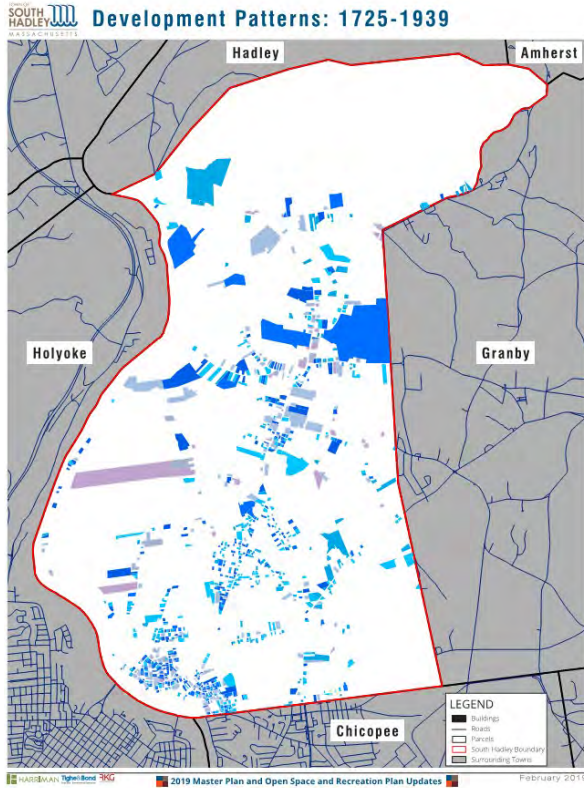


FIGURE 3-2
1939 Map of South Hadley prepared by
Harriman

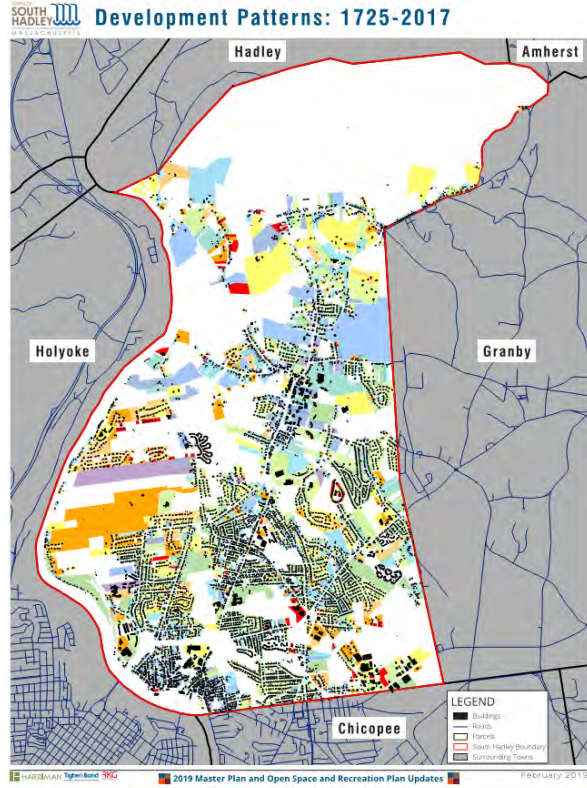


FIGURE 3-3
2019 Map of South Hadley prepared by
Harriman

3.3 Population Characteristics

3.3.1 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. In 2017, the American Community Survey estimated the population of South Hadley to be 17,737 persons. Population is projected to increase by 2.5% over the next 10 years, driven by growth in residents ages 30-44 and those over the age of 65. This rate has generally been consistent for the last 30 years. South Hadley remains a smaller community with higher growth rate than the region (2.0%), but slower than the state (3.7%).

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 to town.

The phase out of the Westover Air Force Base in the neighboring city of Chicopee, resulted in significant decline in South Hadley's population in the early 1970s (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 present. Projections through 2035 show a continuation of this increase in the growth rate.

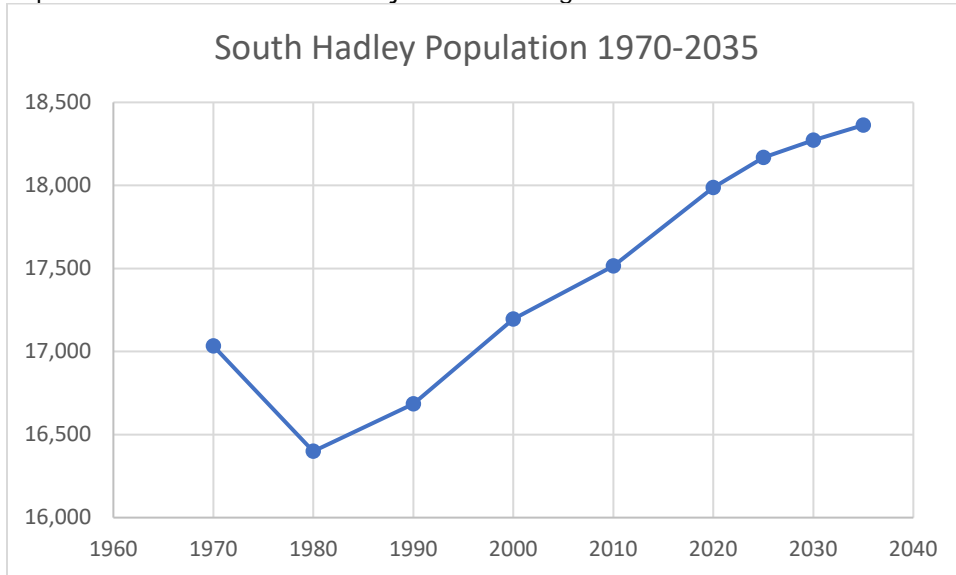
TABLE 3-1
Town of South Hadley
Population 1970 - 2010 and Projections through 2035

Year	Population
1970	17,033
1980	16,399
1990	16,685
2000	17,196
2010	17,514
2020	17,987 (Projection)
2025	18,169 (Projection)
2030	18,273 (Projection)
2035	18,363 (Projection)

Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.
Population Projections for 2020-2035, Donahue Institute, University of Massachusetts.

CHART 3-1

Town of South Hadley
Population 1970 - 2010 and Projections through 2035



Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.
Population Projections for 2020-2035, Donahue Institute, University of Massachusetts.

3.3.2 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 963.4 persons per square mile in 2017 (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 persons in the western and northern sections of town.

TABLE 3-2

Town of South Hadley
Population Density 1970 - 2017 (Persons Per Square Mile)

Year	Density
1970	925.2
1980	890.8
1990	906.3
2000	934.1
2010	951.3
2017	963.4

Sources: 1970, 1980, 1990, 2000, 2010 U.S. Federal Decennial Census.
2017 ACS 5-Year Population Estimate

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.

3.3.3 Age Distribution

Four 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. This level fell further in 2010 to 32%, although the 2017 ACS estimated it to rise to 35% again in 2017 (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. It decreased slightly in 2010 but increased again in 2017. Significant as well is the steady decline in the relative size of the teenage population, from 21.2% in 1980 to 14.7% in 1990 to 15.3% in 2000 and to its lowest point in recent history, 12.8% in 2017.

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 Group	1980		1990		2000		2010		2017	
	Number	%	Number	%	Number	%	Number	%	Number	%
0-4	692	4.2	895	5.4	783	4.6	685	3.9	753	4.2
5-9	805	4.9	857	5.1	945	5.5	788	4.5	672	3.8
10-14	1,108	6.8	827	5.0	1015	5.9	896	5.1	538	3.0
15-19	2,364	14.4	1625	9.7	1616	9.4	1730	9.9	1747	9.8
20-24	2,121	12.9	1935	11.6	1588	9.2	1947	11.1	2233	12.6
25-44	3,646	22.2	4776	28.6	4406	25.6	3670	21.0	3980	22.4
45-54	1,786	10.9	1573	9.4	2300	13.4	2558	14.6	2231	12.6
55-64	1,932	11.8	1615	9.7	1552	9.0	2219	12.7	2486	14.0
65-74	1,210	7.4	1571	9.4	1447	8.4	1370	7.8	1524	8.6
75+	735	4.5	1011	6.1	1544	9.0	1651	9.4	1573	8.8
	16399		16685		17196		17514		17737	

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
2017 U.S. Census ACS

According to the 2017 U.S. Census American Community Survey, the median household income is \$66,940. This is a 7.6% increase from 2010 median household income of \$62,236. South Hadley households have a higher median income than those in Hampshire County as a whole, but have experienced slower income growth than Hampshire County (9.2%) and the State (15%) since 2010.

Comparison of the 2010 and 2017 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. Educational services, government, and health care are the top three industry sectors, and account for 65% of all jobs in South Hadley. South Hadley has seen growth in these three sectors since 2010. There have been approximately 400 new jobs in these three sectors, which covered 72% of employment growth from 2010-2017. These three sectors are expected to continue to dominate employment growth over the next 10 years.

Retail trade diminished from 11.4% in 2010 to 5% in 2017. Various levels of government accounted for 20% of employment in 2017, up from 17% in 2010. Manufacturing, wholesale trade, and transportation and related industrial sectors accounted for 15% of all jobs in South Hadley in 2010, this number is down drastically in 2017, accounting for less than 6%. 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

Section 3 Community Setting

time activities and facilities, and dependence on the residential sector for the bulk of tax revenues.

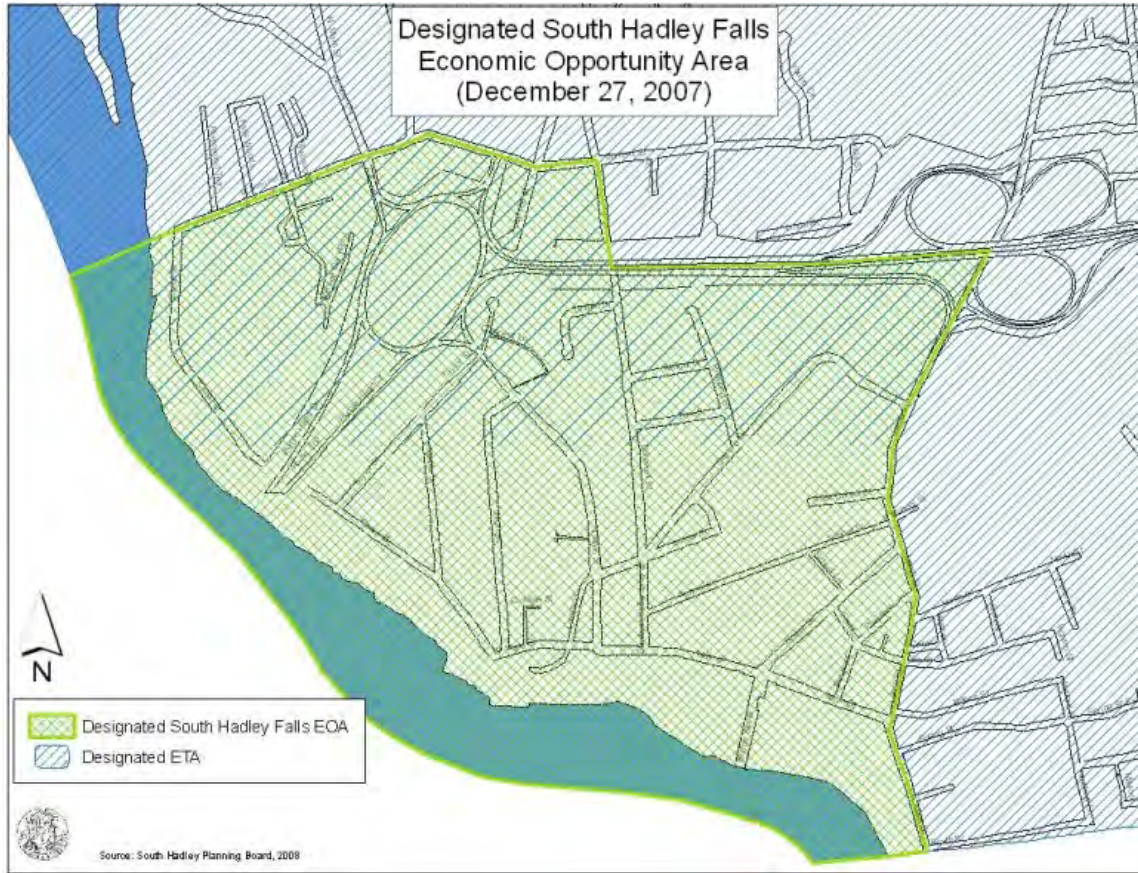
Commuting patterns for those employed, according to the Census figures, did not shift from 2000 to 2010 with 84% of those employed continuing to drive to work. This number decreased to 81% in 2017, with approximately two-thirds of those commuting to locations outside of the town. The average commute time to work was 22 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% in 2000 to 5% in 2017. 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 in Town (excluding the Town itself) include Mount Holyoke College, E Ink, Big Y food store, and Vero at South Hadley (formerly Wingate Nursing Home). While these businesses are located throughout Town, there are also a number of businesses located at the industrial park in the southeastern part of Town.

3.3.4 Environmental Justice Population

The MassGIS maps do not denote any Environmental Justice populations in South Hadley. However, that is not to 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) is generally considered the most distressed neighborhood in the community.

FIGURE 3-4
Hadley Environmental Justice – South Hadley Falls



The Falls 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 Park - and several small parks/open spaces as well as riverfront passive recreation areas developed and owned by HG&E.

Data from the 2000 Census and other sources was used to have the Falls designed as an Economic Target Area and an Economic Opportunity Area in 2007. This data provides a picture of the relative distress of this area compared to the Town as a whole. Approximately 10% of the Town’s households are 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. The Falls is also a designated Opportunity Zone through the U.S. Tax Cut and Jobs Act of 2017. This program provides incentives for investment in low income communities through tax incentives on capital gains for individuals who invested those funds (through a privately-created Opportunity Fund) into economic activities in the area.

Households with a median income that is 80% or less of the area wide median income are considered low-moderate income. The median household income for South Hadley

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Falls is \$49,029 per the 2015 American Community Survey, five-year estimates, compared to the Town (\$60,427), the County (\$61,368), and the state (\$68,563). The median household income in South Hadley Falls is less than 80% of the median income of both the state and Hampshire County.

According to the 2016 Housing Production Plan and the 2010 decennial census, while rental households constitute 26% of the town's households, one-third of the Falls area households were tenants. Approximately 12% of the Falls households were headed by a female compared to less than 5.4% for the town as a whole.

Historically, the South Hadley Falls business district was the center of the community's major employers. According to the July 19, 2019 South Hadley Falls Urban Redevelopment and Renewal Plan, South Hadley Falls experienced historic and recent economic downturns with closure of mills and factories. Recent closures within the Falls area include Fibermark, Rexam Graphics and Intellicoat.

Recreationally, the Falls area continues to be an important focus area of the community's recreational activities, with the potential to become more of a regional center. The Beachgrounds Park is the site of one of the Town's spray parks and also the location of the major non-school recreational facilities. HG&E opened three parks along the banks of the Connecticut River in South Hadley in 2015: Lower Riverside Park, Texon Park, and Gatehouse Park. Lower Riverside Park and Texon Mill Park provide historic views of the canal system and are connected by walking trails. Gatehouse Park is open by appointment only. These new parks 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 opened alongside the historic South Hadley Canal in 2014. Much of the infrastructure in this area (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.

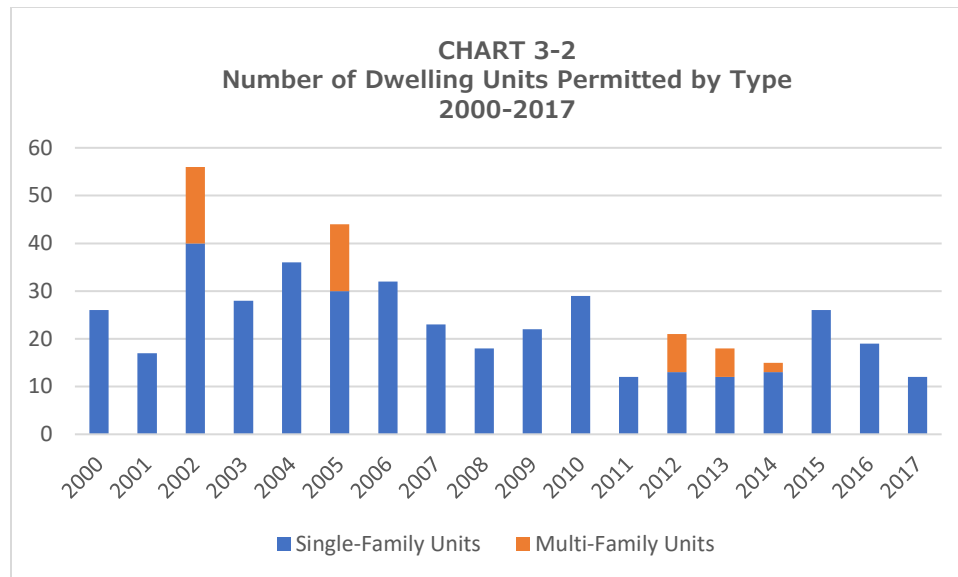
3.4 Growth and Development Pattern

3.4.1 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 resulted from the canal and inclined plane in 1794 in the southern part of town (South Hadley Falls) and in the central area of town with the establishment of Mount Holyoke Seminary in 1837. Transportation routes, particularly County ways, provided a framework for development up to the present time.

In the early 1900s, 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. The Alvord Street and Main Street corridor growth largely took place following the installation of the interceptor sewer line in the 1970s.

South Hadley experienced intense development pressure during the real estate boom of the late 1980s with development continuing through the 1990s into the 2000 decade. Records of building permits issued within the Town from 2000 to 2017 (see Chart 3-2) are a good indicator of the rate at which development occurred in the recent past and the numbers of units that resulted. An analysis of the dwelling units permitted reflect a focus on single-family residential development over the course of the last two decades.



Sources: Massachusetts Housing Partnership, DataTown,
<https://mhpcenterforhousingdata.shinyapps.io/DataTown/#>

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Residential construction steadily and significantly grew during the 1980s with an average of over one hundred 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.

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. There has been a noticeable decline in residential development by decade during the recent past with the 1980s averaging 105 dwellings per year, the 1990s averaging 51 dwelling per year, and the first decade of the 2000s averaging 30 dwellings per year. Reflecting the national and regional economic recession in the early years of this decade, residential construction since 2010 has averaged only 19 dwellings per year.

From 1985 to 2012, thirty-seven (37) single-family subdivisions were approved and initiated. Since 2012, two additional single-family subdivisions were approved and initiated, and they added a total of 8 more building lots. These subdivisions have created 425 new building lots – nearly all have been constructed. The largest subdivision during this time period was off Alvord Street at Stonegate on the River with 80 lots. Slightly over half of the subdivisions created 10 or fewer lots. While subdivision activity of the 1940s to 1970s largely created relatively small lots (10,000 to 15,000 square feet), much of the subdivision activity of the last four decades has resulted in lots in the half-acre or larger range. Smaller subdivisions, ranging from a four lot subdivision to a 29-unit condominium project, were approved over the past seven years. In addition, numerous Approval Not Required (ANR) plans were approved by the Planning Board in recent years, creating new building lots with frontage off of existing roads.

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, off Westbrook Road, 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 a conventional subdivision, the only portions which would not have been developed would likely have been the wetlands.

While single-family subdivisions dominated the development activity of the 1980s and 1990s, 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 between 2007 and 2012. These additional developments were approved for an additional 73 dwellings. Since 2012, a 29-unit condominium project (Rivercrest Condominiums) off Ferry Street was approved. Construction at previously approved developments has picked up recently with the uptick in the economy.

Although the entire Town felt the pressures of development in the late 1980s and early 1990s, 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

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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 1980s; 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 lost a considerable amount of agricultural land to development, yet it is steadily becoming a more densely populated "bedroom community", which could utilize what land remains to meet the growing demand – unless it takes action to encourage development other than large lot subdivisions on open space land. 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. While the community has focused on the preservation of large parcels of open space for agricultural use, ecological connectivity, and watershed protection, it is also vital that small neighborhood scale open spaces be recognized for their value. Sometimes referred to as "pocket parks", these smaller open spaces provide important places for outdoor recreation and enjoyment within more densely developed neighborhoods. Identification and preservation of these smaller parcels of open space should be undertaken to ensure access to these places by residents of all neighborhoods no matter how densely developed or urbanized.

3.4.2 Infrastructure

Transportation

Although the Town of South Hadley does not have in-Town access to any of the major interstate highways, there is linkage to Interstate 91 via State Route 202 west through Holyoke and to Interstate 90 (MassPike) via State Route 33 south through Chicopee. State 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-1990s has provided 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 city of Holyoke as well as free bus service throughout the Five College Area linking South Hadley with the municipalities of Amherst, Hadley and Northampton. The two main PVTA routes that serve South Hadley are the RED 29 which provides service from South Hadley to the Holyoke Mall and the 39 and 39E routes which provide

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connections among the area's five colleges. The Council on Aging also provides support for van service in and around town for people with disabilities and senior citizens for a nominal fee. The van was donated to the Town by Friends of South Hadley Elderly, Inc.

While there are approximately 100 miles of public roadways in South Hadley, there are only approximately 30 miles of sidewalks (including sidewalks on both sides of some streets). Sidewalks are provided on much of the State Routes, including Route 116, Route 202, and Route 33, however not continuously creating gaps for pedestrians. Most roads in the South Hadley Falls area also have sidewalks. Sidewalks are less common in other areas of South Hadley. Sidewalks are not provided on some major roads, like Lathrop Street, Old Lyman Road, Alvord Street and Pine Street, nor on most residential streets.

South Hadley has limited formal bikeways and off-road biking opportunities. Formal, painted bike lanes are provided along portions of Route 116, from the Amherst Town Line to Pearl Street, from the Route 202 on and off ramps to Camden Street and north of the Woodlawn Plaza to the Mount Holyoke College Campus. MassDOT is committed to improving bicycle access on future transportation projects. Some major roadways such as Routes 202 and 116 have larger shoulders that provide for bicycle travel. Other significant local roads provide more modest shoulders that allow for bicycle travel but not much separation from motor vehicle traffic.

Water

South Hadley has two water/fire districts which serve the Town's potable water needs (see *Appendix B, Map B-2 for the Existing Infrastructure Map*). Fire District #1 supplies the southern portion of the Town as well as 260 properties in Ludlow and Granby. The Fire District boundary runs from the Connecticut River along Stony Brook and the intersection of Mosier and Newton Streets, Parkview East and Parkview Drive, and across East Street into Granby. South Hadley properties to the north of this line are served by Fire District #2. The two systems are interconnected at seven (7) 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 #2 have worked to develop a regulatory framework to protect the groundwater supply. Recently, the owner of an existing sand and gravel extraction pit was planning to expand operations within the water supply protection area. Due to opposition, the owner withdrew the special permit application that had been submitted to the Planning Board. The owner has subsequently submitted a preliminary subdivision plan for this property. The proposed 72-lot development has ignited a discussion regarding the protection of the aquifer resource.

Sewer

The Town of South Hadley currently operates a wastewater treatment plant which serves a population of approximately 17,900, including 16,500 (approximately 92%) in South Hadley and approximately 550 in Chicopee and 850 in Granby. An average of 2.4 million gallons of sewage is treated every day. The facility is currently operating at approximately 57% of capacity, and has the potential of treating 4.2 million gallons per day. The wastewater flows through a system of primary clarifiers, aerator tanks,

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secondary clarifiers and a chlorine contact chamber before the treated effluent is discharged to the Connecticut River. The solids generated are pumped into gravity thickeners and are then dewatered before being trucked to a sludge incinerator in Waterbury, Connecticut for final disposal.

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 on Riverlodge Road, Alvord Place condominiums, Loomis Village, and five 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 planned 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 *Appendix B, Map B-2 for the Existing Infrastructure Map*). A primary reason for the lack of public sewer north of Bachelor Brook includes the prohibitive cost of installing sewer infrastructure along the topography in the northern areas at the foot of the Mount Holyoke Range.

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 have included a mix of “in-fill” sites, subdivisions and multi-family communities. As land has developed in the southern half, development has extended northward.

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 B, Map B-3 for the current Zoning Map*). Key zoning provisions for each of these districts are summarized below.

Residence A-1 District dimensional requirements generally include:

- maximum building cover is 30%,
- maximum impervious cover is 60%,
- minimum lot size is 22,500 square feet, unless in the Water Supply Protection Overlay District - unsewered, then the minimum lot size is 40,000 square feet or 10,000 square feet per bedroom, whichever is greater, and
- for special permit use, building lots are required to be a minimum of two (2) acres.

Agricultural District dimensional requirements generally include:

- maximum building cover is 30%,
- maximum impervious cover is 50%, and

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- minimum lot size is 30,000 square feet, unless in the Water Supply Protection Overlay District, then the minimum lot size is 40,000 square feet.

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 Grant for the purpose of developing a regional multi-purpose recreational site including an eighteen (18) hole municipal golf course, called The Ledges.

Additional efforts have been made to work with property owners to protect the agricultural viability of farmland through use of the State's Agricultural Preservation Restriction (APR) Program. This voluntary program offers to pay farmland owners the difference between the "fair market value" and the "agricultural value" of their farms in exchange for a permanent deed restriction which precludes any use of the property that will have a negative impact on its agricultural viability. Farmland protected under the APR program include McCray's, Cournoyer's (which is now part of McCray's farm), and Barstow's Longview Farms, totaling 245 acres.

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. It should be noted that this "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.

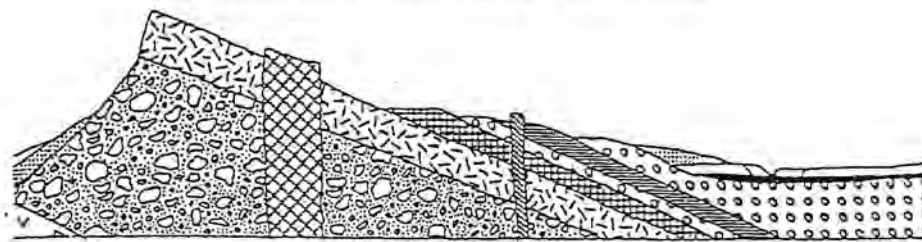
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




4.1 Geology

The geologic 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 that, 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 along Mount Holyoke Range and is to be used as a reference for the following discussion.

FIGURE 4-1
Cross Section of Sedimentary and Igneous Rocks



ALLUVIUM		DIABASE PLUG	
VARVED CLAY		GRANBY TUFF	
DELTAIC AND LACUSTRINE FINE SILTS AND SANDS		SECOND ARKOSE	
GLACIOFLUVIAL DEPOSITS		HOLYOKE BASALT	
LONGMEADOW SANDSTONE		SUGARLOAF ARKOSE	
BLACK ROCK DIABASE		PALEOZOIC BASEMENT	

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

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- 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 basin while smaller amounts spread east and west against alluvial fans. The thickness of the flows ranged 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 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 1,000 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.

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- **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 South Hadley. 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 Sugarloaf 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 Connecticut River 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

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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 B, Map B-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 Limitations of Soils for Specific Uses

Soil Name Association	Uses								
	Farming	Forest Management	Recreation Facilities	Recreation Trails	Open Land Wildlife Potential	Woodland Wildlife Potential	Wetland Wildlife Potential	Drinking	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-Mantaok-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

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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.

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.

The NRCS also identifies *Prime Farmland and Farmland of State Importance*. These are soils defined by the U.S. Department of Agriculture and state agencies as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. In South Hadley, approximately 45% of the town has

soils that are classified as Prime Farmland or Farmland of State Importance. Much of the area with soils suitable for farmland have been developed for residential use.

4.3 Water Resources

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 one of only 14 American Heritage Rivers, which allows the communities to work in partnership to carry out several conservation and development projects. In 2012, the Connecticut River was designated a National Blueway by the National Park Service to recognize the restoration and preservation efforts on the river. 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 B, Map B-5 for the Water Resources Map*).

Several streams flow generally east to west through South Hadley to the Connecticut River. 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, Newton Smith 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 watershed. 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, which in recent years have only seasonally held water. All of these smaller ponds are experiencing significant eutrophication and sediment accumulation.

The Connecticut River affords residents and visitors boating and rowing opportunities via a public boat launch south of the Holyoke Dam in Chicopee at Berchulski's Fisherman's Access. Other private recreational facilities including Brunelle's Marina, the Red Cliff Canoe Club and the Mount Holyoke boathouse also provide access to the Connecticut River however access at these locations is restricted by private membership. Some passive watercraft and fishing access exist on many of the streams on town land. The Buttery Brook corridor includes 8.9 acres of publicly owned greenbelt within the total 26.4 acres of Buttery Brook Park. Stony and Bachelor Brooks are accessible from the town-owned Bachelor-Stony Brooks Conservation Area. However, many of these water ways have a fair amount of woody debris in them which makes them difficult to utilize for boating, but excellent places for nature observation.

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

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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.



Lithia Springs Reservoir, Mount Holyoke Range State Park

The water supplied from District #2 is pumped from the 108-foot deep Dry Brook wells located near Dry Brook Hill between Hadley Street and the Connecticut River. 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 Protection District (WSPD) to provide land use protections within areas that serve as primary and secondary recharge areas of groundwater aquifers and to watershed areas of reservoirs, including Lithia Springs Reservoir, which now or may in the future provide public water supply. The WSPD incorporates the MassDEP approved delineations of the Zone II and III, which represent the recharge areas for the District #2's drinking water supply wells, and includes the watershed for Lithia Springs Reservoir, which has since been discontinued.

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According to the 2014 Massachusetts Integrated List of Waters, six river segments or waterbodies have known water quality issues within the Town. Table 4-2 below summarizes the waterbodies, pollutants, and classification of impaired streams in South Hadley.

TABLE 4-2
Town of South Hadley
Integrated List of Waters

Waterbody (ID)	Pollutant	Category
Bachelor Brook (MA34-078)	Nutrient/Eutrophication Biological indicators	Category 4a – TMDL Completed
Buttery Brook (MA34-42)	Escherichia coli	Category 5 – Waters Requiring a TMDL
Connecticut River (MA34-04)	E. coli, PCB in Fish Tissue	Category 5 – Waters Requiring a TMDL
Connecticut River (MA34-05)	E. coli, PCB in Fish Tissue, Total Suspended Solids	Category 5 – Waters Requiring a TMDL
Leaping Well Reservoir (MA34040)	Non-Native Aquatic Plants, Excess Algal Growth	Category 5 – Waters Requiring a TMDL
Stony Brook (MA34-19)	(Non-native Aquatic Plants*), E. coli, Turbidity	Category 5 – Waters Requiring a TMDL

Source: Massachusetts Year 2014 Integrated List of Waters, MassDEP (https://www.mass.gov/files/documents/2016/08/sa/14list2_0.pdf)

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. Both Stony and Bachelor Brook are two of the best examples of statewide small-river floodplain forests, as recognized by the Massachusetts Natural Heritage and Endangered Species Program.

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 Zone A (areas of 100-year flood). The 100-year floodplain

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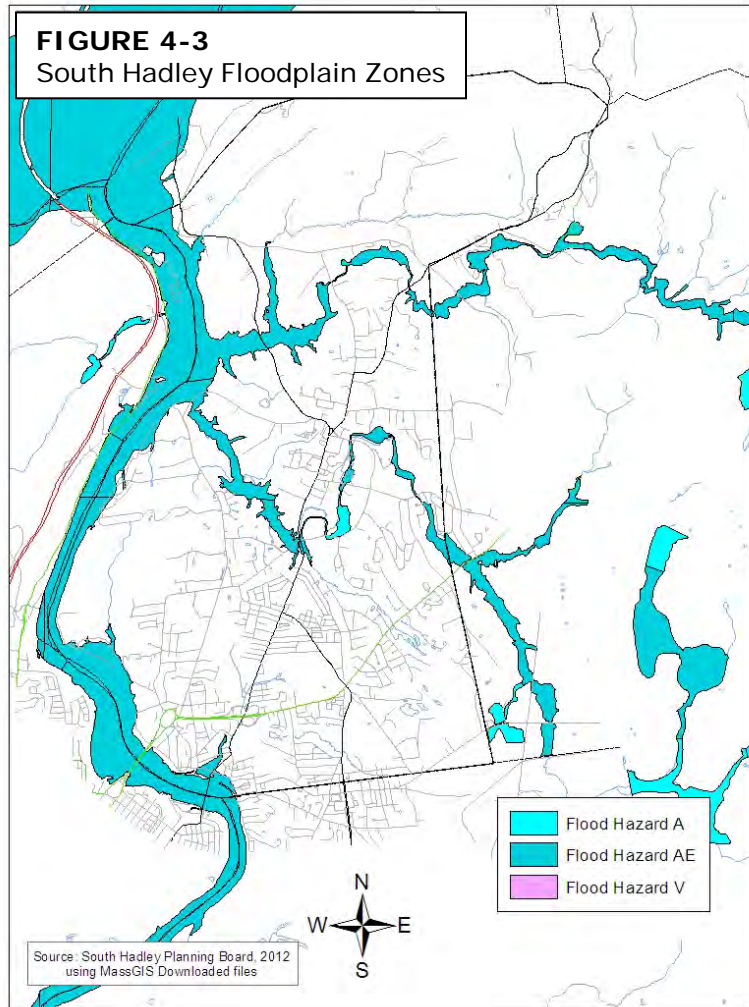
dominates the Connecticut River shoreline and also portions of Bachelor Brook, Stony Brook, and the South Hadley Falls area along Buttery Brook (see Figure 4-3).



North Main Street during the Flood of 1936. Connecticut River and Buttery Brook overtopped their banks.

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The Federal Insurance Rate Maps for South Hadley are available at the office of the South Hadley Department of Planning & Conservation 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. The Federal Emergency Management Agency is in the initial stages of reevaluating flood zones in South Hadley.



Wetlands

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 B, Map B-5) shows the areas of wetlands mapped through aerial photography interpretation by the Massachusetts Department of Environmental Protection (MassDEP) 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

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of River Road, is another area of special consideration. This location includes many acres of relatively undisturbed wetlands bordering on White Brook but is under pressure for future development potential.

Town Meeting recognized the importance of wetlands in 2005 by adopting the Town's first Wetlands Bylaw. This Bylaw established a 50-foot no disturb zone called the "Conservation 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.

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 (§ 255-35 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 B, Map B-3 for the Zoning Map including the Water Supply Protection Overlay District*).

4.4 Vegetation

4.4.1 General Inventory

South Hadley has a diverse vegetative cover reflecting its mixture of lowland and mountain settings. Forests dominate the vegetative communities. The forests are themselves diverse and have played a significant role in the community's development and recreation opportunities. The Town's diverse vegetation allows for scenic viewing, nature walks, and trail running.

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. Associated

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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 Plant and Wildlife Habitat Map (*see Appendix B, Map B-6*) shows the areas of Natural Heritage and Endangered Species Program (NHESP) Priority Habitat for Rare Species and Estimated Habitats for Rare Wildlife, as well as BioMap2 Core Habitat and Critical Natural Landscape. The Massachusetts NHESP has mapped 4,498 acres of lands classified as Priority Habitats for 47 threatened and endangered species in South Hadley. Of the 47 species listed, 3 were not classified due to collectability and need for further protection, 20 are animals (fish, amphibians, reptiles, birds, mussels, dragonfly/damselfly, and butterfly/moth) and the remaining 24 species are vascular plants (*see Appendix C*). Most of the NHESP's rare habitat areas are confined to wetland areas along the Connecticut River, Stony Brook, and Bachelor Brook. Additionally, there is a swath of rare habitat along the Mount Holyoke Range. BioMap2 Core Habitat and Natural Landscape generally correlate to mapped NHESP areas.

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 be 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 NHESP, 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. NHESP 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, a black ash swamp, a circumneutral rocky summit/rocky outcrop community on the Mount Holyoke Range, a Black Gum-Pin Oak-Swamp White Oak perched swamp, and a Hickory-

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Hop Hornbeam forest. The southeast corner of Town also has extensive and unusual pine barren habitat.



Floodplain forest on Bachelor Brook, near the mouth of the Connecticut River

The general area of the Bachelor Brook/Stony Brook floodplain forests are known to be habitat for numerous documented rare species. Most of the species in this area are sensitive to the likely deleterious effects of development. Due to the unique qualities of these lower portions of Bachelor Brook and Stony Brook, the NHESP strongly supported and endorsed the Town's successful application for a Self-Help Grant 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.

In each of these palustrine natural communities, non-native invasive species are a significant disruptive presence. All of the terrestrial natural communities across town also suffer from invasion of many of the same species. Further discussion of this issue is presented in Section 4.6.10 Environmental Challenges.

Forest Land

Forest is a major part of the open space picture in Massachusetts. The USDA Forest Service publication, *Forest of Massachusetts, 2017*, reports that, of the state's five million acres of total land area, forest land covers 60.4% or three million acres. As expected, the eastern, more urban counties show a drop in forest land, while the western part of the state showed a slight increase since 1985. Across the state, there has been a 0.4% decrease of forest land from 2012 to 2017. Additionally, there was a 0.2% drop of timberland from 2012 to 2017. 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.

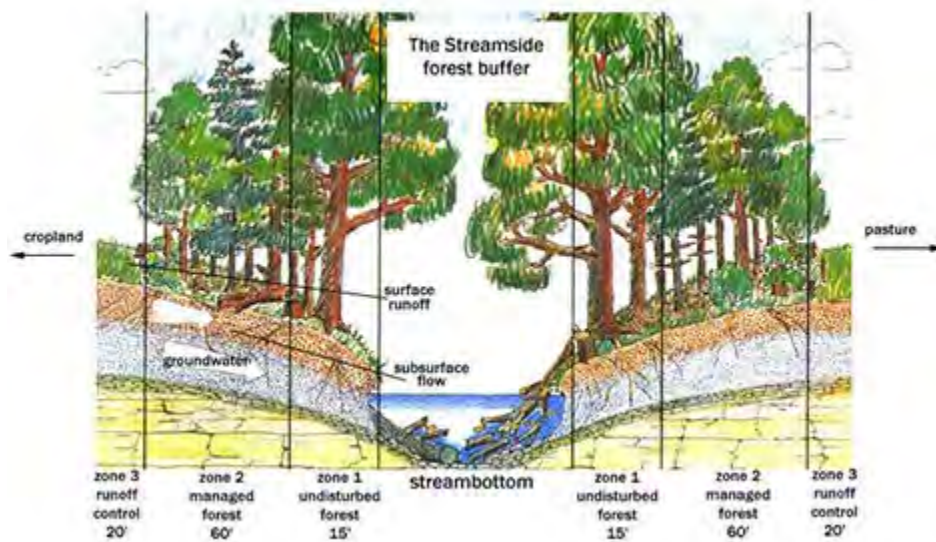
South Hadley's forest land reflects this conversion pattern. Forest lands covered approximately 6,965 acres or 59% of the total town land base at the beginning of the 1990s. According to data from the MassGIS (2005) forest lands now account for only 5,639 acres or 48% of the land area – an 11% decline in slightly more than one decade. The June 1991 Massachusetts 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 2010 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 3rd in the nation in population density (taken from US Census Bureau online resident population rankings from 2018).

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: <https://dnr.maryland.gov/forests/Pages/publications/Sink.aspx>

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

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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: approximately 30 acres are in the Chapter 61 program (South Hadley Assessor’s Office, 2019). According to Assessors data, 102 acres of private forest land is permanently protected through Forest Legacy. Opportunities exist to encourage more South Hadley landowners to participate, especially within the slopes of the Mount Holyoke Range.

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, mourning 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, and bald eagles are observed from the shore of the Connecticut River often.

Other floodplain and wetland wildlife include the wood duck, great blue heron, red-winged blackbird, silver-haired bat, mink, spotted turtle, red-spotted newt, wood frog and spring peeper. There are 36 Certified and 79 Potential Vernal Pools 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, with Elmer Brook being a designated Coldwater Fisheries Resource stream. The Massachusetts Division of Fisheries and

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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 NHESP 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 as Riverfront Area under the WPA or Priority 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 Priority 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 NHESP 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, approximately 6.6 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. In 2012, the Connecticut River and watershed were recognized as the nation's first, and only, National Blueway. The town now shares a particular status along with other communities along the river.

Wildlife Corridors

Given South Hadley's development, historic wildlife migration and habitat corridors have likely been interrupted by house lots, roadways, and other landscape changes caused by development. 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 Eversource Energy 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, and much of this corridor in upland areas has a improved gravel road, installed in 2018/2019 as part of a pole replacement project. Vernal pools provide some significant habitats for wildlife. Wildlife corridors are discussed further under Section 4.6.8 and 4.6.9 in terms of ecological connectivity within South Hadley and the region.

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.

4.6.1 Scenic Landscapes

According to the June 2012 Massachusetts Landscape Inventory, prepared by the Massachusetts DCR, 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", although the Last Chance Landscapes program is currently inactive. 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 B, Map B-7 for Unique Features*).

4.6.2 Biomap2 – Critical And Core Habitat Areas

The Massachusetts Department of Fish and Game's 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 2015 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, the Mount Holyoke Range dominates the Core Habitat of the BioMap2.

FIGURE 4-5
South Hadley BioMap2
Core Habitat and Critical Natural Landscapes



4.6.3 Major Characteristics Or Unusual Geologic Features

Titan's Piazza and the Black Rock area are significant geological features in South Hadley. These are discussed in more detail in Section 4.1 Geology.

4.6.4 Cultural And Historic Areas

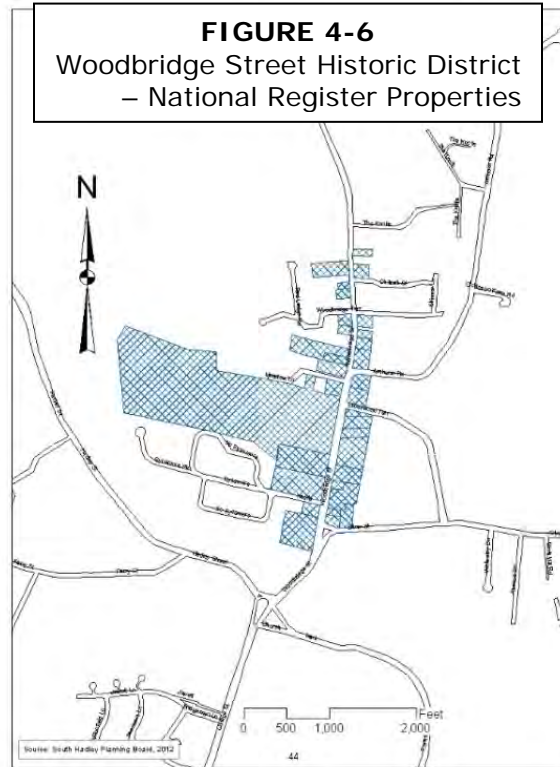
The Town of South Hadley has two significant Historic Districts which contribute to the Town's character. On March 11, 1992, the National Park Service placed the South Hadley Canal District, including one piece of property located at 315 River Road on the National Register of Historic Places commemorating the rich history of this engineering and cultural wonder as discussed in Section 3.2 Historical Overview.

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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:

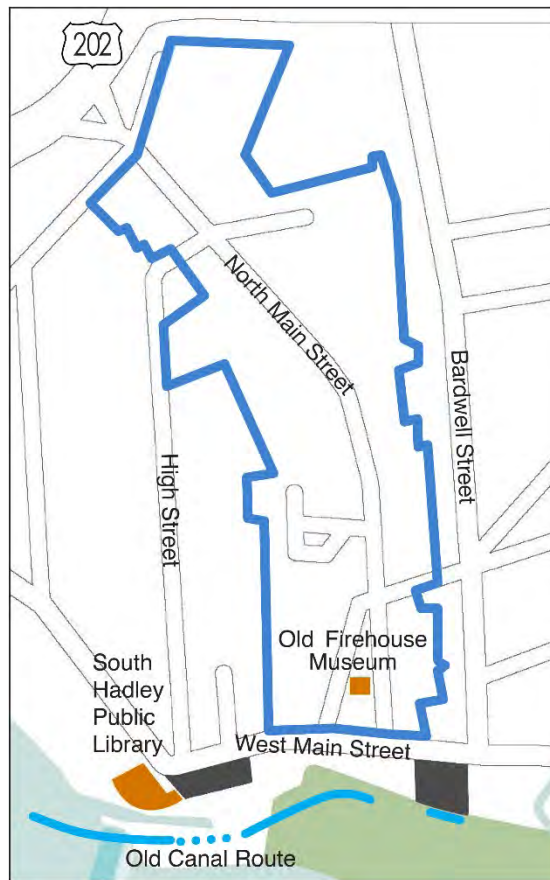
7 Silver Street		Rev. John Lovell, Willard House
25 Woodbridge Street	-	Condit, Rev. Joseph – Stebbins, Daniel House
28 Woodbridge Street	-	The Sycamores
31 Woodbridge Street	-	Gaylord, Gertrude E. House
32 Woodbridge Street	-	Graves, William A House
33 Woodbridge Street	-	Skinner Museum – Prescott Church
35 Woodbridge Street	-	White, Joseph III House
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 House
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	-	Marshall, John House
69 Woodbridge Street		
70 Woodbridge Street		
71 Woodbridge Street	-	Seith-Steven House
72 Woodbridge Street	-	Munn House
73 Woodbridge Street	-	Demaree, Charles House
74 Woodbridge Street	-	Bracewell, Russell S. – Fornier, Frank E House
77 Woodbridge Street	-	Saith, Arthur House
78 Woodbridge Street	-	White, Major J., Sr, House
82 Woodbridge Street	-	White J. Sr. House

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



In addition, in 2013, the Selectboard established a Historic District Study Committee, charged with exploring the creation of one or more local historic districts in Town. The committee has proposed establishing a local historic district in part of South Hadley Falls. The Committee is currently proposing to establish a district centered around North Main Street, extending approximately from the rotary to the north and Main Street to the south and would include the Old Firehouse Museum and Cordes Court. A map of the approximate local historic district area is provided as Figure 4-7.

FIGURE 4-7
Proposed Local Historic District –
South Hadley Falls



Source: South Hadley Falls Historic District Study Committee Informational Poster, April 2018

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, and a third has a Preservation Restriction:

- South Hadley Canal (in 1978)
- U. S. Post Office Main Branch at 1 Hadley Street (in 1986)
- The Sycamores at 28 Woodbridge Street (Preservation Restriction in 1999)
- First Congregation Church (in 2019)

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

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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 219 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, Pioneer Valley Planning Commission; 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 B, Map B-7, 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, with DCR and Franklin Regional Council of Governments, prepared a Reconnaissance Report (<https://www.southhadley.org/DocumentCenter/View/882/Heritage-Landscape-Inventory-Report-PDF?bidId=>) which identifies specific issues confronting each of these areas as well as recommendations for the preservation/enhancement of these areas.

4.6.5 Areas Of Critical Environment Concern

While there are no state mapped Areas of Critical Environmental Concern, with its setting bounded by the Connecticut River and the Mount Holyoke Range and its abundant and rich history, and extensive vegetation, South Hadley has several “critical environment” areas. Generally, these areas fall into six categories:

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- 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 is in public ownership with permanent protection. However, a 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 met the environmental criteria for such designation. The area is a focus for conservation spearheaded by Kestrel Trust.

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 Country Creamery, Olesiuk Farm, and Barstow's Longview Farm actively farm land within south Hadley. McCray's and Olesiuk sell products within South Hadley. Barstow's has a farm store in neighboring Hadley. 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.

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Through the APR program, the State has purchased the development rights to several farm parcels in South Hadley, including McCray's, Cournoyer's (now part of McCray's farm), and Barstow's Longview Farms, totaling approximately 245 acres. Continued efforts should be made to promote this type of land protection for the future. Lands within Chapter 61A designation are not permanently protected, but this designation does give the Town a 120-day right of first refusal option to purchase the land upon notification that a particular farmland parcel will be converted to another use. Based on the most current data, there are approximately 48 parcels covering 895 acres in the Chapter 61 program (South Hadley Assessor's Office, 2019). This provides the Town with the real planning opportunity for farmland protection. A list of properties in the Chapter 61 program are included in Appendix D.

Scenic Roadways

Town Meeting has designated three roadways as "scenic roads" pursuant to Massachusetts General Law (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, Approval Not Required (APR) lot development can occur along any of these roadways and have the effect of disrupting the features that make these roadways scenic. The Town has considered adding a Scenic Roadway Bylaw, and this endeavor should be pursued to further preserve these areas.

The Connecticut River Scenic Byway extends from the junction of Routes 116 and 47 in South Hadley and extends northward along Routes 47 and 63 to Northfield. This corridor is recognized as a National Scenic Byway. However, there are no protections that accompany this designation.

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 and are 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 for development to encroach within the recharge areas of the District's wells increases. Much of the land which is the recharge area for these wells is in private ownership. Some of the existing uses, such as quarrying, have the potential to adversely impact the aquifer. A recent proposal to expand existing sand and gravel mining operations over the aquifer highlighted the potential for new development over the aquifer. While the Town has a Water Supply Protection Overlay District, this is an opportune time to review the limits and requirements of the overlay district for consistency with MassDEP requirements and to meet the Town's and District's interests for aquifer protection. Future protection of the aquifer could also include acquisition of key parcels.

4.6.6 Public Shade Trees / Urban Forestry

South Hadley has a diverse and unique selection of street trees, some of which date back to the late 1700s. The Bicentennial White Oak dates back to around 1776. Old sugar maples that line some of our oldest streets date back to the 1800s 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 three 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 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 1970s and 1980s. Also planted by Ed Warner were the Hardy Rubber Trees (*Eucommia ulmoides*), located on Meadowood Drive.

South Hadley has been designated a Tree City USA for 24 years, most recent in 2018, by the Arbor Day Foundation in honor of its commitment to effective urban forest management. Per Chapter 457 of the Town's General Bylaws, South Hadley requires that removal of non-hazardous public shade trees be mitigated by planting replacement trees and/or payment into the Town's Tree Planting Account. The Conservation Commission also requires 2:1 tree replacement for trees removed in buffer zones or wetland resource areas.

4.6.7 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. It retains that name though one of the college's no longer exists and another has become a co-ed institution.

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 lie remnants of the South Hadley Canal, which is listed as a National Historic District.

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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, including hikers, trail runners, mountain bikers and birders. Similarly, the Connecticut River is a haven for fishermen, power boating, canoes, and kayaks.

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 suburban 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 and a regional tourist destination.

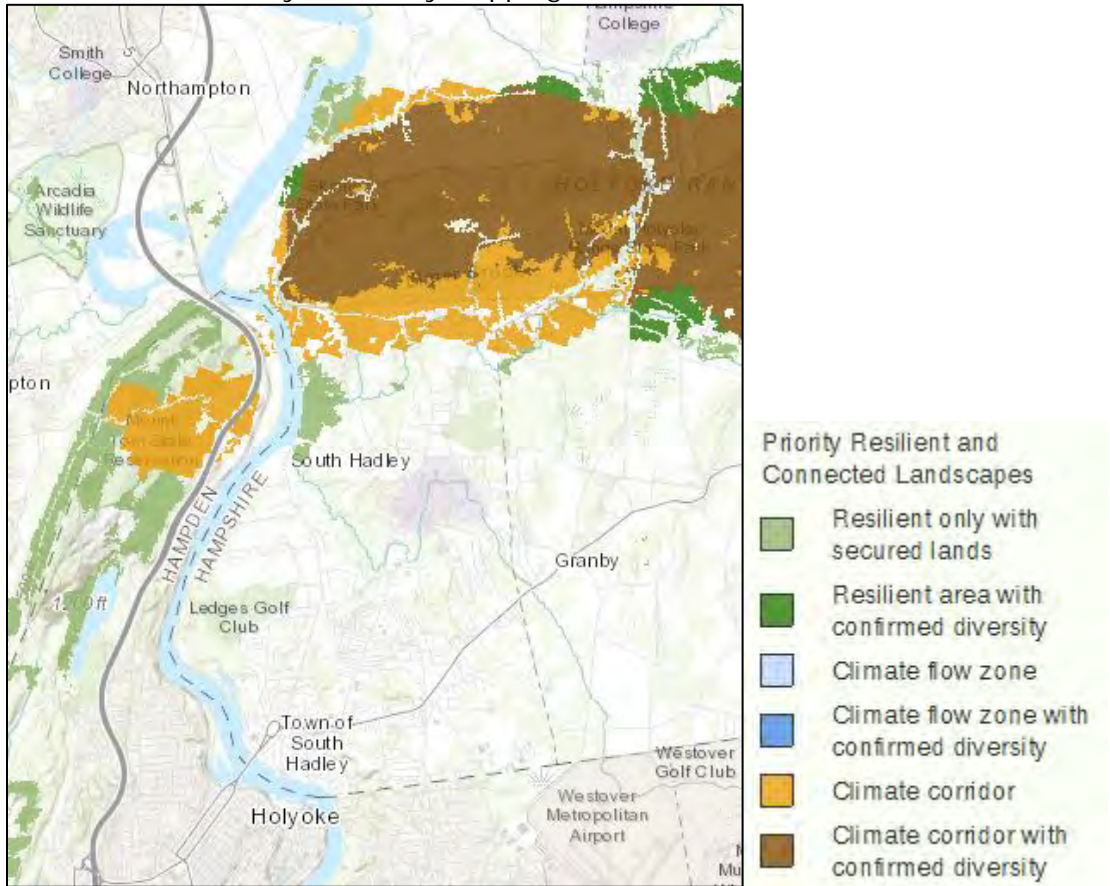
Environmentally, within the community, as one travels south and east from the mountains and the river, the terrain becomes more rolling and is divided by various streams – the dominant ones being Elmer Brook, Bachelor Brook, Stony Brook, and BATTERY Brook. Recreational use of these streams is limited.

4.6.8 Priority Resilient and Connected Landscapes

The Nature Conservancy mapped the location of climate-resilient sites and released the study in October 2016. A resilient site is an area of land with sufficient variability and microclimate options to enable species and ecosystems to persist in the face of climate change and which will maintain this ability over time. Bedrock and soils that underlie patterns of biodiversity as well as topographic diversity and lack of fragmentation that promote natural resilience were mapped. Places that are more likely to sustain diversity because due to micro-climate options within a connected area were identified.

Resilient and connected landscapes in South Hadley are primarily concentrated in the northern part of Town along the Holyoke Range. The core ridgeline of the range is identified as a "climate corridor with confirmed diversity", while the foothills of the range are classified as "climate corridor" and "resilient areas with confirmed diversity". Climate Corridor with confirmed diversity refers to a climate corridor that contains known locations of rare species or unique communities based on ground inventory. Climate Corridor refers to a narrow conduit in which the movement of plants and animals becomes highly concentrated, often a riparian channel or linear ridgeline. Resilient Areas with Confirmed Diversity refers to a resilient area that contains known locations of rare species or unique communities based on ground inventory. The Priority Resilient and connected landscapes for South Hadley is shown in Figure 4-8 below.

FIGURE 4-8
Town of South Hadley Resiliency Mapping



Source: The Nature Conservancy Resilient Land Mapping Tool, 2016

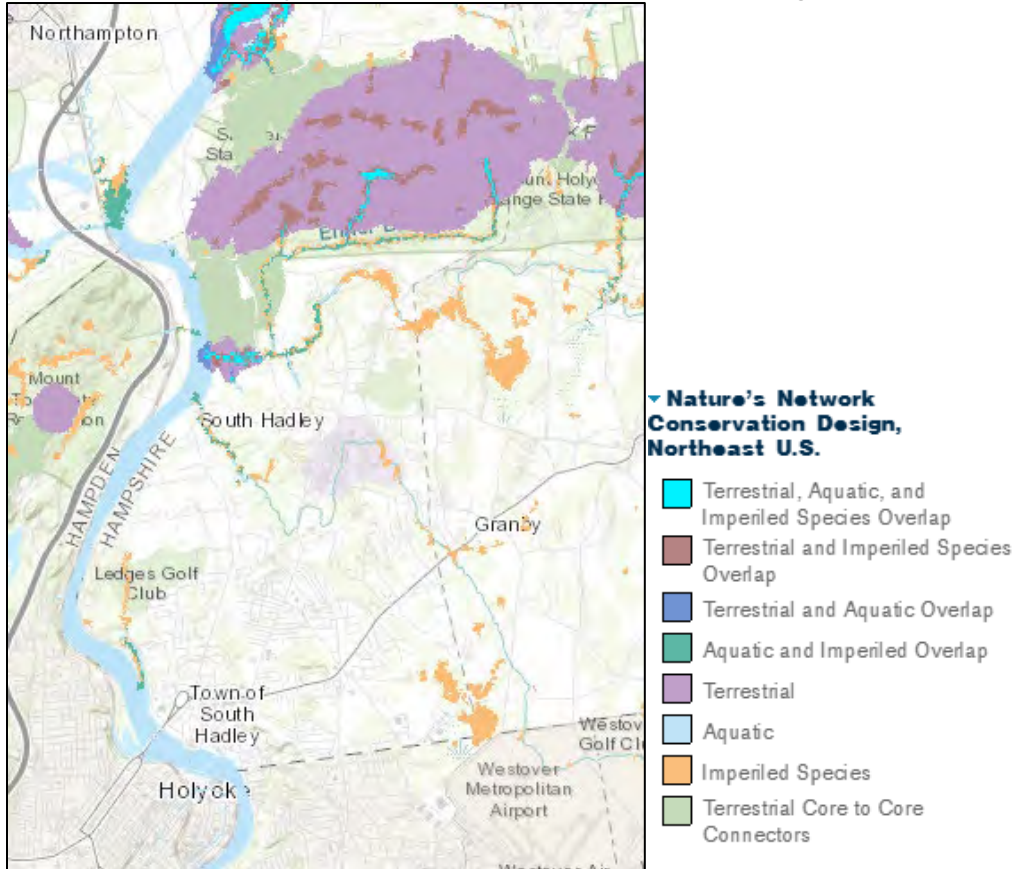
4.6.9 Northeast Conservation Planning Atlas

The Nature’s Network Northeast Conservation Planning Atlas is a platform that provides access to high-quality geospatial datasets, maps and information to facilitate conservation driven initiatives in the Northeast United States. Nature’s Network is a collaborative effort facilitated by the U.S. Fish and Wildlife Service Science Applications program that brings together partners from 13 states, federal agencies, nongovernmental organizations, and universities to identify the best opportunities for conserving and connecting intact habitats and ecosystems and supporting imperiled species to help ensure the future of fish and wildlife across the Northeast region. The mapping program combines terrestrial habitat, imperiled species, aquatic habitat, and connectivity to develop the Nature’s Network Conservation Design. It is designed to identify areas of conservation needed for species to move across the landscape, as well as connect networks of waterbodies to benefit people in the ways of recreation and clean water.

South Hadley’s mapped conservation design areas are primarily concentrated in the northern part of the Town, along the Mount Holyoke Range and include terrestrial, imperiled species, and terrestrial core to core connectors. Additionally, the Bachelor Brook/Stony Brook Resource area is also mapped as a terrestrial, aquatic, and imperiled

species overlap. It is critical for the connectivity of species, rivers, and habitats that these areas continue to be protected in South Hadley. The Conservation Design map for South Hadley is shown in Figure 4-9 below.

FIGURE 4-9
Town of South Hadley Nature's Network Conservation Design



Source: Nature's Network accessed via Data Basin

4.6.10 Environmental Challenges

Due to its largely bedroom-community character, South Hadley does not have the level of environmental problems related to industrial and commercial facilities as nearby more industrial communities. However, the community does have potential sources of environmental problems unique to South Hadley, as described below.

Sanitary Landfill

In 1992, the Massachusetts Department of Environmental Protection found that the unlined South Hadley sanitary landfill off New Ludlow Road 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 water supplies, wetlands and wildlife habitat.

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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. 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 MassDEP approval, the Town contracted operation of the landfill to a private vendor and opened a lined, expanded cell in 2005. The Town and its contractor took necessary measures to keep leachate out of the groundwater from this expanded cell.

The Town and its landfill operator undertook a vertical expansion of the landfill starting in 2005. Additionally, a horizontal expansion of the landfill towards the east was proposed, but those efforts were abandoned, and the solid waste facility closed in March 2014. The Town was not able to obtain interest from another landfill company, and the facility was transferred back into to the Town's control in 2015. The landfill was closed and capped. Currently, the closed landfill is being environmentally monitored in accordance to state standards.

Hazardous Materials

Though largely a bedroom community, South Hadley has several industrial operations utilizing hazardous materials. 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. However, some releases do impact the environment. In the Fall of 2006, an industrial accident at one plant created a hazardous materials incident of a temporary nature. Releases of hazardous materials are generally addressed under the Massachusetts Contingency Plan (MCP). There are many releases that have been documented in South Hadley and have been closed out under the MCP. There are currently six sites with ongoing remediation activities and four sites that have been closed but maintain Activity Use Limitations due to the presence of hazardous materials released to the environment in a confined area.

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.

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. In recent years, areas of town developed as subdivisions in the 1950s and 1960s in the Stony and Buttery Brook watersheds have been experiencing high groundwater in these areas. Prior to the Wetlands Protection Act, wetlands were filled to build houses and subdivision roads. In lower lying parts of these neighborhoods, homeowners are increasingly reporting water in their basements.

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. Sedimentation and non-point pollution through stormwater have impacted the ecology of the South Hadley's waterbodies and waterways.

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. These impacts to water quality also were noted in the "South Hadley Ecological Assessment", dated Winter 2018, prepared by The Conway School. This report analyzed threats to water quality related to development patterns in the watersheds of Bachelor Brook, Stony Brook and Buttery Brook; developed recommendations for protecting remaining unprotected and predominantly undeveloped parcels of land along stream corridors; and prioritized parcels for protection. The recommendations from this report have been included in Section 9 Action Plan as appropriate.

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 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 as noted in the Winter 2018, South Hadley Ecological Assessment report, prepared by the Conway School of Landscape Design. The watershed is primarily developed and in the southern-most area of town, the banks are severely eroded and impacted by trash and fallen trees. To address the issue of potential and historic ground water issues from the landfill, a well protection zone was established around the landfill, and the Town

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connected existing private shallow drinking water wells to the municipal water system within this zone.

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. On town-owned conservation and park lands, the development of forest management plans would be wise to ensure proper allocation of funding for ongoing management needs.

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. 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 on Hadley Street. South Hadley has also worked to improve recreational opportunities for all residents by incorporating accessible features when upgrading parks (e.g., Beachgrounds and Buttery Brook Park) and construction of the accessible River to Range Trail. In addition, the Urban Redevelopment and Renewal Plan for South Hadley Falls promotes more recreational facilities and greenways in the Falls area, which is home to the most distressed populations of the community.

Invasive Species

Non-native invasive species are common in South Hadley. Most notable is the extensive invasion of woody shrub species observed at most of the forested town owned conservation areas and parks, including multiflora rose, barberry, honeysuckle, privet, and winged euonymous. Black locust is common in forested areas, particularly in proximity to wetlands, and the climbing vine Oriental bittersweet is ubiquitous. Herbaceous weeds including garlic mustard, Japanese knotweed and purple loosestrife are common, while black swallowwort is becoming increasingly so. Invasive aquatic plants include water chestnut and yellow iris, as well as others. Control of all of these species across town is unfeasible due to the extent of them; however, the Town is engaged in selective management of certain species at specific locations relative to site specific management plans, as noted in the table below.

TABLE 4-3
Invasive Species Management

Location	Species	Notes
River to Range Trail at Bachelor-Stony Brook Conservation Area	Woody shrubs and Oriental Bittersweet	In 2018, the town contracted for two years of cutting and selective herbicide treatment along 1,000 feet of the west edge of the hayfield between the trail and the Connecticut River.
Bachelor Brook, mouth at Connecticut River	Water Chestnut	On-going annual pulling of plants by volunteers since 2015. Program originally coordinated by USFWS; 2019 coordination taken over by Connecticut River Conservancy and South Hadley Conservation Commission.
Alvord Street Pond	Water Chestnut	
Falls Woods Condominiums Pond	Water Chestnut	
Connecticut River, Cove Island	Water Chestnut	
Mount Holyoke College, Upper and Lower Lake	Water Chestnut	

Some private property owners also seek to manage invasive species. Generally these efforts are not known to town staff unless the property owner seeks a permit for work, generally with wetland buffer zones or Riverfront Area.

Climate Change

Extreme weather and hazards associated with a changing climate are an increasing concern for South Hadley. Impacts of climate change include changing weather patterns, more frequent intense storm events that bring severe flooding or significant ice or snow, and extreme temperatures. Table 4-4 provides the most current climate change projects for the Connecticut River Basin, developed by the Resilient MA Climate Change Clearinghouse through the Massachusetts Executive Office of Energy and Environmental Affairs. Based on these projections, by the end of the 2030s, our region will likely see up to five more inches of precipitation annually, up to 20 more days of temperatures over 90 degrees, and up to 28 fewer days below freezing.

These changes in climate patterns will not only impact human lives in many ways but also the flora and fauna of the region. The region is seeing increased invasive species that are threatening native species. Invasive insects such as the Emerald Ash Borer and Asian Longhorned Beetle are eliminating populations of certain tree species. Other native vegetation is declining as a result of changes in temperature and precipitation regimes and thereby changing the habitat available for vertebrates and invertebrates. Higher frequencies of extreme storm events are taxing the ability of existing infrastructure to handle the stormwater. Examples of the impact of increasing temperatures and changing precipitation patterns on the region include:

- increased virulence of viruses, insects, and pests
- decimation of sensitive crops and plants
- shifting of native habitats northward

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- decline in air quality that can increase asthma and other human health effects
- ability of infrastructure to handle increased stormwater flows, resulting in increased flooding
- decreased snow cover
- decreased spring snow melt
- more winter rains
- increased peak stream flows
- decreased water recharge
- decreased water quality
- extended low-flow periods in the summer months

In order to better prepare for the impacts of climate change, South Hadley is participating in the Municipal Vulnerability Preparedness (MVP) program, which provides support and a process for Massachusetts communities to plan proactively for resiliency and implement key climate change adaptation actions.

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TABLE 4-4
Climate Change Projections for Connecticut River Basin

Rising Temperature					
	Observed Baseline 1971-2000	Projected Change in 2030s	Projected Change in 2050s	Projected Change in 2070s	Projected Change in 2090s
Average Annual Temperature (°F)	46.98	2.18 to 4.46	3.00 to 6.43	3.57 to 9.00	4.04 to 10.94
Annual Days with Maximum Temperature Over 90°F (Days)	6.41	6.36 to 19.72	9.87 to 35.35	11.98 to 57.07	14.50 to 76.01
Annual Days with Minimum Temperature below 32°F (Days)	158.63	-10.58 to -28.13	-18.57 to -37.28	-22.18 to -50.76	-22.88 to -59.79
Changing Precipitation					
Total Annual Precipitation (Inches)	46.39	-0.40 to 4.99	1.25 to 6.22	1.95 to 7.26	1.68 to 8.30
Annual Consecutive Dry Days (Days)	16.41	-0.18 to 1.34	-0.42 to 1.75	-0.73 to 2.26	-0.35 to 2.44

Source: Resilient MA Climate Change Clearinghouse, EEA; ResilientMA.org

Section 5

Inventory of Lands of Conservation and Recreation Interest

Open space protection can provide multiple benefits to a community's economy, quality of life, 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, "permanently" or long-term, conversion of land to a use other than for open space or recreation. 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. Certain public and non-profit conservation lands, including lands that they have been dedicated to such uses as conservation or recreation use by deed or Town Meeting, are protected under Article 97 of the Articles of Amendment to the State Constitution. Article 97 lands are considered permanently protected, as any change in use requires a process, including a two-thirds vote of the legislature and protection of land of equal or greater value.

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 to acquire them if they are to be removed from Chapter status and sold.

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 B; Map B-8 – Open Space Inventory*):
 - Key vacant parcels identified in the "South Hadley Ecological Assessment" prepared by The Conway School, Winter 2018. These parcels took into consideration wetland and other natural resource attributes and/or values associated with recreation potential to the inventoried properties;
 - Parcels under Chapter 61, 61A, or 61B, the APR Program or the Forest Legacy 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 Conservancy, 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.);

Section 5 Inventory of Lands of Conservation and Recreation Interest

- Parcels owned by special entities (such as Mount Holyoke College, Eversource Energy, HG&E, etc.)
2. Identification as to which of the inventoried and mapped parcels from step 1 are permanently protected (*see Appendix B; Map B-8 - Open Space Inventory*)

Through this effort approximately 1,039 acres of unprotected land were identified as of interest for its natural resource (including habitat connections) or recreational potential. The Town maintains the mapping of parcels of interest. Any parcels to be considered by the Conservation Commission for acquisition must meet certain criteria as outlined in Chapter 403-1 of the South Hadley Policies, as adopted by the Commission in November 2005, including the evaluation of Chapter Lands for exercising first right of refusal.

Criteria for Land Acquisition or Acceptance

Town of South Hadley Policies, Chapter 403, Adopted by South Hadley Conservation Commission on November 30, 2005

Section 403-1 Required Characteristics

In order for land to be considered for acquisition or acceptance by the Conservation Commission, the parcel or parcels in question should have at least one of the following characteristics:

- A. Adjacent to other conservation or recreation lands.
- B. Part of the Mount Holyoke Range, or have frontage on the Connecticut River.
- C. Rare species habitat (as identified by the Natural Heritage and Endangered Species Program – NHESP).
- D. Public access and possible parking for a few cars.
- E. Important water features, such as distinctive or unique wetlands, springs, brooks, waterfalls, or vernal pools.
- F. Streamside or riverfront area, for passive recreation, habitat, greenways, or wildlife corridor.
- G. High visual or aesthetic value, including nice views of or from the location.
- H. Diverse landscape or habitat, such as a combination of woods, fields and water.
- I. Unique or distinctive historical, archaeological, or geologic features.
- J. Add to a potential greenway or trail system.
- K. Preserve farmland.
- L. Priority Natural Vegetation Community type, according to NHESP definitions.
- M. Within the “Special Landscape Areas” boundaries as identified in the 1999 South Hadley Open Space and Recreation Plan.
- N. Within NHESP’s BioMap Core Habitat or Supporting Natural Landscape, or Living Waters Core Habitat or the adjacent riparian area.
- O. Protect public water supply wells or reservoirs.
- P. Five or more acres in size.

5.1 Agricultural Program Parcels

5.1.1 Chapter Lands

According to records of the Town Assessor's office, there are currently 55 properties in some form of the Chapter tax abatement program. 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;
- 48 parcels totaling 895 acres under Chapter 61A; and
- 5 parcels totaling 218 acres under Chapter 61B.

The 1,143 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 due to the first right of refusal to acquire them being assigned to the Town as a condition of their tax abatement status. This is sometimes considered temporary protection. (Lands subject to APR and Chapter 61, 61A, or 61B are listed in Appendix D.)

5.1.2 Agricultural Preservation Restriction

Agricultural lands having an APR placed on them are protected in perpetuity. The amount of agricultural lands afforded "permanent" protection under APR has increased since 2012 to approximately 245 acres under the APR program.

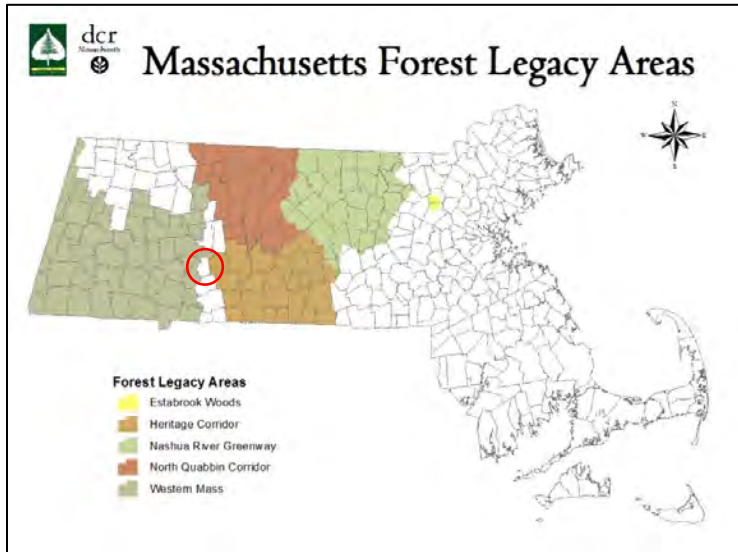
Two of the APR parcels are owned and operated as part of McCray's Farm which remains an active dairy farm and includes a creamery and a small animal farm, and is the site of various community activities during the year. McCray's Farm started pasteurizing milk in July 2013 as a result of the latest APR funding. McCray's Farm includes 101 acres on the west side of Alvord Street and the 131 acre Cournoyer property, on the east side of Alvord Street. The remaining three APR parcels are owned and operated by Barstow's Longview Farm, located on the South Hadley and Hadley town line. Approximately 16.5 acres of Barstow's land under the APR program are in South Hadley; the remaining protected land is located in Hadley. Barstow's Longview Farm has been a working dairy farm since the early 1800s and is presently run by sixth generation farmers. The family-owned farm is able to produce local dairy products as a result of funding from APR.

5.1.3 Forest Legacy Program

South Hadley has four parcels totaling 102 acres placed under the Forest Legacy Program (FLP), the conservation restriction program administered by the U.S. Forest Service in partnership with the Commonwealth of Massachusetts DCR Bureau of Forest Fire Control and Forestry. These private forest lands are protected to benefit recreation, drinking water quality, wildlife habitat, and forest products. 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 DCR and are classified as part of the "Western Mass" Forestry Legacy Area which extends across the Range in South Hadley (Figure 5-1 below).

FIGURE 5-1

Massachusetts Forest Legacy Areas



Source: Forest Legacy Program, 2016

5.2 Conservation Restriction Parcels

Privately-owned parcels with conservation restrictions are the result of voluntary conveyance of development rights to a public agency or non-profit conservation organizations empowered to hold such restrictions. The Assessor's data reflects ten such parcels in South Hadley totaling 152 acres (not including APR lands) (see *Appendix B, Map B-8*). These parcels range in size from slightly less than an acre to slightly over 58 acres.

- Three of the privately-owned conservation parcels abut the Connecticut River, and have conservation restrictions held by Fire District #2 for protection of the Dry Brook Hill wells. These properties combined are approximately 1 acre. An additional 15 acres of private land along Hadley Road (Route 47) have been protected by a conservation restriction by the District for water supply protection.
- In 2002, three parcels of approximately 30 acres of the Brockway property was placed under permanent protection Conservation Restriction with the Commonwealth of Massachusetts Department of Conservation and Recreation. This property is within the Mount Holyoke Range and abuts other protected properties owned by the Commonwealth of Massachusetts and Town of South Hadley Conservation Commission.
- In 2013, one parcel of approximately 48 acres owned by the Stueber Trust was placed under permanent protection Conservation Restriction with the Commonwealth of Massachusetts Department of Conservation and Recreation, referred to as the Stony Brook CR on Map B-8.
- In 1994, approximately 58 acres of the 75-acre Lyman property was placed under a deeded permanent protection Conservation Restriction with the Commonwealth of Massachusetts Department of Conservation and Recreation.

This property, north of Route 47, partly abuts the Skinner State Park property that is owned by the Commonwealth of Massachusetts.

- In 2008, 2 acres at the Jacob's Edge Condominiums was placed under a conservation restriction as part of the development of the complex. The land abuts Black Stevens Conservation Area and was mapped at the time as Priority Habitat by NHESP, however it is no longer mapped as such.

5.2.1 Past Conservation Restriction Efforts

As part of the approval of the Stonegate Subdivision off Alvord Street in the late 1980s, 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, known as the Gormally Conservation Area. When working with land owners to protect lands, the process and language of the deed restrictions should be properly vetted to ensure that the protections remain in place in perpetuity.

5.3 Private Recreation Parcels

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

Brunelle's Marina

Brunelle's Marina is a private marina on the Connecticut River Alvord Street, next door to the Mount Holyoke College Boathouse. The marina offers seasonal slip rentals, a public boat launch, restaurant, marina store and service shop. Marina customers have access to picnicking facilities and restrooms.

South Hadley Swim Club

The South Hadley Swim Club owns a site of 9.5 acres off Amherst Road. A member-owned organization run by a volunteer Board of Directors and the Greater Holyoke YMCA, the club's purpose is to encourage athletic exercise, namely swimming and outdoor recreational activities. On the nine-and-a-half-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, play area, locker rooms, a picnic pavilion, and a covered picnic area. There is no public access to the pool, as it is only available to paid members and their guests. Membership in the Swim Club is open to anyone, including residents from other towns. There is an initial membership fee and yearly dues. The Club facilities are open for members' use from Memorial Day through Labor Day.

Redcliffe Canoe Club

The Redcliffe Canoe Club, a private club with membership fees and yearly dues, owns four parcels along Canal Street abutting the Connecticut River, for a total of 1.27 acres.

Section 5 Inventory of Lands of Conservation and Recreation Interest

This site is used for boating, swimming and fishing and has a boat launch ramp on the River.

Valley Land Fund (now Kestrel Land Trust)

The Valley Land Fund (now Kestrel Land Trust) owns one parcel containing approximately one acre in size located in the Stonegate subdivision off Alvord Street.

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. Some of the College's facilities are open to the community, as noted below. While the College has liquidated some of its unused parcels over the 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 C-Bons International Golf Group (CBIGG) Management, LLC. Membership is required at the club.
- The College's Turf and Track Complex, which sits on land abutting Silver Street and includes a synthetic multipurpose turf playing field with lights surrounded by an eight-lane track. Additionally, there are two grass fields (Mount Holyoke College Soccer Field and Mount Holyoke College Activity Field) at this location. Use of the facility by the community is limited, as priority is given to varsity and club teams and physical education classes within the College.
- The Mount Holyoke College Community Boathouse, which is located on an 8.5-acre parcel along the Connecticut River. It was unveiled in 2010 and is home to the College's crew team. Additionally, the facility gives community members access to the Connecticut River. The boathouse holds several community events such as training for the Care Center of Holyoke, Greater South Hadley Youth Rowing, Adaptive Rowing, and Community Rowing for Adults. The Boathouse also provides South Hadley Fire District #2 and the South Hadley Police Department with access to the Connecticut River.
- The Mount Holyoke Outing Club cabin, which sits on an 18-acre parcel on the Mount Holyoke Range. The cabin is used by the students for various activities and can also be rented to members of the community for a small fee.

Western Massachusetts Girl Scout Council

The Western Massachusetts Girl Scout Council owns and operates 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 week-long camp sessions are conducted. Troop camping takes place on weekends from March through October. Troops also camp for longer periods during school vacation and occasional day events take place during winter months. The camp is available for rent 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.

South Hadley Sporting Club

The South Hadley Sporting Club owns a site of 7.3 acres off River Road. The club was established in the 1930s to promote protection of forest, propagation of fish, and improve relations between landowners and sportsmen. It continues today to be a member-owned and ran organization. The club offers a variety of outdoor activities including skeet shooting, archery, fishing, and community picnics.

5.4 Public Parcels

Commonwealth of Massachusetts

The Commonwealth of Massachusetts owns at least 54 parcels of land totaling 1,301 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 DCR. Thus, within the Mount Holyoke Range in South Hadley, the DCR manages approximately 1,293 acres in two state parks: 272 acres in Skinner State Park and 1,021 acres in Mount Holyoke State Park.

- Skinner State Park not only contains the Summit House, a 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 mostly 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, including meeting current public access requirements, could be completed. Due to the historical significance of the building, the building was reopened for tours following restoration work performed in 2014.

- Mount Holyoke Range State Park occupies the center and eastern portions of the Mount Holyoke Range in South Hadley. During the past decade, DCR has increased its holdings for this park.

Section 5 Inventory of Lands of Conservation and Recreation Interest

Outside of the Mount Holyoke Range, the Commonwealth owns only three parcels totaling 8.69 acres. 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 10 years ago, the pool was demolished, and the State at the time planned to transfer the property to the Town of South Hadley to add to the Buttery Brook Park. The transfer has not yet occurred.

Town-owned Land

Municipal entities (the Town Fire Districts/Water Departments, Housing Authority, and Electric Light Department) own 159 parcels of land totaling approximately 1,779 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 since they are an entity separate from the Town of South Hadley.

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 (Refer to Table 5-1 below). 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.

TABLE 5-1
Municipal Land Ownership/Management

Ownership	Acres
Town	
Conservation	984.33
Recreation/Parks	263.80
School Department	86.90
Other	291.90
SHELD	18.23
Housing Authority	9.93
Fire District #1	39.10
Fire District #2	84.70
TOTAL	1,778.89

Source: South Hadley Assessor's Office, Planning and Conservation Department, and MassGIS, 2019.

Town of South Hadley

The Town (excluding SHELD, Housing Authority, and the Fire Districts) owns 219 parcels of land totaling approximately 1,626 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, Recreation Committee/Parks Department, or established as park/recreation commission lands are inventoried as protected lands. Some lands are under management by the Conservation Commission by vote of a Town Meeting. Exclusive of the lands owned/managed by the Conservation Commission, 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.

Conservation Commission

Approximately half of the town-owned lands (or 1,080 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.

The Town adopted 16 criteria for land acquisition for conservation/preservation in 2015. These criteria are codified in South Hadley's General Bylaws as Chapter 403 Criteria of Land Acquisition (<https://ecode360.com/31758305>) and are noted below. Parcels considered for acquisition or acceptance by the Conservation Commission should have at least one of the following characteristics:

- Adjacent to other conservation or recreation lands.
- Part of the Mount Holyoke Range, or have frontage on the Connecticut River.
- Rare species habitat (as identified by the NHESP).
- Public access and possible parking for a few cars.
- Important water features, such as distinctive or unique wetlands, springs, brooks, waterfalls, or vernal pools.
- Streamside or riverfront area, for passive recreation, habitat, greenways, wildlife corridor.
- High visual or aesthetic value, including nice views of or from the location.
- Diverse landscape or habitat, such as a combination of woods, fields and water.
- Unique or distinctive historical, archaeological, or geologic features.
- Add to a potential greenway or trail system.
- Preserve farmland.
- Priority Natural Vegetation Community type, according to NHESP definitions.
- Within the "Special Landscape Areas" boundaries as identified in the 1999 South Hadley Open Space and Recreation Plan.
- Within NHESP's BioMap Core Habitat or Supporting Natural Landscape, or Living Waters Core Habitat or the adjacent riparian area.
- Protect public water supply wells or reservoirs.

Section 5 Inventory of Lands of Conservation and Recreation Interest

- Five or more acres in size.

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 15 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 and the strategic use of grants. 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. A 6-acre tract was given to the Conservation Commission for addition to the Trompke Conservation Area. Another 6-acre tract previously donated to the Connecticut River Watershed Council was also transferred to the Conservation Commission. The Conservation Commission used a Self-Help Grant to acquire part of the Bynan Conservation Area in 1978.

The Conservation Commission administers at least 16 distinct Conservation Areas. Baseline Document Reports and management plans are under development for each property.

- Bachelor Brook/Stony Brook Conservation Resource Area (285 acres)
Acquired in 2005 with a \$500,000 Self-Help Grant and a \$300,000 donation from Mount Holyoke College, in addition to approximately \$700,000 of local funds including from the Conservation Commission's dedicated fund, 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. Due to its access to the Connecticut River and proximity to the Mount Holyoke Range, the River to Range Trail was established in 2018. The trail loops from Ferry Street, along the Connecticut River, and up to Bachelor Brook. Improvements in 2019 have extended the system of improved hiking trails to the north side of Bachelor Brook using the Route 47 bridge as access. There are three trailheads with parking at the property: Ferry Street, Hadley Street at the Town Farm, and Hadley Street on the south side of Bachelor Brook.
- Bachelor Brook East (4.5 acres) Bachelor Brook East is a small conservation area located between the Orchards Golf Club and Bachelor Brook-Stony Brook Resource Area. Sections of Bachelor Brook run through the conservation area. This is a landlocked parcel with no dedicated access.

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- Bagg-Pierce Wildlife Sanctuary (30 acres) Lying along the Connecticut River, this area was begun in 1997 with the donation by Malcolm Bagg to honor his wife and mother-in-law. Five additional acres have been added to this sanctuary with a 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. Included in the Bagg-Pierce Conservation Area is the Popp Conservation Area, a one-acre plot located directly northwest and adjacent to Bagg-Pierce.
- Black Stevens Conservation Area (77 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, Black 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's Self-Help Grant. 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.
- Bynan Conservation Area (162 acres) Lying in the southeast corner of town, the Bynan Conservation Area was part of an acquisition of approximately 162 acres in 1978 from the Bynan family. Of this land, purchased with the assistance of a Self-Help Grant, about 40 acres were reserved to accommodate expansion of the South Hadley Sanitary Landfill, which closed in 2014. The remainder were reserved for conservation and recreation purposes. Several smaller abutting parcels have recently been protected also. The area consists of pine barren 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. There are marked and unmarked trails in the area.
- Gormally Conservation Area (7 acres) The Gormally Conservation Area is adjacent to McCray Farm's Agricultural Preservation Restriction and consists of non-forest wetland and cropland abutting San Souci Drive/Stonegate Subdivision. A single path for walking meanders through the field.
- Hahn-Warner Arboretum (6 acres) 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. The arboretum was begun in 1970 by George Hahn, a science teacher at the Michael E. Smith Middle School, and Edwin T. Warner, the South Hadley Tree Warden, and now harbors thirty trees of different species, serving as both an

Section 5 Inventory of Lands of Conservation and Recreation Interest

educational facility and park. The annual Arbor Day event is hosted at the arboretum, and a memorial tree planted in honor of an individual who has made significant contributions in protecting the town's natural resources.

- Hawkins Bird Sanctuary (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 acquired by the Conservation Commission in 1977 to be used as a bird sanctuary in memory of Professor Everett D. Hawkins of Mount Holyoke College.
- Jones/Carver/Newton Conservation Areas (16.5 acres) These three conservation areas are directly adjacent to one another and are located along the Connecticut River near River Road. The Jones/Carver/Newton Conservation Areas are heavily forested, and some trails are marked for hiking and walking.
- Laurie Avenue Conservation Area (2.1 acres) The Laurie Avenue Conservation Area is a small, forested area located off of Laurie Avenue in the middle of a residential neighborhood.
- LeBlanc Conservation Area (2.9 acres) LeBlanc Conservation Area is a small conservation area which is protected for wetland and wildlife habitat. This conservation area does not contain trails and is intentionally left in a natural state. It is located opposite Cedar Ridge, off of Brainard Street.
- Mount Holyoke Range (460 acres) 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 about Skinner State Park. Other scattered parcels add to the mosaic of protected land west of Lithia Springs Reservoir.

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 belonging to the Town as protected 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. Additionally, the Bare Mountain Conservation Area is included within the Mount Holyoke Range Conservation Area.

- Titus Pond Conservation Area (3.7 acres) Consisting of 3.7 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. The Queensville Dam forms the impoundment creating Titus Pond, and is under the management of the South Hadley DPW.

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- Edward Trompke/Stony Brook Conservation Area (11 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). A 6.03-acre tract of land abutting this area was donated to the Conservation Commission. 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.
- 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 a Self-Help Grant. The area is named after Edwin Warner, former South Hadley Tree Warden. Yearly mowing is necessary to keep the hayfield on this parcel open. Mountainbrook subdivision is located along the southern edge of the area, and has a considerable amount of preserved open space in private ownership, compared to a conventional subdivision.
- Toth Property, Mosier Street (21 acres). Although not under the care and control of the Conservation Commission, the Toth Property includes the 0.66 mile Leaping Well Nature Trail, which is a pedestrian and bicycle path that was constructed in the late Fall of 2018. From the trailhead on Mosier Street, the path follows the edge of a thorny thicket along the lawn of Mosier Elementary School, then winds through a young forest on the upper bank of an intermittent stream. The trail loops through an old farm field, a forest of ornamental pear trees, and across several wetlands along wooden boardwalks.

Recreation Commission and Golf Commission.

Approximately 17% of the town-owned lands (or 263 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, Town Farm and the school facilities 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, with the Town Farm fields located in the northwest area of 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 football in the fall. With the assistance of \$500,000 in an Urban Self-Help Grant, in 2007-2008 the town rededicated existing town-owned land to parkland -expanding the park by a quarter acre, added a basketball court and

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- additional parking, renovated the bathhouse, developed a water park/splash pad, and installed a new playground structure, lighting, irrigation, picnic tables, and fencing. This redevelopment of Beachgrounds Park transformed the Beachgrounds Park into a significant community asset.
- Buttery Brook Park. This facility is located on Route 33 just north of Chicopee, near several areas of active residential and commercial development. This park was revitalized and adjoining the site is the former state swimming pool facility which was closed and demolished. The town received State funding in FY 2011 and FY 2012 for the design and construction of improvements of Buttery Brook Park. Improvements include a water spray park, new playground equipment, an additional new play area, a centrally located restroom and storage building and improved access and parking. Facilities at the park include: covered pavilions, picnic areas, playgrounds, basketball court, skate park, and a spray park.
 - High School. Located adjoining the South Hadley High School, this complex of facilities is primarily used for school-related activities during the school year. Facilities include: One (1) lighted multi-purpose turf field (football, soccer, field hockey, lacrosse), one (1) baseball field, and one (1) softball field. The artificial turf field, installed in 2016, has greatly increased the ability to accommodate team sport games and practices. The former track was in poor condition and removed, and the track team currently uses Mount Holyoke College facilities.
 - 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 and three (3) separate playground areas.
 - Center School site. Facilities include: One (1) baseball/ softball field which is also utilized for soccer in the fall.
 - Woodlawn Field (Council on Aging). Facilities include: One (1) baseball field which is also used for soccer in the fall, and a small playground. This site is proposed to be redeveloped for a new Senior Center. The baseball field is incorporated in the current plans.
 - 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 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 two athletic fields. Improvements to the fields are needed as only half of the

Section 5 Inventory of Lands of Conservation and Recreation Interest

field can be used at any given time due to wet site conditions/poor drainage. A trailhead to the Bachelor Brook/Stony Brook Resource Conservation Area exists at the parking lot. The Community Garden is also located here.

- 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 from an Urban Self-Help Grant 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.

The Selectboard entered into a contract in 2018 with International Golf Management (IGM) to take over full management of the Town-owned course due to operational losses. IGM previously maintained the course under Town management 2005.

- Dog Park. A new dog park is currently being designed for Mulligan Drive. The Friends of South Hadley Dog Park, working cooperatively with the Town, have received a \$21,578 planning grant for design and anticipate receiving funding for construction, both from the Stanton Foundation.

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 39.1 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.

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 84.7 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 are considered by the district for surplus. The district is reviewing options for utilizing the lands to generate additional revenue, including the possible use of this land as a solar farm.
- 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. Along the Mount Holyoke Range, DCR previously used the 450 foot elevation contour to guide acquisitions. Current efforts are focused on protection of inholdings and unprotected lands adjacent to the park, and secondly, on protection of habitat for rare species or uncommon natural communities. Other significant parcels abut and could provide access to the Connecticut River. In addition, parcels along Bachelor Brook, Buttery Brook and Stony Brook have been identified as important for protection of the resource areas. Privately held lands over Fire District #2's aquifer have also been identified as important for protection.

5.6 Utility Company Parcels

Historically, Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company (now Eversource Energy) 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 HG&E as part of the transfer of 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 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 Eversource Energy are primarily associated with transmission lines and substations. While the land holdings are significantly less, their location are significant when considering recreational opportunities such as hiking and biking trails. Eversource granted permission to the Town to develop the River to Range Trail across their easement at the Bachelor Brook-Stony Brook Conservation Area in 2017.

Eversource Energy (formerly Northeast Utilities/Holyoke Power and Electric Company/Holyoke Water Power Company).

Section 5 Inventory of Lands of Conservation and Recreation Interest

Despite selling over 300 acres during the past 10 years, Eversource Energy (or its subsidiaries) still retain ownership of approximately 58 acres in some potentially beneficial locations in South Hadley principally in the power transmission corridor:

- Alvord Street/Lamb Street corridor. 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 could provide an opportunity for a public access corridor linking several publicly-owned parcels including the Bachelor Brook/Stony Brook Resources Conservation Area. However, much of this transmission line also parallels Judd and Buttery Brooks with extensive wetlands. At present, these parcels are informally used for recreation trails and provide linkages from the surrounding neighborhoods to Bachelor Brook and Brunelle's Marina. The transmission corridor provides a significant potential link between various parts of South Hadley and the protected lands in Town. With only minor interruption, connecting the Eversource Energy 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)

HG&E now owns some small, but 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 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, FERC required HG&E to construct Riverside Park for 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 developed the gatehouse area into a limited access park. The use of Gatehouse Park is restricted by appointment only for tours or events Monday through Friday, 8AM to 3PM between May 1 – September 30. The entire reach of the canal area is listed on the National Register and this entire area falls under the Historic Preservation Act. A third park, Texon Mill Park, connecting these two assets was developed as mitigation for demolition of the Texon Mill Building. Collectively, these parks provide visual access and enjoyment of the river. However, as noted for the Gatehouse Park, seasonal and time of day restrictions exist for each of HG&E's parcels. More information on these parks and their usage can be found on HG&E's website: <https://www.hged.com/community-environment/recreation/riverside-parks.aspx>.

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. It is anticipated

Section 5 Inventory of Lands of Conservation and Recreation Interest

that HG&E will be applying this conservation restriction to the property. 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. The property has limited parking and additional planning and improvements would make this property more accessible to the public. This park was developed with LWCF funds.

Section 6

Community Vision

This Open Space and Recreation plan update was initiated as part of a more thorough community planning effort that also includes a comprehensive Master Plan. A community survey effort and active public forums characterized this process and provided significant public input into the planning process. Input and outcomes of this broad community planning effort served as the basis for developing this update.

The development for this specific plan update involved a multi-step, interactive approach:

- Review of the previous Open Space and Recreation Plan
- Inventory and assessment of the actions taken since 2012 regarding open space and recreation facilities and improvements
- Assessment of the status of the previous action plan recommendations
- Analysis of the 2019 surveys and public forums input
- Updating of the inventory of lands of conservation and recreation interest
- Review of the recommendations of the ongoing 2019 Master Plan as it relates to the requirements of this Open Space and Recreation Plan
- Consultation with various community organizations and town departments regarding open space and recreation issues
- Drafting of the update and review of the draft by various community organizations and town departments
- Public hearing, review, and approval by the Selectboard

6.1 Public Input and Involvement

Public input was vital to the development of this plan. The first aspect of this involvement was through the community planning effort which involved several key approaches to obtaining community input including community surveys, four public forums and 19 follow-up “Meetings in a Box” between March and June 2019, and two public meetings to solicit comment on the draft plan.

6.1.1 Community Survey

An online public survey was used to provide input into the Open Space and Recreation Plan Update. Due to the limited project budget, a scientifically valid survey of town residents was not feasible. Instead, a survey questionnaire was broadly advertised for public comment as a tool for promoting public discussion and formulating the agenda for the public forums as well as receiving feedback to better inform the consultants, advisory committee members, and staff in developing this plan. As part of the survey effort, flyers were posted on the Town’s social media outlets and around town to encourage recipients to respond to the survey. While this was a joint Master Plan/Open Space and Recreation Plan survey, the focus was on open space. The first survey which was open from February 1st to March 4th, 2019 was an online survey that 237 people

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completed. The survey was used as the basis for community attitudes, supplemented by input at the public forums. A summary of the survey is provided as Appendix A.

6.1.2 Public Forums

A series of four public forums were conducted in addition to the survey effort. These forums provided an opportunity for the public to identify in more detail issues and recommendations pertaining to problematic areas as well as a broad vision for the community. To facilitate public participation during the forums, notices and flyers were posted on the Town's website, social media outlets, and significant locations around town. The following forums that included discussion of open space and recreation issues were held in the Town of South Hadley:

- February 27, 2019: Community Forum #1 – Balancing Preservation and Development – Growing Smarter
- March 27, 2019: Community Forum #2 – Neighborhoods for all Ages
- April 24, 2019: Community Forum #3 – People, Prosperity, Housing, and Connections
- May 26, 2019: Community Forum #4 – Sustainability and Resiliency

6.1.3 Meetings in a Box

For further outreach, members of the Master Plan Implementation Committee (MPIC) used materials from each of the public forums to conduct smaller forums called "Meetings in a Box". These informal sessions were designed to engage a larger group of the community that had not been able to attend the public forum. They were held at a variety of locations around South Hadley including: South Hadley Senior Housing, South Hadley Public Library, South Hadley Senior Center, Fire District #2 Station, and Loomis Village. The Meetings in a Box provided an opportunity for residents who were not able to attend the forums to provide input into the process. The attendance varied by location and topic. Meetings in a Box, covering the identified forum topics, were held on the following dates:

Community Forum #1 – Balancing Preservation and Development – Growing Smarter

- March 12, 2019 at South Hadley Public Library
- March 20, 2019 at Fire District #2
- March 21, 2019 at South Hadley Senior Center (two meetings)

Community Forum #2 – Neighborhoods for all Ages

- April 9, 2019 at Lathrop Village
- April 13, 2019 at South Hadley Public Library
- April 16, 2019 at South Hadley Senior Center
- April 18, 2019 at Loomis Village

Community Forum #3: People, Prosperity, Housing, and Connections

- May 4, 2019 at South Hadley Public Library
- May 9, 2019 at Riverboat Village

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- May 16, 2019 at Fire District #2

Community Forum #4: Sustainability and Resiliency

- June 8, 2019 at South Hadley Public Library
- June 11, 2019 at Newton Manor
- June 13, 2019 at Loomis Village
- June 13, 2019 at Pine Grove Condominiums

6.1.4 Additional Public Meetings

Committee members held additional meetings to reach other stakeholders, including:

- April 4, 2019 meeting with Mt Holyoke College Athletic Department
- April 20, 2019 information table, Plains School, arts and crafts fair
- May 29, 2019 meeting with South Hadley High School Focus Group – 10th and 11th graders
- June 5, 2019 meeting with Mount Holyoke College Operations and Policy Committee
- June 11, 2019 meeting with South Hadley/Granby Chamber of Commerce

6.1.5 Public Meetings

Upon the completion of the public forums, the Planning Board conducted a meeting on January 13, 2020 focused primarily on the community planning effort and solicited town departments and public input on the final recommendations in the Plan.

6.1.6 Final Review and Approval

The draft update of the Open Space and Recreation Plan was distributed to four key boards/commissions/departments for their review and comments: Selectboard, Conservation Commission, Recreation Commission, and Planning Board. A public review was held on January 7, 2020 by the Selectboard to obtain public input on the final plan recommendations. Following the public review, the plan was finalized.

6.2 Open Space and Recreation Goals and Objectives

The primary purpose of this plan is to continue the effort to achieve the objectives of preserving, protecting and expanding the existing cultural and natural resources, and maintaining and expanding the available recreational opportunities that make South Hadley such a beautiful community in which to live and play. As such, the plan has five distinct overarching goals:

- Connectivity
- Ecological integrity and resiliency
- Local Farms
- Recreational opportunities for all ages and abilities
- Maintenance and stewardship

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- Communication and marketing

These goals address the community needs for safe, non-vehicular, connections throughout Town; protected and enhanced ecological resources; protected farms and encouraging farming; recreational opportunities for all today and in the future; a reliable mechanism to maintain these resources; and increased public awareness and access to existing open space and recreation resources and opportunities.

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South Hadley residents highly value their natural environmental and open space and the positive influence these places have on the quality of life. The natural environment contributes significantly to the character of South Hadley and the residents' sense of place. One challenge South Hadley faces is how to balance development with protection of natural resources and providing opportunities for recreation for all.

Through assessment of existing open space and recreation resources, interviews with key committees and department heads, and public input through surveys, community forums and related community meetings, significant open space and recreation needs have been identified. Highest priorities are:

- improvements to facilities that support walking and biking, including providing connections among residential areas, open space and recreation facilities and commercial centers (Connectivity)
- protection of ecological resources, including the drinking water aquifer (Ecological Integrity and Resiliency)
- the viability of farming in South Hadley (Local Farms)
- addressing the recreational needs of all South Hadley residents (Recreational Opportunities for All Ages and Abilities)
- maintenance of existing facilities and resources (Maintenance and Stewardship)
- streamlining communication regarding available facilities and programs (Communication and Marketing)

Each of these priorities are identified as goals in this Open Space and Recreation Plan as described in more detail below.

Connectivity

Connections such as sidewalks and bikeways provide recreational opportunities for all abilities, builds community, and links people to other resources (recreation, open space, commerce, institutions). Connections can also be enhanced to the Connecticut River and between residential neighborhoods and recreational, social and economic resources.

Ecological Integrity and Resiliency

South Hadley's identity is closely aligned with its natural resources. Protecting large swaths of habitat and corridors supports ecological integrity. Ecological integrity is the protection of larger, connected habitats to reduce fragmentation or isolation of ecologically valuable resources. Furthermore, ecological resources contribute to resiliency (the capacity of the land to support the Town's ability to meet and recover from adversity) from natural disasters such as flooding that are exacerbated by climate change.

Local Farms

Farming has been an integral part of South Hadley's history and local farms are an important part of South Hadley's character and landscape. Farms in South Hadley also support regional resiliency by providing a local source of food. With the number of active farms diminished and farms struggling, South Hadley aims to support farmers and farming.

Recreational Opportunities for All Ages and Abilities

Recreational resources, including programs and facilities, should be accessible by all South Hadley residents. When facilities are built or upgraded, opportunities to improve accessibility should be incorporated into the design. South Hadley has been proactive in constructing the accessible portion of the River to Range Trail off Ferry Street and incorporating accessible structures and features in the upgrades to parks such as Beachgrounds and Buttery Brook Park. Recreational resources for the Town's top three populations groups (25-44, 20-24 and 55-64) focus around adult classes, team sports, and activities such as walking, biking and hiking.

Maintenance and Stewardship

Maintenance and stewardship of existing properties and facilities was deemed of utmost important. Every effort should be made to fully maintain and upgrade, where necessary, existing open space and recreational facilities, including sidewalks.

Communication and Marketing

Public awareness about the properties and facilities available to the public will improve the community's access to, enjoyment of and support of South Hadley's open space and recreation resources. This includes consistent signage, a consolidated listing of available programs, easy to access trail maps, and regular public outreach/publicity.

Public Input

Responses to the 2019 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 A – Community Survey Instrument and Results*). These survey results were further supported by input received at the community forums and public meetings.

- Over 65% of the respondents indicated that natural features/open space is one of three most important assets in South Hadley
- Approximately 50% of respondents indicated that walking and biking around town is challenging and fixing this issue would improve the quality of life in South Hadley.
- Over 75% of respondents use South Hadley's recreational and open spaces. The most commonly used and valued spaces include: Beachgrounds Park, Buttery Brook Park, Hadley Falls Canal Park, J.A. Skinner State Park/Mount Holyoke Range, Ledges Golf Club and South Hadley High School Athletic Fields.
- Many conservation areas in the Town are unknown by residents. The following properties are unfamiliar for respondents: Gormally Conservation Area, Hawkins Bird Sanctuary, Laurie Avenue Conservation Area, LeBlanc Conservation Area,

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- Newton Jones Carver Conservation Area, and Trompke Stony Brook Conservation Area.
- The top three categories respondents feel are most important for the Town to focus on are:
 - Maintenance and improvement of existing passive recreation facilities
 - Maintenance and improvement of existing active recreation facilities
 - Purchase of land for conservation, including aquifer protection
 - Respondents think that the Town needs better signage, publicity and sidewalks to improve/increase open space and recreation access.
 - The top five open space and recreational needs in the Town are:
 - Walking/Hiking Trails
 - Adult Classes/Activities (inclusive of physical classes and adult education)
 - Bike/Shared Use Path
 - Canoe/Kayak Access
 - Dog Walking Parks/Area
 - The top improvements needed to increase access to the Town's open space and recreation are more or better signage, publicity, sidewalks and parking.
 - The top 5 special events, programs, or efforts that respondents would like to see in South Hadley are farmers' market, more community-wide events, more arts, theater, concerts, more athletic events (e.g., mountain biking, road races), and outdoor recreation, education, activities.
 - The top five responses to the question "what is the one most important thing that needs to be resolved in the short-term (0-5 years)?" included sidewalk improvements (ranked as #2) and climate change planning (ranked as #5).
 - The top five responses for the one important thing that the Master Plan should address in the next 10 years include sidewalk/crosswalk improvements (ranked as #1), protect open space/natural resources (ranked as #4), and climate change planning (ranked as #5).

The Livable Communities Survey, sponsored by Pioneer Valley Planning Commission, identified the need for safe parks within walking distance, benches, sidewalks, bike lanes and publicizing of available programs.

In May of 2019, a survey was conducted with students from South Hadley High School to identify their favorite areas of Town along with areas for improvement. Mount Holyoke College and the Village Commons were favorite places to visit for the students. Roadway and sidewalk upgrades were high priorities for improvement. The desire for a gym in town was noted, as there currently is not one, along with the desire for late-night dining and activities. The students also noted several well-loved open space areas including Canal Park, Lithia Springs, "Mosier Hiking Area", "the park by the waterfall" and McCray's Farm.

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The results of the four community forums are summarized in a July 3, 2019 memorandum from Harriman provided in Appendix E. A brief summary of the results related to the Open Space and Recreation Plan are provided below.

The results of the first community forum held on February 27, 2019, identified the following areas as key for protection:

- Dry Brook Hill Area for protection of the water source/aquifer
- Farmland to increase APR and encourage farm preservation
- J.A. Skinner State Park / Holyoke Range to continue to preserve the Range
- Alvord Street to protect the scenic values
- South Hadley Falls to provide additional access along river and increase trail connectivity
- Bachelor Brook watershed (including Olesiuk Farm) to protect the watershed area

The results for Forum #2 held on March 27, 2019, identified the current favorite things about South Hadley as open space, nature/parks/river/trees, recreation, the Commons and the Center. The least favorite things were identified as road conditions, lack/condition of sidewalks, lack of retail/restaurants, and lack of public transportation. Participants' vision for the future were that the following areas would be destinations: the Falls, the Commons, the riverfront, and parks/trails/ conservation areas. Needed improvements included trails and more nature/open space and green space. Participants also brainstormed uses at four key development centers in Town: Village Commons/Mt. Holyoke College, Intersection of Route 116 and Route 33, South Hadley Falls, Route 33/Route 202 Corridor. Support for additional parks, playgrounds and recreation areas, community gardens and dog parks were identified within certain radii associated with these key development centers as noted in Appendix E.

Community Forum #3 held on April 24, 2019 generally focused on economic development and housing needs. Participants also identified possible non-vehicular access needs to connect residential areas and economic development areas throughout Town and to adjacent communities. Participants identified routes for enhanced sidewalks and bicycle connections throughout Town.

Community Forum #4, held on May 22, 2019, generally focused on sustainability and resiliency. Participants identified areas prone to flooding. Participants also noted the need for better sidewalks and bike paths, particularly within South Hadley Falls.

The input received from the public process was used to identify the key open space and recreation needs, which have been classified into several categories:

- Natural resources protection including ecological integrity and resiliency and support of local farms
- Recreational, parks and facility improvements including providing recreational opportunities for all and providing non-vehicular connections
- Community awareness of facilities and programs
- Maintenance and stewardship, including consistent funding

7.1 Summary Of Resource Protection Needs

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. Key resource protection needs include:

- Protection of riparian areas along all waterways in South Hadley, particularly the Connecticut River and Bachelor, Buttery and Stony Brooks,
- Protection of the drinking water aquifer,
- Protection of key ecological resource areas and corridors, and
- Support of local farms.

Protection of riparian areas, including floodplain and riverfront development

New development, other than recreational or conservation oriented, 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. Development within floodplains impacts the water quality and habitat of the riparian area and is also at risk for damage due to flooding. Restrictions to development in these areas are also provided under the Massachusetts Wetlands Protection Act and the Wetlands Bylaw. In already developed areas, such as the Falls, new development or redevelopment should incorporate flood protection provisions.

Protection of the drinking water aquifer

Located within the northeast corner of town is the Dry Brook Hill area. Dry Brook Hill is significant as a public water supply but development including the potential for increasing gravel mining operations and increased residential development has the potential to impact the water quality and quantity of the aquifer. Preservation of the drinking water infrastructure and the contributing recharge areas of the aquifer is a vital community need.

Protection of key ecological resources areas and corridors

Increased sensitivity to the habitats of the diverse species which populate South Hadley and its environs, and the unique and critical habitats located within South Hadley, is needed. As development has spread out from the commercial centers, housing and related development have converted habitats into subdivisions which has divided the natural habitat corridors and habitats themselves. Land protection should be focused on areas that can connect, support and protect the integrity of these critical habitats.

Support of local farms

The McCray's Country Creamery and Olesiuk Farm actively farm land and operate farm stores in South Hadley. Barstow's Longview Farm farms land within South Hadley and operates a farm store in neighboring Hadley. While there are 245 acres of farmland protected under the APR program, much of what is considered farmland is not protected and is no longer used for active farm purposes. Approximately 895 acres are in the Chapter 61A program and could be developed in the future. As the farm operations cease and residential development occurs, pressures increase on the remaining farms to convert to growing houses versus crops or dairy. Support for existing farms, including buying local products, supporting markets for local products, and working with land

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owners to protect and continue to farm the land are important for long-term resiliency, by maintaining a local food source, and contributes to the landscape of South Hadley.

Additional resource needs include:

Wetland resources and conservation areas

Public awareness of wetlands and their importance is an important need in Town. 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

Residents are generally unaware of many Conservation Commission lands and their importance in providing ecological value and contributing to the Town's character. While the Town has made improvements to trail systems and parking at some conservation areas, additional public awareness is needed to establish public support for protection of these areas. Issues identified regarding the Conservation Areas include:

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

Mount Holyoke Range protection

The Mount Holyoke Range provides significant environmental, recreational, and aesthetic benefits to the community and the region. Conservation easements, fee simple acquisition and implementation of the Mount Holyoke Range Resource Management Plan are needed for further protection of the range.

Stormwater Management

South Hadley's natural resources, particularly the wetlands, streams, and the Connecticut River are impacted by how stormwater is managed. There is a need for greater emphasis on ensuring the State and Federal requirements for treating and managing stormwater runoff are fulfilled. Encouraging use of low impact development methods to minimize the overall environmental impact of development and methods which promote infiltration and treatment of stormwater on the development sites are needed.

7.2 Summary Of Recreation, Parks And Facility Needs

Over the past seven 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

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- Revitalization of Buttery Brook Park
- Construction of the first segments of the River to Range trail including the initial segment which includes the accessible River to Range trail
- Construction of an artificial turf field at the High School
- Improvements at Canal Park

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

- Maintenance of existing facilities
- Sidewalks
- Bikeway/Walking trails
- Tennis / pickleball courts
- Space for indoor fitness programs
- Neighborhood parks

Maintenance of Facilities

Existing facilities, including playing fields, trail systems, conservation areas, and their associated appurtenances such as parking and signage, are well-maintained to the extent that budgets permit and volunteer resources are available. However, tight budgets limit the ability to maintain conservation and recreational facilities. Additionally, expansion of the quantity of fields and trails increases the demand for maintenance, but the budgets have not increased to correspond with the needs. Improvements to existing facilities are also needed, including bathroom facilities at the High School turf field, turf improvements at Town Farm fields, and Phase 2 improvements at Buttery Brook Park, including a fitness trail.

Sidewalks

While there are approximately 100 miles of public roadways in South Hadley, there are only approximately 30 miles of sidewalks (including sidewalks on both sides of some streets). The surveys and community forums identified the need for a system of well maintained, interconnected accessible sidewalks to encourage passive recreation and provide for non-vehicular connections to points of interest throughout town.

Bikeway/Walking Trails

Opportunities for connections such as walking and biking trails, to provide for recreation as well as a transportation alternative, has been identified as a need. South Hadley is lacking in bikeways – there are limited designated bikeways or bike lanes in the Town that connect to key destinations, and limited off-road biking. There is also a need for an interconnected system of trails. At present, walking involves driving to a "trail head" or walking along a roadway. Biking involves driving to a neighboring town for a bike trail or biking along a roadway. Additionally, except for the hiking trails in the Mount Holyoke Range and the trail networks at Bachelor-Stony Brook Conservation Areas, the available trails are of a relatively short length.

Tennis/Pickleball 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 in the past to try to develop a tennis facility. However, the lack of funding has hampered these efforts. Pickleball courts have also been identified as a need and require less land than tennis courts.

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. Limited options are available for seniors through the Senior Center.

Coordination with commercial recreation providers

In order to leverage all of South Hadley's resources, coordination with commercial recreation facilities is important to identify and publicize the full range of programs, classes and facilities that are available to South Hadley residents. The South Hadley & Granby Chamber of Commerce could be a resource to identify commercial recreation operations.

Neighborhood Parks

Existing recreation areas tend to fall into two categories: fairly large community parks with athletic fields and Conservation Areas 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.

7.3 Summary of Funding and Resource Needs

Funding for maintenance and improvement 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 properly maintain existing facilities and resources, or to acquire land and develop and manage programs as opportunities arise. Therefore, open space and recreational efforts need to be focused on addressing the important Town needs and funding source requirements. Open space and recreational components can be incorporated into other types of projects such as roadway projects or infrastructure improvements to address multiple municipal needs.

Funding Source

A funding source which is at least partly dedicated to open space and recreation would be one way to fund maintenance of existing facilities and acquisition of targeted new facilities when the opportunities present themselves. The Town unsuccessfully pursued

the adoption of the Community Preservation Act twice in the past. At this time, there does not appear to be the political support to pursue this option.

Volunteer System

Volunteers are presently recruited as a need arises and for operation of various recreation programs, such as the volunteer group that is spearheading the proposed dog park. Having an established system of recruiting and maintaining volunteers is a means to develop and implement programs without increased funding. The Town could develop a list of needs and job skills required and recruit volunteers in much the same manner as they do employees. The Planning and Conservation Department established the Volunteer Conservation Corps to assist with conservation and stewardship. The Town should also support and recognize the work of volunteers in furthering efforts to achieve the Town's goals.

Plan for Maintenance

It is important for the Town to identify the existing conditions of open space and recreation facilities, and identify the optimal operation and maintenance requirements, along with an associated budget. Then the Town can work to identify potential resources for funding the maintenance of existing facilities. Baseline Development Reports and Management Plans are currently being developed for Town conservation areas to assess current programs for improvements and maintenance. Similar assessments of recreation lands are recommended.

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, respondents indicated that they were not aware of the range of South Hadley's facilities, primarily conservation 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 such as maps, 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 one centralized source of information. This information is currently segregated among departments/boards. Additionally, some information, such as trail maps, would be useful to have on smart phone apps, or on paper at trail heads.

Thus, there are several public awareness needs relative 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 tapping one department to be responsible for coordination with other public and private entities regarding programs and activities so that promotion of all recreational opportunities are managed 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, Beachgrounds 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. Use of social media, articles in area publications, notices at Town Meetings, and 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 as noted above.

In addition to the resource area and recreation needs noted above, the following needs were identified through the public process.

Interconnections

South Hadley has a variety of recreational resources which serve the community and the larger region. Mount Holyoke Range, the Connecticut River and Lithia Springs stand out among these regional resources but also the major parks (such as the Beachgrounds and BATTERY Brook Park), athletic fields, diverse conservation lands, the Ledges Golf Course, and private recreational resources (such as the Orchards Golf Course). At present, access to these resources generally requires vehicular travel. Furthermore, public access is limited to the Connecticut River, and does not extend north of the Ted Belsky Overlook. Access to Lithia Springs in the Mount Holyoke Range is restricted due

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to parking limitations in the vicinity of the trails that lead up to Lithia Springs. Coordination among the Town, Fire District #2, DCR and private land owners is required to develop parking local to Lithia Springs. There is a need to interconnect these facilities with residential areas and economic centers through a network of walking and biking trails and corridors including sidewalks.

Mini or pocket parks can provide readily accessible recreation areas for residents of all ages within their neighborhoods. 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. The South Hadley Comprehensive Bicycle and Pedestrian dated December 6, 2016 prepared by Pioneer Valley Planning Commission (2016 Comprehensive BikePed Plan) includes recommendations for bicycle and pedestrian connections within South Hadley and to neighboring communities and resources.

Sidewalks should be constructed or repaired for walkers, and there should be a dedicated bike path through town, through a combination of on-road and off-road facilities (such as the shared use path proposed in the Falls), developed in coordination with the regional bikeway system.

Limited off-road bicycle opportunities exist in South Hadley and have been identified as a need by the community. Potential opportunities for off-road bike paths include shared use paths (providing wider paths to incorporate pedestrian and bicycle use) and establishing bike paths within the Ledges.

Recreation Center

In addition to private gyms located in Town, development of a public place for an indoor recreation has been voiced as a need for many years. It should be noted that the Senior Center provides some space for senior recreation, but it is limited. The proposed new Senior Center is anticipated to include a large multi-purpose room and a fitness center and exercise studio. 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, public canoe access is limited to the South Hadley Canal Park 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.

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Both Bachelor and Stony Brooks could provide for these linkages, in particular, non-motorized boats and canoes. 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. The public can use the property for hiking/snowshoeing/cross-country skiing during the golf off-season. Opportunities should be pursued to develop additional year-round recreational uses, such as biking and walking, which do not conflict with the golf use. Additionally, opportunities should be considered for use of the club house for recreational activities that do not interfere with golf. Current efforts are underway to develop a portion of the land acquired for the golf course into a dog park near the intersection of Mulligan Drive and Alvord Street.

Land Protection

The South Hadley Conservation Commission expressed the need to protect the riparian areas along waterways in South Hadley, particularly the Connecticut River, and Bachelor, Stony and Buttery Brooks. Protection of the drinking water aquifer is also of significant interest to the Town, as highlighted by discussions surrounding recent proposals to develop over the aquifer. Protection of the community's remaining farm land and scenic views has been identified to maintain the Town's connection to its agricultural history, support local food supply to enhance resiliency and maintain scenic viewsheds provided by these lands.

Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2017

The statewide 2017 SCORP report identifies the recreational resources and the needs in the state and identifies the gaps in order to better focus recreational funding. Surveys included a web-based survey, a phone survey and a survey targeted to select middle and high school students. The goals and objectives of the SCORP are:

- Access for underserved populations.
- Support the Statewide trails initiative (focusing on paved multi-use paths or improved, but unpaved trails).
- Increase the availability of water-based recreation.
- Support the creation and renovation of neighborhood parks

A summary of the regional needs and concerns as listed in the SCORP from the Valley Development Council meeting held in November 2017, attended by communities in the lower Connecticut River Valley, include:

- Mixed use trails and sidewalks are most frequently requested
- Accessibility, including trails, is needed

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- Dog parks – how viable are they and who will maintain them?
- No more golf courses
- Maintenance concerns – some parks are well maintained, others are not
- Safety issues are a concern – dogs, lighting, etc.
- Park redevelopment requested
- BMX track and skate parks are needed
- Permitting can make trail development difficult due to presence of endangered species
- Canoe access for streams and the Connecticut River is needed

The specific needs identified in South Hadley are consistent with the state and regional needs outlined in the SCORP, especially with regard to increasing the availability of all types of recreational trails, the need for mixed use trails and sidewalks, increasing the availability of water-based recreation (specifically to the Connecticut River) and increasing recreational and open space opportunities close to home.

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. 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.

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 HG&E while planning their riverside parks, the Town has endeavored to ensure that the various parks are 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. The redevelopment of Buttery Brook Park incorporated accessibility of the facilities.

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. An example of this is the southern portion of the River to Range Trail, which was designed to be accessible to all levels of mobility. The community needs to continue to ensure that as parks are renovated, new facilities are developed and trails reconstructed, consideration is given, where appropriate and feasible, to making the areas enjoyable and usable by all residents.

7.6 Management Needs, Potential Change Of Use

Management – with a focus on maintenance and stewardship - of the Town's existing recreation and open spaces is a significant challenge which must be addressed. Funding sources are generally available for land acquisitions and development of new recreational resources. However, it is equally, if not more, important to identify ongoing operation and maintenance plans and funding sources to maintain existing facilities.

Coordination with volunteers, "friends of" organizations and multiple municipal

Creating Connections – South Hadley Open Space and Recreation Plan (2019-2026)

Section 7 Analysis of Needs

departments is necessary. Without development of the resources needed for maintenance of facilities, acquisition/development of more facilities may be impractical and face more opposition.

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, maintenance requirements associated with acquisition of land – even for open space preservation – have been overlooked in the past, which has resulted in unintended fiscal impacts. Thus, 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 approach should be taken as to which lands should be given permanent protections and which lands could be used for other purposes. Accordingly, the future use and maintenance requirements of potential acquisitions should be identified and factored into the decision. Baseline Document Reports identifying existing conditions and anticipated maintenance needs, similar to those currently being developed for Conservation Areas, should be considered for potential acquisitions.

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.

The fragmentation of the recreation resources among diverse departments has proven to be a challenge for visitors and residents seeking to learn about the community's resources. A single entity that manages at least promotion of 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. Additional consideration is needed to identify opportunities to develop a more efficient management structure of parks, playgrounds, recreation areas, and conservation areas.

The turf field at the High School has helped to address much of the Town's athletic field issues. However, there are still existing athletic fields throughout South Hadley (such as at Town Farm) that require better maintenance so that they can be fully utilized.

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 water quality. Dry Brook Hill is the source of the District #2 water supply. Therefore, protection of the aquifer is of utmost importance. While District #2 owns all of the land within the Zone I, there are considerable lands within Zone II which should be targeted for public acquisition, either in fee or in a Conservation Easement.

Section 8

Goals and Objectives

While many of the goals contained in the 2012-2019 Open Space Plan are still important and continually need to be addressed, the public process and input received during this planning process has resulted in a reassessment of how those goals relate to this updated Open Space and Recreation Plan. Safe and accessible connections such as sidewalks and bike lanes/paths are a high priority to provide recreational resources and connections from residential areas to local and regional amenities. In addition to the often stated need for more active recreational opportunities and passive recreation and open space protections, some new goals and objectives focus on maintenance and stewardship of existing facilities and resources.

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. Maintenance and stewardship of existing facilities and resources was identified as a significant need. The overall goal and the ensuing goals and objectives outlined in this section resulted from comments made throughout the public participation process (including community survey responses, community forums and public meetings), and a review of the 2012-2019 Open Space Plan.

Goal 1: Connectivity – Safe walking and biking connections between residential areas, open space, recreation properties, and commercial centers are provided.

1. Expand community-wide and regional non-motorized connectivity.
2. Provide links to natural and cultural attractions around Town.
3. Improve access to the Connecticut River, the Mt. Holyoke Range and municipal recreational and conservation areas.

Goal 2: Ecological Integrity and Resiliency – Existing conservation land is well-managed for ecological and resiliency value and target acquisitions support integrity and resiliency.

1. Protect natural resource areas (such as aquifers, floodplains, ponds, streams, vernal pools, and wetlands) through appropriate and enhanced land use controls.
2. Target land for acquisition based on ecological connectivity, including wildlife corridors and opportunities to connect with existing conservation lands.
3. Incorporate resiliency and ecological integrity in land use decisions.

Goal 3: Local Farms - Resources and awareness for preservation of agricultural land, continued farm operations, and their contributions as natural, scenic and cultural resources are available.

1. Communicate the need and techniques for preservation/conservation of properties for open space, passive, and active recreational purposes.
2. Encourage greater use of the APR Program and other available funding programs to protect the limited remaining farmland

Section 8 Goals and Objectives

3. Work with farmers to remove impediments to farming and identify opportunities to encourage farming.

Goal 4: Recreational Opportunities for All Ages and Abilities – Recreational facilities and programs that address the needs of all South Hadley residents are provided.

1. Improve and maintain the Town's existing passive and active recreational resources
2. Promote public and private-sponsored recreational opportunities.
3. Improve accessibility when upgrading facilities.

Goal 5: Maintenance and Stewardship – Open space and recreational resources are well-maintained and cared for.

1. Develop plans and costs for maintenance needs for current open space and recreational resources and identify potential funding sources.
2. Promote stewardship of existing open space and recreation resources for their intended uses through a corps of volunteers.
3. Require long-term maintenance strategies for any acquisitions or new facilities.

Goal 6: Communication and Marketing – The public is well-informed about existing open space, recreational and historical resources, including their values and threats to them.

1. Enhance access and usability of passive recreation areas through parking improvements, signage, and trail development.
2. Integrate communications that provide residents with clear and useful information about all public recreation opportunities, facilities, parks and open spaces.
3. Support placemaking by communicating the location, history, significance, and current conditions of South Hadley's environmental, historical and cultural resources and historical landscapes.

Section 9

Seven Year Action Plan

9.1 Accomplishments (2012-2019)

The 2019-2026 Action Plan was based to a large degree on the successful completion of the past five-year Action Plan. Many successes were achieved under the 2012-2019 plan including:

- Renovations took place at Buttery Brook Park including construction of a water spray park, new playground equipment, an additional new play area, new green space with additional landscaping, a centrally located restroom and storage building and infrastructure improvements. Funding included DCR grants and the Parkland Acquisitions and Renovations for Communities grant program.
- Protected 76 acres of land on Bare Mountain and an additional 28 acres on Mount Holyoke Range.
- Protected an additional 9 acres of land adjacent to Bynan Conservation Area.
- With Kestrel Land Trust, protected 46 acres of high priority floodplain forest in the Bachelor Brook Floodplain.
- Constructed the accessible River to Range Trail with views of the Connecticut River at Bachelor-Stony Brook Conservation Area with help from a \$49,854 grant from the Recreational Trails Program.
- Improved and expanded the trail system connecting the accessible loop trail off Ferry Street to the improved trail head on Hadley Street with a second Recreational Trails Program Grant of \$42,000.
- In 2018, the Town received a \$50,000 Land and Water Conservation Fund Grant to improve and expand the trails on the water side of Bachelor Brook in the Bachelor-Stony Brooks Conservation Area.
- Developed graphic templates for signage at trail heads.
- Made trail improvements at Bynan Conservation Area and Black Stevens Conservation Area.
- Trail maps were developed for several conservation areas including Bagg-Pierce, Bynan, Black Stevens, and Bachelor-Stony Brook.
- Constructed a new turf field at the High School.
- Improved playing fields at various other parks.
- Lower Riverside Park, Texon Park and Upper Gatehouse Park were completed by HG&E along the Connecticut River in South Hadley Falls.
- Improved Gaylord Street including adding bike lanes, sidewalks and two crosswalks with flashing beacons and improving underground infrastructure, including stormwater with a 2017 MassWorks Infrastructure Program Grant of \$1,025,800.

Section 9 Seven Year Action Plan

- In 2018, South Hadley received \$385,000 from the MassDOT's Complete Streets Program for improving pedestrian and bicycle infrastructure on Lamb Street and Gaylord Street. Projects will include sidewalk ramps that comply with the Americans with Disabilities Act, and widening of streets where possible.
- The Connecticut River Conservancy continued to promote community involvement with river and stream clean-up efforts.
- Completed construction of Leaping Well Nature Trail at the Toft Property on Mosier Street.
- Established the Bike Walk Committee Committee.
- Constructed Principal's Playground at M.E.S. Middle School.
- Historic District Study Committee assessed and recommended developing a historic district in South Hadley Falls
- Partnered with Amherst, Holyoke, Northampton, Springfield, University of Massachusetts and the Pioneer Valley Planning Commission to form a collaboration to create a bike share system. ValleyBike share has stations at Mount Holyoke College, South Hadley Police Station and Woodlawn Plaza.
- A Baseline Document Report and Management Plan was completed for Black Stevens Conservation Area, and similar plans begun for the other properties.
- Established a Volunteer Conservation Corps for stewardship of conservation areas.

While not complete, this list of accomplishments over the past seven 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 2019-2026 Action Plan, which provides guidance and direction for the maintaining, preserving and improving open space and recreation facilities and properties that support South Hadley's character. The 2019-2026 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.

9.2 Seven-Year Action Plan (2019-2026)

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. For each action within the plan, there is additional information provided relative to implementation of each specific action. The following further defines the information within each of those categories.

Section 9 Seven Year Action Plan

TABLE 9-1
Action Plan Definitions

Category	Description
Fund Source	The potential source of funding to accomplish the action. More than one funding source may be needed for many actions. Each funding source identified has not been secured and would need to be sought through normal processes.
<i>Local</i>	Funds allocated through the annual Town budget. Assignment of this funding source does not mean this action has been approved for funding through the Town budget, but rather that approval of Town funds would need to be sought.
<i>Grants</i>	State, Federal, Non-profit and others
<i>Don</i>	Donations from private parties
Plan Years	The anticipated years within the seven-year time period for which this plan will be approved that the action will be accomplished. Some actions are anticipated to be on-going and will span all seven years.
Priority Ranking	This is the relative importance of the action in terms of achieving the goal for which it is identified under.
<i>High</i>	Very important for accomplishing the stated goal. Resources for accomplishing this task should be prioritized.
<i>Medium</i>	Somewhat important for accomplishing the stated goal. Resources for accomplishing this task should be allocated after high priority tasks are accomplished.
<i>Low</i>	Important for accomplishing the goal but of lowest priority. Resources for accomplishing this task should be allocated after high and medium priority tasks are accomplished.
Lead Responsibility	The primary entity responsible for initiation and oversight of task implementation. Coordinates activities of "Additional Responsible Parties".
Additional Responsible Parties	Entities to support the "Lead Responsibility" in some aspect of task implementation. Specific responsibilities to be coordinated by the Lead entity.
<i>Planning & Conservation Department</i>	Refers to the staff of this department, i.e. Planning Director, Conservation Administrator
<i>Conservation, Planning, Selectboard</i>	Refers to the board/commission members; tasks to be coordinated by staff assigned to these boards
<i>Recreation</i>	Refers to the Recreation Department staff
<i>Schools</i>	Refers broadly to School Committee, Superintendent, principals, and teachers. Lead entity will need to identify appropriate contact(s) to work with on task implementation.
<i>Health</i>	Refers to the Public Health Department staff and Board of Health
<i>Assessors</i>	Refers to the Town Assessor and Board of Assessors

Section 9 Seven Year Action Plan

9.2.1 Goal 1: Connectivity

Goal 1: Connectivity – Safe walking and biking connections between residential areas, open space, recreation properties, and commercial centers are provided.

1. Expand community-wide and regional non-motorized connectivity.
2. Provide links to natural and cultural attractions around town.
3. Improve access to the Connecticut River, the Mount Holyoke Range and municipal recreational and conservation areas.

Goal 1 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Inventory and assess conservation lands and lands that could provide linkages.	Local/ Grants	X	X		Medium	Planning & Conservation Dept.	
Maintain trail network in good conditions.	Town/ Vol	X	X	X	High	Planning & Conservation Dept.	Conservation, Bike Walk Committee
Enhance the hiking/biking trail system to Connecticut River, Bachelor-Stony Brooks Conservation Area, South Hadley Falls & Mount Holyoke Range.	Local/ Grants/ Don			X	Medium	Planning & Conservation Dept.	Bike Walk Committee, Conservation, DPW
Maintain/improve existing Conservation Areas' walking trails.	Local/ Vol	X	X	X	High	Planning & Conservation Dept.	Conservation, Bike Walk Committee
Increase parking and access to the central part of the Mount Holyoke Range (Lithia Springs).	Grants	X	X		High	Town Administrator	Planning & Conservation Dept., DCR, Selectboard, Bike Walk Committee, FD#2-Water Commissioners

Section 9 Seven Year Action Plan

Goal 1 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Link park and open space resources with multi-use recreation paths for biking and walking connecting the Falls area to the Connecticut River.	Local/ Grants		X	X	Medium	Planning & Conservation Dept.	Selectboard, DPW
Provide marked bicycle routes in/through South Hadley.	Local/ Grants	X	X	X	Medium	Planning & Conservation Dept.	DPW, MassDOT
Promote existing access to the Connecticut River.	Local/ Grants	X	X	X	High	Planning & Conservation Dept.	Town Administrator, Selectboard, Bike Walk Committee
Develop a Town-wide pathway system including sidewalks and bike lanes that will link neighborhoods to open spaces, recreation facilities, schools, and shopping centers.	Local/ Grants		X	X	High	Planning & Conservation Dept.	Selectboard, DPW, Bike Walk Committee
Develop and implement Sidewalk Master Plan to improve and expand sidewalk systems. Prioritize filling in gaps in the sidewalk system to provide Safe Routes to Schools as identified in the 2016 Comprehensive BikePed Plan.	Local/ Grants	X	X	X	High	Planning & Conservation Dept.	Schools, DPW, Selectboard

Section 9 Seven Year Action Plan

Goal 1 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Incorporate "Complete Streets" concepts as streets are improved.	Local/ Grants	X	X	X	High	DPW	Planning, Selectboard
Seek opportunities for greenway connections.	Local/ Grants	X	X	X	Low	Planning & Conservation Dept.	Planning, Selectboard
Seek opportunities to open views of the CT River within South Hadley Falls to connect people with the River.	Local	X	X	X	Low	Planning & Conservation Dept.	Conservation, Planning
Provide a link between Beachgrounds and Lower Riverside Park.	Local/ Grants			X	Low	Planning & Conservation Dept.	Bike Walk Committee
Develop trails and linkages proposed in the 2016 Comprehensive BikePed Plan, including year-round bike and pedestrian paths at the Ledges.	Local/ Grants		X	X	Medium	Recreation	Bike Walk Committee, Golf Commission, Planning & Conservation Dept.
Identify locations of additional boat launch areas above the Holyoke Dam.	Local/ Grants			X	Low	Planning & Conservation Dept.	Conservation
Enhance protection of scenic roadways.			X	X	Medium	Planning & Conservation	DPW

9.2.2 Goal 2: Ecological Integrity and Resiliency

Goal 2: Ecological Integrity and Resiliency – Existing conservation land is well-managed for ecological and resiliency value and target acquisitions support integrity and resiliency.

1. Protect natural resource areas (such as aquifers, floodplains, ponds, streams, vernal pools, and wetlands) through appropriate and enhanced land use controls.
2. Target land for acquisition based on ecological connectivity, including wildlife corridors and opportunities to connect with existing conservation lands.
3. Incorporate resiliency and ecological integrity in land use decisions.

Goal 2 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Inventory and assess conservation lands.	Local/ Grants	X			Medium	Planning & Conservation Dept.	Conservation
Strategically conserve abutting parcels with high conservation value.	Local Grants/ Don	X	X	X	High	Conservation	Selectboard, Planning & Conservation Dept, Planning
Permanently protect lands on the Mount Holyoke Range.	Local/ Grants	X	X	X	High	Conservation	Planning, Planning & Conservation Dept
Develop protected greenways along rivers and streams.	Local/ Grants	X	X	X	High	Conservation	Planning & Conservation Dept, Planning
Evaluate Chapter lands for recreational and conservation value before releasing the Town's rights to acquire.	Local	X	X	X	High	Planning & Conservation Dept.	Recreation, Planning, Conservation, Selectboard
Education of residents about estate planning and future of their land.	Local	X	X	X	Medium	Planning & Conservation Dept.	Town Counsel, Town Administrator, Selectboard, Assessors

Section 9 Seven Year Action Plan

Goal 2 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Work with developers to provide for additional open space and recreation.	Local	X	X	X	High	Planning	Recreation, Conservation, Selectboard
Increase education and outreach about environmental and conservation issues.	Grants	X	X	X	Medium	Planning & Conservation Dept.	Schools, Library, Historical Commission, Town Administrator, Sustainability and Energy Commission
Work with stream teams to assess and enhance stream conditions.	Grants			X	Low	Planning & Conservation Dept.	DPW
Manage invasive species.	Local/ Grants	X	X	X	Low	Planning & Conservation Dept.	Tree Warden, Conservation, DPW
Review the Water Supply Protection Overlay District to better address protection of drinking water supply sources.	Local	X			High	Planning & Conservation Dept.	Planning, Health, Conservation, FD#2-Water Commissioners, Selectboard, Sustainability and Energy Commission
Prioritize protection of land for aquifer protection.	Local/ Grants	X			High	Planning & Conservation Dept.	Health, Conservation, FD#2-Water Commissioners, Selectboard
Protect lands important to ecological integrity and climate resiliency [regionally].	Local/ Grants	X	X	X	High	Planning & Conservation Dept.	Conservation, Planning, Selectboard/ Town Administrator, Sustainability and Energy Commission
Implement tree planting program.	Local			X	Medium	Tree Warden	Tree Committee, DPW, Planning & Conservation Dept.

Section 9 Seven Year Action Plan

Goal 2 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Conduct a street tree inventory and develop town-wide recommendations for urban forestry plan.	Local/ Grants		X	X	Medium	Planning & Conservation Dept.	Tree Warden, DPW, Tree Committee
Assess, prioritize and implement recommendations from the MVP workshops (2019-2020).	Grants	X	X	X	Medium	Planning & Conservation Dept.	Planning, Conservation, DPW, Health, Sustainability and Energy Commission
Encourage and promote MS4 stormwater permit compliance.	Local	X	X	X	High	DPW	Planning & Conservation Dept.
Require on-site retention and infiltration of stormwater.	Local	X			Medium	Planning	Conservation, Planning & Conservation Dept.

9.2.3 Goal 3: Local Farms

Goal 3: Local Farms - Resources and awareness for preservation of agricultural land, continued farm operations, and their contributions as natural, scenic and cultural resources are available.

1. Communicate need and techniques for preservation/conservation of properties for open space, passive, and active recreational purposes.
2. Encourage greater use of the APR Program and other available funding programs to protect the limited remaining farmland.
3. Work with farmers to remove impediments to farming and identify opportunities to encourage farming.

Goal 3 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Educate residents about estate planning and future of their land.	Grants	X	X	X	Medium	Planning & Conservation Dept.	Town Counsel, Selectboard, Land Trusts (Kestrel)
Map prime farmland soils.	Local	X			High	Planning & Conservation Dept.	
Target large tracts of prime farmland soils for protection as agricultural and open space.	Local/ Grants	X	X	X	High	Planning & Conservation Dept.	Planning
Promote markets for local farm products.	Local			X	Medium	Selectboard/ Town Administrator	Gro South Hadley; Redevelopment Authority
Seek opportunities to host a farmer's market in the Falls (food desert).	Local	X			High	Selectboard/ Town Administrator	Gro South Hadley; Redevelopment Authority

9.2.4 Goal 4: Recreational Opportunities for All Ages and Abilities

Goal 4: Recreational Opportunities for All Ages and Abilities – Recreational facilities and programs that address the needs of all South Hadley residents are provided.

1. Improve and maintain the Town’s existing passive and active recreational resources.
2. Promote public and private-sponsored recreational opportunities.
3. Improve accessibility when upgrading facilities.

Goal 4 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Provide accessible trails and places.	Local/ Grants	X	X	X	High	Selectboard	Recreation, Council of Aging, Planning & Conservation Dept.
Develop municipal tennis courts, pickleball courts and other alternative facilities.	Local/ Grants		X	X	Low	Recreation	Selectboard
Evaluate surplus Town property for recreational facilities and neighborhood parks.	Local	X			Medium	Planning & Conservation Dept.	Recreation, Redevelopment Authority
Evaluate Chapter lands for recreational and conservation value before releasing the Town’s rights to acquire.	Local	X	X	X	High	Planning & Conservation Dept.	Recreation, Planning, Conservation, Selectboard
Work with developers to provide for additional open space and recreation.	Local	X	X	X	High	Planning & Conservation Dept.	Conservation, Planning
Inventory and map small open spaces and assess feasibility for neighborhood parks.	Local/ Grants		X	X	Medium	Planning & Conservation Dept.	Recreation, DPW

Section 9 Seven Year Action Plan

Goal 4 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Provide neighborhood parks close to residential areas.	Local/ Grants		X	X	Medium	Planning & Conservation Dept.	Conservation, Recreation, Planning, Selectboard, DPW
Protect and enhance existing neighborhood parks.	Local		X	X	High	Planning & Conservation Dept.	Selectboard, Recreation
Improve accessibility and age-friendly recreational opportunities at Woodlawn Park, adjacent to Senior Center	Local/ Grants	X	X		High	Recreation	Planning & Conservation Dept., Council on Aging, DPW
Establish a dog park.	Grants/ Vol	X			High	Friends of South Hadley Dog Park	Selectboard, DPW
Plan for a community center with indoor exercise facilities for all ages.	Local/ Grants			X	Low	Selectboard	Council on Aging, Recreation, Schools
Increase outdoor seating / rest areas for walkers (e.g., benches, low walls, and other accommodations) within neighborhoods and along connecting routes and recreational trails.	Local/ Grants/ Donation	X	X	X	Medium	Planning & Conservation Dept.	Conservation, DPW, Selectboard
Work with HG&E to expand seasons and hours of the Riverfront Parks to be consistent with Town parks.	Local	X			Medium	Town Administrator	Selectboard, Planning & Conservation Dept.

9.2.5 Goal 5: Maintenance and Stewardship

Goal 5: Maintenance and Stewardship – The open space and recreational resources are well-maintained and cared for.

1. Develop plans and costs for maintenance needs for current open space and recreational resources and identify potential funding sources.
2. Promote stewardship of existing open space and recreation resources for their intended uses through a corps of volunteers.
3. Require long-term maintenance strategies for any acquisitions or new facilities.

Goal 5 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Develop a local dedicated funding source for maintenance of open space and recreation facilities.	Local	X			High	Selectboard, Town Administrator	Planning & Conservation Dept., Conservation, Planning, Recreation
Finalize baseline document reports and management plans for conservation areas.	Local	X			High	Planning & Conservation Dept.	Conservation
Implement property specific management plans.	Local	X	X	X	High	Planning & Conservation Dept.	Conservation, Recreation, Schools, DPW
Increase maintenance and improvements of active recreational fields.	Local/ Vol	X	X		High	Recreation	DPW, School Department
Clean trash on roadside and natural areas.	Local/ Vol	X	X	X	High	DPW	Conservation, Bike Walk Committee

Section 9 Seven Year Action Plan

Goal 5 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Develop and implement Sidewalk Master Plan to improve and expand sidewalk systems.	Local/ Grants	X			High	DPW	Schools, Selectboard, Planning
Maintain/improve existing Conservation Areas' walking trails.	Local/ Grants	X	X	X	High	Planning & Conservation Dept.	Conservation, Bike Walk Committee
Promote and utilize volunteer conservation stewardship corps.	Local	X	X	X	High	Planning & Conservation Dept.	Conservation, Recreation
Work with stream teams to assess and enhance stream conditions.	Grants/ Vol			X	Low	Planning & Conservation Dept.	Conservation
Manage invasive species.	Local/ Grants/ Vol	X	X	X	Low	Planning & Conservation Dept.	Conservation, Tree, DPW

9.2.6 Goal 6: Communication and Marketing

Goal 6: Communication and Marketing – The public is well-informed about existing open space, recreational and historical resources, including their value and threats to them.

1. Enhance access and usability of passive recreation areas through parking improvements, signage, and trail development.
2. Integrate communications that provide residents with clear and useful information about all public recreation opportunities, facilities, parks and open spaces.
3. Support placemaking by communicating the location, history, significance, and current conditions of South Hadley’s environmental, historical and cultural resources and historical landscapes.

Goal 6 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Increase education and outreach about environmental and conservation issues.	Local	X	X	X	Medium	Planning & Conservation Dept.	Conservation, Schools, Library, Historical Commission, Town Administrator
Structure website and social media better to promote all recreational resources, including trail systems.	Local	X			High	Town Administrator	Planning & Conservation Dept., Bike Walk Committee, Recreation, Conservation, Council on Aging
Include on Town website information regarding HG&E parks, including a map of their locations and entrances.	Local	X			High	Town Administrator	Planning & Conservation Dept.
Identify commercial recreation facilities and programs on the Town website.	Local	X			High	Town Administrator	Recreation, South Hadley & Granby Chamber of Commerce

Section 9 Seven Year Action Plan

Goal 6 Proposed Actions	Fund Source	Plan Years			Priority Rank	Lead Responsibility	Additional Responsible Parties
		1-3	3-5	5-7			
Develop a user-friendly on-line map of trails.	Local/ Vol	X			Medium	Planning & Conservation Dept.	Bike Walk Committee, Town Administrator, Assessors
Provide consistent way-finding signage for open space and recreation facilities.	Local/ Grants	X	X		High	Planning & Conservation Dept.	Planning, Recreation, DPW
Provide electronic maps of trail systems via apps.	Local/ Vol		X	X	Low	Planning & Conservation Dept.	
Collaborate with Mount Holyoke College to promote activities open to residents.	Local/ Vol	X	X	X	Low	Recreation	Mount Holyoke College

Section 10

Public Comments

SELECTBOARD

Andrea Miles, Chair
Jeff Cyr, Vice-Chair
Christopher Geraghty, Clerk
Sarah Etelman
Bruce Forcier

Michael J. Sullivan
Town Administrator

Jan. 7, 2020

Richard Harris, Planning Director
Planning and Conservation Department
Town of South Hadley
116 Main Street
South Hadley, MA 01075

Reference: Creating Connections – Open Space and Recreation Plan 2019-2026

Dear Mr. Harris,

The South Hadley Selectboard has reviewed the updated Open Space and Recreation Plan for the Town of South Hadley and endorses the plan.

As noted throughout the plan, the natural environment of our community contributes significantly to the character of South Hadley. One challenge we face is how to balance new development and growth with the protection of natural resources. The plan recognizes that through the protection of critical and strategic open spaces in South Hadley, the vital ecosystem services these natural resources provide, are also preserved, supporting connections and creating smart opportunities for recreation and development in appropriate locations.

Sincerely,



The image shows four handwritten signatures in blue ink, each written over a horizontal line. The signatures are: 1. Jeff Cyr, 2. Christopher Geraghty, 3. Sarah Etelman, and 4. Bruce Forcier.

PLANNING & CONSERVATION

MARK CAVANAUGH, Chair
MELISSA O'BRIEN, Vice-Chair
DIANE SUPCZAK-MULVANEY, Clerk
BRAD HUTCHISON, Member
JOANNA BROWN, Member
VACANT, Associate Member



RICHARD HARRIS, Director of Planning & Conservation
rharris@southhadley.ma.gov

January 27, 2020

Anne Capra
Conservation Administrator/
Assistant Planner
Town of South Hadley
South Hadley, MA 01075

RE: Open Space and Recreation Plan Update

Dear Ms. Capra:

The South Hadley Planning Board has thoroughly reviewed the draft update of the Town's Open Space and Recreation Plan. This update expands on the community's efforts to effectively balance the vital needs of natural resource protection and accommodating growth and development compatible with the Town's character and goals. All who worked on this update did an excellent job.

In its review, the Board identified some aspects of the plan which we believe if clarified or revised would make the plan stronger and clearer. These details are laid out in the attached document.

At its January 27, 2020 meeting, the South Hadley Planning Board unanimously endorsed the draft Open Space and Recreation Plan update and approved submittal of the attached document for suggested edits/revisions. One item in particular that the Board feels should be addressed is establishing a process for regular review and reporting on the progress of implementation of the plan – as is done for the Master Plan by the Master Plan Implementation Committee.

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

Sincerely,

A handwritten signature in blue ink that reads "Mark Cavanaugh".

Mark Cavanaugh, Chair
South Hadley Planning Board

December 3, 2019

Richard Harris, Planning Director
Planning and Conservation Department
Town of South Hadley
116 Main Street
South Hadley, MA 01075

Reference: Creating Connections – Open Space and Recreation Plan 2019-2026

Dear Mr. Harris,

The South Hadley Conservation Commission has reviewed the updated Open Space and Recreation Plan for the Town of South Hadley. The Commission strongly supports the plan's primary goal – creating connections. The natural environment in South Hadley is both diverse and regionally significant, due to the fact that the Connecticut River comprises the entire western border of our town, and the northern border is formed by the ridgeline of the Holyoke Range. However, the location of our town on the outskirts of the regional urban core based in the lower Pioneer Valley also creates increasing pressure for residential and commercial development. This is best seen through the historic pattern of development within South Hadley along a gradient of more rural in the north to the more urbanized and historically industrialized South Hadley Falls in the south, abutting Chicopee and Holyoke. Thus, directing new development and re-development toward the already developed parts of town, and promoting conservation and good stewardship of undeveloped open spaces elsewhere is a wise approach.

Additionally, the Commission requests that an emphasis on the protection of perennial stream corridors and associated wetland resources be added to the Action Plan. According to the Massachusetts Natural Heritage and Endangered Species Program, both Bachelor and Stony Brooks are recognized statewide for their associated Small-river Floodplain Forests. The watershed to Bachelor Brook alone has over 60 rare and endangered plant and animal (vertebrate and invertebrate) species. Buttery Brook has one of the most urbanized watersheds in town and is in need of restoration in many areas, yet is increasingly being recognized for its critical upstream flood storage capacity relative to the redevelopment of South Hadley Falls. Our river corridors offer continuous natural infrastructure across our community. Protecting the resiliency of river floodplains, wetlands, and associated forested upland habitats are important strategies for addressing some of the challenges associated with climate change.

Through the protection of critical and strategic open spaces in South Hadley, the vital ecosystem services these natural resources provide are also preserved, supporting connections and creating smart opportunities for recreation and development in appropriate locations.

Sincerely,

South Hadley Conservation Commission

WILLIAM DeLUCA, Chair



JAMES CANNING, Vice-Chair



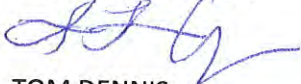
WILLIAM BACIS



GARTH SCHWELLENBACH



STEPHANIE CLYMER



NEVA TOLOPKO

TOM DENNIS



PATRICK DAWSON, Chair
RAY CARILLON, Vice-Chair

ANDREW ROGERS, Director of Recreation

January 9, 2020

Richard Harris, Planning Director
Planning and Conservation Department
Town of South Hadley
116 Main Street
South Hadley, MA 01075

Reference: Creating Connections – Open Space and Recreation Plan 2019-2026

Dear Mr. Harris;

Both the South Hadley Recreation Commission and Recreation Director have reviewed the update Open Space and Recreation Plan for the Town of South Hadley and we endorse the plan.

The Recreation Department is tasked with offering a wide range of recreational opportunities to the residents of South Hadley. We are recognizing the fact the demographics of South Hadley are changing, and with so, the recreational needs for our residents. Having plenty of open space for both active and passive recreation is critical, as is the need to enhance many of those facilities.

In the past ten years, we have seen two major park renovations, a new library and brand-new synthetic turf playing field at our high school. We are very excited for the new Senior Center which includes a fitness room and the chance to expand our adult programming. The potential for pickleball courts in the very near future is also very exciting. This report recognizes the needs of the community to keep expanding programs like this and are hopeful we will be able to financially support them in the future.

Sincerely,



Patrick Dawson
Chairperson
Recreation Commission



Catalyst for Regional Progress

PVPC

Kimberly H. Robinson, MUP
Executive Director



October 30, 2019

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

Dear Ms. Cryan:

The Pioneer Valley Planning Commission (PVPC) received a letter on October 25, 2019, from the Town of South Hadley notifying the Commission that the town had recently completed its Open Space and Recreation Plan (OSRP) update, and requesting a letter of support to verify that the plan update is consistent with regional plans and goals.

South Hadley's OSRP commits to advancing several projects that PVPC supports and has been working on in the region for several years, including promoting low impact development to protect the health of local waterways and increasing pedestrian and bicycle connectivity through programs like Complete Streets and ValleyBike Share.

South Hadley's OSRP addresses important issues related to its open space and natural areas, including protection of key ecological resource areas and corridors. The areas along the Mount Holyoke Range and Connecticut River identified as priorities for protection in this OSRP corresponds with PVPC's 2014 Priority Areas for Protection map. The OSRP recognizes the threat of climate change to the health of our human and natural resources, and promotes preservation of larger, connected habitats to reduce isolation of ecologically valuable resources and increase resilience to the impacts of climate change. Finally, this plan addresses management of town-owned conservation lands and strategies to promote increased public awareness of existing conservation areas. All of these aspects create a wide-ranging approach to managing present and future conservation and recreation needs.

After review, I am pleased to say that PVPC supports Creating Connections – Open Space and Recreation Plan, Town of South Hadley, 2019-2026. Overall, we find the plan to be consistent with the DCS's OSRP requirements as well as the regional land use plan Valley Vision 4.

Sincerely,

Kim Robinson
Executive Director
Pioneer Valley Planning Commission

Town of South Hadley Tree Committee

November 29, 2019

Judith Gooch Dobosh, Chair
Michelle Wolf, Member
of the Master Plan Implementation Committee
South Hadley Town Hall
South Hadley, MA 01075

Re: Tree Committee's Comments on Master Plan and Open Space & Recreation Plan

Dear Judith and Michelle:

Thank you for joining our Tree Committee meeting of November 21st and for the opportunity to make suggestions for the Master Plan and the Open Space & Recreation Plan. (OS&RP). We think about the Tree Committee's place in the Master Plan in two large contexts. **First: climate change and the important place of trees** in building a robust response to predictable rising temperatures, extremes of rainfall and drought, unseasonal weather, and sea-level rise that threaten the integrity of the natural infrastructure. **Second: structured of collaborations between town committees, municipalities and states** necessary to our building a resilient natural infrastructure to meet the effects of climate change. In drafting the goals for the Master Plan we asked, "What can be done to build a resilient natural infrastructure?" and "What should we do as a committee (goals and tasks)?" A third question might be, "What do we need, as a committee, to attain our goals?". A fourth might be, "What might be common goals across committees and common methods of measuring progress?"

As we consider our goals, tasks, and what we will need to accomplish them as a Tree Committee, we are aware that the ongoing preservation, maintenance, and planting of trees is a primary, dependable, empirically-based factor in building a resilient natural infrastructure. Trees are recognized as an asset to the community, providing a more healthful and beautiful environment in which to live. Trees and other vegetation provide oxygen, shade, protection from wind, glare, noise and provide natural privacy to neighbors, wildlife habitat, aesthetics and a priceless psychological counterpoint to the man-made setting. Preserving trees is economically beneficial in attracting new residents, visitors and industry.

1. The preservation, maintenance, and planting of trees is the primary goal of South Hadley Tree Committee.

Tasks related to this goal are: Developing an inventory of public shade trees throughout town, determining which tree species are most resilient, which size and where new plantings of shade trees should go, preparing a source of and budget for acquiring them, and seeking grant funding. Other tasks would include the professional assessment of individual trees, pruning and removal of hazard trees, and communication with residents and tree services when tree work is required (sometimes urgently required). Traditionally the town Tree Warden would take the lead addressing these tasks and others in collaboration with a professional arborist and the Tree

Committee. Since the town has been without a Tree Warden since July 1st 2019, the Tree Committee will be limited in attaining our primary goal until a professional tree warden is hired. We should now then re-define our primary goal:

- 1. The primary goal of the Tree Committee is the preservation, maintenance, and planting of trees, in consultation and collaboration with a professional arborist. (See Massachusetts Tree Warden Association for full description of a professional arborist's functions.)**

A second goal of the tree committee addresses our role in creating and conducting educational programs related to the value and function of trees in the natural infrastructure. Tree Committee members will continue to write tree-centered articles for the local press. Significantly, Tree Committee members have worked closely with the Michael E. Smith Middle School to hold an Annual Arbor Day event that involves student, teacher, and parent participation, and the planting a tree in honor of a resident who has made significant contributions to the preservation of South Hadley natural resources. (A history and full description the Hahn-Warner Arboretum will be included in the Master Plan.) In 2019 the Tree Committee initiated a "Massachusetts Champion Tree" program that will allow residents to present individual large, old trees to be registered with the Massachusetts DCR. Our second primary goal might be stated:

- 2. A goal on the South Hadley Tree Committee is to provide information about trees and educational programs, from experts, to the residents, town committees, and officials of South Hadley.**

Since climate change presents challenges on many fronts, there is a greater need than in the past for regularly-structured collaborations. For example, in 2019, the Tree Committee and the Conservation Commission have benefitted by having a "liaison member" who serves on both committees. Structured collaborations between committees and between sister committees in adjacent towns are planned for 2020. Goal three involves our collaboration with other Committees:

- 3. Tree Committee members will attend relevant meetings of Conservation Commission, the Planning Board, the Bike/Hike Committee, and other town committees. The Tree Committee Chair will seek contact with Tree Committees in other towns in the region in order to share information and to form project partnerships.**

Since large, mature shade trees are of critical importance for their cooling effects, more than are smaller trees and replacement trees, the Tree Committee will identify and give special attention and maintenance to the town's population of large shade trees.

- 4. The Tree Committee will inventory the large, mature shade trees in South Hadley and assess their condition on a regular basis. The Committee will keep a record of the location and status of such trees.**

Summary

The above goals and tasks, once achieved, will make a significant contribution to building the town's resilience in response to climate change. The achievement of these goals will depend heavily on our collaboration with a Tree Warden/professional arborist who shares our goals. Achievement of goals will depend also on our working closely with the Conservation Commission, Planning, Board, DPW, Selectboard and other groups. Timely reviews of progress on these goals with the OS&RP and the Master Plan Implementation Committees will facilitate their achievement. We look forward to meeting with you to discuss the above goals and tasks and to consider ways to measure progress.

Respectfully,

Theodore Boulais, Chair

Members: James Canning, Michael Lamontagne, Bobbie Salthouse, Dennis J. Swartwout, Genevieve van de Merghel, Linda Young.



To: Anne Capra
From: Master Plan Implementation Committee
Date: November 25, 2019
Subject: Open Space and Recreation Plan draft

This is an impressive report.

Some things we especially like about it: the geological, botanical and historical background; the acknowledgment that the town needs to draw on citizen volunteers, that they are a valuable resource, and that deliberately recruiting and cultivating them is critical and will take focused attention; the clear statement that website revisions are needed, despite some improvements, to make the site more focused on the information needs of stakeholders/"customers"/citizens than staff users; the call for finding ways to provide recreational access to the River via tributaries; the assessment that town acquisition of properties in the WSPD will likely be required to protect the aquifer; the clearheaded warning that there are ongoing management costs to acquiring properties and that acquisitions must be strategic, taking into account any ongoing costs involved once acquisition occurs as well as the costs to the Town of NOT acquiring properties when that is the best means of serving community needs; the cost/benefits table that lays out a 7 year plan for achieving identified goals, listing specific tasks, w a timeline, priority ranking and assignment of primary and partnership responsibilities; the acknowledgement that protecting water quality requires the participation not only of the Planning Board but Health, Conservation, and Water District 2.

The new format, using "ragged right" rather than right margin justification, is far easier to read than the earlier version. Maps and illustrations are clear.

RECOMMENDATIONS FOR IMPROVEMENT:

The aforementioned table needs to clarify what the priority rankings mean, especially in relation to the timeline information. What does "long term" mean vs. "ongoing?" And do the checkmarks in the years column describe when work on a specific task is to begin or be completed? As is, we're not sure we understand the designations assigned to

some of the tasks: some critical (and time sensitive) tasks are defined as “long term”. If “long term” means “ongoing” that is one thing. If it means “when we get around to it once we accomplish everything else,” that is a problem.

The Dry Brook Creek area is repeatedly identified as critical for protecting the aquifer. It should also be acknowledged as a natural resource for recreation and for its view shed value.

Could something be said re: possibilities for the Town “brokering” agreements with private interests in the interest of serving community needs? Developers (and Mt Holyoke College) could be partners with the Town. The section of the report re: the history of the Alvord Street development is cautionary: the report warns that agreements with developers must be “properly vetted” to ensure deals aren’t broken. But we think the report should send the message that deals between the Town and private interests that benefit the Town, can be struck.

We are also concerned that the Recreation Commission was not represented on the OSRP Advisory Committee despite strong encouragement to participate. Historically, the Recreation Commission has engaged in a fairly narrow range of activities. Many of the tasks defined in this plan call for Recreation to work closely with other entities on a broader range of programs, serving a more diverse population. We hope that Commission members will use this opportunity to widen the scope of the Commission’s work.

Respectfully,

Master Plan Implementation Committee

Judy Gooch Dobosh, Chair
Nate Therien, Vice Chair
Michelle Wolfe, Clerk
Alexis Allen
Larry Dixon
Allyson Garcia
Margaret Jodoin
Keith Paul
Michelle Theroux

Section 11

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