

Town of Greenfield, MA



2006 Open Space & Recreation Plan

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PREFACE

The Massachusetts Executive Office of Environmental Affairs (EOEA), Division of Conservation Services reviews applications for open space funds including the Self-Help, Urban Self-Help and the Land and Water Conservation Fund. The acceptance of this Open Space and Recreation Plan by the State Division of Conservation Services makes the Town of Greenfield eligible to compete for such funds, which it can use for land acquisition, maintenance and improvement of parks, playgrounds, conservation areas and other open spaces. Additionally, this plan is useful to the Town as a community information resource and comprehensive town planning related to open space and recreation.

The EOEA defines the term open space as “conservation land, recreation land, agricultural land, corridor parks and amenities such as small parks, green buffers along roadways or any open area that is owned by an agency or organization dedicated to conservation”. The EOEA goes further to state that a broader definition of open space can be defined as “any undeveloped land with particular conservation or recreation interest.” This broader second definition will be used in this plan when referring to Greenfield’s open space.

The 2006 Open Space and Recreation Plan is available through the Department of Planning and Development’s website located at:

http://www.cityofgreenfield.org/1planoffic/contact_planning.php

SECTION 1 - EXECUTIVE SUMMARY

This plan presents the Town of Greenfield's goals and objectives toward preserving and improving the open space and recreational resources of the Town. A five-year action plan clearly outlines the specific steps that the Town needs to take in order to actualize the stated goals and objectives.

The primary feedback received from the community through the survey results and public meeting comments is that the community wants the existing parks and playgrounds improved. Play structures for toddlers are a top priority, along with finding a new location for the skate park. In addition, more maintenance and improvement is needed to the existing fields and structures used for athletic teams. While improving the infrastructure at the parks, it is also important to improve the drainage and access, including handicapped access, parking access, pedestrian access, and vehicular access into the parks. These community needs were kept as a priority while developing the five-year action items.

Another community need expressed through the survey results is that there are currently no publications which explain where all of the parks and conservation areas are, and what activities can occur at each. This is something which people expressed they would like to be assembled, and the Recreation Commission and Conservation Commission will be developing these resources over the year 2007.

In addition to the above mentioned needs, it is also important for Greenfield to look at expanding its bikeway. The Town of Greenfield has identified the Green River Corridor, specifically through the Meade Street Right of Way and Wedgewood Gardens property, as a prime location to continue the development of the bike trail. Not only will expanding the bikeway be a benefit for bikers in the community, but it can also serve as a walking path for the community. As walking was the most utilized recreational activity expressed by survey respondents, the expansion of the bikeway would be well utilized by walkers along with bikers. Along with expanding the bikeway, it is important to advocate biking and walking as an alternative to driving to work and school. To assist in doing this, it will be important to fill in missing sidewalks and bike lanes.

The survey results showed that there is some support for the Community Preservation Act (CPA). Since lack of funding is a critical issue for maintaining the existing parks and open space areas, the Town should explore the CPA because of the financial benefits it can bring. Over the next five years, the Town of Greenfield will begin exploring the possibilities of CPA.

The community seeks to balance sustainable development patterns with the protection of open space and to provide an array of recreational opportunities for all its citizens. The Town believes it is important to preserve both its agricultural and historic resources and to look toward the future through development that contributes to, rather than impacts, community and environmental quality and town open space goals. It is important that both the public and private sectors work together to make this vision a reality.

The following are the important themes identified in the Plan:

- To improve park facilities for all citizens.
- To better manage conservation lands in Greenfield
- To improve communication to citizens regarding Greenfield's parks and conservation areas

There are many challenges the Open Space Committee, along with other Town policy makers, will need to overcome in order to meet the stated plan's action items. Fiscal constraints placed on the Town's budget have made it difficult to make improvements, or, in some cases, to maintain existing protected open space and recreational resources. There are not enough municipal resources to accomplish the goals and objectives. Therefore, more creative methods to accomplish the goals and objectives will be needed including finding new resources, pursuing partnerships, leveraging other funds, and relying on volunteers. Residents' demands for quality recreation opportunities and protection of the environment continue to grow as they increase their understanding of the importance of these resources.

SECTION 2 - INTRODUCTION

A. Statement of Purpose

The purpose of this plan is to update Greenfield's 2000 Open Space and Recreation Plan and to provide some realistic goals for the next five years. While a few of the goals and objectives from the old plan have been accomplished, others are still relevant today, and new issues need to be addressed.

The intent of the Open Space and Recreation Plan is to protect, preserve and enhance the Town's open and recreational spaces. The Plan establishes a framework for guiding Town expenditures for open space acquisitions and improvements to recreational areas over the next five years, and identifying potential funding sources for such activities. With an up-to-date Open Space and Recreation Plan, the Town is eligible to apply for grant money to acquire important open space parcels through the Executive Office of Environmental Affairs, Division of Conservation Services, Self-Help and Urban Self-Help Programs as well as the federal Land and Water Conservation Fund. The Open Space and Recreation Plan can guide Greenfield's future policy makers to preserve, protect and enhance the Town's valued open space, recreational and natural resource assets.

It is hoped that this document will provide a rational basis for shaping the future landscape of Greenfield by:

- 1) Surveying and documenting the existing conditions of Greenfield's open space, recreational facilities, and natural resources;
- 2) Developing short term and long term goals, objectives and action items;
- 3) Establishing a clear and realistic action plan for the next five years.

In summarizing the effectiveness of the 2000 plan, it could be said that the goals set for the 2000 plan were reached. However, the Town of Greenfield hopes to complete more action items from the 2006 plan than were completed in the 2000 plan. In addition, the last plan focused too much on "bricks and mortar" projects and not enough emphasis was placed on staffing, management, funding and programs. Without adequate staff and funding, it is essentially impossible to achieve the goals and objectives established for the town. The majority of the action items established in the 2000 plan have not been completed due to a variety of factors - primarily a lack of fiscal and human resources. Another possible factor which may have led to the lack of action items being completed was the lack in participation of the Open Space Committee. The Committee did not continue meeting and following up on the plan which led to an absence of leadership over the plan. In addition, the 5-year action items in the 2000 plan were stated without discussion over who would implement the goals. As a result, there was misunderstanding over who would do what. A few of these problems have been mediated in the 2006 plan, as there are new committee members and Town employees to assist in the implementation of the plan, and each action item states whose responsibility it is to oversee the goal. These factors will most likely lead to this 2006 plan being more productive than the 2000 plan.

Some of the five year action items which were accomplished include: installing a new pavilion, picnic tables, and hibachis at the Green River Swimming area along with making beach improvements and painting the exteriors of the buildings. In addition, as the existing pond used for ice skating could not be

utilized, a new location for the ice skating rink was found and utilized, A few of the items not accomplished include: developing management plans for each park, distributing open space information through brochures and the internet, and installing more signage throughout the parks and conservation areas.

When developing the goals and action items for the 2006 plan, the Open Space Committee focused on what can actually be accomplished, understanding that there will be constraints. The 2006 five year action plan items have been designed to ensure that they are feasible and should be able to be completed on schedule.

B. Planning Process and Public Participation

The 2006 Open Space Committee is committed to the Open Space and Recreation Plan becoming the “Town’s plan” rather than just the viewpoints of a few individuals. A variety of viewpoints were collected through the use of surveys, a public meeting and reviewing other Town documents and plans. There was community support during the plan’s development, and it is hoped that implementation of the future actions outlined in the plan will receive the same broad support from the community.

Development of an Open Space Committee

The Open Space and Recreation Plan has been a cooperative effort of individuals, Town boards and Town departments who contributed considerable time and effort to formulate this document. Data utilized in the plan was gathered from numerous sources including: records of Town Boards and departments, a Town-wide survey, Mass GIS Data, and field inspections. Without the help and cooperation from all the individuals who participated in this process, the plan could not have been completed.

The Open Space Committee has changed over time, but has included representatives from Town boards including the Conservation Commission, the Recreation Commission, the Planning Board, the Historic Commission and the Bikeway Committee. The Department of Planning and Development staffed the Committee meetings and coordinated many of the data needs for the Committee.

The Open Space Committee has included the following members:

- Mike Byrne Recreation Commission
- Chris Ethier Bike Path Committee
- Richard Hubbard Franklin Land Trust
- Jennifer Johnson AmeriCorps member working with Recreation Department
- Patricia Marcus Recreation Committee
- Mike Mastrototaro Recreation Committee
- Irving Sanders Retired employee of the Department of Public Works
- Marcia Starkey Chair of the Historic Commission, Greening of Greenfield Committee
- Steve Walk Conservation Commission
- Roxann Wedegartner Chair of Planning Board

Support Staff has included the following:

- Cathleen Buntin Director of the Recreation Department
- Kevin Flynn Director of Planning and Development
- Erin Jacque Conservation Agent
- Katherine Kent Land Use Agent
- Larry Petrin Department of Public Works

Public Participation and Outreach

The Open Space Committee was committed to the public participation process and aimed to include all persons who were interested in contributing toward the development of the Plan’s goals and objectives. In order for the Open Space and Recreation Plan to be effective, it must represent the desires of Greenfield residents. The Open Space Committee posted public notices, distributed press releases, surveyed Greenfield residents on open space issues, held a public meeting, and held a final public hearing on the Open Space and Recreation Plan to incorporate the vision of the people of Greenfield. All Open Space Committee meetings were open to the public. The Open Space Committee held a public hearing on July 12, 2006 as an opportunity for residents to give feedback on the draft plan and receive any additional input.

Open Space Surveys

As a way to receive a variety of input from Town residents, the Department of Planning and Development and the Open Space Committee developed an Open Space and Recreation Survey in February 2006. 5,600 surveys were distributed through The Recorder newspaper and additional copies were provided on the Town website, at Town Hall, Greenfield Public Library and the Greenfield Ice Rink. There were responses from 423 residents, making the survey response rate 7.5%. The overall outcome of the survey showed strong public support for maintaining existing parks and playgrounds and preserving water and agricultural resources. The survey was an excellent tool to facilitate resident’s thinking about open space and recreation issues and its importance in community life.

American with Disabilities Act (ADA) Surveys

Section 504 Self-Evaluation Surveys were conducted for the 2000 Open Space and Recreation Plan. These surveys analyzed the major open space sites in Town and were completed by both town staff and community volunteers. The surveys indicated what accessibility improvements are needed at these locations. ADA improvements were vaguely listed as action items in the 2000 plan. Over the past five years, Greenfield has completed a more in depth study of the ADA requirements in the parks and conservation areas. The necessary improvements needed have been specifically highlighted in the 2006 Action Items such as making improvements to the storage, lifeguard, and concession building at the Green River Swim Area.

SECTION 3 - COMMUNITY SETTING

A. Regional Context

Town of Greenfield

The Town of Greenfield is the largest community in Franklin County with a recorded population of 18,168 persons (2000 U.S. Census), approximately 25% of the population of the county. In 1811, Greenfield became the County Seat and since that time it has remained the hub of cultural, government, commercial and business activities for the region.

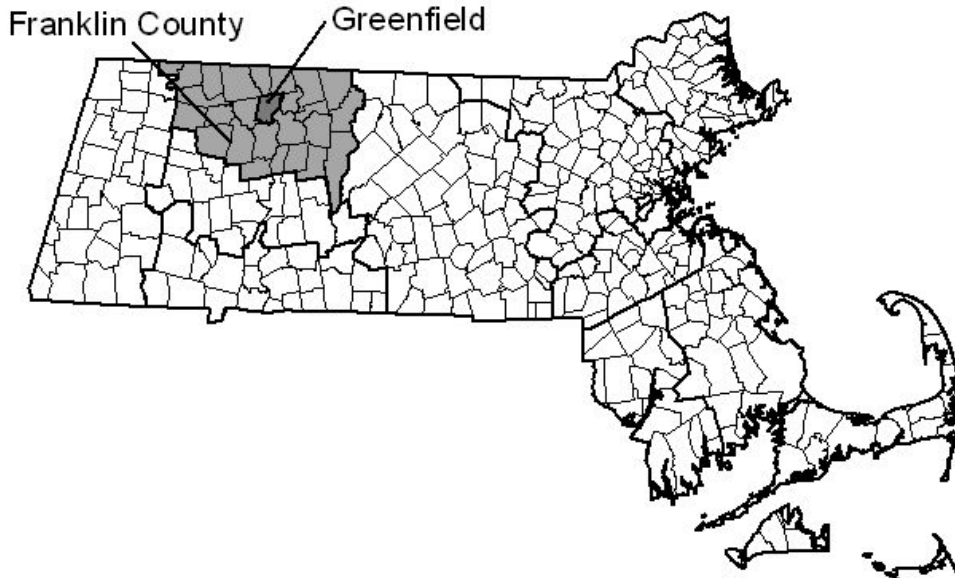
Greenfield is located in the physical center of Franklin County at the crossroads of Interstate Route 91 and Massachusetts Route 2. Its neighboring communities include the towns of Deerfield to the south (population 4,750), Montague to the east (population 8,489), Gill to the northeast (population 1,363), Bernardston to the north (population 2,155), Leyden to the north (population 772), Colrain to the northwest (population 1,813), and Shelburne to the west (population 2,058). Greenfield is close in proximity to many major metropolitan areas including: Springfield, MA (36 miles); Boston, MA (95 miles); Albany, NY (91 miles); and New York City (170 miles).

Government Structure

At the Annual Town Election held on June 11, 2002, the voters approved a revised Town Charter. The new city form of Government which includes a Mayor and Town Council became effective on July 1, 2003. The Town Council consists of thirteen members (13): four (4) "Councilors at Large" and nine (9) "Precinct Councilors" elected to represent each of the nine (9) voting precincts in Town. At the urging of the citizens, the Charter Commission chose to continue to refer to the "City of Greenfield" as "the Town of Greenfield."

Franklin County

The Town of Greenfield is located in the heart of Franklin County, the northern most Massachusetts County in the Connecticut River Valley. Franklin County is bordered by Berkshire County on the West, Hampshire County on the South, Worcester County on the east and the states of New Hampshire and Vermont to the North.



Franklin County has remained a vision of rural America that has long since disappeared in many other places in New England. It maintains a balance of undeveloped land, both forested and agricultural land, along with important necessities such as access to employment, relatively affordable housing, and cultural activities. This combination of natural and cultural attributes makes the county a desirable location to live, away from the suburban sprawl and congestion descriptive of other areas of the Commonwealth. As the eastern and southern parts of the state develop, pressures may continue to push further northward and westward into Franklin County. These development pressures and their potential negative impacts could threaten the rural character that creates Franklin County’s high quality of life. According to MassGIS and the Franklin Regional Council of Governments, 9.2% of land in 1999 was used for agricultural purposes and 75.9% of the County was defined as forested. This is compared to more than 12% of land in 1985 being used for agriculture and 78% of land being defined as forest in 1985.

County Demographics

Franklin County is the most rural county in the Commonwealth with a total population of 71,535 people occupying 725 square miles of area, resulting in a density of only 98.7 people per square mile. Franklin County statistically has the second lowest per capita income in the Commonwealth with a per capita income of \$20,672, compared to \$25,952 for Massachusetts, and \$21,587 for the United States (2000 U.S. Census). This disparity in income levels leaves Greenfield, as other Franklin County towns, seeking the means to expand its economic base and to provide employment opportunities for its residents. A continuing challenge for Greenfield is to find a balance between economic development and open space preservation.

TABLE 1: 2000 PER CAPITA INCOME FOR FRANKLIN COUNTY AND SURROUNDING COUNTIES

Franklin County	\$20,672
Berkshire County	\$21,807

Hampden County	\$19,541
Hampshire County	\$21,685
Worcester County	\$22,983
Massachusetts	\$25,952
United States	\$21,587

Source: U.S. Census Bureau

Shared Water Resources

The Town of Greenfield has a wealth of river resources, with four rivers running through its borders. It is situated at the confluence of the Fall, Green, Deerfield, and Connecticut Rivers. The Connecticut River forms the Town’s eastern boundary adjacent to the Town of Montague, with the Rocky Mountain range creating a natural separation between the densely populated downtown area and the river. The Fall River forms the town’s northeastern border with the small and mostly rural town of Gill. The Deerfield River forms Greenfield’s southern border with the Town of Deerfield. Runoff and point and non-point source pollution from communities upstream of Greenfield affect the quality of the town’s rivers. Rivers are a predominant and important natural resource for Greenfield.

Greenfield is located within two major watersheds – the western three-quarters of town is located in the Deerfield River watershed, and the eastern quarter is in the Connecticut River watershed. The Green River runs north to south through the heart of Greenfield. It is both a water supply source as well as a recreational resource, and the Green River watershed is a sub-watershed of the Deerfield River watershed.

The Green River to the north of Greenfield forms the border between the towns of Colrain and Leyden. Greenfield uses the Green River and the Leyden Glen as public drinking water sources, especially during the summer months, making up as much as 47% of the public water supply. Protection of the watersheds draining into these resources is of utmost importance to ensure high quality drinking water for the residents of Greenfield. The Town coordinates its management efforts with these two towns, addressing enforcement of appropriate land uses along with regular water quality monitoring.

The Millbrook Wells are located in the northernmost section of town near the border with the Town of Bernardston. A portion of Aquifer Protection Zones two and three of Greenfield’s water protection district are located in the southern section of the town of Bernardston. An agreement between the Towns of Greenfield and Bernardston protects Greenfield water supply areas through appropriate land uses in this area.

Shared Open Spaces

The Greenfield Swimming Area is the only designated area for recreational swimming in town. The area is created by the seasonal damming of a section of the Green River along Nash’s Mill Road. The facility is open to the public from Memorial Day through Labor Day. It is widely used by residents and visitors living outside of Greenfield. It offers swimming, picnicking and recreational opportunities, and it receives as many as 200 visitors on a busy weekday and as many as 500 visitors on a busy weekend day. Approximately 15,000 people visited the Green River Swim area between Memorial Day and Labor Day 2005. Recreational activities include swimming, a pavilion, playground equipment and a basketball court.

MAP 1: "WATERSHEDS" MAP

The Franklin County Bikeway is an important transportation project that has been underway for well over twenty-one years. It is a proposed comprehensive network of off-road and shared roadway linkages to destinations throughout Franklin County. The goal is to provide alternative transportation that provides access to employment, educational, cultural and recreational sites. The Riverside Greenway was planned as the major Greenfield section of the bikeway, which would begin at the Greenfield Swimming Area, follow the Green River along a discontinued town road (Riverside Drive), and end in the downtown area. The project has received funding through the Federal Highway Administration's Enhancements program and is currently in the design phase. Shared roadway would connect this off-road section with adjoining communities including the Turners Falls section of Montague and the Town of Northfield. However, it has recently been determined that the proposed route along Riverside Drive will disrupt the habitat of the wood turtle, and the project may not proceed as planned.

Neighboring Towns' Major Open Space Resources

Greenfield residents enjoy various open space areas in neighboring communities including but not limited to the following:

- Catamount State Forest, Colrain
- Cook, H.O. State Forest, Colrain
- Barton Cove Recreation Area, Montague
- Montague Plains Wildlife Management Area
- Mount Sugarloaf Reservations, Deerfield
- Mount Toby State Forest, Sunderland
- Northfield Mountain, owned by Northeast Utilities in Northfield
- Northfield State Forest, Northfield
- Wendell State Forest, Wendell
- Erving State Forest, Erving

B. History of the Community

Prior to 1680, the only people living in the area now known as the Town of Greenfield were Native Americans. The area was known as the "Green River District" of the Town of Deerfield, and settlers first settled it in 1680s, with land grants of 20 acres each. These settlers came north from Deerfield to find new land to farm. The "Green River District" began as an agricultural community, but, because of its location at the confluence of the Connecticut, Deerfield, and Green Rivers, the community quickly became a trading center for the area. The community grew over the next half century, and in 1753 the Town of Greenfield was officially incorporated. In 1811, as the entire region grew and expanded, Franklin County was established and Greenfield, the largest community, became the official County Seat, the central location for county government operations. As a result, the retail and service sectors grew and Greenfield became the economic and cultural center of Franklin County as well.

In the early part of the 19th century, New England rivers began to attract industrial development due to the use of water as a power source. Greenfield was an ideal location for spurring on the Industrial Revolution with its availability of water resources. Unlike many other industrial communities in New England that had clearly defined industrial areas, Greenfield did not have a centralized area of industrial

uses. Because there are several rivers running through town, mills and factories were diversely located. There were mills along the southern section of the Green River and in the factory hollow section of the Fall River. Greenfield became well known for its cutlery manufacturing. The nation's first cutlery factory, built in 1834 by John Russell was built in Greenfield. It is said that, at one time, 45% of the nation's cutlery was made in Greenfield.

Since its manufacturing heyday, many of the mills and factories have closed as these types of manufacturing jobs have left the northeast for other areas. Only remnants of the town's manufacturing past are left and some of them, such as the former Greenfield Tap and Die (GTD) plant (located on the site of the earlier Russell Manufacturing plant) on Deerfield Street, remain as challenges for the Town to address. Acquired in a tax-taking by the Town, GTD is the site of an EPA Brownfields Assessment Pilot project for the clean-up hazardous materials. The GTD site has since been developed as an assisted living facility. Greenfield is now trying to redefine itself economically and to diversify from more traditional manufacturing toward high technology-oriented businesses as well as services such as health care.

C. Population Characteristics

Understanding Greenfield's population characteristics is essential for the Town to plan for its future open space and recreational needs and to maximize the use of its open space resources. The following discussion will provide information about Greenfield's population characteristics and an analysis of how the Town's open space and recreation planning can respond to those demographics.

General Population

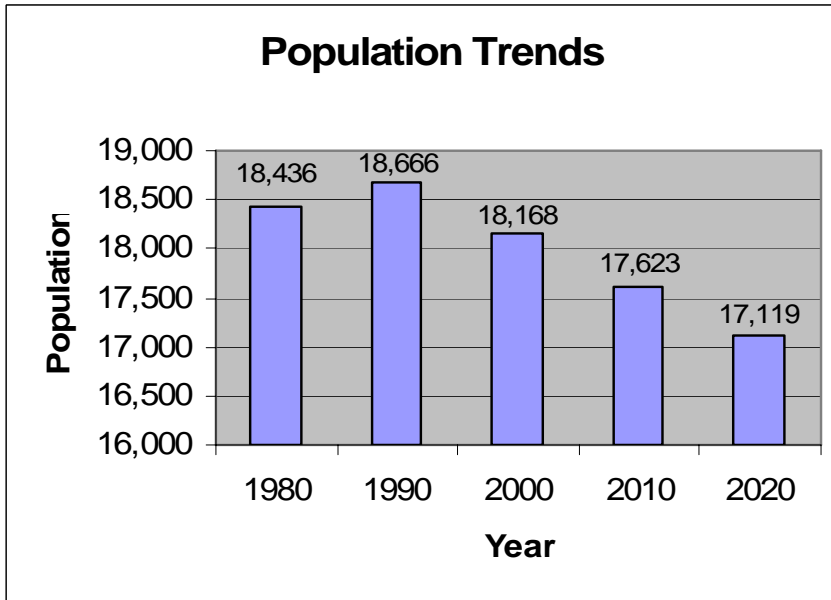
As described earlier, the Town of Greenfield has the largest population of all the communities in Franklin County with a total population of 18,168 (2000 U.S. Census). Though the population of Greenfield is relatively small compared to many communities in the eastern part of the state, the Town has the "feel" of a community twice its size. The reason is that Greenfield draws people from throughout the region as the major employment, cultural and shopping center and, as a result, much of the downtown area is densely developed as in communities with much larger populations.

Past Trends/Future Projections

According to U.S. Census data, between the periods from 1980 to 2000, the town's population has remained relatively stable with a 1.45% total decrease in population. The Massachusetts Institute for Social and Economic Research (MISER) projects that the population of Greenfield will decrease moderately in the next decade by approximately 2%. However, given the high growth rates and development pressures experienced in southern Franklin County and adjacent Hampshire County, there is a potential for Greenfield to experience significant growth in the upcoming years as people continue to look for housing opportunities. It will be important to be prepared for those changes.

Greenfield's housing costs are significantly lower than those of Hampshire County towns such as Northampton and Amherst. The realization is growing that Greenfield provides the opportunity for families to purchase affordable homes and live in a community offering many of the amenities of those southern towns. If this trend continues, there may be a push from people looking to build new housing in Greenfield's existing agricultural areas. Greenfield should have a clear plan on what areas to protect and what areas are suitable for development.

TABLE 2: GREENFIELD POPULATION TRENDS



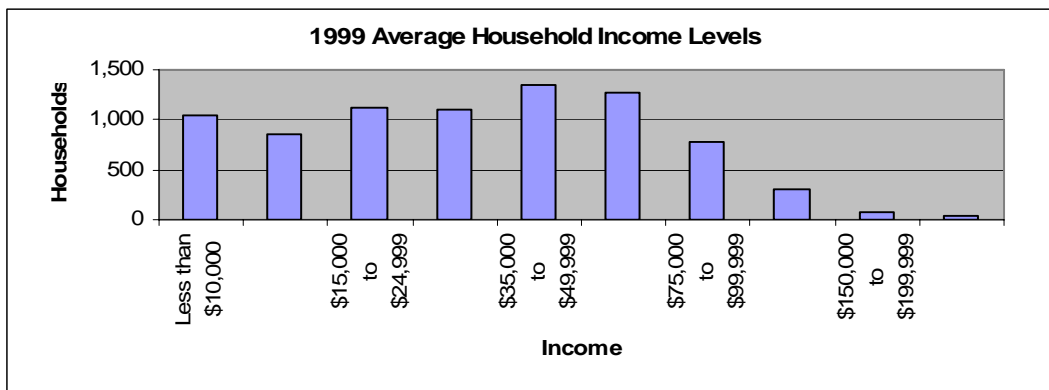
Source: Massachusetts Institute of Social and Economic Research (MISER)

It is important to note that the pressures of a growing population do not drive Greenfield’s current open space and recreation needs. Rather the needs are a result of the financial constraints of a stagnant tax base limiting resources to purchase and manage open space and recreational resources. Though projections indicate Greenfield’s population will be generally static over the next twenty years, economic development pressures may change this scenario.

Per Capita Income

As previously noted, in 2000 Greenfield was 27.5% below the state average per capita income, with \$18,830 per person compared to \$25,952 for the state. Due to the limited income of many Greenfield households, public recreational facilities are extremely important, and are used heavily by many of the Town’s residents who cannot afford to travel or use private recreational facilities. In addition, many people rely on the Town’s local open space and recreation resources to provide opportunities for their children when school is out of session.

TABLE 3: GREENFIELD 1999 HOUSEHOLD INCOME LEVELS



Source: 2000 U.S. Census Bureau

Employment Characteristics

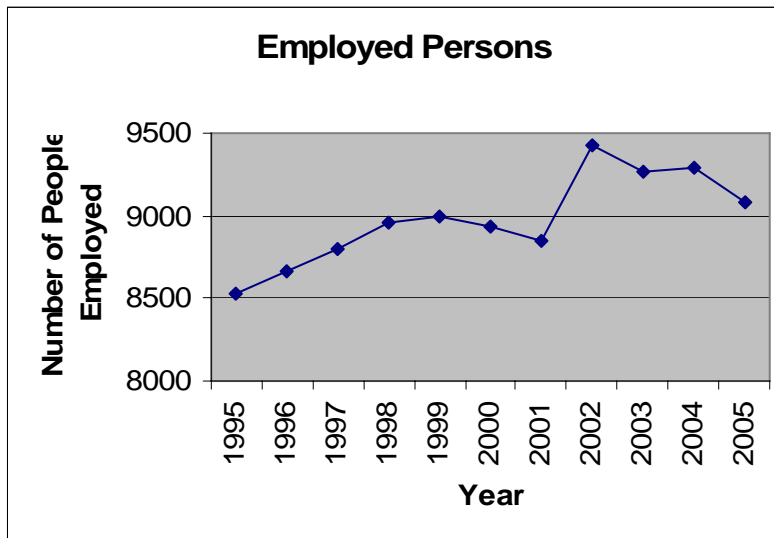
Greenfield has historically viewed itself primarily as a manufacturing town, but in reality the town is home to a wide and diverse mix of employment types particularly: human services, health care, and government. According to the Massachusetts Department of Revenue the total labor force in Greenfield for the year 2005 was 9,505, with 9,088 people being employed and 417 people being unemployed leading to the unemployment rate of 4.4%.

TABLE 4: GREENFIELD TOP 10 MAJOR EMPLOYERS (2005)

EMPLOYERS	EMPLOYEES
Franklin Medical Center	850
Greenfield Public Schools	378
Gentiva Health Services	300
Big Y Super Market	250
Town of Greenfield	200
Greenfield Community College	190 (plus part time)
Clinical & Support Options, Inc.	170
Charlene Manor Extended Care Facility	170
Super Stop&Shop, Inc.	167
GE Financial Assurance Employers Services Group	150

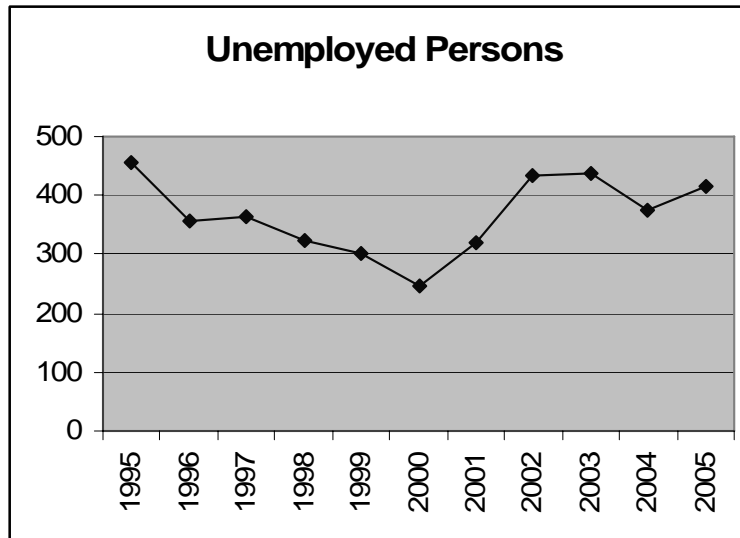
Source: Franklin County Chamber of Commerce

TABLE 5: NUMBER OF PEOPLE EMPLOYED IN GREENFIELD



Source: Massachusetts Department of Revenue

TABLE 6: NUMBER OF PEOPLE UNEMPLOYED IN GREENFIELD



Source: Massachusetts Department of Revenue

D. Growth and Development Patterns

1. Patterns and Trends

As previously noted, Greenfield began as an agricultural community, but soon evolved into a trading center because of its ideal location at the confluence of the Green, Deerfield, and Connecticut Rivers. The Town's rich river resources became an attractive site for industrial development during the Industrial Revolution and many mills and factories located in Greenfield. As a result, the Town's development patterns have been similar to many other traditional New England towns, characterized by a compact downtown with two and three storied brick and wood structured buildings, surrounded by densely developed residential neighborhoods. The most dense development occurs in the southeastern portion of town and is now encircled by Interstate 91/Route 2. Recent rezonings in the Town of Greenfield have changed two tracts of land into General Commercial zoning to allow for larger commercial businesses. One tract of land which is approximately 60 acres was rezoned from a Suburban Residential (RB) district to a General Commercial (GC) district alongside the Interstate 91/Route 2 intersection. A second tract of land consisting of approximately 45 acres along the French King Highway, a north-south corridor on the east side of town, was rezoned from General Industry (GI) to General Commercial (GC). The zoning over the years has led to denser districts in the urban core and larger residential lots in the rural areas. Over the recent years, increasing sub urbanization has occurred in these rural areas, with the development of residential frontage lots along rural roadways. This pattern of development is allowed through the Approval-Not-Required (ANR) process, which requires only a sign-off by the Planning Board certifying that the division of land satisfies the Subdivision Regulations.

Current Land Use

Land use patterns have a significant impact on the open space and recreation planning process. As a community grows, open space is consumed and existing land use patterns continually evolve. Like many communities, much of Greenfield's commercial development is in the downtown area and along

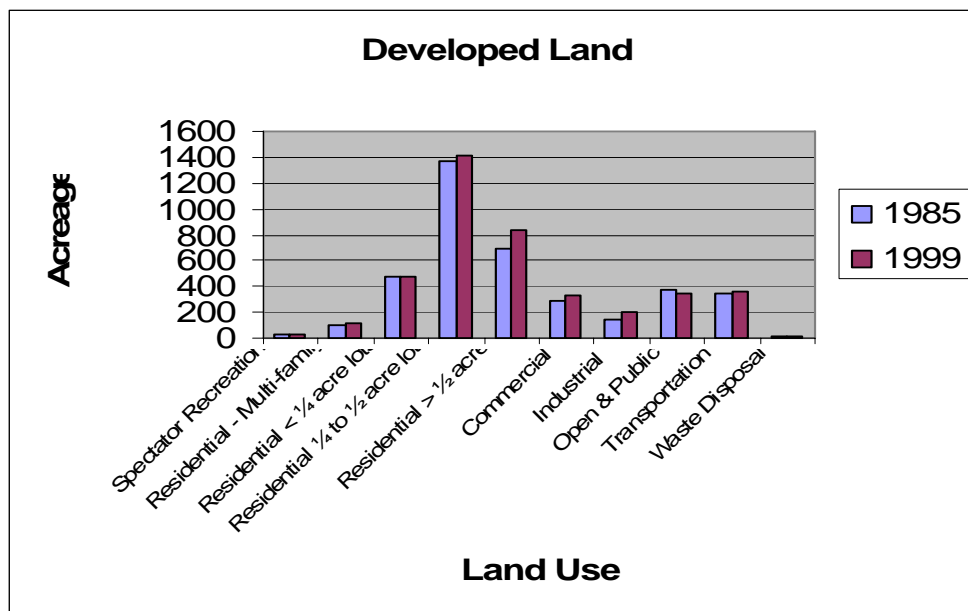
the main transportation arteries of Route 2 and Routes 5 & 10. With the recent rezoning occurring along the French King Highway as discussed above, a section of larger commercial development will most likely be developed on the East side of Town within a few years. Dense residential development surrounds these commercial areas, with rural development primarily in the north section of Town.

As mentioned above, although Greenfield’s population is not rapidly expanding, the Town’s open land is continually diminishing as these areas slowly change use over time. Farmland is gradually reduced through ANR subdivision as farmers with frontage are selling portions of their farms to people who want to build single-family homes. This type of development has significant impacts on the rural character of the landscape. The changes are slow but constant and overtime open areas become house-lined streets one house deep, a major contributor to suburban sprawl.

Over the past decade, the Town of Greenfield has focused efforts on redeveloping the Greenfield Tap and Die complex on Deerfield Street. GTD is an Environmental Protection Agency (EPA) Brownfields Demonstration Site, and it is a prime example of the Town’s commitment to the clean-up of abandoned, old industrial buildings, and their re-use for new business opportunities. In January 2006, a special permit was granted from the Zoning Board of Appeals, and the site received Conservation Commission approval, to construct a seventy-six unit assisted living facility on the former Greenfield Tap and Die site located on Deerfield Street.

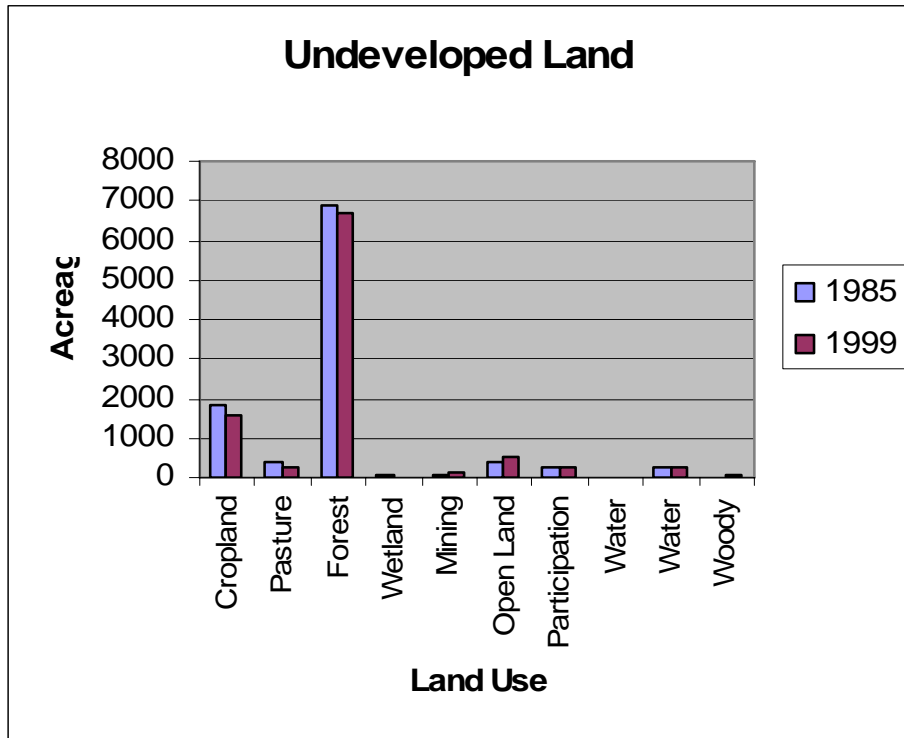
According to 1999 MacConnell Land Use data, Greenfield’s total land area is approximately 14,037 acres, with only 29.2%, or approximately 4,103, of those acres currently developed. The remaining 9,934 acres (70.8%) are classified as undeveloped land. Forestland is the single largest land use category consisting of 6,721 acres (47.9%), followed by cropland with 1,588 acres (11.3%). Crop and pasture land are particularly vulnerable to development pressures because they tend to be flat and cleared with few environmental constraints.

TABLE 7: DEVELOPED LAND IN GREENFIELD



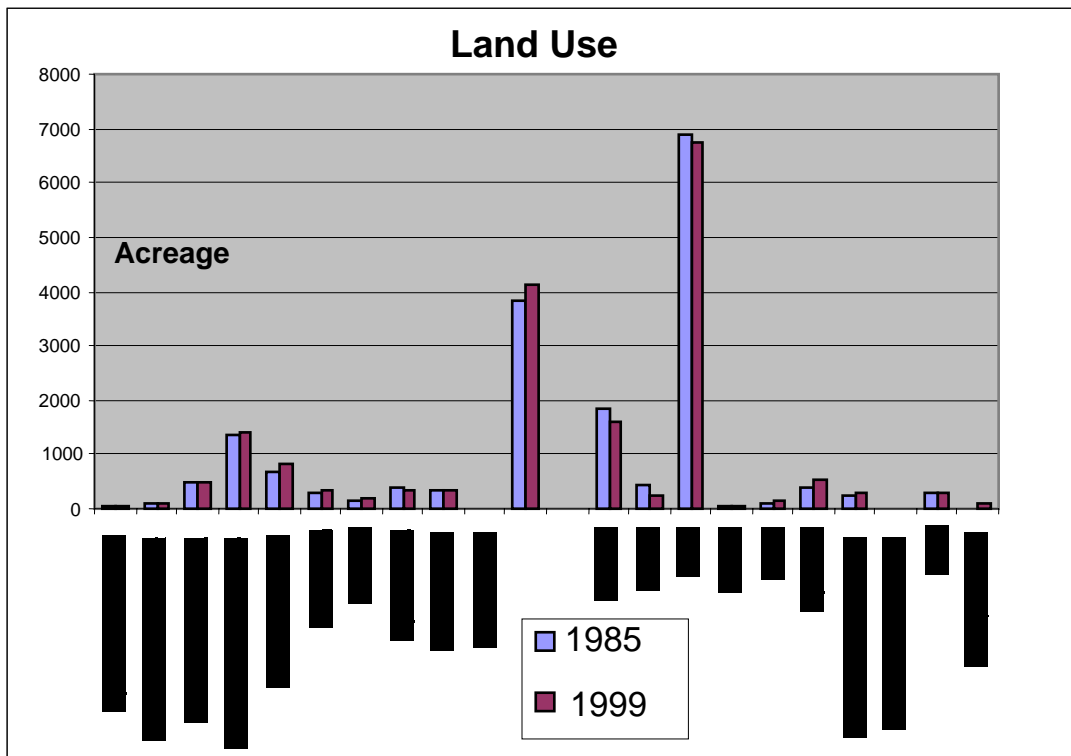
Source: MacConnell Land Use Data

TABLE 8: UNDEVELOPED LAND IN GREENFIELD



Source: MacConnell Land Use Data

TABLE 9: GREENFIELD LAND USE



Source: MacConnell Land Use Data

TABLE 10: MACCONNELL LAND USE DATA - 1999

MacConnell Land Use 1999

Town's total acreage = 14,037 acres

Developed Land	Acreage	% of total	Undeveloped Land	Acreage	% of total
Spectator Recreation	35	0.25	Cropland	1588	11.31
Residential - Multi-family	109	0.78	Pasture	262	1.87
Residential < ¼ acre lots	478	3.41	Forest	6721	47.88
Residential ¼ to ½ acre lots	1410	10.04	Wetland	25	.18
Residential > ½ acre	829	5.91	Mining	122	.87
Commercial	325	2.32	Open Land	555	3.95
Industrial	203	1.45	Participation Recreation	288	2.05
Open & Public	350	2.49	Water Based Recreation	0	0.00
Transportation	355	2.53	Water	287	2.04
Waste Disposal	9	0.06	Woody Perennial	86	0.61
Total Acres	4,103	29.23	Total Acres	9,934	70.77

MAP 2: "LAND USE" MAP

2. Infrastructure

Transportation System:

Greenfield's transportation network is an important consideration in relation to open space and recreation planning for two main reasons:

- 1) Changes to the transportation network can be a significant contributor to future growth in the community and to the resulting impact of this growth on the character of the open space environment;
- 2) The ability of Greenfield's residents to enjoy recreation and open space opportunities within the Town's boundaries, and elsewhere, is largely dependent on the ease of access to these opportunities by automobiles, bicycles, pedestrians, and public transportation.

Greenfield has been a principal transportation crossroads of the county since its inception in 1753. It began as a crossroads when heavy goods were shipped down the Connecticut River and delivered to the Cheapside section of Greenfield. From there, they were carried on land to Deerfield and other areas. Later, two stagecoach routes ran directly through town: one that connected the capital cities of Boston, Massachusetts and Albany, New York; and another connecting Springfield, Massachusetts to Hanover, New Hampshire. Today, Greenfield continues to be a transportation crossroads, being bisected by Interstate 91 and State Route 2, and providing important access to both of these routes.

Roads and Highways

Because Greenfield is such an important transportation crossroads, it has been generally referred to as the "Gateway to the Berkshires". Greenfield has a total of 126 miles of roadway running through its borders, including Interstate 91 and State Route 2. Interstate 91 connects Greenfield and Franklin County with northern and southern New England. The interstate replaced Routes 5 and 10 as the main north-south route for western New England in the early 1970s. Running east-west, Route 2 is the major cross-state road in northern Massachusetts. It provides direct access east to Boston and west over the Berkshires to New York State. Improvements are currently being made on Route 2, starting in the Town of Erving, to the east, and working westerly toward Greenfield.

The construction of Interstate Highway 91 created a barrier between the Town's central urban core and its outlying rural areas. Although this contrast in development patterns is not as distinct as it once was, due to suburban commercial development along the Mohawk Trail (Route 2), the highway still acts as a visual and psychological barrier between the historic downtown and the outlying agricultural and natural areas. Improvements in connections between these two parts of town are very important to enable residents to access open space resources such as the Green River Recreational Area. The Riverside Bikeway is one example of the Town's commitment to improve the connection between these two areas of town.

MAP 3: “TRANSPORTATION NETWORK” MAP

Rail

Railroads have a long and proud history in Greenfield dating back to the 1840's. The town is located at the convergence of two important lines of the Boston and Maine Railroad, one running from Boston to New York State and the other running from Springfield to Vermont. However, rail service through Greenfield is used only for freight. There has been interest for passenger rail service at different times, but there are no current plans for this service.

Public Transit

Two public transit authorities serve Greenfield: the Greenfield-Montague Transportation Area (GMTA); and the Franklin Regional Transit Authority (FRTA). The GMTA and FRTA are in the process of consolidating. When this occurs, the town will be looking at developing an intermodal transportation center. Preliminary consideration to the location of the center is currently being evaluated.

The GMTA has the unique distinction of being the oldest public transportation system in Massachusetts. All seven of the GMTA fixed bus routes originate at Court Square in front of the Greenfield Town Hall. Buses run regularly throughout the day beginning at approximately 6:00 or 7:00 in the morning and continue until 5:00 or 7:00 in the evening. GMTA provides a vital transportation service to those residents who use it, including many elderly riders.

The FRTA on the other hand was designed primarily to serve the private schools in the area including: the Northfield Mount Herman School, Deerfield Academy, Stoneleigh Burnham, Bement School, and Eaglebrook School. On-board surveys performed by the Franklin Regional Council of Governments have indicated that the riders are primarily students to these schools. Each of FRTA's three fixed routes also originate in Greenfield. The Northern Tier Transportation Center, a grant funded program, will arrange rides for individuals to employment and employment-related services for residents along the Route 2 Corridor within Franklin and Worcester Counties.

Many of the downtown parks and recreation areas in town are within easy walking distance from a transit stop. More rural lands, such as the GTD/Griswold Conservation Area and other areas to the north, are accessible only by car. Public transit access should be a consideration when locating new recreational areas in town.

Private Transit

Two private carriers, Vermont Transit and Peter Pan Bus Lines, provide bus service from Greenfield to various locations throughout the northeast. Vermont Transit provides service to New York City, with stops in Springfield and Hartford, Connecticut. Peter Pan Bus Lines provides service from Greenfield to Springfield, with stops in Deerfield and the University of Massachusetts in Amherst.

Bikeways

Greenfield's Bikeway Committee is working to develop a network of off-road and shared roadway facilities throughout town. These facilities are intended to provide safe travel options for bicycle and other self-propelled transportation modes. Much of the planned Greenfield Bikeway is also part of the planned Franklin County Bikeway, which will provide for continuous travel options within the county. As noted above, the Town had been awarded ISTEIA Enhancement funding for the proposed Riverside Greenway, but the wood turtle habitat in the Green River flood plain may stop the development of this proposed bikeway. However, the planned pedestrian/bicycle bridge across the river may still go

forward, and plans remain to continue the bikeway to Green River Park on the south side of town through Mead Street. New open space and recreation sites should seriously consider linkages to the proposed Greenfield bikeway system as a way to allow alternative transportation to the site. Also, amenities such as bike racks to allow bikers to safely secure their bicycles should be included as a means of encouraging more bicycle use.

Pedestrian Facilities

Most of the Town's sidewalks are located in the more densely populated urban areas of town, near the downtown, with fewer sidewalks located in the more rural areas. The Town is actively pursuing a sidewalk improvement program to improve the existing sidewalk infrastructure to allow for safer pedestrian access. Walking is an important mode of transportation that is widely used by many residents young and old, and it is an important consideration when siting any new recreational facilities. Many of the bus stops are located along roadways that have sidewalks allowing for convenient pedestrian connections. The Town of Greenfield's Subdivision Regulations were recently revised and approved. With the newly revised regulations, sidewalks are being required for all proposed Principal Streets, except those within the Planned Industry (PI) Zoning District, and sidewalks may be required for proposed Major, Minor and Rural Streets if deemed necessary by the Planning Board.

Water Supply System

The majority of Greenfield residents, approximately 95%, are served by the municipal water supply system. In addition, Greenfield sells water to the Riverside section of Gill and East Deerfield and provides emergency backup supply for Old Deerfield. The Town's distribution system has the potential to serve all the undeveloped areas of town. The Town presently relies on both ground and surface water for its municipal water supply.

Ground water is supplied by the Millbrook wells located in the northeastern section of town near the Bernardston border. The Town, through a zoning provision in 1989, established a Water Supply Protection District, which is an overlay district composed of three (3) zones, designed to protect, preserve and maintain existing and potential sources of groundwater supply, groundwater recharge, and watershed areas.

MAP 4: “GREENFIELD BIKEWAY” MAP

MAP 5: “MILL BROOK WELLS PROTECTION DISTRICT” MAP

MAP 6: “LEARY WELLS PROTECTION DISTRICT” MAP

Water Supply Protection District

Zone 1 is the four hundred (400) foot radius, or other designated area, surrounding a water supply well, which must be in compliance with the DEP Drinking Water Regulations.

Zone 2 is that area of an aquifer which contributes water to a well under the most severe recharge and pumping conditions that can be realistically anticipated. It is bounded by the ground water divides, which result from pumping the well and by the contact of the edge of the aquifer with less permeable materials such as till and bedrock. At some locations, streams and lakes may form recharge boundaries.

Zone 3 is that land, beyond the area of Zone 2, from which surface water and groundwater drain into Zone 2. The surface drainage area, as determined by topography, is commonly coincident with the groundwater drainage area and is used to delineate Zone 3. In some locations, where surface and groundwater drainage are not coincident, Zone 3 consists of both the surface drainage and the groundwater drainage areas.

Greenfield has also identified and designated, through zoning, an area off of Green River Road, referred to as the Leary well site, as an interim well site. The water supply district restricts the types of uses and the dimensional requirements of uses located in these districts.

Surface water is supplied by the Green River behind the dam on Eunice Williams Road and by the Leyden Glen Reservoir in Leyden. Over the course of an average year, approximately 26% of the Town's water supply is drawn from the Leyden Glen Reservoir, about 53% from the Millbrook Wells, and about 21% from the Green River. Water usage in town has been slightly decreasing over the past twelve years with a twelve year average of 780,284,400 gallons per year or 2.14 MGD.

The Town could not meet its summer water demands without the Green River source. Water usage in town has remained steady with a twelve-year annual average of 803.8 million gallons and a twelve-year daily average of 2.2 million gallons.

The water distribution system serves approximately 90% of the geographic area of the town. As previously mentioned, there is potential to serve almost all of the underdeveloped areas of town with the existing resources. The water system consists of the following sources:

- Millbrook Wells - The three (3) wells supply high quality, naturally filtered water, which is pumped from a single subsurface aquifer.
- Leyden Glen Reservoir - The dam impounds 45 million gallons of water. The Town-owned watershed contains over 350 acres of steep forested land. As a matter of policy, the land is not open to the public.
- Green River - The water is drawn from behind the dam off of Eunice Williams Drive. The source is used during the peak demand periods in the summer months.
- Leary Wells - A future well site for municipal water supply located between Leyden and Green River Roads. Currently not used.

TABLE 11: GREENFIELD WATER CONSUMPTION (1994 – 2005)

Year	Average Daily Use MGD	Total Annual Usage	% change
1994	2.24	817,879,000	
1995	2.18	797,103,900	-2.5%
1996	2.19	800,988,800	0.5%
1997	2.29	837,012,500	4.5%
1998	2.19	799,037,500	-4.5%
1999	2.23	814,372,200	1.9%
2000	2.07	755,369,200	-7.2%
2001	2.18	794,445,900	5.2%
2002	1.99	724,852,000	-8.8%
2003	1.97	720,356,500	-0.6%
2004	2.05	747,624,100	3.8%
2005	2.07	754,371,700	0.9%
Average	2.14	780,284,442	-0.6%

Source: Greenfield Department of Public Works

Sewer Service

Greenfield’s municipal sewerage network is primarily concentrated within the central, urbanized area. It services approximately 75% of the dwelling units in town, with the other 25% serviced by on-site sewage disposal. There are some sewer extensions outside the Route 2 and I-91 core. The Town’s sewerage network is connected to the Water Pollution Control Plant located along the Green River at the very southern end of town, and five main interceptors feed the plant. This facility underwent a \$9.2 million dollar upgrade in 2000 and discharges to the Deerfield River.

There is ongoing discussion but presently no feasible means to fund the expansion of the sewer system. Some areas of town that are not currently connected to the system may be served with extensive sewer line expansion, including a new connector line. The possibility of extending sewerage service northerly along Adams Road is being investigated. If the Town decides to build the Mill Brook extension there is the potential of opening up approximately 70% of the northern section of town to development. Land that is currently undeveloped because of a lack of soil suitability for septic systems will then be able to be developed. The Town will need to consider the impact of a sewer extension to the existing unprotected open space in this section of town including the potential loss of farmland because of the added value of municipal sewers near or on the property.

3. Long Term Development Patterns

Since 1957, Greenfield’s growth patterns have been guided by zoning regulations. The town currently has eleven (11) different zoning districts to ensure new development occurs in areas of Greenfield deemed appropriate. The town has a legacy of many pre-existing uses, which are no longer allowed by the present zoning regulations. The Greenfield zoning districts are as follows: Urban Residential (RA), Suburban Residential (RB), Rural Residential (RC), Semi-Residential (SR), Health Service (H), Central Commercial (CC), General Commercial (GC), Limited Commercial (LC), Office (O), General Industry (GI), and Planned Industry (PI).

MAP 7: “EXTENT OF SEWER SYSTEM” MAP

The following is a descriptive list of specific land use controls the Town has put in place through the use of zoning to ensure the preservation of the town's rural character, open space, and natural resources.

Rural Residential District – The purpose of the district is to provide areas for low-density residential development and agricultural uses. The minimum frontage requirement is 200 feet, a minimum lot area of 40,000 square feet for a single-family residence and a minimum lot area of 50,000 square feet for a two-family residence.

Open Space/Cluster Development – The purpose is to allow for a flexible design in residential development of single or multi-family housing.

The intention is to:

1. Promote a more efficient use of land in harmony with its natural features;
2. Encourage a less sprawling form of development that consumes less open land;
3. Encourage the permanent preservation of open space, agricultural lands and other natural resources;
4. Facilitate the construction and maintenance of streets, utilities, and public services in a more economical and efficient manner;
5. Promote diverse housing at a variety of costs.

Water Supply Protection District - The overlay district is composed of three (3) zones with the purpose of the Water Supply Protection District is to protect, preserve and maintain existing and potential sources of groundwater supply, groundwater recharge and watershed areas within the Town for the public, health, safety and general welfare of the community. The Water Supply Protection District includes Zones 1, 2 and 3 as shown on the map titled "Aquifer Zone Delineations" dated March 1988 and the "Aquifer Zone Delineations Leary Well Site" dated February 1989. Also included in the Water Supply Protection District is Leary Well Site Zone 1 and the ½ mile interim Zone 2 required by the Department of Environmental Protection. The Leary Well Site Protection District is shown in Map 6.

Flood Plain District - An overlay district with the purpose of preserving the natural flood control characteristics and the flood storage capacity of the floodplain. It is also meant to preserve and maintain the groundwater table and groundwater recharge areas within the floodplain. Uses are permitted that cause no obstructions to flood flows and do not require structures, fill, or storage of materials or equipment. The boundaries of the Flood Plain District are shown on the Town of Greenfield Flood Insurance Rate Map (FIRM) dated July 2, 1980.

Corridor Overlay District - An overlay district designed to promote an attractive entryway into town and whose purpose includes protecting scenic and natural features of the landscape through ridge and slope protection, vegetative buffer requirements, and design guidelines within the district.

MAP 8: “ZONING DISTRICTS” MAP

MAP 9: CORRIDOR OVERLAY DISTRICT

Build-Out Analysis

The consulting team of Land Use Inc. and Coler and Colantonio conducted a build-out analysis of the town as part of a Land Use/Growth Study in January 2000. The build-out analysis illustrated that there is the potential for 4,845 acres of new residential development in Greenfield. With the Town's current zoning, that could yield 3,697 new housing units. Much of the open undeveloped land in town, at full build-out, would be converted into residential development, because it is currently unprotected and zoned for residences. The greatest amount of development could occur on existing agricultural lands in the northern and southern meadows areas, since they have the advantage of being flat and open. Only a few farms in town are protected under the Agricultural Protection Restriction (APR) Program.

Ecological Impacts of Build-Out

There are many ecological impacts of build-out that Greenfield needs to be aware of and keep into consideration while planning future development. Fragmentation of the landscape can have many negative impacts for the both humans and wildlife including: a decrease in the quality of the wildlife habitat, a decrease in watershed quality, a loss of recreational activities, and a loss for forest management opportunities. With the loss of wildlife habitat, there will also be a decrease in the biodiversity of the areas. Increases in erosion would occur as would a decrease in air quality. In addition, if future development fragments the existing land uses, the roadways that would need to be created to allow access to the new developments would further limit the potential for future forest management. If the Conservation Commission decided to expand the areas used for forest management, they would need large contiguous areas of forestland.

These negative impacts can be especially detrimental to Greenfield as it has a limited amount of large open spaces currently. If for example, the Griswold Conservation Area was to be split and built upon, the Town would lose the revenue from the logging currently occurring on the property, the public would lose the interconnected nature trails which provide walking/hiking and birding opportunities, there would be a loss of habitat for the wildlife, and it would decrease the protection on the water supply district.

TABLE 12: POTENTIAL NEW SINGLE FAMILY HOUSING UNITS – RESIDENTIAL DISTRICTS

Zoning	Developable Acres	New Single Family Housing Units	Comments
RA	225	1,013	Assume sewer service
RB	633	368	Assume no sewer; RC lot sizes see below
RC	3,987	2,316	Assume 42% unbuildable (40% soil conditions & wetlands; 2% access roads)
Totals	4,845	3,697	

MAP 10: “REMAINING DEVELOPABLE LAND” MAP

Many of Greenfield’s farms use the tax advantages of the Chapter 61 program, a state program which allows the property to be assessed at a lower value than the land is worth on the open market. The goal of the program is to allow people to keep land in active forest, agricultural, or recreational use. The following chart is the breakdown of chapter lands:

Chapter Category	Defined Use for Program
Chapter 61	Active Forestry
Chapter 61A	Active Agriculture
Chapter 61B	Recreation

If the property goes up for sale while in the program, the Town has the right of first refusal on purchasing the property at its market value. The Town has 120 days to act on its right; if it does not act, other interested parties may purchase the property. One difficulty with the program is that the timeframe is generally too short for most towns to raise the large sums of money required to purchase the property for protection. Another drawback to the program is that land owners can come in and out of the Chapter 61 Program on a yearly basis, as long as they pay the required back taxes on the property. For this reason, lands under the Chapter 61, 61A or 61B program are not considered protected open space.

SECTION 4 - ENVIRONMENTAL INVENTORY AND ANALYSIS

A. Geology, Soils and Topography

Greenfield is located in the Connecticut River Valley lowland region, which has ideal agricultural soils that have contributed to the rich farming history of the town. Greenfield's topography is characterized by large expanses of relatively flat floodplain terrain framed by forested hills and ridgelines. The wooded uplands that form Greenfield's western boundary also define the western edge of the Connecticut River Valley. The southwest corner contains the highest local elevations, approximately 870 feet above sea level, on Shelburne Hill and Greenfield Mountain.

The valley in Greenfield reaches nearly three miles wide and seven miles long. Five hundred million years ago, this valley was an inland sea. Two hundred million years ago, the sea floor settled and gradually filled with sediment, and erosion filed the mountains down. The trap-rock ridge was formed when a long crack opened in the basin and black lava pushed up in a series of basalt sheets, which extended from approximately Northfield, MA, to Saybrook, CT. Greenfield's Rocky Mountain Ridge is a result of this activity.

Rocky Mountain, on the town's eastern boundary, separates the developed portion of the town from the Connecticut River. The highest elevation on this ridge is 490 feet. From the ridge there are views overlooking downtown Greenfield to the west, and views of the Connecticut River and Turners Falls to the east. North of Route 2 steep slopes join the flat narrow valley of the Fall River characterizing the western border of Greenfield. The northeastern portion of town features many glacially formed hills with elevations ranging from 500 to 550 feet. The remaining land is open and relatively flat, particularly in the Greenfield Meadows/Green River area northwest of I-91. The urbanized area of town, between I-91 and Rocky Mountain, has been developed on relatively flat topography. The Mohawk Trail/Route 2 gateway to the Town of Shelburne features steep slopes overlooking the Green and Deerfield Rivers.

Greenfield is located within the Pioneer Valley, a region considered to have some of the best agricultural soils in New England, as well as the entire United States. These prime soils are the result of years of soil deposits from the Connecticut River and its tributaries. Fertile farm land drew settlers to the Greenfield area, and though their numbers are dwindling there are still a number of working farms in Town.

Geology

The Lithology maps below illustrate the mineral composition and classification of the rocks, and their mode of occurrence in Greenfield (<http://www.mass.gov/mgis/bedlith.htm>). The geologic characterization provided in this classification is intended to portray significant bedrock geologic features that influence stream sediment, soil chemistry and water quality (<http://www.mass.gov/mgis/bedlith.htm>). The descriptions below provide a brief description of the mapped features.

Map 11 illustrates the Connecticut River drainage basin.

Map 12 illustrates the Geologic Provinces that Greenfield features. The following is a description of what geological characteristics each Province contains:

Waits River-Gile Mountain Belt: Principally Devonian variably- calcareous metasedimentary rocks in eastern Vermont and the northern Connecticut valley in Massachusetts, intruded by Devonian granite.

Mesozoic Basin: Triassic to Jurassic age sediments and basalt flows deposited in localized rift basins in central Connecticut and Massachusetts. Intruded by Jurassic diabase and basalt dikes.

Bronson Hill Belt: Localized along the eastern Connecticut valley from Connecticut to western New Hampshire and northern Maine. Principally Ordovician igneous and metavolcanic rocks overlain by Ordovician to Devonian metasedimentary rocks. Sulfidic schists and mafic rocks are common. Intruded by Devonian granites (<http://pubs.usgs.gov/of/2003/of03-225/fig.1.html>).

Map 13 illustrates The Rock Group A category that contains 7 lithologic categories and a category for freshwater Rock. Group A can be further divided into more specific lithology groups (<http://pubs.usgs.gov/of/2003/of03-225/rock-groups.html>)

Basin Sediments includes Mesozoic Basin sediments and Narragansett Basin sediments.

Mafic Rocks and their metamorphic equivalents.

Metamorphic Rocks (3 categories).

Calcpelites. (<http://pubs.usgs.gov/of/2003/of03-225/fig.2.html>)

Map 14 illustrates The Rock Group B category which contains 18 lithologic categories and a category for freshwater (<http://pubs.usgs.gov/of/2003/of03-225/rock-groups.html>)

Narragansett Basin sediments.

Mafic Rocks and their metamorphic equivalents (3 categories)

Basalt. Metamorphic Rocks (6 categories)

Calcpelites

Pelitic rocks (<http://pubs.usgs.gov/of/2003/of03-225/fig.3.html>).

MAP 11: BEDROCK LITHOLOGY DRAINAGE BASIN

MAP 12: BEDROCK LITHOLOGY GEOLOGIC PROVINCES

MAP 13: BEDROCK LITHOLOGY (GROUP A)

MAP 14: BEDROCK LITHOLOGY (GROUP B)

Soils

The Natural Resource Conservation Service has identified ten general soil types for Greenfield. They are as follows:

TABLE 13: TEN GENERAL SOIL TYPES IN GREENFIELD

General Soil Area	Approximate Acres	Approximate Percentage
Westminster-Cheshire-Shelburne	1380	10%
Hadley-Ondawa-Winsooski	410	3%
Warwick-Walpole-Merrimac	3300	24%
Nassau-Dutchess-Bernarston	410	3%
Hollis-Charlton	280	2%
Merrimac-Agawam-Sudbury	1930	14%
Melrose-Buxton-Scantic	1240	9%
Merrimac-Hinckley	2340	17%
Holyoke & Sunderland-Cheshire	2060	15%
Windsor-Peat-Scarboro	410	3%
Total	13760	100%

General Descriptions:

Westminster-Cheshire-Shelburne

Located in the extreme western part of town, this association consists primarily of steep and rocky soils developed on glacial till containing stones and boulders. Both shallow to bedrock and deep well-drained upland soils on slopes greater than 15% are found in this area. The Westminster soil, shallow to bedrock and containing many ledge outcrops is the most abundant soil in this area. The soils in this association generally have severe limitations for development and agricultural uses.

Merrimac-Agawam-Sudbury

This area contains deep, well-drained and moderately well-drained sandy and gravel laden soils on level and gently sloping land. These soils are located parallel to the Green River floodplain and at the base of Shelburne Hill and Greenfield Mountain. The well-drained Merrimac and Agawam soils pose few limitations for nonagricultural purposes. The moderately well-drained Sudbury soils have severe development limitations and are best suited for agricultural use and woodland.

Hadley-Ondawa-Winooski

The soils in this association are primarily deep, well-drained and moderately well-drained, level to nearly alluvial soils. Located along the Green River, within the floodplain, these soils have formed from silt and very fine sand sediments deposited by flood waters. There is also a small area in the extreme southeast portion of town along the western banks of the Connecticut River. Due to the flood hazards associated with these soils, severe development limitations exist. The soils are best suited for agricultural uses.

Melrose-Buxton-Scantic

The soils in this association are found in the central portion of the town east of Interstate Highway 91 and extend north of Interstate Highway 91 on the eastern side of Leyden Road. There is also a small area in the extreme southeast portion of town along the Connecticut River. The soils range from well-drained to poorly drained, are found on nearly level and gently sloping land, and are best suited for agricultural use and woodlands.

Warwick-Walpole-Merrimac

This association contains both well-drained and poorly drained sandy and gravelly soils on nearly level to gently sloping land in the north central portion of town and on the eastern border north of Route 2. The well-drained Warwick and Merrimac soils have few development limitations. The poorly drained Walpole soils are best suited for woodland, wildlife habitat and pasture.

Merrimac-Hinckley

These soils are found in the south central portion of town and in the central, urbanized area surrounding Federal Street. The well-drained Merrimac soils and the excessively drained Hinckley soils were formed on deep deposits of sand and gravel and generally occur on nearly level to gently sloping land. There are few development limitations associated with these soils.

Nassau-Dutchess-Bernardston

These soils have developed on glacial till containing stones and boulders in three relatively small areas near the town's northern border. The shallow to bedrock Nassau soils contain many ledges and bedrock outcrops. Most of the soils in these associations are on slopes of 15-35% and therefore have severe development and agricultural limitations. They are best suited for woodland and passive recreational uses.

Holyoke-Sunderland-Cheshire

This association is found in three different locations in town; the steep Rocky Mountain ridge area, a small central area near the intersection of I-91 and the Route 2 bypass, and in the wooded, hilly area north of Route 2 and east of I-91. The Rocky Mountain area consists almost entirely of the shallow to bedrock Holyoke and Sunderland soils. Slopes in this area are steeper than 25% and in many places the sides of the ridges are sheer rock cliffs. These two soils are also dominant in the two northern areas, where the slopes are generally between 8-25%. The soils of this association are normally best suited for woodland and recreational uses as they have severe development limitations.

Hollis-Charlton

These soils are found in an area bordering the Fall River on slopes between 15-30%. The dominant soils are the shallow to bedrock Hollis soils that have many ledge outcrops. The soils of this association have severe development and agricultural limitations and are best suited for woodland and recreational purposes.

Windsor-Peat-Scarboro

This association, containing soils of dissimilar characteristics, occupies a small section of depressed land in an area of the Route 2 bypass. The sandy Windsor soils are excessively drained. The Peat soils, which have formed on accumulations of partially decomposed plant residue, and the sandy Scarboro

soils are very poorly drained. This general soil area is best suited for woodland and wildlife uses. It has severe development and agricultural limitations.

MAP 15: GENERAL SOILS

B. Landscape Character

The landscape of Greenfield has played a significant role in defining the character of the town. The Green, Fall and Deerfield Rivers are of particular scenic interest that provide recreation opportunities such as swimming, fishing and boating to Greenfield residents. The numerous river corridors in Greenfield need to be promoted as recreational assets and more planning needs to be performed to determine the most ideal recreational opportunities for residents to enjoy. Additionally the recently completed bikeway in Greenfield, constructed along the Green River from Nash's Mill Road to Riverside Drive, is a scenic bike trail that has become an asset to the cycling community. The Town has recently been looking into the possibility of creating a bike trail extension further south along the Green River. In the spring of 2006, the Planning Department applied for a grant through the Federal and Massachusetts Emergency Management Agencies seeking funds for the acquisition of a key piece of a property (the Wedgwood Gardens Trailer Park) that could be utilized for the construction of such an extension.

The mountain ridges that encircle Greenfield offer scenic views and recreational opportunities. Two points of interest built to capture such views are the Poet's Seat Tower on Rocky Mountain, and the commercially operated Longview Tower on Shelburne Mountain. The low profile of the Rocky Mountain ridge to the east can be observed from Shelburne Mountain and Greenfield Mountain. To the west, views of downtown Greenfield and the fertile fields of the Western Upper and Lower Meadows can be seen from the Poet's Seat Tower, or at many vistas along the Rocky Mountain Ridge. In addition, the Connecticut River Valley to the South can be spotted atop Poet's Seat and along the Rocky Mountain Ridge. There are other vistas located along the ridgeline hiking trails which take advantage of Greenfield's scenic resources as well.

Some of the ridgelines on the west and pieces of the Rocky Mountain ridge on the east are currently unprotected and are valued as scenic views. Development in these areas would limit public access to the numerous magnificent vistas from these high elevations.

MAP 16: TOPOGRAPHICAL MAP

MAP 17: SCENIC LANDSCAPES

C. Water Resources

1. Watersheds

Greenfield has multiple water resources, including streams, ponds and wetlands. Land in the town is part of the Deerfield River watershed, the Connecticut River watershed, and the Green River watershed. There are many sub-watersheds throughout Greenfield with the multiple numbers of brooks and streams that flow. The Deerfield River watershed and the Green River watershed are important sub-watersheds within the Connecticut River watershed. While this section of the Open Space Plan focuses on the water within Greenfield, any improvements or declines in the water quality will have impacts in the surrounding towns.

Connecticut River Watershed

The Connecticut River watershed consists of approximately 11,000 square miles and includes portions of Massachusetts, New Hampshire, Vermont and Connecticut. The Connecticut River flows for approximately 410 miles, beginning at the Canadian border and emptying into the Long Island Sound. According to the Connecticut River Watershed Council, 80% of the watershed is forested, 12% agricultural, 3% developed and 5% water. Thirty-eight tributaries flow into the Connecticut River, totaling over 20,000 miles of streams in the watershed (Connecticut River Watershed Council).

The Connecticut River is considered a warm water fishery with a Massachusetts goal of “Class B” water quality designation in the section which runs through Greenfield. Class B waters provide suitable habitat for wildlife and are utilized for recreational activities such as fishing and swimming. While there are wastewater treatment facilities throughout the watershed, the Connecticut River still has pollution from various discharges such as erosion and stormwater runoff. The pollutants entering the Connecticut River are from both point and non-point sources.

The Connecticut River Watershed Council is a 1,000 member non-profit advocate for the watershed emphasizing fisheries restoration, erosion prevention, land conservation, and water quality since 1952. On March 30, 2006, the Vermont Agency of Natural Resources (ANR) issued a thermal variance to Entergy Nuclear Vermont Yankee, LLC’s (Vermont Yankee’s) existing permit. The variance authorized Vermont Yankee to increase the temperature of waste effluent discharged into the Connecticut River. The Connecticut River Watershed Council held a press conference on April 21, 2006 to announce that it is challenging the permit variance. CRWC is represented by the Environmental and Natural Resources Law Clinic at Vermont Law School and has filed the appeal in the Vermont Environmental Court. Joining CRWC in the appeal is Trout Unlimited (Deerfield/Millers River Chapter) in Turners Falls, MA and Citizens Awareness Network of Rowe, MA. (http://www.ctriver.org/river_news/index.html)

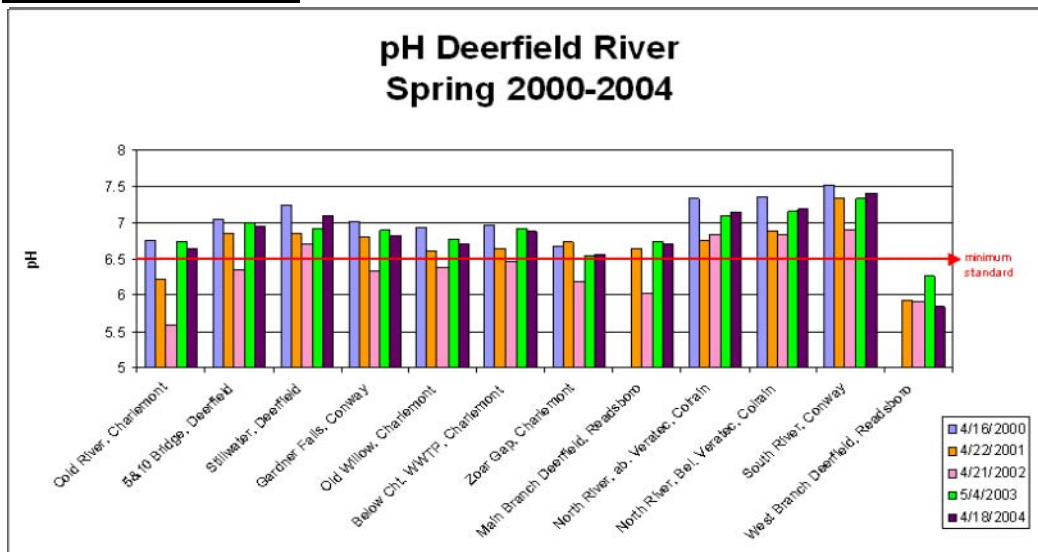
Deerfield River Watershed

The Deerfield River watershed is a sub-watershed of the Connecticut River watershed and consists of approximately 665 square miles between the Southern Green Mountains in Vermont and the Northern Berkshires in Massachusetts. The Deerfield River flows approximately seventy miles from Stratton Mountain in Vermont to the Berkshire Mountains where it flows into the Connecticut River. Approximately 78 percent of the basin is forested and about 3 percent is urbanized. The Deerfield River watershed is comprised of 36 towns in Vermont and Massachusetts and according to the 1990 Census

data, approximately 35,300 people live in the Massachusetts section of the Deerfield River Watershed (Deerfield River Watershed Association).

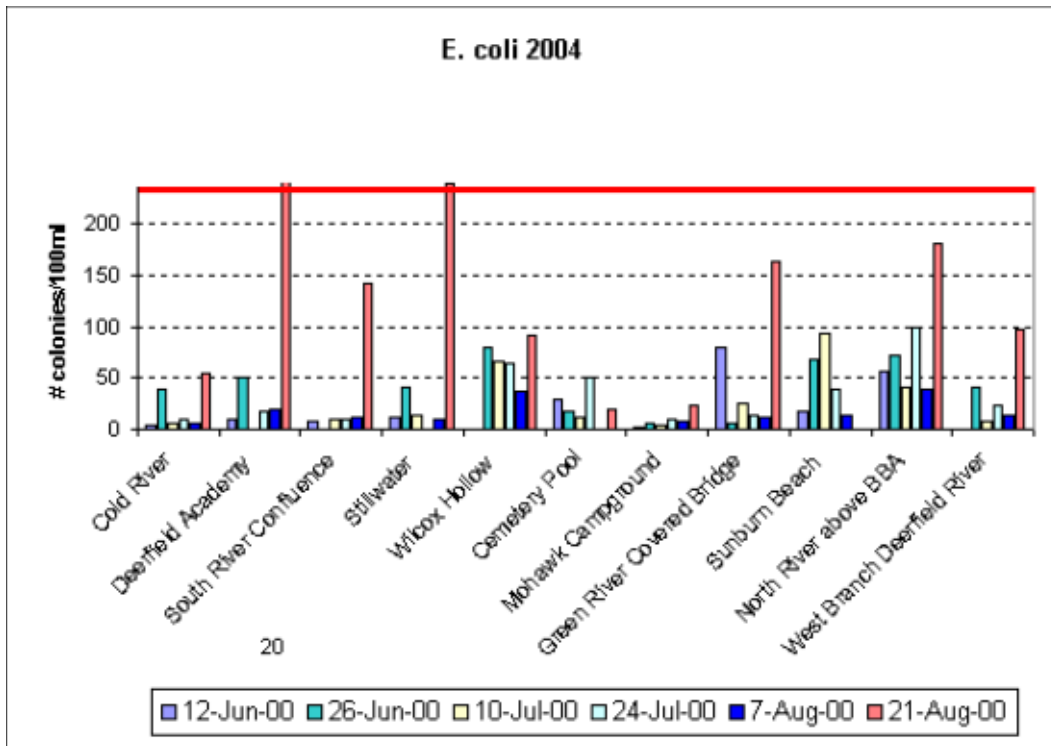
The Deerfield River Watershed Association (DRWA) is a non-profit organization that works to preserve, protect and enhance the natural resources of the Deerfield River Watershed. Their program goals include protecting and monitoring water quality during the spring months (at 12 different testing sites) testing for pH, alkalinity, temperature and dissolved oxygen. Summer testing for bacteria is conducted to assess the safety of the water for recreational use. The DRWA conducts annual river clean-ups with organizations such as FLOW, Trout Unlimited, Zoar outdoor, Crabapple, and the Connecticut River Source to Sea Consortium. ¹The DRWA also established a Local Emergency Planning Committee to respond to hazardous spills in the Deerfield River (<http://www.deerfieldriver.org/>). The DRWA has also “surveyed more than 20 marshes in the watershed for frogs, toads, waterbirds (grebes, rails, herons, and more)” and “sponsored a regional Open Space Forum November 16, 2002 and are working to cooperate on programs with the Franklin Regional Council of Governments and the Trustees of the Reservations.” (<http://www.deerfieldriver.org/>) The Deerfield River Watershed Association has been conducting Water Quality sampling along the Deerfield River. Below are the graphed results of DRWA findings from 2000-2004 (From Archived results Webpage).

TABLE 14: DEERFIELD RIVER WATER ASSOCIATION pH RESULTS FOR THE DEERFIELD RIVER



¹ For bacteria testing, DRWA has historically used the Green River at Meade Street for its “positive” sampling, because bacteria is frequently found there, probably due to Maple Brook, a buried stream carrying urban runoff and potential sewage leaks.

TABLE 15: DEERFIELD RIVER WATER ASSOCIATION 2000 RESULTS FOR E. Coli IN THE DEERFIELD RIVER



The swimming standard is 235 colonies/100ml (red line on graph).

<http://www.deerfieldriver.org/archivedresults.html#2003>

Green River Watershed

The Green River watershed is the second largest tributary to the Deerfield River and so is a subwatershed of the Deerfield River Watershed. The Green River watershed is comprised of approximately 88.9 square miles; the river begins in Marlboro, Vermont and ending as it flows into the Deerfield River in the Town of Greenfield. Approximately 8.5 miles of the Green River flows through Greenfield. (<http://www.deerfieldriver.org/GreenRiver/index.htm>) The Green River itself is well known in the Town of Greenfield because of the Municipal Swimming Area being located on the river and being a popular spot during the summer months. An Urban River Visions 2 Charette was held in Greenfield on May 1, 2007 and May 2, 2007 to provide the community an opportunity to discuss the river locally and regionally.

Friends of the Green River formed in 2006 to advocate for respectful recreational use of the Green River and protection of its outstanding natural resources. A chapter of the DRWA, Friends of the Green River sponsors an annual clean-up of the banks of the Green River, storm drains, stenciling (Don't Dump! Drains to Green River) in Greenfield, and puts on educational displays at festivals and other events in the watershed (M.F. Walk).

Zoar Outdoor, a local white water rafting business, has recently expressed interest in using the Green River for white water recreation when/if dams on the river are removed. Poor water quality poses a

concern to this type of use due to high bacteria counts, although macro invertebrate surveys indicate little impairment.

2. Surface Water

Rivers and streams dominate Greenfield's landscape. There are a few small ponds within the town's borders, mostly in the northeastern section of town. Due to the large river frontage in town, there is great potential for developing water related recreational activities. The river corridors can be highly effective recreational assets if enough planning and communication is utilized to ensure that they are being used the most ideal ways and that the public is aware of the recreational opportunities which exist. Time needs to be spent educating the public of the strong recreational assets that the river corridors in Greenfield can provide.

Connecticut River

The Connecticut River forms a large portion of Greenfield's eastern boundary. The Rocky Mountain Ridge separates most of the river from the Town. This stretch of the Connecticut River has been historically regarded as a source of waterpower, with the dam at Turners Falls and pumping activities at Northfield Mountain. Due to pollution and low flow conditions, the Connecticut River's potential as a valuable recreational asset has not been pursued in the past. However, as the water quality has improved, recent plans recommend the acquisition and development of a boat launch site in the vicinity of Cheapside, an area that has historical significance as a port in Town.

Fall River

The Fall River forms the remainder of Greenfield's eastern boundary to the north. This river, with its valley bottom and steep adjacent land, has high potential for conservation and recreation use. Currently the land has limited public access, though it has been viewed as an excellent river for fly-fishing.

Green River

The Green River travels the entire length of Greenfield, starting in the northwest, continuing between Leyden and Plain Roads until it reaches Greenfield Meadows, an area known for its rich agricultural soils. Traveling south, the river enters into the Municipal Swimming Area where a dam allows a small storage capacity. The River then flows under Route 2A, and parallels Routes 5 & 10, Deerfield Street, before it discharges into the Deerfield River.

The Green River has four dams in Greenfield. From North to South the dams are located at (1) the Eunice Williams Bridge (2) the Green River Municipal Swimming Area (3) the dam at Mill Street, and (4) The Meridian Street dam.

The Green River serves multiple purposes for the town. North of Greenfield in the Town of Leyden, the Green River provides part of Greenfield's municipal water supply at the Leyden Glen Reservoir, and again further downstream just before the dam at the Eunice Williams Bridge. The river is used more heavily in the summer months to assist with peak water demands. The Town's pattern of seasonal use emphasizes the importance to maintain the high water quality of the Green River for the town's municipal water needs.

MAP 18: DEP SURFACE WATER SUPPLY PROTECTION AREAS

MAP 19: OPEN WATER

Through its most northern section, the Green River is a significant fish and wildlife corridor. The central area has historically contributed to the town's agriculture, as the source of fertile soils deposited by periodic flooding. Mead Street, a discontinued road off of Deerfield Street provides access along the river for recreational uses. Historically, high priority has been given to the creation of a greenway along the river for conservation and recreational purposes.

The Green River is the only river in the Deerfield River Drainage basin to be labeled an "Undeveloped River Corridor" based on the National Park Service standard for this designation. To be designated as a "Wild and Scenic River" you must meet two criteria: (1) the main stem of the river must be at least 5 miles in length; and (2) the river must be free from significant hydrologic impoundment modifications and diversions. The Green River meets both of these criteria.

The Army Corps of Engineers has proposed removing the two lower dams, the Mill Street dam and the Meridian Street dam. There is currently discussion around how removal of the dams may affect the ecosystems that have adapted to the current habitats and what types of mitigation can be put into place to minimize impacts to those organisms while still facilitating the dam removals.

Deerfield River

Immediately prior to its confluence with the Connecticut River, the Deerfield River forms part of Greenfield's southern boundary. In previous years construction occurred to re-route the discharge from the wastewater treatment plant from the Green River to the Deerfield River. Many people enjoy paddling the southern section of the Deerfield River, but currently there are no designated launch sites in Greenfield. A designated put-in site would help control the negative impacts of putting in canoes at various points along the river which disturbs the shoreline. Possible launch locations could include the Kells Farm locations.

Highland Pond

Highland Pond is a small spring fed pond located in Highland Park between the parking area and tennis courts. This is the only pond with public access in Greenfield. The pond significantly adds to the scenic attractiveness of the park which is surrounded by benches and walking paths. A warming hut for skaters, which is currently unused, sits on the eastern shore of the pond. The pond is used for nature study and recreational fishing.

As recommended by the Highland Pond Management Study, the Greenfield Department of Public Works would like to dredge the pond, in an environmentally sensitive way, to address the eutrophication of the pond in an effort to enhance the recreational aspects of the pond for ice-skating in particular. Due to lack of funding, the dredging project has not been undertaken; however, the Greenfield Department of Public Works still maintains the pond in its capital improvement schedule in the event that funding becomes available.

Maynard Pond

Maynard Pond is a five-acre warm water pond located just north of the Route 2 bypass. The land around the pond is both private and town owned. The Franklin Conservation District has identified this pond and adjacent land as a potential site of a neighborhood park. The banks and open field on the shallow northern end of the pond could be lined with shrubs and trees to provide food and cover for wildlife. A wildlife conservation and nature study area could be established.

Newell Pond

Newell Pond is a small pond, about one acre in size and located west of Bernardston Road. It is limited in its potential for use as a recreational resource and is currently used only for ice-skating.

3. Aquifer Recharge Areas

The Town has actively been working to protect the aquifer recharge areas in Zones 1, 2, and 3 surrounding the Mill Brook Wells. The acquisition of the Maple Brook Farm, adjacent to the Mill Brook Wells, is a land purchase made possible through a grant by the Department of Environmental Management (now the Department of Conservation and Recreation). The Town also owns land surrounding the area by the Eunice Williams Road Dam on the Green River as well as land in Leyden surrounding the Glen Brook Reservoir. Additional land purchases in these areas could provide increased protection of these important public water supplies. In addition to purchasing land, it is also important to work with neighboring towns to protect these important shared water resources through zoning and existing state and federal regulations.

On March 3, 2004 the Greenfield Town Council voted to create a Water Supply Protection District (WP) Ordinance. The purpose of the Water Supply Protection District Ordinance is to “protect, preserve and maintain existing and potential sources of groundwater supply, groundwater recharge and watershed areas within the Town for the public, health, safety, and general welfare of the community” (~200-4.14 Greenfield Water Supply Protection District bylaw).

4. Flood Hazard Areas

Greenfield participates in the National Flood Insurance Program. The Town’s Zoning Bylaw contains a flood plain overlay district that restricts development within flood plains. The major floods in Greenfield have resulted from rainfall alone, or in combination with snowmelt. In March 1936 and 1938 major flooding occurred that severely affected the southern portion of the town, particularly sections of Deerfield Street. Due to the number of rivers that pass through Greenfield, flooding is an important issue. The Town relies on FIRM (National Flood Insurance Rate Map) maps, and utilizes the electronic Federal Emergency Management Agency (FEMA) maps to determine flood hazard areas.

Between October 8th and October 15th of 2005, the Connecticut River Valley received between 12-22 inches of rain and Greenfield experienced 100 year flood events in many areas throughout Town. The majority of the flooding occurred along the Green River from Nash’s Mill Road south to the mouth of the Deerfield River. Greenfield’s Green River Recreational Swimming Area was severely affected with flood waters damaging the bath house and the public beach.

In addition, flood waters overtopped the banks of the Green River and left debris along the recently constructed bike trail. The flood caused the evacuation of the Wedgwood Gardens Trailer Park leading to just under three million dollars in evacuation costs and damages to the landowner and to the Town. The flooding also left 75 residents of the Wedgwood Gardens trailer park homeless (http://www.boston.com/news/weather/articles/2005/10/13/romney_asserts_response_to_western_mass_flooding_quick/). In response to the flooding, the FEMA opened a disaster Recovery Center in Greenfield.

MAP 20: DEP PUBLIC WATER SUPPLIES

MAP 21: FEMA FLOODPLAIN MAP

Additional damage was caused to private property and Town owned property throughout Greenfield which resulted in the Conservation Commission issuing many Emergency Certifications to repair problems that posed immediate threats to public health and safety.

5. Wetlands

According to the Massachusetts Wetlands Protection Act, Bordering Vegetative Wetlands (wet meadows, marshes, swamps and bogs) are likely to be significant to public or private water supply, ground water supply, flood control, storm damage prevention, prevention of pollution, the protection of fisheries and wildlife habitat. Bordering Vegetated Wetlands are freshwater wetlands where water is at or near the surface during a significant portion of the year. They are found bordering creeks, rivers, streams, ponds and lakes and promote the growth of wetland indicator plants. Wetland vegetation is extremely important because it supports a wide variety of insects, reptiles, amphibians, small mammals and birds which are a source of food for game fish. According to the Wetlands Protection Act, Bordering Vegetative Wetlands are likely the Commonwealth's most important habitat for wildlife.

Land Subject to Flooding is another important resource area in Greenfield. According to the Wetlands Protection Act, Bordering Land Subject to Flooding provides a temporary storage area for flood water which has overtopped the bank of the main channel of a creek, river or stream, or the basin of a pond or lake. The characteristics of Bordering Land Subject to Flooding provide important food, shelter, migratory over wintering, and breeding areas for wildlife. Vernal pool habitat is also frequently found in the 100 year flood plain.

Vegetated buffer strips are strips of vegetation, such as shrubs, trees and plants that provide a filter for sediment, nutrients, pesticides and other pollutants before they reach a water body. Vegetative buffer strips are particularly important to resource areas in Greenfield due to the large number of important water resources and drinking water supplies. In addition, buffer strips provide stabilization of stream and river banks by preventing bank erosion and slumping. Trees and shrubs in buffer strips provide shade which help maintain a cooler water temperature. This is particularly important in rivers such as the Green River that are considered by the Army Corp of Engineers to be Essential Fish Habitat that support cold water fisheries (MA DEP).

The Greenfield Conservation Commission is responsible for the local administration, implementation, and enforcement of the Massachusetts Wetlands Protection Act (MGL Ch. 131, Sec. 40). The Wetlands Protection Act defines areas subject to protection in the state of Massachusetts. The resource areas subject to protection also have a 100 foot buffer zone around them, with the exception of the Riverfront which has a 200 foot riverfront jurisdiction.

The Town of Greenfield also has a local Wetlands Protection Ordinance that was adopted August 15, 2001. Town wetland ordinances provide more strict protections of resource areas. The Greenfield Wetlands Protection Ordinance provides that all resource areas have a 25 foot "No Disturb Zone", prohibits certain activities in the flood plain, and requires 100 percent compensatory storage as well as additional provisions.

MAP 22: WETLAND TYPES

D. Vegetation

Greenfield’s vegetation consists of a mixture of native and introduced species. Plants are an essential to ecosystems in Greenfield as they convert solar energy into food, which supports all animal life. By cycling energy throughout the ecosystem, plants assist in removing carbon from the air and releasing oxygen. In addition, vegetation assists in moderating temperatures and also providing food and shelter to certain species of wildlife.

Rare, Threatened, and Endangered Plant Species

The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife has designated several “priority habitat” areas throughout Greenfield. With multiple rivers flowing through the town, the priority habitats essentially follow the river corridors. These areas include:

- Along the banks of the Deerfield River
- Along the banks along the Connecticut River
- Along the banks of the Green River
- Along the banks of Glen Brook
- Along the banks of Hinsdale Brook
- Along the banks of Purch Brook
- Along the banks of the Fall River
- In the Poet’s Seat/Sachem’s Head areas; along Mountain Road and Poet’s Seat Road.
- An area off of Country Club Road in north-central Greenfield; located just north of the Route 2/I-91 Interchange.

There are several plant species identified by the Massachusetts Natural Heritage & Endangered Species Program as endangered, threatened, or having special concern status. NHESP has identified 264 native plant species as rare in the Commonwealth and 258 of these species have been observed in the Town of Greenfield. Plants which are listed as “special concern” are said to have suffered a decline which could have the effect of the species becoming threatened. “Threatened” species are said to be likely to become endangered in the foreseeable future. “Endangered” species are said to be at risk of extinction or extirpation (NHESP website: <http://www.mass.gov/dfwele/dfw/nhosp/nhspecies.htm>). The chart below states which of these plants have been seen in Greenfield.

TABLE 16: NATURAL HERITAGE LIST OF RARE PLANT SPECIES IN THE TOWN OF GREENFIELD

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
GREENFIELD	Vascular Plant	Asplenium ruta-muraria	Wall-rue Spleenwort	Threatened		2004
GREENFIELD	Vascular Plant	Cryptogramma stelleri	Fragile Rock-brake	Endangered		1994
GREENFIELD	Vascular Plant	Panicum philadelphicum ssp. gattingeri	Gattinger's Panic-grass	Special Concern		1978

GREENFIELD	Vascular Plant	Eragrostis frankii	Frank's Lovegrass	Special Concern	1984
GREENFIELD	Vascular Plant	Deschampsia cespitosa ssp. glauca	Tufted Hairgrass	Endangered	1991
GREENFIELD	Vascular Plant	Triphora trianthophora	Nodding Pogonia	Endangered	1981
GREENFIELD	Vascular Plant	Liparis liliifolia	Lily-leaf Twayblade	Threatened	1987
GREENFIELD	Vascular Plant	Carex tuckermanii	Tuckerman's Sedge	Endangered	1997
GREENFIELD	Vascular Plant	Carex lenticularis	Shore Sedge	Threatened	1984
GREENFIELD	Vascular Plant	Carex hitchcockiana	Hitchcock's Sedge	Special Concern	2004
GREENFIELD	Vascular Plant	Salix exigua	Sandbar Willow	Threatened	1991
GREENFIELD	Vascular Plant	Waldsteinia fragarioides	Barren Strawberry	Special Concern	2004
GREENFIELD	Vascular Plant	Prunus pumila var. depressa	Sandbar Cherry	Threatened	2001
GREENFIELD	Vascular Plant	Amelanchier sanguinea	Roundleaf Shadbush	Special Concern	1991
GREENFIELD	Vascular Plant	Ranunculus pensylvanicus	Bristly Buttercup	Threatened	1911
GREENFIELD	Vascular Plant	Clematis occidentalis	Purple Clematis	Special Concern	2004
GREENFIELD	Vascular Plant	Hydrophyllum canadense	Broad Waterleaf	Endangered	2004
GREENFIELD	Vascular Plant	Desmodium cuspidatum	Large-bracted Tick-trefoil	Threatened	1978
GREENFIELD	Vascular Plant	Viburnum rafinesquianum	Downy Arrowwood	Endangered	1979
GREENFIELD	Vascular Plant	Calystegia spithamea	Low Bindweed	Endangered	2002
GREENFIELD	Vascular Plant	Hypericum ascyron	Giant St. John's-wort	Endangered	1911
GREENFIELD	Vascular Plant	Minuartia michauxii	Michaux's Sandwort	Threatened	1989
GREENFIELD	Vascular Plant	Alnus viridis ssp. crispa	Mountain Alder	Threatened	2005
GREENFIELD	Vascular Plant	Symphyotrichum tradescantii	Tradescant's Aster	Threatened	2003
GREENFIELD	Vascular Plant	Solidago ptarmicoides	Upland White Aster	Endangered	2002

GREENFIELD	Vascular Plant	Sanicula odorata	Long-styled Sanicle	Threatened	2004
GREENFIELD	Vascular Plant	Acer nigrum	Black Maple	Special Concern	2004
GREENFIELD	Vascular Plant	Boechera missouriensis	Green Rock-cress	Threatened	2002

Source: Natural Heritage & Endangered Species Program
<http://www.mass.gov/dfwele/dfw/nhesp/towng.htm#greenfield>

Street Tree Program

The Greenfield Department of Public Works established a tree-planting program approximately six years ago to beautify the street corridors through the guidance of the Greening of Greenfield Committee, with members from various Town boards. The state run Memorial Tree Program became established in Greenfield through the donation of funds from local funeral homes. Now called the “Greening of Greenfield” the Department of Public Works facilitates the planting of approximately 20 trees a year.

Greenfield, like many communities, suffered great losses to street trees with the invasion of Dutch Elm disease. Prior to the infestation, Greenfield had large beautiful elm trees along many of its major streets. As these trees were removed, most were not replaced. Planting street trees along the town’s transportation corridors will promote a more pedestrian friendly environment as well as create wildlife habitat opportunities for songbirds and other species. The Town’s Zoning Ordinance requires landscaping as part of new development and efforts need to continue to maintain and preserve street trees in town.

Forest

Greenfield is fortunate to have forested open space/conservation lands located throughout the Town. Approximately 48 percent of Greenfield is forested. The public forest lands are used for walking, snowshoeing, and nature study along with being an important habitat for wildlife. While forest quality is generally good, it does require ongoing management efforts. At the Griswold/GTD site there Conservation Commission has an agreement with a logging company who has been logging a portion of the land. A new nature trail is being created and an open house will be held in April 2007 to explain to the public the positive effects of the logging.

E. Fisheries and Wildlife

The fauna of Greenfield is linked directly to the quantity, quality, and diversity of soils, water and vegetation. The relative abundance and diversity of the fauna is constrained by human activity. Maintenance and regulation of the use of certain open space areas is crucial to Greenfield’s ability to enhance, preserve, and enjoy its living resources.

The Natural Heritage Endangered Species Program has undertaken mapping projects for Rare, Threatened and Endangered Species which can be seen below in Map 23. This map illustrates Estimated and Priority Habitats. Natural Heritage also distributes maps to municipal offices that illustrate Living Waters and for use in guiding land conservation efforts for biodiversity in Massachusetts (Map 24).

As part of the University of Massachusetts project on stream continuity, the Friends of the Green River plan to conduct a stream crossing survey within the next few years to document which road and railroad crossings present a barrier to fish and wildlife (see www.streamcontinuity.org). This survey will identify priority crossings in town for replacement and removal (M.F. Walk).

TABLE 17: NATURAL HERITAGE LIST OF RARE SPECIES IN GREENFIELD

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
GREENFIELD	Butterfly/Moth	Rhodoecia aurantiago	Orange Sallow Moth	Threatened		2002
GREENFIELD	Dragonfly/Damselfly	Gomphus vastus	Cobra Clubtail	Special		2005
GREENFIELD	Dragonfly/Damselfly	Boyeria ocellata	Ocellated Darner	Special		2004
GREENFIELD	Dragonfly/Damselfly	Neurocordulia stygiana	Stygian Shadowdragon	Concern		2004
GREENFIELD	Dragonfly/Damselfly	Enallagma carunculatum	Tule Bluet	Special		1997
GREENFIELD	Dragonfly/Damselfly	Stylurus amnicola	Riverine Clubtail	Concern		2005
GREENFIELD	Dragonfly/Damselfly	Stylurus scudderi	Clubtail	Endangered		2005
GREENFIELD	Dragonfly/Damselfly	Stylurus spiniceps	Zebra Clubtail	Endangered		2005
GREENFIELD	Dragonfly/Damselfly	Acipenser brevirostrum	A Clubtail Dragonfly	Threatened		2004
GREENFIELD	Fish	Notropis bifrenatus	Shortnose Sturgeon	Endangered	E	1999
GREENFIELD	Fish	Phoxinus eos	Bridle Shiner	Special		1962
GREENFIELD	Fish	Phoxinus eos	Northern Redbelly Dace	Concern		2002

Source: Rare Species by Town

<http://www.mass.gov/dfwele/dfw/nhosp/towng.htm#greenfield>

Vernal Pools

Vernal pools are temporary bodies of fresh water, most commonly containing water during spring runoff, which provide critical habitat for many vertebrate and invertebrate wildlife species (Natural Heritage Endangered Species Program, Vernal Pool Fact Sheet). Many of the species which are entirely dependent on vernal pool habitats are listed by the state as rare species. Greenfield does not currently have any certified vernal pools, however, the MassGIS web site does provide a map layer that illustrates potential vernal pools in Greenfield. Even though Greenfield does not have any certified vernal pools, Mass DEP released new Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands as of March 1, 2006 which provide protection for vernal pool habitat identified during the wetland application review process with evidence from a competent source such as evidence that would be sufficient to certify a pool if submitted to the Division of Fisheries and Wildlife. In the near future, the Deerfield River Watershed Association plans to develop a volunteer-based vernal pool certification program.

MAP 23: NHESP ESTIMATES AND PRIORITY HABITAT

MAP 24: NHESP BIO MAP AND LIVING WATERS

F. Scenic Resources and Unique Environments

Unusual Geologic Features

There are a variety of unique geologic features in and around Greenfield, from dinosaur footprints to a rock park showing armored mud balls. As the article “Geologic History of the Connecticut River Valley near Greenfield, MA” states “Greenfield, bounded on the east by New England’s largest river, the Connecticut, and on the west by the highlands of the Berkshire Hills, is one of the best places in the world to study geology”. The following are some highlights of unique geologic features:

- Lake Hitchcock – Lake Hitchcock was a glacial lake which drained over 14,000 years ago; the majority of Greenfield’s development is located on the flat lake bottom plain of Lake Hitchcock.
- Pocumtuck Range - Lava flows from the Mesozoic age influenced today’s landscape by forming the ridge during movement along the ancient Eastern Border Fault and then be eroded. Poets Seat Tower is located on Jurassic age lava which is 194 million years old and was formed during the separation of Pangea.
- GCC Rock Park – The Greenfield Community College boasts a variety of specimens ranging from armored mud balls to igneous rocks. Not only can a viewer see local specimens, but it allows the visitor to see unique geologic rocks from the region such as extrusive igneous rocks from the Cheapside Quarry in east Deerfield and the armored mud balls which are from Turners Falls, MA.
- Dinosaur Footprints – In 1835, the first scientific study of dinosaur footprints in the world began when paving stones quarried from Turners Falls, MA were laid in Greenfield. These dinosaur footprints can occasionally be seen in the lava ridge slopes along the Connecticut River (Geologic History of the Connecticut River Valley).

Scenic Landscape Resources

The following is a list of significant scenic landscapes and what they offer:

- Upper Meadows - Agricultural landscape with many historic houses providing a pastoral setting of a time when Greenfield was an agricultural community.
- Lower Meadows - Agricultural landscape with many large farms, farm stands and a few historic houses.
- Town Common - Historic significance, Civil War Monument, and center of many Town festivals and activities.
- Poet’s Seat Tower - Symbol of Greenfield, provides excellent views of the downtown area to the east and good view of Turners Falls and the Connecticut River to the west, and as far as Mount Monadnock (NH) on clear days.
- Sachem’s Head - Good 180 degree views of the Connecticut River.
- Mohawk Trail - Good views toward the east of Greenfield and the entire valley, on clear days Mount Monadnock can also be seen.
- Shelburne Mountain - Good views to the east of Greenfield and some of the highest points in town.
- Canada Hill Ridge - Good views to the northeast of town, part of the Rocky Mountain Ridge.

Cultural Resources:

Performing and Visual Arts/Theaters

- Arts Council of Franklin County
- Greenfield Community College
- Pioneer Valley Symphony and Chorus
- Valley Community Music School

Festivals and Fairs

- Franklin County Fair (September) - The first agricultural fair in the country. An old-fashioned agricultural fair featuring livestock, produce and craft exhibitions, horse/oxen pulls, demolition derby, midway, food and entertainment.
- Greenfield Winter Carnival (First Weekend in February) - Events, games, road race and contests for the entire family.
- Classic Day in Greenfield (May) - Auto show, classic postcard show and sale, music, Earth Day Festival at the Energy Park, food tasting and craft demonstrations.
- Fall Festival (October) - Live music, entertainment, and food.
- Franklin County Chamber of Commerce Home and Trade Show (April) - Exhibitors from the region offer products and services for the home and business.
- Green River Balloon Festival (July) - Balloon rides, live music, fireworks, food and crafts.

Cultural Organizations

- Greenfield Arts Council
- Greenfield Grange

Historic Resources:

Historic Organizations

- Greenfield Historical Commission
- Greenfield Historical Society

Historic Districts

Greenfield has two National Historic Districts: the Main Street Historic District and the East Main/High Street Historic District.

Heritage Landscapes

The Greenfield Historical Commission has assembled a list of heritage landscapes in Greenfield. As defined by the MA DCR Heritage Landscape Program, heritage, or cultural landscapes are places that, through their physical characteristics and features, reflect the interaction of human beings with the environment. They range in size from a small plot to hundreds of acres, and include both natural resources and human-made features. They help define the character of a community and reflect its past. The following are heritage landscapes in Greenfield as defined by the Historical Commission:

1. South Meadows from Colrain Street to Nash's Mill Road
2. North meadows from Nash's Mill Road to Hinsdale Brook
3. Trap Plain Common

4. Highland Park, Poet's Seat Area
5. Franklin County Fair Grounds
6. Green River Cemetery
7. High Street Cemetery
8. Federal Street Burial Ground
9. Cheapside docks, bridge Area
10. Riverside Archaeological District: National Register district
11. Factory Hollow
12. Town Farm fields, barn and home
13. Green River Industrial Heritage Area: bounded by Hope, Deerfield, Meridian and River Streets.
14. Green River, Pumping Station, Covered bridge, CCC woods Area
15. Railroad structures: Miles Street, Bank Row, Deerfield Street, Country Club Road
16. Mohawk Trail ascent road and Tower
17. Kells Farm/Montague City bridge Area
18. Swimming Pool Area
19. Town Common Area

SEE APENDIX D: “UNIQUE FEATURES” MAP

NOTE: The Unique Features Map shows the Massachusetts Natural Heritage Endangered Species Program Priority and Estimated Habitat areas within Greenfield as unique features. The unusual geologic features described on page 66 of this Plan are not shown on the map because they cover most of the Town or the entire Town. An example of this is Lake Hitchcock which covered much of the Pioneer Valley Region.

G. Environmental Challenges

1. Hazardous Waste and Brownfield Sites

When Greenfield completed the 2000 Open Space and Recreation plan it was working toward cleaning up three hazardous waste sites. All the sites are located close to water resources and are important clean-up projects. The largest project, the Greenfield Tap and Die complex on Deerfield Street was a major manufacturing facility that was abandoned. Pollutants from the site were leaching into the Green River. The site was designated a Brownfield’s site and was designated as an EPA pilot project. Since the completion of the 2000 Open Space and Recreation plan, remediation at the Greenfield Tap and Die site was completed. The site has since been sold and has been redeveloped into a Senior Assisted Living Facility.

Food and Fuel, also along Deerfield Street, was an abandoned gas station. The Town, with funding from the Department of Housing and Community Development Block Grant Program, removed the blighted buildings and underground storage tanks. Since the completion of the 2000 Open Space and Recreation Plan, the Town has gained access to additional grant funding in order to complete remediation of the site.

Another old Greenfield Tool and Die building on Riddell Street, currently used as warehouse space, is also an EPA pilot project and is located next to an underground stream. The Town is currently researching options for the site.

Since the 2000 Open Space Plan, two additional Brownfield sites have received a preliminary site assessment. The Toyota of Greenfield dealership on Olive Street has been investigated for use as a potential transportation hub. A preliminary site assessment has also been completed at 57 Wells Street, the site of the Senior Center.

MAP 25: GREENFIELD DOWNTOWN HISTORIC DISTRICTS

MAP 26: MASSDEP OIL AND HAZARDOUS MATERIALS SITES WITH ACTIVITY AND USE LIMITATIONS

MAP 27: LANDFILLS

Air Quality

The Commonwealth of Massachusetts has been designated by the Environmental Protection Agency (EPA), as a ground level ozone non-attainment area in the summer months. Much of the air quality problem is due to pollution that is produced in the Midwest and travels northeastward to New England. The Connecticut River Valley has particularly bad air days during the summer, as ground level ozone travel up the Connecticut River valley from New York City and New Jersey.

Solid Waste

Greenfield's "Pay-as-you-throw Program" passed on July 1, 2005 and went into effect on July 5, 2006. The Town has two sizes of trash bags available; 13 Gallon Bags cost \$.75 and 33 Gallon Bags cost \$1.50 (ten packs are also available). All Greenfield stores (supermarkets, drug stores, and gas stations) sell the trash bags, with the exception of Home Depot and Greenfield's Market. Trash is collected curbside and cannot exceed 30lbs. The Town provides municipal trash pick up for residents on a weekly basis. Greenfield collects and transfers its solid waste to an incinerator plant in Springfield where the trash is converted to energy. The Town had its own sanitary landfill, which was closed and capped in 1998. The capped landfill is located in the southwestern section of town, very close to the Deerfield River. The Town continues to monitor the capped landfill in accordance with Department of Environmental Protection (DEP) regulations.

Since 1987, the Town has had a recycling program in place. The Town recycles the following materials: paper, cardboard, recycled plastics, glass, and metal. Recycled products are brought to the Springfield Materials Recycling Facility (MURF). Hazardous materials are collected curbside, during scheduled times of the year, and by the Department of Public Works, by prior arrangement, at the Wastewater Treatment Plant. At the transfer station, the Town also collects used motor oil, paint, scrap metal, and glass, and there is a dedicated shed for residents to drop off items that other residents may find usable.

Non-point Source Pollution

Controlling non-point source pollution is a significant problem in Greenfield. For many years, the Town of Greenfield has recognized the importance of storm-water management planning. Urban storm-water runoff is a difficult problem to solve because: there is little undeveloped land or permeable surface in the urbanized area; the cost of new piping and structures is prohibitively high; the street drainage systems are very old; and frequently, complete plans do not exist showing the location and size of the underground pipes.

The Town continues to seek funding to develop a comprehensive storm-water management plan. Greenfield's storm-water management policy goals are:

- First, to take reasonable steps to reach the performance standard of 80% removal of total suspended solids on a project-by-project basis, as funding becomes available for individual reconstruction projects throughout town.
- Secondly, to work to provide for the improvement of water quality through incremental Best Management Practices (BMPs) where feasible.

The Greenfield Board of Health tracks installation and repairs of septic systems town-wide, through the requirements of Title 5 regulations. The Town's Community Septic Management Plan completed in 1998, recommended implementation measures for the Town to move forward with a management

program. A betterment loan program, of \$200,000, was put into place for homeowners to repair or replace failing septic systems, but funds for this program were expended in August 2000.

2. Environmental Problems at Open Space Sites

Highland Pond

Runoff into Highland Pond most likely occurs from the nearby road and parking lot. To address this problem the Town has improved the drainage on the road by installing catch basins. Potential seepage from failing septic systems could also be contributing to the eutrophication of this resource. Erosion and sedimentation have also affected the pond from the area where tennis courts are located uphill of the pond. This erosion problem was remedied in 2005 but requires maintenance until vegetation can get reestablished. Advanced eutrophication results in a loss of habitat for fish and wildlife and limits recreational use. Dredging the pond would improve the resource for recreational activities, such as ice-skating.

Dams

The Army Corps of Engineers has conducted a study and developed a plan with the goal of providing safe fish passages over the four existing Greenfield dams. Salmon have been found at the base of the southernmost dam, trying to swim upstream. An Atlantic Salmon restoration project has been in the works for over 30 years trying to restore salmon to the Connecticut River and its tributaries.

Trash

Many of the open space sites have problems with people disposing of trash. The Leyden Woods Conservation Area has many large items that were disposed of by being tossed down the hill. To address this problem, the DPW removed the trash cans from recreation areas and established a take in/take out trash method. There are concerns expressed from residents regarding this leading to increased littering problems. This is an issue which is expressed to be resolved in the action items.

SECTION 5 - INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

The Town of Greenfield has long been enriched by the quality of its open environment. This environment is enjoyed by the residents of the town in a variety of ways ranging from active participation in organized recreational activities to reflective enjoyment of the landscape's scenic qualities. It is important to remember that this recreational enjoyment is not limited to areas specifically dedicated and developed for recreation and/or conservation uses but is tied to the overall character of the town's landscape - a landscape which includes "resource" and "sensitive" areas as well as specifically designated recreational areas.

Greenfield's open space is a diverse combination of historical, environmental and recreational areas. The Town has received ownership of properties in different ways: through purchase for open space, gifts from property owners, development agreements, and back taxes. This section discusses the larger or more significant publicly and privately owned open space parcels that currently exist in town and provides a table of the majority of Greenfield's open space parcels.

SEE APPENDIX D: "OPEN SPACE LANDS" MAP AND TABLE

SEE APPENDIX D: "SCHOOLS AND PARKS" MAP AND TABLE

SEE APPENDIX D: "CHAPTER LANDS" MAPS AND TABLES

Greenfield Open Space - Major Parcels

Beacon Field

Location	Acreage	Owner/Manager
Sanderson St.	7.70	Mayor

Description: Beacon Field is located on the eastern edge of the town's densely populated area. The forested ridge that forms the eastern boundary of the playing field rises abruptly to the Poet's Seat Tower on Rocky Mountain. Beacon Field is a heavily used facility that draws users from a fairly wide radius. Many of these users, including residents of the senior citizens' apartments on High and Congress Streets, can walk to the park, where a variety of recreational facilities are provided. These facilities include: a 90 foot baseball diamond and backstop, a football/soccer field, a playground area with a slide, four swings, and five clay tennis courts and practice backboard. For many years a toboggan run on the edge of the field, at the foot of Rocky Mountain, was a well-known and popular winter facility. The toboggan run has been removed but the old path is still used for sledding. The Town's Fourth of July celebrations are centered here and the fireworks are launched overhead from the Poet Seat Tower area. The Town now erects an outdoor ice skating rink, weather permitting, during winter months and used for the annual winter carnival.

Beacon Field is seen as an ideal spot to conduct recreation programs, due to the variety of facilities and the proximity to population concentrations, but the facilities, particularly the grass playing fields, are in constant need of re-conditioning. The most intensive users of the playing fields are the baseball, football and soccer teams of the Middle School. Maintenance of all facilities is the responsibility of the Department of Public Works, and the final management responsibility rests with the Mayor.

Planned Actions and/or Recognized Need: Re-seeding has brought the field into playing condition. However, it is a process that must be repeated yearly. Long-range plans include the construction of a small basketball court as well as drainage improvements for the tennis courts. The Recreation Department has also identified a need for lighting and bathrooms at the park.

Bernardston Road Conservation Land

Location	Acreage	Owner/Manager
Bernardston Rd.	12.40	Conservation Commission

Description: This site is located on a forested hill on the western side of Bernardston Road. It was donated to the Town specifically for conservation purposes, and at the present it is not used for recreational activities because it is hard to access. If the site was more widely known and there was better signage, there would be potential for more use. The Westwood Wildlife Sanctuary is in close proximity to this site. If the two properties were connected, it would make the sites more usable as a passive recreation resource.

Planned Actions and/or Recognized Need: A forest cutting plan, along with a management plan of the site, and improvements to signage. Investigate the possibility of connecting with the Westwood Wildlife Sanctuary.

Greenfield Energy Park

Location	Acreage	Owner/Manager
Miles Street.	1.25	Mayor/NESEA

Description: This downtown community park was developed as a partnership project between The Town of Greenfield and the Northeast Sustainable Energy Association (NESEA). NESEA agreed to create a demonstration park for the town on the topic of renewable energy. This was done as both as a contractual obligation and to carry forward the long-range plan developed by the Town approximately 10-12 years prior. A team of 15 people-- representing government, NESEA, architects, horticulturists and others -- met for over 4 years to design, to review and to move forward construction of the park that opened in October 1999. Funding was obtained from a variety of state and federal grants, private foundations, grantors, donations and volunteer labor and materials. The mission of the park is to offer a safe gathering spot for lunches, concerts, workshops, and to provide the public education about issues of sustainable energy in a friendly, non-technical atmosphere.

Maintenance of the park is the responsibility of the DPW, with NESEA providing management services in lieu of taxes. Coordination for scheduling activities is accomplished through the Town's Recreation Director.

Park features include: Native arboretum, sustainable demonstration gardens and compost bins, solar panel array (2 kilowatts), children's play train, two roofed exhibits on energy and transportation, central train sculpture, custom-made identification tiles for trees and shrubs, re-used materials (bricks, granite curbing, fencing), interpretive wayside signage, five stone benches.

Requests for summer band concerts and other types of music, in addition to outdoor workshops and theatrical productions have prompted the exploration of a pavilion to be built by volunteers. Better signage on Bank Row and Main Street would improve visitor awareness – because of its geographical location, it is not immediately visible from Main St. Several more stone benches would allow for greater seating options.

Green River Conservation Land

Location	Acreage	Owner/Manager
Colrain Rd.	11.10	Conservation Commission

Description: This wooded site is located on the eastern bank of the Green River and only a short distance upstream from the Municipal Swimming and Recreation Area. An informal trail that is used by hikers and fishermen follows the Green River and cuts through the property. At the present time this parcel is not managed for any recreational use. Management of this site rests with the Conservation Commission. The deed specifies that this site shall be used for conservation purposes and stream bank protection. This site is identified by the Massachusetts Natural Heritage Program, as a "Rich Woods" - a community of rare and unusual plants, shrubs, and trees.

Planned Action and/or Recognized Need: This parcel could be managed in conjunction with the adjacent Murphy Park and the Municipal Swimming and Recreation Area. A potential objective for the property is to provide an attractive setting for passive recreational use, complementing the recreational facilities located nearby. The site could also become an important component of a greenbelt trail system along the Green River.

Green River Park

Location	Acreage	Owner/Manager
Petty Plain Rd.	4.40	Mayor

Description: Green River Park is located south of Petty Plain Road, in a flood prone area west of the Green River. Although located in what has been termed Greenfield's southern neighborhood, the park draws users from the heavily populated Deerfield Street neighborhood to the east. The park contains two softball diamonds, playground equipment, picnic tables and a basketball court with two hoops. A steep and wooded hillside forms the western boundary of the playing fields. Approximately half of the site is developed for active recreation while the remaining southern portion is covered with brushy and woody vegetation. The banks of the Green River are densely forested.

The Town, using funds from the Community Development Block Grant Program, installed new state-of-the-art toddler and older child playground equipment, repaired the basketball court, rehabilitated the parking lot, installed benches and picnic tables, and planted trees.

A small parcel of Town-owned land, adjacent to the park, located to the north of Petty Plain Road, is considered to be part of the Green River Park. This site (approximately 1.5 undeveloped acres), and the undeveloped portion of the main parcel, are seen to have potential as nature study areas. A large number of birds of different species have been observed, and there is also an interesting variety of plant species capable of withstanding periodic flooding.

Planned Actions and/or Recognized Need: The Franklin County Conservation District recommended maximizing the nature study potential of the two Town-owned sites. This would require developing trails and cleaning up the east bank of the Green River. The possible development of a boat launch site along the river has also been discussed. From here small boats or canoes could reach the Deerfield and Connecticut Rivers. More publicity about the existence of the park to all residents is needed. Addressing the invasive plant species along the banks of the Green River could improve the wildlife habitat of the area. The addition of restrooms would also benefit this park.

Green River Pumping Station

Location	Acreage	Owner/Manager
Eunice Williams Rd.	13.50	Mayor

Description: The stately red brick pumping station is surrounded by a dense pine forest next to a covered bridge and is located in a very beautiful natural area on the Greenfield-Colrain border. The unspoiled Green River is the focal point of this picturesque site. Although not officially open to public use, the pumping station land serves as a popular local fishing and swimming area. Swimming takes place near the Town's only remaining covered bridge. At this site the Eunice Williams historic marker indicates an old Indian trail running through Greenfield as well as the official place where Native Americans killed Mrs. Williams, after an attack on Deerfield on February 27, 1704. The Board of Mayor holds management authority over this land. This property was taken for water protection purposes and includes the dammed section of the Green River where water is drawn for municipal use.

Planned Actions and/or Recognized Need: The Greenfield Department of Public Works and the state Department of Environmental Protection monitor this area due to it being a drinking water supply protection area. The recreational use of this site should not be encouraged in order for the site to be protected.

Green River - Riverside Greenway Bike Path

Location	Acreage	Owner/Manager
Riverside Dr.	---	Mayor

Description: The property is a long narrow stretch of land about one mile in length lying on the east bank of the Green River. This Town-owned wooded strip of land extends from Colrain Street north to Nash's Mill Road, between the river and the old Riverside Drive. It is now the location of the Riverside Greenway bike path along the river that includes vistas, picnicking and other low impact recreational opportunities. The bikepath portion of the project has received funding through Intermodal Surface Transportation Equity Act (ISTEA) and was recently completed. The wood turtle habitat in the Green River flood plain posed challenges during the construction process. As a result the fence erected as a barrier between the bike trail and the Franklin County Jail was designed to have turtle passages at its base. This allows the turtles to pass beneath the fence to access the upland fields behind the jail. Plans remain to continue the bikeway to Green River Park on the south side of town through Mead Street. The Riverside Greenway is a widely supported project by the community that has been in the planning stages for over 15 years.

Planned Actions and/or Recognized Need: The Planning Department applied for a grant in early 2006 through the Federal Emergency Management Agency (FEMA) and the Massachusetts Emergency Management Agency in an attempt to acquire funds toward the acquisition of Wedgewood Gardens Trailer Park located south of the Riverside Greenway Bike Path. Wedgewood Gardens was severely flooded in October of 2005, and its acquisition could provide a site for the expansion of the Riverside Greenway further south. Repair.

There is a need to repair the damage which occurred after the flood of 2005. In addition, it would be beneficial to add signage and picnic tables to the site and also offer information on connections to extended bikeways using shared roadways.

Griswold Wildlife Sanctuary

Location	Acreage	Owner/Manager
Lampblack Rd.	71.80	Conservation Commission

Description: In 1973, the Griswold family donated this property to the inhabitants of the Town of Greenfield. The deed specifies that no motorized vehicles are to be allowed and that picnic areas, camping sites and related uses are similarly prohibited. The land is under the control of the Conservation Commission which has directed most of its efforts in the past five or six years to managing and improving its wildlife habitat and passive recreation potential. Primarily wooded, the site also includes a small pond and pastureland. A forest management plan for this very aesthetically pleasing area has been prepared.

An interpretive trail system has been designed by a consulting forester and installed. . In the last year trail markers have been replaced in an effort to maintain the trail system. A kiosk is located in the parking area of the neighboring GTD Conservation Land is maintained and has self guiding maps available to the public that indicates the location of the trails and contains numbered trail markers demonstrating land stewardship and wildlife habitat enhancement. In the near future some of the trails will be rerouted and the map will be updated to include trail changes. Due to the large amount of rainfall in the fall and winter of 2005 the logging contract on the property was extended. The policies of the Conservation Commission place emphasis on multiple uses of this property. The field kept open for use as wildlife habitat is mowed on a regular basis through a contract with a local farmer. Approximately four acres of this site are used alternately by a Bernardston farmer to grow corn and for pasture.

Planned Actions and/or Recognized Need: As with the GTD property, the continued improvement to the existing trail network would greatly enhance the passive recreational value of this site. It has also been recommended that the Town purchase the property on the western side of Lampblack Road between the Griswold property and the GTD Conservation land. Such a purchase would enhance the wildlife habitat of a large area and also protect this very beautiful natural area from the intrusion of possible future development. In order to maintain the natural integrity of the area, numerous constraints will be imposed regarding the harvesting operation.

GTD Conservation Land

Location	Acreage	Owner/Manager
Lampback Rd.	122.82	Conservation Commission

Description: This is a beautiful forested tract of land located between I-91 and Lampblack Road in the less developed northwestern corner of town. It sits adjacent to Griswold Wildlife Sanctuary. The property was donated to the inhabitants of the Town of Greenfield by the Greenfield Tap and Die Company in 1977 and is to be managed for recreational, forestry and wildlife use. The deed specifies that the property is to be used for conservation purposes only and is under the direct control of the Conservation Commission.

Trails have been developed and are used for cross-country skiing and hiking. There are deer, wild turkey, bear, rabbit, pheasant to be found in this area but hunting is forbidden here as it is on all conservation properties.

As with the Griswold Wildlife Sanctuary the contract for the forest harvesting in on the GTD Conservation Land was extended due to the heavy rains in the fall and winter of 2005. The Self Guiding Stewardship Trail Map for this site and the neighboring Griswold Wildlife Sanctuary is available at the kiosk in the main parking area and contains numbered trail markers demonstrating land stewardship and wildlife habitat enhancement.

Planned Action and/or Recognized Need: The best recreational use of this property is tied to passive recreation. The potential of developing a scenic vista on the top of the mountain and adding trail network would enhance the value of this property for hiking and cross country skiing,. Continuing nature studies should be investigated as part of the ongoing forest stewardship of the property.

Highland Park

Location	Acreage	Owner/Manager
Bear's Den Rd.	29.00	Mayor

Description: This heavily used recreation area is located south of Rocky Mountain Park and adjacent to the steep western slope of Rocky Mountain. The tract includes the spring-fed Highland Pond and the Bear's Den/Sachem Head area where the Rocky Mountain Ridge line terminates and at which point a view of the western hills and the Deerfield meadows is afforded. Facilities for active recreational pursuits are provided and this scenic forested area allows for passive activities. There are four clay tennis courts and a hiking trail network. The park is only one half of a mile from the center of Town and one-quarter mile from two senior citizens' apartment complexes, and therefore has the potential to be enjoyed by many persons of different age groups. Both joggers and dog walkers use the trail system extensively. The pond was formerly a primary site for pond skating for over 75 years, with a warming hut staffed by volunteers on winter weekends.

Planned Actions and/or Recognized Need: It is recommended that this property be consolidated with the Rocky Mountain Park area to the north and the Old Municipal Golf Course to the south. It is hoped that more hiking trails, bikeways and cross-country ski trails can be established. The Department of Public Works has plans for dredging Highland to address the eutrophication of the pond and also improve the recreational capacities for ice skating, though conservation restrictions and lack of funds have stalled this project. The banks are now overgrown and no skating is promoted.

Kells Farm Land

Location	Acreage	Owner/Manager
Mountain Rd.	85.10	Department of Environmental Management (DEM)

Description: This land is composed of agricultural fields and woodland and is located along the Connecticut River on the southeastern side of the Rocky Mountain Ridge. The Massachusetts Department of Conservation and Recreation (DCR) leases the fields to a local farmer who grows vegetables and hay. Plant habitats listed as special concern do exist along the banks of the river, including Round Leaf and Shad Bush. The land also includes Smead Island, located in the middle of the Connecticut River. There have been problems with illegal activity used by ATV's on this property and the DCR has been posting signs to assist in stopping this problem.

Planned Actions and/or Recognized Need: The Town should develop a management plan jointly with DCR for the site. The potential exists for developing a trail system to connect with the nearby Rocky Mountain Park and Temple Woods. Also, it might be possible to develop a canoe launch site into the Connecticut River.

Leyden Woods/Green River Conservation Land

Location	Acreage	Owner/Manager
Leyden Rd.	39.00	Conservation Commission

Description: This rather expansive tract of land is located along the eastern bank of the Green River, between the river and the Leyden Woods residential development. The developer of Leyden Woods was required to dedicate this area as open space for the inhabitants of Greenfield as a condition for the approval of the residential project. The site is under the direct control of the Conservation Commission. No management activities are presently being undertaken and due to the predominantly wet, marshy nature of the site, recreational development possibilities are somewhat limited; and many of the natural aspects of the site are being damaged by littering and other abuses. This property is part of the informal trail network along the Green River between the Covered Bridge on Eunice Williams Road and the Municipal Swimming and Recreation Area.

Planned Actions and/or Recognized Need: A management program for the site is desirable and a general cleanup of trash and litter is necessary.

Municipal Swimming and Recreation Area

Location	Acreage	Owner/Manager
Nash's Mill Rd.	22.30	Mayor

Description: Located on the Green River, on the west side of Interstate Highway 91, the municipal swimming area is the Town's most heavily used recreational facility, serving residents from all sections of Greenfield as well as people from other towns. During the summer, the pool area serves hundreds of users per weekday and over 2,000 on a busy weekend day. The pool is formed by the damming the Green River in June, a process which disrupts water flow for 2 or 3 days. The dam itself was rebuilt in 1979 for safer water control.

Although the south side of the site is flat, it is adjacent to a steep, forested portion of Murphy Park that rises on the north bank of the Green River. The Town-owned Nims Tree Farm land lies upstream from the swimming area and provides hiking and passive recreation easily accessible to those who visit the swimming area and connecting as far north as the Covered Bridge on Eunice Williams Road.

The Swimming Area contains three sanded beaches, a playground area, a bike rack, full basketball court, a softball field, picnic tables and barbecue grills. On the site are buildings for showers and restrooms, lifeguards, and a concession stand. The Swimming Area is officially open from Memorial Day to Labor Day. Maintenance of the site is the responsibility of the Department of Public Works, which works in conjunction with the operations of seasonal activities by the Recreation Department. Final management authority rests with the Mayor.

Planned Actions and/or Recognized Need:

Present access from residential areas to the east by way of Leyden Road and Nash's Mill Road is seen to be dangerous and unsuitable for both pedestrians and bicyclists. As a result many users originating from points south and east utilize motor vehicles as an alternative to walking or biking and many who do walk climb the metal fence that allows them to pass under I-91 by way of the old Riverside Drive. If constructed, the Riverside Greenway would provide better bicycle and pedestrian access to the site from the downtown area.

The Recreation Commission has identified the need for improvements to the buildings including painting and upgrades to the bathrooms and shower facilities. They also identified the need for a new pavilion and cooking facilities as well as new playground equipment.

Municipal Swimming and Recreation Area Continued

Murphy Park

Location	Acreage	Owner/Manager
Leyden Rd.	31.00	Mayor

Description: This is a beautiful tract of land that contains a steep wooded slope that rises above the swimming area on the north side of the Green River to a flat open area used for organized softball by the Greenfield Girl's Softball League. The land was originally purchased by the Town to build a school. The school was never built and the property was used for its present day park. There are four fenced-in softball fields, a batting cage and a field house. The field house contains a concession stand, bathrooms and a telephone.

Planned Actions and/or Recognized Need: The passive recreational potential of this area could be greatly heightened by the implementation of a management program. The parcel could be managed in conjunction with the adjacent conservation land and the swimming pool area to expand the recreational facilities that now exist at the Greenfield Swimming Area.

Old Municipal Golf Course Property

Location	Acreage	Owner/Manager
Montague City Rd....	55.00	Mayor

Description: This neglected, primarily forested, yet potentially important piece of land lies to the south of Temple Woods and is the southern terminus of the Rocky Mountain Ridge. Management of the area is the responsibility of the DPW but no maintenance activities are presently taking place. Final authority over the use of the site rests with the Mayor. The site's steep and forested eastern boundary abuts the Abercrombie Field and contains an old ski jump run that is sometimes used for motorcycle hill climbing and is badly eroded.

Planned Actions and/or Recognized Need: This property should be an important component of an integrated recreation/conservation area that could include the Rocky Mountain/Highland Park areas to the north and the Kells Farm property to the east. The Franklin Conservation District has pointed out that the ski jump plateau site offers a good point to establish a neighborhood picnic area with a good view of the Deerfield Meadows to the south. It is recommended that thinning and clearing areas of the property that are overgrown would greatly enhance the appearance of this large tract of land.

Rocky Mountain Conservation Land

Location	Acreage	Owner/Manager
Parkway St....	30.00	Conservation Commission

Description: This forested tract of land is located between High Street and the Connecticut River adjacent to and north of the area normally considered to be Rocky Mountain Park. The land was donated to the Town by the Connecticut River Watershed Council for conservation purposes and is under the direct control of the Conservation Commission. No management activities have been being undertaken.

Planned Actions and/or Recognized Need: See recommendations for Rocky Mountain/Highland Park area.

Rocky Mountain Park

Location	Acreage	Owner/Manager
Mountain Rd./Parkway	67.70	Mayor

Description: This area commonly known as Rocky Mountain Park, is composed of four contiguous parcels of land located east of Parkway and Mountain Road. This parcel includes some of the Town's most unique natural areas - the forested ridge that separates Greenfield from the Connecticut River. This ridge, or Rocky Mountain as it is called, is also the site of the Poet's Seat Tower, an important local landmark reconstructed as a stone tower in 1912 which serves as an observation point affording scenic vistas over the Town of Greenfield to the west and the Connecticut Valley and Montague to the east.

Responsibility for the maintenance of the park rests with the Department of Public Works and the final management authority rests with the Mayor. In previous years, volunteer crews have worked to clean up the area and to maintain existing trails. The area is very fragile and littering and other abuses have degraded its recreational value.

Planned Actions and/or Recognized Need: Most importantly, it is recommended that the entire Rocky Mountain/Highland Park complex together with the conservation land adjacent to the north and the Old Municipal Golf Course property to the south and Kells Farm to the east be consolidated and managed as one unit. A trail system could be developed that would traverse the entire ridge and provide passive recreational opportunities of tremendous value to the inhabitants of Greenfield. A more detailed examination and inventory than presently exists of this entire area would be necessary prior to the development of such a trail system.

Shelburne Road Conservation Area

Location	Acreage	Owner/Manager
Shelburne Rd.	61.30	Conservation Commission

Description: This steep, forested area, rising above Wheeler Brook and Shelburne Road was taken by the Town for the nonpayment of taxes. The Conservation Commission is responsible for its use and management, although no management activities are presently taking place here. At one time a ski jump was located on this site, but the best use of the site would appear to be for watershed protection and wildlife habitat. The tract is accessible over the steep slope off Shelburne Road. The top of the property is flat but there is much exposed bedrock, so that most recreational uses other than walking would be undesirable. The proximity to open fields gives the site its value as wildlife habitat.

Planned Action and/or Recognized Need: It is recommended that a management plan be developed for this property along with the abutting 48 acre Mohawk Trail (Connex) property, recently donated to the Town. If a formal trail system for the two properties was developed it could create a hiking destination for people because of the outstanding views to the east.

Shattuck Park

Location	Acreage	Owner/Manager
Federal St....	6.90	Mayor

Description: Shattuck Park offers passive recreational opportunities in an attractive wooded setting adjacent to the high school playing fields. Originally purchased for a public park in 1906, a Town meeting vote in 1946 transferred the purpose to a park and playground. Maintained by the Department of Public Works, the site contains a few picnic tables and older playground equipment. Management authority rests with the Mayor.

Planned Actions and/or Recognized Need: The trees within the park are large and older tending to make the park dark and not accessible. A tree thinning and replanting program would make the park more attractive and open to provide more light below. The playground equipment in this park needs to be updated.

Temple Woods

Location	Acreage	Owner/Manager
Bear's Den Rd.	53.80	Mayor

Description: Located on the eastern slope of Rocky Mountain southeast of Mountain Road, this beautiful forested area consists of two parcels of land divided by Bear's Den Road. Although now closed, Bear's Den Road remains a public way. The Greenfield Women's Club purchased Temple Woods in 1911 to preserve the property from extensive logging. The Club was founded to raise money to purchase the property in order to preserve it for passive recreational purposes. In 1986, the Club donated the land to the Town for passive recreational uses. No forest management is presently taking place here. There is a trail system that is open to the public on a limited basis. Maintenance is the responsibility of the Department of Public Works but final management authority rests with the Mayor. Temple Woods is an important component of the Rocky Mountain Ridge area and, like other components, is a fragile area that requires wise, protective management. Unlike the heavily used Rocky Mountain Park, the Temple Woods area is clean and litter free.

Planned Actions and/or Recognized Need: Develop a management plan for the area coordinated with Highland Park, Rocky Mountain Park and the Kells Farm property.

Town Common

Location	Acreage	Owner/Manager
Main St...	0.23	Mayor

Description: The Town Common is a small wedge of green area in the center of downtown opposite the Town Hall. It does not really provide enough area to be used for quiet relaxation and is therefore not at present a significant open space area in terms of its use. A farmers' market operates on Saturday mornings during the summer on the Common. Plans for downtown Greenfield have called for extending the Common over to the Town Hall and relocating the bus depot. The DPW is responsible for its maintenance and the Mayor holds the final authority over its use. It is located in the Main Street National Historic District.

Planned Actions and/or Recognized Need: Extension of the green area of the Common to provide a useable open space area in the downtown section. The War Memorial and the curbing around the Common could use repair and upgrading.

Veterans Memorial Field

Location	Acreage	Owner/Manager
Silver St...	7.00	Mayor

Description: This facility is located adjacent to the High School and is the site of Greenfield's major sports events. It includes a lighted football field with bleachers, a 90-foot baseball diamond, and a softball field. As the home field for Greenfield High School football and baseball teams, the playing fields are heavily used. The DPW is responsible for maintenance and the Mayor holds the final responsibility for management.

Planned Actions and/or Recognized Need: The building of an all-weather track has been discussed for some years and remains on the capital budget, but the Town has not been able to fund the construction of the facility as yet.

Westwood Wildlife Sanctuary

Location	Acreage	Owner/Manager
Bernardston Rd.	15.70	Conservation Commission

Description: This site is also located on the western side of Bernardston Road and south of the Bernardston Conservation Area. The Conservation Commission is directly responsible for the management of this parcel but little attention has been paid to this property. The deed specifies that this site is to be used for public park purposes and as a wildlife sanctuary and game preserve. There are some trails that are used by joggers but the primary use of this property is the preservation of natural habitat for wildlife. The wildlife sanctuary, however, contains only one type of habitat, which is upland, hardwood woodland. There is no open habitat or open field habitat.

Planned Action and/or Recognized Need: The Franklin Conservation District has recommended that an adjacent wetland tract to the southwest be purchased and developed for wetland wildlife uses and that the open fields to the north be purchased and improved with food and cover plantings for species desiring this type of habitat. These three different types of habitat would ideally then be managed as one wildlife sanctuary to meet the needs of a variety of species. In the future the development of a Forest Cutting Plan could be beneficial.

SECTION 6 - COMMUNITY GOALS/NEEDS ANALYSIS

A. Description of the Process

To receive input from Greenfield residents on the status of Town conservation and recreation facilities, the Open and Space Committee conducted a survey in March 2006. 5,600 surveys were distributed through the Greenfield edition of The Recorder. Additional surveys were available on the Planning and Development website, in Town Hall, the Greenfield Public Library, and Ice Rink. Of the surveys sent out, 423 responses were received, yielding a total response rate of 7.5%. Though the survey is not a clear consensus, it is a helpful tool to shed light on residents' feelings about particular open space and recreation issues, and to direct policy makers on decisions relating to these issues.

In addition to the survey, a public meeting was held in May 2006 for residents and Town officials to address open space and recreation issues. Approximately seventeen people attended this meeting, addressing concerns on a variety of open space and recreation issues.

The Town of Greenfield also had assistance from the University of Massachusetts Amherst's Department of Landscape Architecture and Regional Planning. Students from this department performed two studies for the Town of Greenfield. In 2002, the students prepared conceptual master plans for renovating the Green River Swim Area. Several of the plans called for constructing a new fieldhouse facility or providing space for a potential restaurant. In 2006, a studio class researched and compiled information to present plans showing how Greenfield's parks and green spaces could be improved. The students were broken down into five groups, each providing a unique plan to illustrate various ideas for the Town of Greenfield. Proposed ideas included more emphasis on the entrances into town with improved landscaping and signage, expanding the bikeway, and highlighting the Green River Corridor as a recreation asset.

B. Statement of Open Space and Recreation Goals

Greenfield is comprised of a variety of natural features and environments including major rivers, streams, brooks, ponds, wetlands, aquifer areas, forests, farms, fields, uplands, lowlands, scenic vistas, historic sites, and urban and rural areas. Residents believe it is important that these features, which make Greenfield a unique and desirable place in which to live, be protected. The community seeks: to balance sensible development patterns with the protection of open spaces; to provide recreational opportunities for all its citizens; and to preserve its agricultural heritage. It will be important that the public and private sectors work together in making this vision a reality.

The following are major themes identified in the plan are:

- To improve park facilities for all citizens.
- To better manage conservation lands in Greenfield.
- To improve communication to citizens regarding Greenfield's parks and conservation areas.

SECTION 7 - NEEDS ANALYSIS

A. Summary of Resource Protection Needs

Through compiling the results of the public meeting, open space survey and existing documents, the following are identified resource protection needs.

Regional Resources

It is important that Greenfield coordinate with neighboring communities: to provide interconnections of greenways, for continuous wildlife habitat migration corridors; and to develop interconnected trail systems to allow people to travel, off-road, for longer distances. In most recent years, the watershed concept has become an accepted way of thinking about water protection. Water resources and supplies are only as protected as the watersheds that feed them. Watersheds do not respect political boundaries, and it will be important for the Town of Greenfield to work in conjunction with the Deerfield and Connecticut River Watershed Associations on protecting these important resources.

Water Resources

Greenfield has a wealth of river and other water resources which need protection to ensure high water quality for drinking, swimming, and as habitat for a variety of plant and animal species. Preserving lands along the Green River is a priority in order to protect this important water resource, which runs through the heart of the Town. The Town should continue working to protect lands located near the designated water supply areas.

Agricultural Resources

Farmland is a rapidly decreasing resource in Greenfield and throughout the nation. Greenfield is endowed with some of the most fertile farmland in the country and is part of the largest agricultural resource area in the state. They are also the reason for the Town's initial existence and contribute to the local economy. If these lands, firmly rooted in Greenfield's history, are to remain in active agriculture, then the Town will need to take a pro-active role in protecting these lands, through the Agricultural Protection Restriction (APR) and the Chapter 61A programs. In addition, the Town may want to consider examining potential options for a right-to-farm ordinance and establishing an agricultural commission.

B. Community Needs

As previously mentioned an Open Space and Recreation survey was distributed as a way to receive input from Town residents. 5,600 copies of the survey were distributed through The Recorder newspaper. 423 residents returned the survey, for a response rate of 7.5%. The outcome of the survey showed strong public support for maintaining existing parks and playgrounds and preserving waterways and farmland. The survey was an excellent tool to facilitate residents' thinking about open space and recreation issues and their importance in community life. The survey created enthusiasm and support for the open space plan process.

Another resource used to assess the community needs was Massachusetts Outdoors 2000! The Statewide Comprehensive Outdoor Recreation Plan (SCORP), which analyzed information such as participation rates in activities within the Connecticut River Valley and the projected number of daily visits to recreational areas. Results of the SCORP show that residents across the Commonwealth and in the Connecticut Valley show strong use and demand for parks and recreation trails. Of the twelve activities most widely pursued by Massachusetts residents, the first, fourth, and eleventh were recreation trail activities and the sixth most widely pursued activity was playgrounds (SCORP, pg. 21-22). The statewide elements of the 2000 SCORP identified swimming (14.8%), walking (13.8%), playground activity (9.9%) and hiking (7.1%) as the first, second, fourth and seventh most desired or needed facilities in the Commonwealth of Massachusetts (SCORP pg. 42).

In the Connecticut Valley Region, swimming was the second most popular recreation activity (54.6%), walking and hiking were the third and fourth most popular recreation activities (44.5%), and playground activity was the ninth most popular recreation activity (26.1%, SCORP, pg. 59). This demand pattern and proposed Highland Park trail improvements is reflected in the respondent's preferences for maintaining existing facilities as was stated on page 62 of the SCORP. Connecticut Valley respondents indicated that the second greatest facility need is walking (13.9%), swimming is the third greatest facility need (13.8%), playground is the fourth greatest need (11.3%) and hiking is the fifth greatest need (10.0%, SCORP pg. 63).

The SCORP and the Greenfield Open Space surveys paralleled each other in the priorities for the town and the region being hiking/walking trails, playgrounds and swimming. It is through these responses that this Open Space Plan focuses on the need for Greenfield to maintain what it has and to improve the hiking/walking trails, the swim area and the existing playgrounds. One can see through the action items listed at the end of this plan that the priorities for the Town are to focus on these areas.

One weakness that Greenfield has is that the recreation and conservation areas are not up to the ADA requirements. There is already the ADA plan which addresses these concerns and discusses the modifications needed. In addition, an overview of the modifications needed is listed in the action items at the end of the plan to ensure that the recreation and conservation areas are open to everyone in the public.

Open Space & Recreation Survey Highlights

23.48% of respondents rated Parks and Playgrounds as Greenfield's most valuable recreation/open space asset.

16.35% indicated that Farm Lands were the most valuable asset

13.39% indicated that Rivers and Streams were the most valuable asset

10.61% indicated that Forests were the most valuable asset

9.39% indicated that Open Space is the most valuable asset

9.39% indicated that Scenic Views are the most valuable asset

4.17% indicated that Lakes and Ponds were the most valuable asset

4% indicated that Historic Sites were the most valuable asset

When asked which recreational facilities/activities the household uses, and to check all that apply, walking was the most used with 279 responses, followed by hiking trails with 231 respondents. 219

respondents checked off community parks, 139 respondents used the Town Beach/Swim area and 180 respondents used the Bike paths. The least responses were hunting, football fields and skateboarding.

When asked which recreational facilities needed the most improvement the Town Beach was rated the highest with 98 respondents saying that it needed improvement. 86 respondents checked off community parks, 81 checked off Downtown Greenspace, 78 checked off Bike Paths and 72 checked off Playgrounds. The areas checked off the least for needing improvement included the golf course, hunting areas, indoor gyms, and football fields.

When asked why the respondent did not use the Town's recreational facilities, the greatest result was the admission costs/fees with 12.14% of respondents. 8.67% of respondents stated that they did not use the Town's recreational facilities because they did not know enough about them.

48.94% of respondents indicated that it is very important to fund open space and recreational facilities compared to other town needs.

- 30.97% indicated that it was somewhat important.
- 8.51% indicated they were neutral
- 3.78% indicated that it was not very important
- 4.49% indicated that it is not at all important.

62.25% of respondents indicated that it is very important to permanently protect Greenfield's working farms from development.

- 20.09% indicated that it is somewhat important
- 7.09% indicated that they are neutral
- 4.96% indicated it is not very important
- 3.07% indicated that it is not at all important

60.56% of respondents indicated that they would support Greenfield adopting the Community Preservation Act (CPA) and 34.04% indicated they would not support it.

73.29% of respondents indicated that historic places, cemeteries and museums should be included in the overall planning for recreation and conservation assets. 20.8% indicated that they should not be included.

21.95% of respondents listed Poet's Seat Area as a space which they especially wanted to see protected.

- 17.89% indicated that protecting the Highland Pond Area is very important
- 7.72% indicated that protecting the Green River Swimming Pool is very important
- 4.07% indicated that protecting Energy Park is very important
- 2.44% indicated that protecting Beacon Field is very important.

26.04% of respondents indicated that they use the Highland Pond Area most often.

- 16.62% indicated that they use the Green River Swimming Pool most often
- 14.68% indicated that they use the Poet's Seat Area most often
- 11.63% indicated that they use Energy Park most often
- 11.08% indicated that they use Beacon Field most often.

SEE APPENDIX A: “OPEN SPACE AND RECREATION SURVEY RESPONSES”

C. Management Needs

- Create management plans for each major open space and recreational site and provide mechanisms for their implementation.
- Have the Recreation Commission, Conservation Commission, Bikeway Committee and Planning Board assist in facilitating, implementing, and updating the goals of the Open Space and Recreation Plan.
- Develop a “Friends of the ____ Park” organization for the most used parks in Greenfield. The Recreation Commission will be in charge of assisting these organizations.

Almost all communities have struggled with fewer revenue dollars since the passage of Proposition 2 ½ almost twenty years ago. Greenfield is no exception. Unfortunately, parks, playgrounds and open spaces suffer when budgets are tight and maintenance is deferred. There are not enough municipal resources to accomplish the goals and objectives. Therefore, more creative methods to accomplish the goals and objectives will be needed including finding new resources, pursuing partnerships, leveraging other funds, and relying on volunteers. Unless these areas have constant advocacy from a group in Town, they will remain under represented and be overlooked in the budget. The Open Space Committee can be that advocate for these lands.

SECTION 8 - GOALS AND OBJECTIVES

GOAL A: *PRESERVE, PROTECT AND ENHANCE GREENFIELD'S OPEN SPACE*

OBJECTIVES:

- A1. Enhance existing recreation facilities, including infrastructure, drainage, access (pedestrian, vehicular, handicapped, and parking), and security.
 - A2. Protect, preserve and enhance conservation areas.
 - A3. Protect and preserve important agricultural lands.
 - A4. Protect the environment from the negative impacts of human development
 - A5. Preserve and protect "sacred places" such as historic places, farms, agricultural, and scenic resources.
-

GOAL B: *INCREASE PUBLIC AWARENESS, USE, AND UNDERSTANDING OF GREENFIELD'S OPEN SPACE.*

OBJECTIVES:

- B1. Develop and implement a public awareness campaign aimed at informing residents and schools of open space opportunities.
 - B2. Link open space sites with pedestrian and bicycle paths. Fill in missing sidewalks and mark bike lanes to assist in promoting biking and walking as an alternative to driving to work and school.
 - B3. Comply with the Americans with Disabilities Act (ADA) requirements for accessibility at open space.
-

GOAL C: *COORDINATE AND MANAGE GREENFIELD'S OPEN SPACE WITH ENVIRONMENTAL SENSITIVITY AND COMMUNITY INPUT.*

- C1. Ensure continued input from a variety of residents in open space planning.
 - C2. Use both public and private funding to protect, preserve and enhance open space.
-

GOAL D: *DEVELOP THE CONCEPT OF OPEN SPACE CONNECTIONS*

- D1. Coordinate with federal, state, regional and local entities to maximize protection of joint resources.
- D2. Promote the creation of an inter-connected hiking trail system.
- D3. Incorporate river corridors and watersheds into the concept of Open Space Connections.
- D4. Promote the creation of “green space” along public ways and within neighborhoods.

SECTION 9 - FIVE YEAR ACTION PLAN

The Five Year Action Plan presents a schedule for Greenfield’s open space and recreation goals, objectives, and actions for the next five years. Where the Recreation Commission is listed as the responsible party, it will be under the assistance of the Recreation Director. Where the Conservation Commission or Planning Board is listed as the responsible party, it will be under the assistance of the Department of Planning and Community Development.

SEE “ACTION PLAN MAP” AT THE END OF THIS SECTION

GOAL A:

PRESERVE, PROTECT AND ENHANCE GREENFIELD’S OPEN SPACE

OBJECTIVES:

A1. ENHANCE EXISTING RECREATION FACILITIES

A1a: Make needed improvements to the Municipal Swimming and Recreational Area.

Action Items	Year	Responsible Board/Group	Funding Source:
Install tot-lot and school age playground apparatus. With USH funding for this regional park.	2009	Recreation Commission and Department of Public Works	Urban Self-Help Grant and Community Matching
Make improvements to the bathhouse including tiling the floor and improving the light and ventilation.	2008	Recreation Commission and Department of Public Works	In-kind, Town Budget
Make improvements to the storage, lifeguard and concession building to meet ADA requirements.	2008	Recreation Commission and Department of Public Works	Town and Community Development Block Grant
Retain and maintain the stone walls, gate posts and other works surviving from the old swimming pool recreation area.	Ongoing	Recreation Commission, Department of Public Works, Historical Commission	Town Budget
Work with the Town Historian to add a permanent photo display showing its earlier appearance.	2008	Historical Commission, Department of Public Works, Recreation Commission	In-kind

A1b: Make needed improvements to Hillside Park.

Action Items	Year	Responsible Board/Group	Funding Source:
Establish connections with Hillside neighborhood to work on park plan and improvements.	2008	Recreation Commission	Department of Planning & Development and

			CDBG
Install a tot-lot	2008	Recreation Commission and Department of Public Works	Department of Planning & Development and CDBG
Improve the entrance and increase the parking area.	2008	Department of Public Works	Department of Planning & Development and CDBG
Redo the surface of the basketball court.	2008	Department of Public Works	Department of Planning & Development and CDBG

A1c: Make needed improvements to Beacon Field.

Action Items	Year	Responsible Board/Group	Funding Source:
Install new identification sign and update the rules and regulation signage emphasizing no pets on athletic fields.	2009	Recreation Commission and Department of Public Works	Town Budget
Improve playground structures and insert tot-lot equipment.	2009	Department of Public Works and Recreation Commission	Urban Self-Help Grant and Community Matched funds

A1d: Make needed improvements to Highland Park.

Action Items	Year	Responsible Board/Group	Funding Source:
Paint the exteriors of the cinderblock buildings each year.	Annually	Department of Public Works	Town Budget
Install a new identification sign.	2008	Department of Public Works	In-kind; DCR Recreational Trails Grant
Apply for funding for environmental permits to dredge pond.	Ongoing	Department of Public Works, Department of Planning and Development	Grants
Re-open warming hut for snowshoers and skiers.	2009	Recreation Commission	Volunteers
Repair warming hut roof with materials already obtained.	2008	Department of Public Works	In-kind
Repair fence around tennis courts.	2009	Department of Public Works	Town Budget

A1e: Relocate Skate Park.

Action Items	Year	Responsible Board/Group	Funding Source:
Work with Skate Park Committee on analyzing potential relocation areas in walkable location.	2007	Recreation Commission, Youth Commission, Department of Public Works	N/A
Relocate skate park to larger area and establish an adjacent smaller skate park.	2010	Skate Park Committee, Youth Commission, Recreation Commission	Recreation Grants
Establish Town supervisory over committee	2007	Youth Commission, Recreation Commission	In-kind

A1f: Make needed improvements to Green River Park.

Action Items	Year	Responsible Board/Group	Funding Source:
Return the ball fields to original grass infields, remove stone dust.	2010	Recreation Commission, Department of Public Works	In-kind, Town Budget
Post signs to prevent cars from parking on driveway and in front of gate.	2007	Department of Public Works	Town Budget

A1g through A1r are miscellaneous action items to assist in enhancing recreational facilities.

Action Items	Year	Responsible Board/Group	Funding Source:
A1g: Evaluate and repair the slope behind Abercrombie Field to correct erosion problem	Ongoing	Conservation Commission and Department of Public Works	In-kind
A1h: Provide new and updated signage at existing parks as needed	2009	Recreation Commission and Department of Public Works	Town Budget
A1i: Study the potential for security lighting and potential installation of cameras at all parks.	2009	Recreation Commission	Grant
A1j: Evaluate and revise the Recreation Action Plan for the next five year period.	2011	Recreation Commission	In-kind
A1k: Explore land possibilities for one more adult softball field.	2009	Recreation Commission	In-kind
A1l: Examine policing needs at recreational areas.	Ongoing	Recreation Commission and Police Department	Town Budget
A1m: Develop Management Plans for all recreation areas.	2009	Recreation Commission	In-kind
A1n: Designate and publicize dog use areas	2008	Recreation Commission	Online; Press Release
A1o: Install a children's slide at Energy Park	2010	Recreation Commission and Department of Public Works	Donations
A1p: Install bollards and a gate to keep vehicles out of Shattuck Park and High School Fields.	2009	Department of Public Works	In-kind, Town Budget
A1q: Establish trail map for Rocky Mtn/Highland Park Area and update trail map for Griswold Conservation Area	2008	Conservation Commission	DCR Recreational Trails Grant, In-kind
A1r: Research ways it could be possible to bring trash cans back into parks	Ongoing	Recreation Commission/Department of Public Works	In-kind

OBJECTIVE

A2: PROTECT, PRESERVE AND ENHANCE CONSERVATION AREAS.

Action Items	Year	Responsible Board/Group	Funding Source:
A2a: Develop management plans for each parcel under conservation.	2008	Conservation Commission	In-kind

A2b: Research how to permanently protect Rocky Mountain Ridge.	Ongoing	Conservation Commission	In-kind
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OBJECTIVE

A3. PROTECT AND PRESERVE IMPORTANT AGRICULTURAL LANDS.

Action Items	Year	Responsible Board/Group	Funding Source:
A3a: Support a right-to-farm bylaw	Ongoing	Conservation Commission	In-kind
A3b: Establish an Agricultural Commission	2008	Mayor	In-kind
A3c: Educate farmers about the effects of non point source pollution from agricultural runoff.	2008	Conservation Commission	In-kind
A3d: Continue supporting the Chapter 61, 61A and 61B programs. Provide educational materials to farmers about the various deed restriction programs.	Ongoing	Conservation Commission	Conservation Commission budget; In-kind
A3e: Educate Town Council on possible benefits of agricultural and forest preservation districts.	2008	Conservation Commission	In-kind
A3f: Educate Town Council on the potential benefits, town share options, and the costs associated with APR.	Ongoing	Conservation Commission	In-kind
A3g: Identify Historic Farms in Greenfield	2008	Historic Commission	In-kind
A3h: Educate the Planning Board and Zoning Board of Appeals on considering the right criteria for buffering in agricultural areas	2008	Historic Commission, Planning Board, Zoning Board of Appeals	In-kind

OBJECTIVE

A4. PROTECT THE ENVIRONMENT FROM THE NEGATIVE IMPACTS OF HUMAN DEVELOPMENT.

Action Items	Year	Responsible Board/Group	Funding Source:
A4a: Support the Army Corp. of Engineers on dam improvements on Green River for migratory fish passage	Ongoing	Conservation Commission and Department of Public Works	In-kind
A4b: Promote the use of alternative on-site septic systems that provide environmental benefits to the community.	Ongoing	Board of Health	In-kind
A4c: Promote the use of the Open Space/Cluster Development subdivisions.	Ongoing	Planning Board	In-kind
A4d: Acquire additional lands needed to protect the public water supply.	Ongoing	Conservation Commission and Department of Public Works	Grant

OBJECTIVE

A5. PRESERVE AND PROTECT “SACRED PLACES” SUCH AS HISTORIC, ARCHEOLOGICAL, AND SCENIC RESOURCES.

Action Items	Year	Responsible Board/Group	Funding Source:
A5a: Develop a town-wide inventory of “Sacred Places”.	2008	Historical Commission	In-kind
A5b: Work with the Historic Commission, Planning Board and Town Officials on developing zoning regulations for a local historic district that would protect identified “Sacred Places” and farmland.	2009	Historical Commission and Planning Board	In-kind
A5c: Protect through acquisition, or other means, important “Sacred Places” when they become threatened by development.	Ongoing	Historical Commission	Grants
A5d: Work with the Green River Cemetery Association to preserve the rural cemetery landscape which has been determined eligible for listing in the National Register.	2008	Historical Commission	Grants
A5e: Work with the Barn Preservation Task Force to have the Town Barn assessed for the cost of repairing.	2010	Historical Commission	In-kind

GOAL B

INCREASE PUBLIC AWARENESS, USE AND UNDERSTANDING OF THE IMPORTANCE OF GREENFIELD’S OPEN SPACE.

OBJECTIVE

B1: DEVELOP AND IMPLEMENT A PUBLIC AWARENESS CAMPAIGN AIMED AT INFORMING ALL RESIDENTS OF OPEN SPACE OPPORTUNITIES.

Action Items	Year	Responsible Board/Group	Funding Source:
B1a: Promote the Greenfield Recreation Department and organized groups who use Greenfield’s open space facilities.	Ongoing	Recreation Department	In-kind
B1b: Widely disseminate open space information such as maps, and pamphlets in hardcopy and on the internet.	2008	Recreation Commission	Town Budget
B1c: Educate residents about the many benefits of having and maintaining open space.	Ongoing	Conservation Commission, Recreation Commission	In-kind

OBJECTIVE

B2: LINK OPEN SPACE SITES WITH PEDESTRIAN AND BICYCLE PATHS.

Action Items	Year	Responsible Board/Group	Funding Source:
B2a: Support the work of the Franklin County Regional Bike Committee and the Greenfield Bikeway Committee.	Ongoing	Bikeway Committee	In-kind

B2b: Work to extend the bikeway along the Green River Corridor, primarily by expansions through the Meade Street ROW and Wedgewood Gardens Parcel.	Ongoing	Bikeway Committee, Department of Public Works	Town Budget, CDBG
B2c: Provide bike racks and other important amenities at open space sites.	2008	Bikeway Committee, Recreation Committee	Town Budget, CDBG
B2d: Post shared roadway signage for bicycle routes to open space sites both local and regional.	2008	Bikeway Committee, Department of Public Works	Town Budget, CDBG
B2e: Install/repair sidewalks that are heavily used by pedestrians.	Ongoing	Department of Public Works	Town Budget, CDBG
B2f: Promote biking and walking as alternative methods to driving.	Ongoing	Recreation Commission	In-kind

OBJECTIVE

B3. COMPLY WITH ADA REQUIREMENTS FOR ACCESSIBILITY AT OPEN SPACE SITES.

Action Items	Year	Responsible Board/Group	Funding Source:
B3a: Develop a timeline for complying with Americans with Disabilities Act (ADA) at open space sites.	2009	Recreation Commission	In-kind
B3b: Include ADA accessibility improvements in projects at open space sites.	Ongoing	Recreation Commission and Department of Public Works	Department of Planning and Development, CDBG
B3c: Regularly communicate with interest groups addressing disability issues at open space sites.	Ongoing	Recreation Commission	In-kind

GOAL C

COORDINATE AND MANAGE GREENFIELD’S OPEN SPACE WITH ENVIRONMENTAL SENSITIVITY AND COMMUNITY INPUT.

OBJECTIVE

C1. ENSURE INPUT FROM A VARIETY OF RESIDENTS IN OPEN SPACE PLANNING.

Action Items	Year	Responsible Board/Group	Funding Source:
C1a: Hold regular meetings every 3-4 months of the parties involved in implementing the action items of the Open Space Plan and revise the document as needed.	Every 3-4 Months	Recreation Commission, Department of Public Works, Conservation Commission, Historical Commission, Planning Board	In-kind
C1b: Establish “Friends of” organizations for parks and other open spaces emphasizing on neighborhood involvement.	Ongoing	Recreation Department	In-kind

OBJECTIVE

C2. USE BOTH PUBLIC AND PRIVATE FUNDING TO PROTECT, PRESERVE AND ENHANCE OPEN SPACE.

Action Items	Year	Responsible Board/Group	Funding Source:
C2a: Investigate possibilities of innovative town mechanisms to raise funds for open space such as revolving funds, user fees, voluntary contributions, etc.	Ongoing	Department of Planning and Development, Recreation Department	In-kind
C2b: Support the Community Preservation Act.	Ongoing	Department of Planning and Development	In-kind
C2c: Strengthen the capital budget process for support of open space, both long and short term.	Ongoing	Department of Planning and Development, DPW, Recreation Department, Mayor's Office, Town Council	In-kind

GOAL D

DEVELOP THE CONCEPT OF OPEN SPACE CONNECTIONS

OBJECTIVE

D1. COORDINATE WITH FEDERAL, STATE, REGIONAL AND LOCAL ENTITIES TO MAXIMIZE PROTECTION OF JOINT RESOURCES.

Action Items	Year	Responsible Board/Group	Funding Source:
D1a: Coordinate with the surrounding towns on protecting joint resources.	Ongoing	Department of Planning and Development through FRCOG	In-kind
D1b: Coordinate and work with the Deerfield and Connecticut River Watersheds and surrounding towns that have an interest in open space protection and protecting water resources.	Ongoing	Department of Planning and Development	In-kind
D1c: Coordinate with Mass Highway Department (MHD), the Department of Conservation and Recreation (DCR), Northeast Utilities, and Guilford Railroad on the use of their properties.	Ongoing	Department of Planning and Development	In-kind
D1d: Work with the Franklin Regional Council of Governments (FRCOG) on coordinating regional open space efforts.	Ongoing	Department of Planning and Development	In-kind

OBJECTIVE

D2. PROMOTE THE CREATION OF AN INTER-CONNECTED HIKING TRAIL SYSTEM

Action Items	Year	Responsible Board/Group	Funding Source:
D2a: Develop a formalized interconnected trail system along the entire length of the Rocky Mountain Ridge.	2010	Conservation Commission, Department of Public Works, Recreation Commission	In-kind, Recreation and Trails Grant through DCR
D2b: Work with Department of Conservation and Recreation on connecting existing trails on the Kells Farm Property.	2011	Conservation Commission, Department of Public Works, Recreation Commission	In-kind, DCR Recreation and Trails Grant

OBJECTIVE

D3. INCORPORATE RIVERWAYS AND WATERSHEDS INTO THE CONCEPT OF OPEN SPACE CONNECTIONS.

Action Items	Year	Responsible Board/Group	Funding Source:
D3a: Work with the Deerfield and Connecticut River Watersheds Associations on developing these connections.	Ongoing	Department of Planning and Development, Conservation Commission	In-kind
D3b: Work on having a boat access on the Connecticut River at the Kells Farm property.	2011	Conservation Commission and Recreation Commission	DCR Recreational Trails Grant Program

OBJECTIVE

D4. PROMOTE THE CREATION OF "GREEN SPACE" ALONG PUBLIC WAYS.

Action Items	Years	Responsible Board/Group	Funding Source:
D4a: Actively participate in the Route 2 Scenic Byway Project.	Ongoing	Department of Planning and Development	In-kind
D4b: Work with the Mass Highway Department and the Greenfield Department of Public Works on the beautification along the roadways.	Ongoing	Department of Public Works	In-kind
D4c: Support the beautification efforts of the Greenfield Garden Club and the Greening of Greenfield Committee.	Ongoing		In-kind
D4d: Work with the Chamber of Commerce, Greenfield Business Association and Mass Highway to improve entrances into Greenfield by posting additional signage and landscaping.	2010	Department of Planning and Development, Department of Public Works	In-kind

SECTION 10 - PUBLIC COMMENTS

See Appendix A for Open Space and Recreation Survey Responses.

SECTION 11 - REFERENCES

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