

CHAPTER 1 - OPEN SPACE AND RESOURCE PROTECTION

One of the guiding principles of Executive Order 418 is the protection and preservation of a community's open space lands and natural resources. Responsible community development planning balances residential and commercial development with the need to protect and preserve natural resources for future generations. The Open Space and Resource Protection Chapter of this plan provides a framework for making decisions concerning the preservation of Brimfield's valuable open space lands and unique natural resources.

Brimfield's Open Space and Resource Protection Chapter consists of the following components:

- The 2004 Brimfield Open Space and Recreation Plan
- An analysis of the applicability of United Nations Agenda 21 to the Town of Brimfield
- A Land Use Suitability Map based on the main natural resource protection priorities of Brimfield residents.

The Brimfield Open Space and Recreation Plan is an important component of the Town's initiative to preserve and protect its open space lands and recreational resources. The plan provides both an inventory of the Town's open space and recreation lands and a set of recommendations to preserve and enhance these valuable natural assets. The goals and objectives in the plan reflect the major land preservation priorities expressed by the citizens of Brimfield. In addition to addressing open space preservation and recreation priorities, the 2004 Brimfield Open Space and Recreation Plan includes the following:

- An analysis of existing land use and resource conflicts and recommendations for remediation of these conflicts
- Recommendations for revising the Town's Zoning Bylaw in order to preserve Brimfield's rural character and natural resources
- An analysis of surface and groundwater resources and recommendations for providing a higher level of protection for these resources

Open space and resource protection planning is guided by the principle of sustainability. In 1992, the United Nations Conference on Environment and Development adopted United Nations Agenda 21, an initiative to promote sustainable practices on a global scale. UN Agenda 21 was created in response to the increasingly rapid degradation of the earth's environment. Agenda 21 acknowledges the essential role that municipal governments play in protecting the environment by promoting sustainability at the local level. In an effort to identify potential sustainable practices the Town could adopt, the applicability of UN Agenda 21 to the Town of Brimfield is examined. In this analysis, current sustainable practices being employed by the Town are identified and potential sustainability initiatives are proposed.

The Land Use Suitability Map identifies natural resources within the Town that require a higher level of protection from current and future development. The map includes strategies developed to provide the additional level of protection these critical resources require. The strategies are designed to preserve and protect critical natural resources while also allowing for future residential and commercial development within the Town. The Land Use Suitability Map also provides a useful “snap shot” of Brimfield’s current level of land development and the Town’s capacity for supporting future development.

Plan Summary

Many of the qualities that make Brimfield such a desirable community in which to live are directly related to the natural expanses of open space land located throughout the town. Residents of Brimfield recognize that open space lands contribute greatly to their overall quality of life by maintaining the town’s rural identity, providing scenic vistas, preserving wildlife habitat, protecting underground water supplies, and providing a variety of recreational opportunities. Protecting and preserving open space land is essential for maintaining Brimfield’s rural character and high quality of life for present and future generations of Brimfield residents.

Brimfield’s proximity to employment centers, combined with accelerating development in neighboring communities, has increased residential and commercial development pressures on the town. Current development trends suggest that these pressures will continue to increase into the foreseeable future. Citizens of Brimfield are deeply concerned that unplanned residential and commercial development has the potential to consume large tracts of open space land and significantly alter the town’s rural character. The Brimfield Open Space and Recreation Plan establishes a set of goals and objectives designed to ensure that future development does not jeopardize critical open space lands and the town’s unique natural resources.

During the development of this plan, a public forum was held in order to identify the main concerns and priorities of Brimfield residents regarding the preservation of open space and recreation lands. Brimfield residents expressed the following concerns:

- The need to protect present and future drinking water supplies
- The need to preserve open space and agricultural lands in order to maintain the Town’s rural identity
- The desire to protect scenic views and historic sites from unplanned development
- The need to protect working landscapes from development in order to preserve the agricultural heritage of the Town
- The desire to expand and link existing wildlife habitats and corridors

Based on citizen input gathered at the public forum, the staff of The Environmental Institute and members of the Brimfield Open Space and Recreation Committee formulated a set of goals and objectives that addressed the open space and recreation concerns and priorities of Brimfield residents. The major goals of the Brimfield Open Space and Recreation Plan are:

Goal 1: Protect present and future drinking water supplies.

Goal 2: Protect the Town's critical natural, scenic, and historic resources from unplanned development.

Goal 3: Preserve the Town's unique rural character and agricultural heritage.

Goal 4: Expand and link existing wildlife habitats to create wildlife corridors.

Throughout the development of this plan, citizens of Brimfield have expressed a sincere desire to protect and preserve the town's unique natural resources. This sincere desire, combined with a strong commitment to land preservation and land-use planning, will ensure the protection of critical open space and recreational lands for present and future generations of Brimfield residents.

Introduction

Statement of Purpose

Brimfield's open space and recreational lands are one of the town's most valuable assets. In addition to defining the town's rural character, these natural expanses of open space land protect wildlife communities, serve as watershed recharge areas, and provide a variety of recreational opportunities for residents. Since open space lands play a central role in maintaining Brimfield's rural identity, current open space preservation efforts will have a profound impact on the quality of life for future generations.

The Brimfield Open Space and Recreation Plan is an important component of the town's initiative to preserve and protect valuable open space lands and recreational resources. The plan provides a framework for making informed decisions concerning present and future open space and recreational land preservation efforts. The goals and objectives in the plan reflect the major land preservation priorities expressed by the citizens of Brimfield.

Begun in 1985, the development of Brimfield's first open space and recreation plan was a long and challenging process. A final version of the plan was not completed until 1990, five years after work on the plan had first begun. The 1990 Brimfield Open Space and Recreation Plan identified increasing residential growth as the major threat to the preservation of open space lands. To address this threat, the plan recommended greater emphasis on land use planning in order to avoid the negative effects associated with unplanned growth. The plan established the following major goals:

- The protection of current and future private and public water resources
- To establish a program of planning strategies to protect natural and historic areas
- To plan for present and future recreational needs of the Town (Town 1990 p.37)

Over the past fourteen years, the town has made steady progress in achieving several of the major goals outlined in the 1990 Brimfield Open Space and Recreation Plan. When the plan

was adopted in 1990, 2,943 acres of land in Brimfield were classified as permanently protected. From 1990 to 2003, an additional 933 acres of valuable open space land were permanently protected from future development. Of these additional acres, 423 were acquired by the Norcross Wildlife Foundation, a nonprofit organization committed to wildlife conservation. The Norcross parcels encompass large tracts of open space land located in the western section of town. The acquisition of these lands by Norcross represents real progress towards achieving one of the major goals of the 1990 plan: the protection of critical natural areas from future development.

In addition to increasing the amount of open space land in permanent protection, the town has implemented several land use planning strategies recommended by the 1990 plan. In 1990, the Brimfield Planning Board reviewed and updated the town's subdivision control regulations and zoning map. The implementation of land-use planning strategies increases the town's ability to acquire and protect valuable open space and recreational lands in the future.

The major goals established in the 1990 Open Space and Recreation Plan are as relevant today as they were in 1990. This is especially true of the goal of preserving the town's natural areas and protecting Brimfield's rural identity. The 2004 Brimfield Open Space and Recreation Plan is designed to build upon the goals and successes of the 1990 plan. In addition, the 2004 plan includes goals and objectives based on new priorities that have emerged since the development of the previous plan.

The 2004 Brimfield Open Space and Recreation Plan provides a comprehensive inventory of the Town's natural, historic, scenic, and water resources. This inventory is essential for analyzing Brimfield's future open space and recreation needs and establishing a set of goals and objectives based on the priorities of Town residents. The final section of the plan establishes a five-year action plan designed to guide future land preservation and recreation initiatives.

Brimfield possesses a number of important advantages in terms of planning for open space and recreational land preservation. The town's greatest advantage is that the vast majority of land in Brimfield is undeveloped. This low level of development allows for a comprehensive planning approach that can balance future residential and commercial development against the need to protect valuable open space areas. The town's preservation efforts are also aided by Brimfield's Town Meeting structure of government. In the traditional Town Meeting form of government, active participation by concerned citizens can be the most powerful force in determining the future landscape of the town.

In Historical Celebration of the Town of Brimfield published in 1879, the Reverend Charles M. Hyde wrote, "...Brimfield has charms that never fade, attractions that cannot change and pass away" (Historical p.10). When these words were written over one hundred years ago, the former residents of Brimfield would have found it hard to imagine a time when the town's rural charm and natural beauty would be under threat. Today, residents of the town recognize that the continued preservation of Brimfield's valuable open space lands and natural resources will require thoughtful planning and a strong commitment to land preservation. The 2004 Brimfield Open Space and Recreation Plan outlines a course of action designed to ensure that Brimfield's unique natural and historic resources will "never fade...and pass away".

Planning Process and Public Participation

The process of developing the 2004 Brimfield Open Space and Recreation Plan began with the formation of the Brimfield Open Space and Recreation Committee. Membership was open to any Brimfield resident interested in serving on the Committee. The primary objective of the Committee was to work closely with staff of The Environmental Institute (TEI), University of Massachusetts, Amherst to create the 2004 Brimfield Open Space and Recreation Plan. Committee members agreed to volunteer their time to locate and provide necessary data and contact information to develop the plan, attend progress meetings, assist in the organizing and publicizing of public forums, and to review and comment on drafts of the plan. In its final form, the Committee consisted of seven Brimfield residents and was officially approved by the Brimfield Board of Selectmen in August, 2003. Committee meetings were open to the public and Brimfield residents were encouraged to attend.

On June 19, 2003, the Brimfield Open Space and Recreation Committee convened its first meeting to review the open space and recreation plan scope of services approved by the Executive Office of Environmental Affairs. During this meeting, a course of action to create the new plan was discussed. At the Committee's second meeting on July 8, TEI staff conducted a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis with committee members to begin determining the major concerns and priorities of Brimfield residents. Preparations for a public forum were discussed at the meeting held on August the 21st. The main focus of the public forum was to identify the major open space and recreation priorities of Brimfield residents. The public forum was held on September 25, 2003. On November 13th, the committee convened to review and discuss the results of the public forum. Information gathered at the forum was used to establish the major goals and objectives of the new plan. Specific objectives for the Open Space and Recreation Plan, based on the priorities established at the public forum, were developed and discussed at a meeting on March 25, 2004. TEI staff began creating a draft of the 2004 plan based on the goals and objectives developed by the Committee. The 2004 Brimfield Open Space and Recreation plan is officially an update of the 1990 plan and therefore sections that did not require updating (i.e. Geology, Topography, History of the Community, etc.) were excerpted directly from the 1990 plan. On June 22, 2004, a public forum was held to present the goals, objectives, and recommendations of the Open Space and Recreation Plan to the citizens of Brimfield. Comments and feedback from citizens attending the meeting were utilized to revise objectives and recommendations. A final draft of the plan was completed on July 1, 2004 and copies were submitted to the Select Board, the Conservation Commission, the Brimfield Planning Board, and the Pioneer Valley Planning Commission for review and comment.

Community Setting

Regional Context

Brimfield is located in the south central section of the Commonwealth, approximately midway between Worcester and Springfield. The town is bisected by U.S. Route 20, (east to west) and by Route 19 (north to south). The Massachusetts Turnpike (I-90) crosses both

northern corners of the town. Exits are in Sturbridge 7 miles to the east, and Palmer 8 miles to the west. Auto travel to Worcester and Springfield takes approximately 30 minutes, to Hartford one hour, and to Boston 90 minutes. Brimfield is bounded by the neighboring communities of Warren and Brookfield to the north, Sturbridge to the east, Wales and Holland to the south, and Monson and Palmer to the west. Brimfield is divided north to south by the borders of two major watersheds. The Chicopee River Watershed drains a large area of land in the western section of the town. The Quinebaug River Watershed, which encompasses the majority of Brimfield's land area, drains the central and eastern sections of the town.

Brimfield is a small, rural town with fewer than 4,000 residents. The majority of its land is undeveloped and consists mainly of large contiguous areas of native forestland. Most residential development is clustered around the Town Center and around the town's major water bodies, Sherman Pond and Little Alum Pond. Commercial development is limited and is located primarily along Route 20 and in the Town Center. Brimfield possesses a lower level of residential and commercial development when compared to neighboring communities to the north and east.

Brimfield's small town character and its proximity to major employment centers make it an attractive area for future growth. As developable land in neighboring communities decreases, Brimfield will experience increasing development pressures, primarily in the form of new single-family home construction. The current real estate boom has led to a dramatic rise in the cost of building lots and land values. Rising land values make it increasingly difficult for the town to permanently protect critical open space lands through land acquisition programs.

History of the Community

Brimfield was founded as a plantation adjoining Springfield in 1701. At its founding, the Quaboag River formed its western boundary. In 1714 it was established as an independent town over an area that now comprises the towns of Brimfield, Monson, Wales and Holland. The eastern boundary was originally located at Brookfield (now Warren) and was extended to the Sturbridge line in 1717. Monson separated in 1760 and South Brimfield (Holland and Wales) in 1762. A moderate sized native population probably inhabited Brimfield during the initial period of English settlement, centered at Sherman Pond, Marsh Hill, and Tower Hill. The first settlement was located on long lots laid out on either side of Warren Road and on Tower Hill. This was abandoned early in favor of a town center in its present location. Throughout the Federal period the town was thinly settled and based on an agricultural economy, with the exception of mill hamlets located in East Brimfield and at Foskett Mill in West Brimfield. After 1830 the town's population declined. Small farms, mills, and shops continued to supply local needs. In the early 1900's an inter-urban rail line ran through the town center, but was soon abandoned. During the first half of the century, agricultural operations declined and the town began evolving into a residential community.

In September 1959, a small group of antique dealers set up shop in an auctioneer's field to sell and trade antiques to a crowd of interested buyers. This annual gathering of dealers and buyers became a town tradition and expanded dramatically over the years. Today, the Brimfield Antique and Collectable Show attracts several thousand antique dealers and tens of thousands of

buyers from around the world. It is billed as “The World’s Largest Outdoor Antique and Collectible Show” and there is no doubt that this tri-annual event has shaped the identity of the town. In Brimfield and the surrounding region, the antique show has a major impact in several key areas, including local and regional economies, open space land preservation, local and regional employment, and establishing a unique identity for the town and the region (Brimfield 1996).

Changing economic conditions at the national, state, and regional levels have had a major influence in shaping Brimfield’s recent history. The national economic downturn and the State’s recent fiscal crisis have had a financial impact on the community. Similar to other communities in the Commonwealth, Brimfield has had to adjust to substantial reductions in State financial aid and this has required a reassessment of town priorities. The need to acquire additional sources of revenue to fund municipal services has opened debate on controversial issues such as increasing commercial development, raising property taxes, and reductions in municipal staffing.

Rising land and property values have also shaped the town’s recent history. The current real estate boom has resulted in the sale of large parcels of land within the town. The sale of these parcels is likely to result in additional residential development. As landowners in Brimfield sell parcels of land to take advantage of historically high land values, the open space land that preserves the town’s rural identity is being lost at an increasing pace. One of the town’s greatest challenges in the near future will be to balance new residential growth with the protection of valuable open space and recreational lands.

Population Characteristics

This section of the plan utilizes population and demographic data from the United States Bureau of the Census (United 1970, 1980, 1990, 2000). The 2000 Census reported the population of Brimfield at 3,339. This compares with a population of 2,318 in 1980 and 2,981 in 1990, indicating steady population growth over the past two decades. The Massachusetts Institute of Social and Economic Research (Massachusetts 2000) predicts that the population of Brimfield will reach 3,666 by 2005 and 3,917 by 2010.

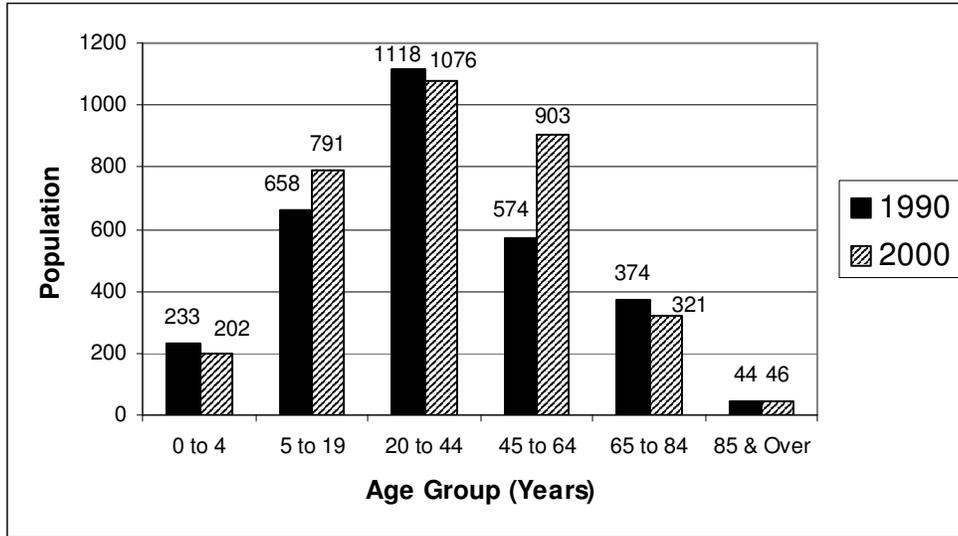
In 1970 approximately a third (37.4 percent) of Brimfield’s population was under 18 and only 12 percent were age 65 or over. As the Baby Boom Generation grew older during the decade of the 70’s, the age pattern of the town changed significantly. In 1980 just one out of four people living in Brimfield were under 18 and there had been an increase in the percentage of residents over the age of 65 to 14.7 percent. In the 1980’s, young and middle-aged adults became the fastest growing age groups. By 1990, more than half of the population (56.4 percent) was between the ages of 20 and 64.

During the 1990’s, the 45 to 64 age group experienced the greatest gain, increasing from 19.1 percent in 1990 to 27.0 percent in 2000. This increase is consistent with national trends associated with the maturing of the Baby Boom Generation. The percentage of the population aged 19 and under remained nearly unchanged from 1990 (29.6 percent) to 2000 (29.8 percent). From 1990 to 2000, the percentage of residents in the 65 to 84 age group declined by approximately three percentage points, from 12.5 percent to 9.6 percent.

Age Distribution Patterns

Population counts for six major age groups within Brimfield are presented in Figure 1-1. The chart allows for a comparison of different age group cohorts within the Town.

Figure 1-1: Population by Age Group, Town of Brimfield, 1990 and 2000



Source: US Census Data 1990, 2000

Implications of Age Distribution Patterns for Open Space and Recreation Planning

Age group distribution patterns provide useful guidance for making informed decisions concerning future recreation and open space preservation initiatives. Brimfield's age distribution pattern indicates that young and middle-aged adults make up the largest percentage of the population (59.2 percent). Based on 1990 and 2000 United States Bureau of the Census data, middle-aged adults (45 to 64 years old) constitute the fastest growing members of Brimfield's population. This age distribution pattern suggests that the unique needs and interests of a maturing population should be an important consideration when developing future open space and recreation goals and objectives.

Recreation Planning

The 0 to 4 Age Group

Recreational activities for young children in the 0 to 4 age group occur primarily in the home. As children in this group reach the age of 3 or 4, recreation in the home is often supplemented with trips to a local playground. In addition to providing an opportunity for exercise, trips to the playground also provide important lessons in socialization as children interact with their peers and older children. Playgrounds also provide an informal meeting place for parents to share information and to develop a greater sense of community.

Playground equipment is located at the Brimfield Elementary School, which is within one half mile of the Town Center. Since the number of children in the 0 to 4 age group has remained relatively constant since the 1990 census, Brimfield's current playground facilities are likely to meet the needs of the 0 to 4 age group now and in the near future. In terms of playground facilities, the town might consider updating its current facilities with more modern playground equipment.

A program of updating playground equipment can occur in stages since modern playground facilities are often composed of individual modular units. The advantages of modern playground equipment include: improved safety features, play apparatus designed to address young children's developmental needs (fine and gross motor skills), and apparatus designed to encourage group play.

The main obstacle associated with updating playground facilities is cost. Modern playground equipment is expensive, costing thousands of dollars for a playground structure of even modest size. Many communities acquire new playground equipment through fundraising programs involving elementary school students who are the major beneficiaries of new playground facilities. In addition to raising funds, these programs teach children how members of a community work together in order to achieve an important community goal.

The 5 to 19 Age Group

Although the number of persons in the 5 to 19 age group has remained relatively constant, it should not be assumed that the town's current recreational facilities for this age group are sufficient to meet their needs. A growing awareness of the social and health benefits of team sports has encouraged parents to enroll their children in organized sports leagues at younger ages (Michelli 1996). Increased enrollment in youth sport leagues has led many communities in Massachusetts to acquire additional playing fields to meet demand.

The recreational preferences of young children and teenagers have evolved significantly over the past several decades. This age group has shown an increasing interest in organized team sports and relatively recent recreational pursuits such as skateboarding, rollerblading, and motorized sports. A periodic review of the recreational facilities used by this age group is important since these facilities often require repairs and updating in order to comply with current safety standards.

It is important to note that meeting the recreational needs of the 20 and under age group often provides an important social benefit to a community. The recreational facilities used by this age group, such as sports fields, playgrounds, and recreational centers, provide convenient meeting places for residents of the community. Attending a youth sporting event at a local playing field brings residents together and provides an informal forum to discuss community issues.

Brimfield's recreational facilities for residents in the 5 to 19 age group include: The Hitchcock Free Academy, Quinebaug Cove Campground, Haynes Hill Riding Academy, a gymnasium, playground, and playing fields at Brimfield Elementary School, fishing and boat

ramps at East Brimfield Reservoir, The Town Common, and hiking, swimming, and picnic areas at Brimfield State Forest. The Hitchcock Free Academy is an important historical landmark and provides a range of courses and recreational activities for children, teenagers, and young adults. Course offerings and programs for this age group include: gym classes, gymnastics instruction, a playgroup for 5 year olds, aerobics, Tai Chi, and yoga. In addition, the Academy hosts the Boy Scouts, Girls Scouts, Cub Scouts, and Brownie programs (Hitchcock 2004).

The 20 to 44 and 44 to 65 Age Groups

The 20 to 44 and the 44 to 65 age groups account for a large percentage of Brimfield's total population (59 percent). These two age groups share similar recreational interests and needs. Maintaining and improving health through regular exercise is a characteristic of the 20 to 44 and 44 to 65 age groups. In addition to memberships at health and fitness clubs, young and middle-aged adults tend to favor more traditional outdoor recreational pursuits such as golf, tennis, running, walking, hiking, cycling, fishing, and hunting. Many of these recreational pursuits require large expanses of open space land maintained in its natural state. Meeting the recreational needs of a maturing population suggests that a greater emphasis should be placed on preserving the natural lands on which these recreational pursuits are based.

The Hitchcock Free Academy provides numerous recreational programs for adult residents in Brimfield. Many of the adult recreational programs offered at the Hitchcock Free Academy focus on fitness and health maintenance, an important concern for both young and mature adults. Programs at the Academy include: aerobics, yoga, ballroom dancing, fencing, Tai Chi, and Iaido, a Japanese sword technique (Hitchcock 2004).

The 65 to 84 and 84 and Over Age Groups

Developing recreational programs for the 65 and over age group provides two important benefits for the town. First, these programs can greatly improve the quality of life of those residents who are currently in this age group. Secondly, establishing these recreational programs today will help prepare the town to meet the needs of the large number of residents who will be entering this age group over the next two decades. The recreational needs of older seniors can be significantly different than other age groups. Recreational programs for older seniors are often designed to increase physical activity, maintain health, and provide important social interaction. These programs often require indoor facilities and community sponsored transportation.

The Brimfield Senior Center, located in the Brimfield Elementary School implements programs and activities to meet the recreational and social needs of Brimfield residents over the age of 60. The Center provides strength and fitness classes for seniors and a number of social activities each week. The Brimfield Council On Aging (COA) is an advisory board that focuses on identifying the needs, both social and physical, of Brimfield's senior population (Annual 2002 p. 93).

Socioeconomic Characteristics

This section provides data relating to the economic, employment, and educational attainment characteristics of Brimfield's population. Table 1-1 provides a comparison of income and poverty level for Brimfield, Hamden County, and the State. Two statistics worth noting in this comparison are median household income and poverty level. Brimfield's median household income is only approximately \$300 less than that of the entire State and the percentage of its population below the poverty level is significantly lower than that of the State and the County.

Table 1-1: Income and Poverty Statistics, 1999

Area	Per Capita Income	Median Household Income	Percent of Population Below the Poverty Level
Brimfield	\$23,711	\$50,181	4.30%
Hamden County	\$19,541	\$39,718	14.30%
Massachusetts	25,952	50,502	9.30%

Source: U.S. Census Bureau, Census of Population and Housing, 2000.

Table 1-2 compares labor force and unemployment data for Brimfield, Hamden County, and the State. At 6.3 percent, Brimfield's unemployment rate is slightly higher than that of the County (5.9 percent) and the State (5.3 percent).

Table 1-2: Labor Force and Unemployment Rate, 2002

Area	Labor Force	Employment	Unemployment	Unemployment Rate
Brimfield	1,703	1,596	107	6.30%
Hampden County	224,101	210,968	13,133	5.90%
Massachusetts	3,486,400	3,301,300	185,100	5.30%

Source: Massachusetts Division of Employment & Training, 2002

Table 1-3 shows the types of employment sectors in which residents of Brimfield are employed. In general, the percentage of Brimfield workers in each employment sector is similar to that of the State and the County. However, there is one employment sector in Brimfield that is substantially higher than that of the State and the County and therefore is worth noting. The percentage of Brimfield workers in the Agriculture, Forestry, Fishing, Hunting, and Mining sector is approximately four times that of the State and the County.

Table 1-3: Employment by Sector, 2000

Employment Sector	Brimfield		Hampden County	Massachusetts
	Number of Workers	Percent of Total		
Educational, Health & Social Services	369	21.3%	23.7%	23.7%
Manufacturing	339	19.5%	16.5%	12.8%
Retail Trade	212	12.3%	12.4%	11.2%
Construction	146	8.4%	4.5%	5.5%
Transportation, Warehousing & Utilities	88	5.1%	6.0%	4.2%
Arts, Entertainment, Recreation, Accommodation & Food Services	86	5.0%	7.1%	6.8%
Wholesale Trade	34	2.0%	3.8%	3.3%
Professional, Scientific, Management, & Administrative Services	148	8.6%	6.4%	11.6%
Finance, Insurance, & Real Estate	112	6.5%	7.1%	8.2%
Agriculture, Forestry, Fishing, Hunting, & Mining	32	1.9%	0.4%	0.4%
Information Services	33	1.9%	2.5%	3.7%
Other Services (except Public Administration)	62	3.6%	4.7%	4.4%
Public Administration	68	3.9%	4.9%	4.3%
Total Employed*	1,729	100.0%	206,062	3,161,087

*Employed civilian population 16 years of age and over.

Source: U.S. Census Bureau, Census of Population & Housing, 2000

Highest educational attainment is an important factor in a community’s ability to attract and retain commercial development. In today’s service sector economy, the ability to draw upon a highly educated pool of potential employees provides a company with a competitive advantage in the market place. Companies seek to locate their operations in areas that can provide this highly educated labor pool. Table 1-4 provides statistics on highest level of educational attainment of Brimfield residents. It is worth noting that the percentage of Brimfield residents who are high school graduates is higher than both the County and State percentages.

Table 1-4: Highest Educational Attainment, 2000

Area	Population Age 25 and Over	Percent High School Graduate (Total)	Highest Level of Educational Attainment				
			Percent High School Graduate	Percent with Some College	Percent with Associate Degree	Percent with Bachelor's Degree	Percent with Graduate Degree
Brimfield	2,236	85.9%	33.1%	17.5%	7.3%	18.7%	9.3%
Hampden County	295,837	79.2%	32.6%	18.1%	8.0%	12.8%	7.7%
Massachusetts	4,273,275	84.8%	27.3%	17.1%	7.2%	19.5%	13.7%

Source: U.S. Census Bureau, Census of Population & Housing, 2000.

Growth and Development

Patterns and Trends

Development in Brimfield is primarily residential and is clustered along the town's two main roadways, Route 20 and Route 19. These two major routes bisect Brimfield north to south (Route 19) and east to west (Route 20). The town's densest development occurs along Routes 19 and 20 and becomes less dense along the auxiliary roads that branch off of these two major roadways.

Historical patterns of development have heavily influenced the current layout of Brimfield Center. Brimfield's Town Center reflects the traditional pattern of development typical of small New England towns and villages. Dense residential development is interspersed with limited commercial development, municipal offices, and historic buildings and landmarks. This type of mixed-use development can be traced back to the town's early history, when development was established in a central location and spread outwards as the village grew. Similar to many New England towns, Brimfield has managed to preserve its town common and other historic landmarks within the Town Center.

The land adjacent to Brimfield's major water bodies, Little Alum Pond and Sherman Pond, exhibits a pattern of development that is common in communities throughout Massachusetts. In these areas, small, narrow, rectangular building lots are clustered along the waterfront and accommodate small houses that were built to serve as summer vacation homes. In recent years, rising residential property values have led to an increase in the conversion of seasonal homes into year round residences. The consequence of this trend is often greater environmental pressure on pond and lake ecosystems. Increased pollutants in the form of domestic run-off (fertilizers, household cleaners, and effluent seepage) create additional stress on lakes and ponds.

Infrastructure

The Town of Brimfield has limited public infrastructure. The Town's public infrastructure consists primarily of its road network and municipal buildings and offices such as the Town Hall, the public library, the elementary school, and the fire station. There is no public sewer system and both private and public buildings are serviced by individual underground septic tanks. There are currently several cellular telephone towers located throughout the Town.

Transportation

Private automobiles are the primary method of transport. Routes 19 and 20 are the Town's main roadways. Access to The Massachusetts Turnpike (I-90) is available in the neighboring towns of Palmer and Sturbridge. There is currently no form of public transportation in the Town.

Water Supply Systems

Private and public buildings draw their water supply from individual deep well systems. The town anticipates construction of a municipal water supply in the future and several aquifers in the northern section of the town possess adequate water flow to support a municipal system. Planning for a future municipal water supply system has focused on preserving the integrity of these aquifers in order to ensure that water quality is maintained. Plans to restrict development over these aquifers is under consideration.

Sewer Service

There is no public sewer system and both private and public buildings are serviced by individual underground septic tanks. Currently, there are no plans to establish a public sewer system and treatment facility in the town.

Long-Term Development Patterns

Brimfield does not currently have a Master Plan to guide residential and commercial development within the town. Development in Brimfield is guided primarily by the Town of Brimfield Zoning Bylaw, the Town of Brimfield Zoning Map, the Massachusetts Wetlands Protection Act, and the Brimfield Board of Health Regulations. The Massachusetts Wetlands Protection Act prevents development on wetlands and regulates development adjacent to wetlands. Brimfield's Board of Health Regulations establish health and safety requirements for residential development and commercial establishments.

Similar to the majority of communities in Massachusetts, Brimfield utilizes zoning as the primary method for regulating residential and commercial development. The town's zoning bylaw regulates the types of development that can occur within specific zoning districts and the zoning map indicates where these districts are located in the town. The town's six zoning districts are: Residential (R), Agricultural/Residential (AR), Business (B), Industrial (I), Flood Plain (FP), and Multiple Dwelling District for Elderly (MD). The majority of Brimfield's land area is designated as Agricultural /Residential (AR). The town's Business (B) district is designed to accommodate commercial development and is limited to land along the length of Route 20 (Town 2000).

Future development in Brimfield is likely to follow the pattern of development that has occurred within the town over the past several decades and will be guided primarily by the Town of Brimfield Zoning Bylaw. This development pattern is characterized by expanding residential development along auxiliary roads and limited commercial development along Route 20. Brimfield's proximity to employment centers and its many desirable characteristics make it an attractive location for increased residential development. The pace of residential development in Brimfield is likely to increase as developable land in neighboring communities becomes scarcer.

Environmental Inventory and Analysis

The natural resources described in the Environmental Inventory play an essential role in determining the Town's future open space and recreation needs and goals. By analyzing its Environmental Inventory, the Town can identify the critical natural resources that require additional protection from future development, such as areas of prime farmland soils, wildlife habitats, and water resources. In addition, the Environmental Inventory provides useful information when making informed decisions concerning future open space and recreational objectives, such as identifying parcels of land to acquire in order to create a wildlife corridor.

Geology, Soils, and Topography

Geology

The underlying geology of Brimfield and the surrounding region is composed of Paleozoic intrusive rocks and metamorphosed sedimentary and volcanic rocks consisting of granite, gneiss, schist, and phyllite. Brimfield and the surrounding area was subjected to the actions of the four known major continental glaciers in North America, the most recent being the Wisconsin glacier that occurred 12,000 to 15,000 years ago. As the Wisconsin glacier moved southward, it scraped the surface of the ground and picked up soil, stone, and boulders. Its massive weight formed a compact mixture of rocks referred to as lodgment till. Above this layer, the action of the glacier formed drumlins, long, narrow hills running northwest to southeast, reflecting the direction of glacial movement. As the glacier receded, it deposited the load of soil, stones, and boulders it had accumulated as it moved southward. This mix of loose, permeable material formed a layer called ablation till. In Brimfield, it is estimated that this layer is approximately 3 to 5 meters in depth.

The current landscape of Brimfield reflects its underlying geologic formations and the actions of the massive glaciers that moved south, and then receded to the north. Brimfield's landscape is characterized by north to northeast-trending ridges and hills created by glacial action. Hills with the greatest elevation in Brimfield typically have summits of exposed bedrock, which were capable of resisting the scouring action of the glaciers. The slopes of these hills range from strongly sloping to very steep. Following the receding of the Wisconsin glacier, streams began to deposit material, called alluvium, on their flood plains (United States Department 1989).

Soils

The principle soil association present in Brimfield is the Paxton-Brookfield-Woodbridge association. The United States Department of Agriculture (USDA) Soil Conservation Service provides the following description of the soils in this association group:

Paxton-Brookfield-Woodbridge: Very deep, gently sloping to steep, well drained and moderately well drained soils formed in loamy glacial till; on uplands (United States Department 1989 p.175).

Two additional soil associations are present in Brimfield. The northwest section of Town is dominated by soils in the Scituate-Montauk-Charlton soil association and the northeastern tip of Brimfield is dominated by soils in the Hinckley-Merrimac-Windsor soil association. USDA Soil Conservation Service descriptions of these two soil types are provided below:

Scituate-Montauk-Charlton: Very deep, nearly level to very steep, well drained and moderately well drained soils formed in loamy and sandy glacial till; on uplands (United States Department 1989 p.175).

Hinkley-Merrimac-Windsor: Very deep, nearly level to steep, excessively drained and somewhat excessively drained soils formed in sandy and gravelly outwash; on glacial outwash plains and terraces (United States Department 1989 p. 175).

The Soil Survey of Hampden and Hampshire Counties, Massachusetts, Eastern Part (United States Department 1989) provides detailed maps and descriptions of the specific soil types present in Brimfield. According to the USDA Soil Conservation Service's soil descriptions, a total of thirty-eight distinct soil types are present in Brimfield (United States Department 1989 Soil Maps 11-14). Although USDA soil maps can provide only the approximate location of specific soil types, these maps are useful when making informed decisions concerning possible development, especially concerning the preservation of Prime Farmland Soils.

Prime Farmland Soils

The United States Department of Agriculture defines prime farmland as “land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply, needed to produce a sustained high yield of crops while using acceptable farming methods. Prime farmland produces the highest yields and requires minimal amounts of energy and economic resources, and farming it results in the least damage to the environment” (United States Department 1989 p.61). Since length of growing season cannot be changed, and moisture supply can be supplemented through the use of irrigation, prime farmland preservation involves the identification and protection of the soils that possess the qualities that make them especially suitable for agricultural production.

Specific soil types are associated with areas of prime farmland. These soil types possess the following qualities: acceptable levels of acidity or alkalinity, few or no rocks, permeability to air and water, not excessively erodible, and possessing a slope range of mainly 0 to 6 percent. Table 1-5 lists the Prime Farmland Soils for Hampden and Hampshire Counties.

Table 1-5: Prime Farmland Soils of Hampden and Hampshire Counties, USDA

USDA Map Symbol	Soil Name
MeA	Merrimac sandy loam, 0 to 3 percent slopes
MeB	Merrimac sandy loam, 3 to 8 percent slopes
MoB	Montauk fine sandy loam, 3 to 8 percent slopes
PaB	Paxton fine sandy loam, 3 to 8 percent slopes
Pv	Pootatuck fine sandy loam
SgB	Scituate fine sandy loam, 3 to 8 percent slopes
SuA	Sudbury fine sandy loam, 0 to 3 percent slopes
SuB	Sudbury fine sandy loam, 3 to 8 percent slopes

Source: USDA Soil Survey of Hamden and Hampshire Counties 1989.

Brimfield possesses pockets of Prime Farmland Soils scattered throughout the town (see Soils and Geologic Features Map). The town's largest contiguous area of Prime Farmland Soil is a corridor of Merrimac sandy loam (MeB) on both sides of Holland Road (United States Department 1989 Soil Map 14).

Topography

Brimfield's topography suggests a patchwork of high, wooded hills surmounted by ledge and rock outcroppings that are separated by gently rolling slopes reaching down to a grid of river valleys. Chamberlain Mountain in the northeast corner, North and South Nichols Mountains in the southwest corner, Fenton Mountain in the northwest corner and Steerage Rock in the North Central part of the Town are the prominent peaks that give the Town its distinctive character.

Historically, development in Brimfield has occurred on land with minimal slope. Early residents selected these areas based on their suitability for agricultural production. Residential development continues to occur on land with minimal slope since this type of land is the most economical to build upon.

Landscape Character

Brimfield's scenic rural landscape is often cited by residents as one of the main reasons they chose to live in the town. Due to limited development, the natural beauty of the town's landscape has remained unspoiled for centuries. A mixture of river valleys and wooded hills create the town's unique landscape character. Large parcels of open space lands, both public and privately owned, have maintained the town's rural character. Working farms and pastureland are scattered throughout the land and reflect Brimfield's history as an agricultural community.

Water Resources

Watersheds

Brimfield is divided north to south by the borders of two major watersheds. The Chicopee River Watershed drains a large area of land in the western section of the town. The

Quinebaug River Watershed, which encompasses the majority of Brimfield's land area, drains the central and eastern sections of the town.

Major Water Bodies

Brimfield possesses three main water bodies and numerous small ponds scattered throughout the Town. The Town's water bodies provide both habitat for wildlife and recreational opportunities for the Town's residents. The Town's three major water bodies are Sherman Pond, Little Alum Pond, and the Brimfield Reservoir.

Sherman Pond

Sherman Pond, also referred to as Lake Sherman, is a shallow pond located north of the Brimfield Town Center. It is a popular spot for fishing and water-based recreational activities. The pond has an area of approximately 75 acres. The town owns a public boat launch adjacent to the pond. There are significant levels of residential development in areas adjacent to the pond. Each year MassWildlife stocks the pond with trout in late spring. (MassWildlife 2004).

Little Alum Pond

Little Alum Pond has an area of approximately 73 acres and is located one mile north of Route 20. Its waters are clear and of good quality with a transparency of 15 feet. Its shoreline is approximately 75 percent developed with both year-round homes and summer cottages. The pond is a popular location for sport fishing since it contains a healthy population of largemouth bass. A public boat ramp is located off of Little Alum Road. Recreational usage of the pond is heavy in the summer months. (MassWildlife 1993).

The East Brimfield Reservoir

This flood control project of the U.S. Army Corps of Engineers was created in 1960 by damming the Quinebaug River in Sturbridge. The reservoir covers 420 acres including a 90-acre pool on the east boundary of Brimfield which provides an important recreation area for fishing, boating and swimming. Access is from Route 20 and includes three boat-launching ramps.

Brimfield possesses numerous small ponds that provide recreational opportunities, important habitat for aquatic wildlife, and temporary habitat for migrating waterfowl. Table 1-6 presents a list of Brimfield's ponds with approximate acreage.

Table 1-6: Inventory of Ponds, Town of Brimfield, 1999.

Name	Approximate Acreage
Little Alum Pond	73
Sherman Pond	75
Dean Pond	8
Dearth Hill Pond	3
Woodman Pond	7
Pork Barrel Pond	4
Green Pond	5
Baker Pond	8

Source: MassGIS Land Use datalayer 1999.

Major Rivers and Streams

Brimfield possesses two major rivers and numerous streams and brooks.

The Quaboag River

The Quaboag, one of the principal rivers of Massachusetts forms the boundary between Brimfield and Palmer. A narrow valley bounds this stretch of the river on the Brimfield side which rises steeply to provide scenic views to the houses which increasingly line the road running just under the hillside. The flood plain immediately adjacent to the river is also regarded as a potentially significant archaeological site due to the possibility of a major Native settlement that has yet to be studied.

The Quinebaug River

The Quinebaug River cuts through the southeast corner of Brimfield. The river was dammed in 1960 to create the East Brimfield Reservoir, a flood control project of the U.S. Army Corps of Engineers. The river and reservoir provide both wildlife habitat and a popular recreational destination for fishing, boating, and swimming.

An inventory of Brimfield's major streams and brooks is presented in Table 1-7 below.

Table 1-7: Inventory of Major Streams and Brooks, Town of Brimfield, 1999

Name
Mill Stream
Tufts Brook
Turkey Brook
Penny Brook
Bottle Brook
West Brook
East Brook
Mill Brook
Wales Brook
Mountain Brook
Treats Brook

Source: MassGIS Hydrology datalayer 1999

Vegetation

Forests

Native woodlands are the principle vegetation type in Brimfield. Woodlands cover 17,803 acres of Brimfield, approximately 80 percent of the Town’s land area. Types of woodlands in Brimfield include hardwood forests, coniferous forests, and mixed woods. Brimfield’s woodlands provide habitat for numerous wildlife species and a form of sustainable economic development through timber harvesting.

Table 1-8 provides approximate acreage for the four main types of vegetation cover in Brimfield.

Table 1-8: Vegetation Types and Acreage, Town of Brimfield, 1999.

Vegetation Type	Acreage
Forest	17,803
Cropland	982
Pasture	421
Non-forested wetlands	338

Source: MassGIS Land Use datalayer 1999.

Brimfield’s forests provide habitat for a variety of woodland plant species. There is a thriving population of laurel, and groundcovers include ground pine, running pine, swamp dewberry, and partridge berry. Native wildflowers such as the wood and swamp lily, lady slipper, wild aster, fringed and bottle gentian, marsh marigold, jack-in-the-pulpit, trailing arbutus, blue flag, Indian pipe and numerous other upland and wetland species are found in Brimfield.

Agricultural Lands

In most Massachusetts cities and towns, large contiguous deposits of prime farmland soils are uncommon. In towns such as Brimfield, small to moderate deposits of prime farmland soils are scattered throughout the Town. The farmers of Brimfield have had to contend with the Town's numerous soil types, many of which are not especially well suited for agricultural production. Brimfield farmers, both past and present, have accommodated to these less than ideal agricultural soils by focusing on less intensive farming practices, such as dairying, tree fruit production, and the growing of forage crops.

Throughout most of its history, Brimfield was an agricultural community. Although agriculture has declined substantially, farms and farmland still play an important role in Brimfield by maintaining the Town's agricultural heritage, serving as a sustainable form of economic development, and protecting open space lands from development.

The most recent land use data for the Town of Brimfield was compiled in 1999 by the Massachusetts Geographic Information System (Massachusetts Geographic 1999). This data indicates that approximately 1,585 acres of land were in agricultural production in Brimfield in 1999. Approximately 982 of these acres were cropland and 421 were pasture.

Table 1-9 shows the quantity of agricultural acreage in production in the Town for the years 1971, 1985, and 1999. Approximately 367 fewer acres of agricultural land were in production in 1999 as in 1971. Based on this pattern of decreasing acreage in production, it can be assumed that even fewer acres of land are in agricultural production today than in 1999.

Table 1-9: Acres in Agricultural Production, Town of Brimfield, 1971, 1985, 1999

Year	Acres in Agricultural Production
1971	1,952
1985	1,877
1999	1,585

Source: MassGIS, Land Use Summary Statistics, 2004

Wetlands

Brimfield contains several large wetlands and numerous smaller wetlands scattered throughout the town (see Water Resources map). Wetlands are present in both forested and non-forested areas. The two main types of wetland in Brimfield are shrub swamp and deciduous wooded swamps. Scattered throughout the town are small patches of wetlands that are classified as bogs, deep marsh, shallow marsh, coniferous wooded swamp, and mixed trees wooded swamp. The relative scarcity of these wetland types within the town should be taken into consideration when planning for land preservation initiatives.

The United States Geographical Survey (USGS) describes the benefits of wetlands as follows:

Wetlands provide many benefits, including food and habitat for fish and wildlife, flood defense, erosion control; water filtration, siltation control, and opportunity for amusement, education, and research. Wetlands help to improve water quality by slowing surface runoff and retaining nutrients, processing organic waste, and precipitating sediment before it reaches open water where it could cause problems. They slow and filter runoff and surface waters, thus safeguarding the quality of lakes, bays, and rivers. Wetlands also shield many of our sources of drinking water... Wetlands can store rainwater and slowly release it. Trees, shrubs, cattails, and other wetland vegetation help slow moving surface water. This combined action of storage and slowing can decrease floods and reduce the speed of the water flow thus diminish the water's erosive potential. Wetlands can thus help control fluctuations in the rate and volume of surface water runoff and in so doing reduce flood damage and buffer shorelines against erosion. (United States Geographical 2004).

In the Commonwealth of Massachusetts, wetlands are regulated and protected under the Wetlands Protection Act. The Massachusetts Office of Coastal Zone Management provides the following summary of the Wetlands Protection Act (M.G.L. c. 131, § 40: Massachusetts Wetlands Protection Act; 310 CMR 10.00: Wetlands Regulations):

The purpose of the Wetlands Protection Act is to protect Massachusetts wetlands resources and to ensure that the beneficial functions of these resources are maintained. The resources identified are protected because they fulfill the public interest to protect public and private water supply, protect fisheries, protect groundwater supply, provide flood control, protect land containing shellfish, prevent storm damage, protect wildlife habitat, and prevent pollution. These interests are protected by a "no net loss of wetlands" policy. Projects that affect wetlands are required to avoid impacts where possible, minimize unavoidable impacts, and mitigate for unavoidable impacts (Massachusetts Office 2004).

Vernal Pools

The Natural Heritage and Endangered Species Program, a division of the Massachusetts Division of Fish and Wildlife, defines vernal pools as follows:

Vernal pools are unique wildlife habitats best known for the amphibians and invertebrate animals that use them to breed. Vernal pools, also known as ephemeral pools, autumnal pools, and temporary woodland ponds, typically fill with water in the autumn or winter due to rising ground water and rainfall and remain ponded through the spring and into summer. Vernal pools dry completely by the middle or end of summer each year, or at least every few years. Occasional drying prevents fish from establishing permanent populations. Many amphibian and invertebrate species rely on breeding habitat that is free of fish predators. (Natural 2003).

There is a growing awareness of the importance of vernal pools as habitat for endangered species, particularly amphibians. In Brimfield and surrounding communities, vernal pools and wetlands serve as habitat for a rare species of salamander, the Blue Spotted Salamander. In

Massachusetts, the role vernal pools play in sustaining amphibian populations has led to greater protection for these unique habitats. Numerous vernal pools in Massachusetts are protected by the Wetlands Protection Act. Vernal pools can also be protected by federal, state, or local regulations and bylaws. In Massachusetts, the Natural Heritage and Endangered Species Program (NHESP) is responsible for certifying vernal pools. Typically, citizen volunteers identify vernal pools and submit the required documentation to the NHESP. There are currently seven certified vernal pools in the Town of Brimfield.

Wildlife

As a result of relatively large areas of forest cover and steep slopes, which have resisted human occupation, wildlife is still abundant in Brimfield. Numerous wetlands and streams have also provided habitat for species such as mink, weasel, muskrat, raccoon, turtle, fisher and opossum, as well as herons, ducks, geese, and snakes. Raptors include hawks, eagles, and owls. The wild turkey has also returned to woodlands. In some upland streams, native trout can be found. The East Brimfield Reservoir and Sherman Pond both provide catch for summer and ice fishing.

In addition to the common species of wildlife listed above, Brimfield also provides habitat for a number of rare wildlife species. Table 8 provides a list of rare wildlife species in Brimfield.

Table 1-10: Rare Wildlife and Plant Species in the Town of Brimfield, 2003

Common Name	Taxonomic Group	Scientific Name	Most Recent Observation
Bridle Shiner	Fish	Notropis bifrenatus	1999
Blue-Spotted Salamander	Amphibian	Ambystoma laterale	2000
Four-Toed Salamander	Amphibian	Hemidactylum scutatum	1996
Spotted Turtle	Reptile	Clemmys guttata	1994
Wood Turtle	Reptile	Clemmys insculpta	1996
American Bittern	Bird	Botaurus lentiginosus	1997
Triangle Floater	Mussel	Alasmidonta undulata	1999

Source: Natural Heritage and Endangered Species Program, Department of Fish, Wildlife, and Environmental Law Enforcement, Rare Species by Town: Brimfield, 2003.

Scenic Resources and Unique Environments

Scenic Landscapes

The West Brimfield Hills

The range of hills that marks the divide between the Chicopee and Quinebaug River Basins provides some of the most scenic areas in the town. West mountain, which includes Steerage Rock, Cooks Mountain, Fenton Mountain, and North and South Nichol's Mountains all display rock faces and steep, wooded slopes. The road access to these peaks is still primitive and therefore these hills provide an unspoiled picture from below.

The Quaboag River Valley

The Quaboag, one of the principal rivers of Massachusetts, and one of the cleanest, forms the boundary between Brimfield and Palmer, a distance of 3.3 miles. This stretch of the river is bounded by a narrow valley on the Brimfield side, which rises steeply to provide fine scenic views to the houses, which increasingly line the road, which runs just under the hillside. On the southern end, the valley broadens and extensive wetlands and fields flank the turn of the road.

The East Brimfield Reservoir

This flood control project of the U.S. Army Corps of Engineers was created in 1960 by damming the Quinebaug River in Sturbridge. The reservoir covers 420 acres including a 90 acre pool on the east boundary of Brimfield which provides an important recreation area for fishing, boating, and swimming.

Brimfield State Forest

This forest covers 1,937 acres within Brimfield as well as smaller sections in Holland, Wales, and Monson. The Brimfield Forest occupies three distinct sections, the largest of which covers most of the southwestern corner of the town.

Significant Historical Sites and Landscapes

The locations of the following historical sites and landscapes are identified on the Unique Features map. The number preceding the name of the site corresponds to the locator number on the Unique Features map.

Contact Period (1500-1650)

1. Marsh Hill/Sherman Pond/Tower Hill Area, including Indian Hill site of “Quabog Old Fort” and planting grounds
2. Steerage Rock, traditionally a key Native vantage point
3. Little Alum Pond, Quinebaug and Quabog River valleys, likely native settlement areas

Plantation Period (1620-1675)

4. Quaboag Old Fort, site of extensive native village at least through King Philip’s War

Colonial Period (1675-1775)

5. Radial road network: Paige Hill and Haynes Hill Roads to South Brimfield, Tower Hill Road to Warren, East Hill and Brookfield Roads to Brookfield over native paths

6. Original portions of east-west path at Old Palmer Road, and abandoned loops at East Brimfield
7. West Brimfield-Palmer Road connecting Warren to Palmer
8. Center sites: first meeting house c. 1722, cemetery (Lumbard lot c. 1720), pounds c. 1746 and 1762
9. Foskett Mill (Elbow Brook) site of two mills before 1775

Federal Period (1775-1830)

10. East Brimfield sites of cotton and woolen mills 1815, sites of largest boot and shoe production in county 1830's to 1855, many residences, Bliss and other tavern /hotels

Early Industrial Period (1830-1870)

11. The Western Railroad along the Quaboag River 1839, immigrant population houses, especially Irish
12. Mill village at Fentonville, woolen factory 1845
13. West Brimfield brickyard 1845-1938
14. Center sites: Elias Carter houses and First Church 1848, Hitchcock Academy 1855, Common improvement 1840
15. Site of the Town Farm
16. Tower Hill School and sites of other district schools

Late Industrial Period (1870-1915)

17. Remains of electric inter-urban system, including concrete bridge at Holland Road 1908
18. Mainline of Southern New England Railroad parallel with trolley, abandoned 1912
19. Holland Road built, residences of new immigrant groups such as French-Canadian and Irish
20. Site of Brimfield Cheese Factory Co. 1870. By 1880, Brimfield was the second largest producer in the county
21. Sherman and Little Alum Ponds, sites of resort development. Early cottages 1901-1915
22. Center sites: Town Hall 1879, and library 1905

In addition to the historical buildings and sites listed above, the Brimfield Historical Society has undertaken a survey of town buildings to be included in the National Register of Historic Places. The current results of this survey are presented in Appendix 1-B.

Environmental Challenges

This section examines the implications and opportunities presented by Brimfield's Environmental Inventory.

Prime Farmland Soils and Agricultural Land

Agricultural, open space, and recreational lands share characteristics that make them highly attractive for residential and commercial development. In general, these lands tend to be fairly level, contain soils that are well drained, and are relatively close to population centers. In other words, the open space parcels the town desires to protect from development are likely to be the types of parcels that developers are most interested in acquiring.

Since Brimfield has limited financial resources to devote to the purchasing of open space lands, it will be difficult for the town to compete with developers for the acquisition of open space parcels for sale. The town should consider alternate strategies for securing the permanent protection of open space lands, such as purchasing conservation restrictions, promoting open space communities, and partnering with local and regional land conservation organizations.

Topography

Brimfield possesses a substantial amount of land, in the form of wooded hills, with slopes greater than 15 percent. The vast majority of this land has remained undeveloped due to development constraints posed by its topography. These relatively undisturbed lands have served as valuable wildlife habitat. However, as prime land for development becomes scarcer and land values rise, developers are willing to invest the funds necessary to alter the topography of building sites in order to overcome development constraints. Under this scenario, wildlife habitat is lost since the slope of the land no longer protects it from development.

The substantial amount of land in Brimfield with slopes of greater than 15 percent is unlikely to be developed in the near future. This allows time to identify lands of interest to the Town and begin developing mechanisms for acquiring these parcels when they become available. Due to the high slope levels of these parcels, it is likely that these parcels will be less expensive to purchase than open space lands with lower slope levels.

Wetlands

The Wetlands Protection Act (WPA) is a valuable tool that assists in the protection of open space lands that contain wetlands. Communities in Massachusetts have benefited greatly from the high level of protection afforded to wetlands by the WPA. Through powers granted by the WPA, local conservation commissions can regulate development adjacent to wetlands and therefore protect these critical wildlife habitats. Since this ability to protect wetlands is secured through State law, Towns do not need to commit financial resources to preserve areas of wetland habitat.

Surface Waters

Sherman Pond and Little Alum Pond are valuable natural resources that require protection from the negative consequences of dense residential development along their shores. Degradation of water quality in these two ponds could limit the town's ability to provide water-based recreational opportunities to residents and visitors. Protecting water quality in the ponds will require reducing negative impacts (sedimentation, contamination, erosion, etc) from adjacent residential development.

The numerous residences surrounding Little Alum Pond and Sherman Pond pose a threat to the water quality of these surface waters. Residences along the shoreline can contaminate the waters of the ponds with effluent from faulty or inadequate septic systems and household chemicals. In addition to posing a threat to human health, effluent often contains high levels of phosphates. Aquatic plants absorb the phosphates and this can lead to rapid weed growth, which is difficult to control (Town 1990 p.15).

High land and home values have resulted in the conversion of small, seasonal cottages into year-round residences. Residents who cannot afford larger homes choose to convert seasonal cottages into year-round residences. Many of these homes were designed to only accommodate seasonal use. Septic systems may be inadequate to process the additional sewerage generated by year-round living. Effluent from faulty septic systems can leak directly into the pond.

The town should consider adopting a Lake/Pond Overlay District. This overlay district would provide additional protection for surface waters by regulating certain uses within its boundaries. The overlay district could establish erosion and sediment controls, such as a requirement for the paving of driveways and private roads adjacent to the pond. In addition, the town should consider adopting a Seasonal Conversion bylaw that sets requirements for the conversion of seasonal homes to year-round residences. A Seasonal Conversion bylaw would require an assessment of the seasonal home's suitability for year-round occupation. Deficiencies, such as inadequate or faulty septic systems, would need to be corrected before year-round occupation of the residence was permitted. Examples of a Lake/Pond Overlay District and Seasonal Conversion bylaw are included in the Appendix.

Landscape Character

Brimfield's landscape character has been shaped in part by the annual event that has helped define the community for the past four decades, The Brimfield Antique and Collectibles Show. The impact of this tri-annual event on the landscape character of the Town should not be underestimated. The influence of the Brimfield Antique and Collectibles Show is clearly visible as one travels along Route 20 in Palmer towards Brimfield Center. In Palmer, dense commercial development is present on both sides of Route 20. This development pattern is in sharp contrast to the large open space parcels on both sides of Route 20 that are present as one enters the Town of Brimfield. These open space parcels are owned and utilized by numerous antique dealers during the tri-annual Brimfield Antiques and Collectibles Show, which occurs in the months of May, July, and September. During the remaining months of the year, these parcels form a

corridor of open space land that maintains the Town's rural character. In the absence of the Antique and Collectibles Show, it is likely that permanent commercial development would occur on these open space parcels since the land on both sides of Route 20 in Brimfield is zoned Business (B).

Inventory of Lands of Conservation and Recreation Interest

This section of the plan provides an inventory of lands that are of conservation and recreation interest to the Town of Brimfield. This inventory includes lands, both public and private, that possess different levels of protection. Some parcels, such as the parcels that form Brimfield State Forest, are permanently protected from development. Other parcels, such as those enrolled in the Chapter 61 Program, possess temporary protection from development. Privately owned parcels of open space land, such as those owned by the Springfield Motorcycle Club, have no level of protection and can be developed or sold for development by the owner.

Brimfield possesses a large number of private parcels enrolled in the Chapter 61 Program, significantly more than in most communities in the region. Chapter 61 parcels are of interest to the town because Brimfield is granted first right of refusal on these properties if they are removed from the program and are offered for sale by the owner. In order to take advantage of this option, the town needs to have a mechanism in place to acquire these parcels when they are offered for sale. One of the strategies the town can employ if it does not have the financial resources to purchase a Chapter 61 parcel for sale is to assign its right of first refusal to an organization, such as a local land trust, that possesses the funds to purchase the parcel. An Americans with Disabilities Act (ADA) Self-Evaluation for municipally owned recreation sites is provided in the Appendix.

Public and Nonprofit Parcels

Table 1-11: Recreation Sites and Facilities, Town of Brimfield, 2004

Site/Facility	Ownership	Acreage
Balloon School of Massachusetts (lessons and rides)	Private (open to the public)	2
Brimfield Public Library	Public	1
Brimfield State Forest (hiking, swimming, picnic area)	Public	1,937
Center Elementary School (gymnasium, playfield, playground apparatus)	Public	10
East Brimfield Reservoir (boat ramps, fishing)	Public	90
Haynes Hill Riding Academy	Private (open to the public)	5
Hitchcock Academy (tennis courts, programs, classes)	Private (open to the public)	11
Post 430 Sportsman's Club	Private	76
Springfield Boy's Club Camp	Private	96
Springfield Motorcycle Club	Private	
Town Common	Public	1
Quinebaug Cove Camp Ground and Village Green Campground	Private (open to the public)	88

Source: 1990-1995 Open Space and Recreation Plan, 1990

Table 1-12: Public Conservation and Recreation Lands, Town of Brimfield, 2004

Site	Ownership	Approximate Acreage
Cook Lot –East Hill and Route 20	Town of Brimfield	10
Quahog River river bank	Town of Brimfield	1
Sleepy Hollow youth barn site	Town of Brimfield/Holland	5
Steerage Rock (woodland)	Town of Brimfield	26
Sherman Pond boat launch area	Town of Brimfield	1
Warren Road former dumpsite	Town of Brimfield	12
Brimfield State Forest	Commonwealth of MA	1,937
East Brimfield Reservoir	United States of America	880

Source: 1990-1995 Open Space and Recreation Plan, 1990

Private Parcels

Table 1-13: Chapter 61B Parcels: Recreational Land (Privately Owned Parcels), 2004

Parcel Map ID	Location	Approximate Acreage
1 J 4.2	36 Lyman Barnes Rd.	8
1 J 4.3	Lyman Barnes Rd.	5
1 K 15	66 John Haley Rd.	30
1 K 7.4	47 Lyman Barnes Rd.	59
3 C 16	Brookfield Rd.	54
6 C 2.1	East Hill Rd.	21
7 A 4	Warren Rd.	26
8 D 29	Dunhamtown Palmer	22
14 A 9	119 Sturbridge Rd.	14
17 A 10.1	194 Wales Rd.	9
17 A 10.2	Wales Rd.	10
18 B 12	101 Hollow Rd.	15
8 D 18	Dunhamtown Brimfield Rd.	97

Source: Chapter 61 Parcels: Recreational Land, Brimfield Assessors Data

Table 1-14: Chapter 61 Forested Lands, Town of Brimfield, 2004

Parcel ID	Location	Approximate Acreage
1 K 6	55 Lyman Barnes Rd.	136
1 K 8	1154 Dunhamtown Brimfield Rd.	21
1 K 9	1168 Dunhamtown Brimfield Rd.	8
1 K 10	Dunhamtown Brimfield Rd.	93
1 K 13	John Haley Rd.	11
1 K 14	50 John Haley Rd.	25
2 A 5	33 St George Rd.	65
3 B 5	227 Brookfield Rd.	44
3 C 11	270 Brookfield Rd.	36
4B A 13	411 Brookfield Rd.	11
5 A 7	156 East Hill Rd.	121
6 C 10	30 Little Rest Rd.	45
6 D 2	36 East Hill Rd.	30
6 D 6.2	126 East Hill Rd.	25
6 D 6.7	130 East Hill Rd.	38
6 D 8	114 East Hill Rd.	14
7 A 7	Warren Rd.	122
7 A 12	1341 Dunhamtown Brimfield Rd.	31
7 A 15	Dunhamtown Brimfield Rd.	7
7 A 18	Steerage Area	18
7 A 23	Dunhamtown Brimfield Rd.	96
8 C 4	61 John Haley Rd.	16
8 C 5	45 John Haley Rd.	39
8 C 9	110 Dunhamtown Palmer Rd.	59
10 A 1	43 Sutcliffe Rd.	24
10 A 10	104 Monson Rd.	18
10 B 3	Monson Rd.	8
10 B 4	11 Sutcliffe Rd.	22
10 E 2	45 Dean pond Rd.	20
11 A 17	29 Prospect Hill Rd.	47
11 A 3	St Clair Rd.	87
12 A 26	59 Prospect Hill Rd.	40
13 A 29.5	50 Haynes Hill Rd.	5
14 A 24	229 Sturbridge Rd.	29
14 A 5	83 West Old Sturbridge Rd.	113
15 A 1.1	First St.	33
16 A 7.4	106 Five Bridge Rd.	19
17 D 8	180 Sturbridge Rd.	26
19 B 2	Wales Town Line	158

Source: Chapter 61 Parcels: Managed Forest Land, Brimfield Assessors Data

Table 1-15: Chapter 61A Parcels: Agricultural/Horticultural, Town of Brimfield, 2004*

Map Parcel ID	Location	Approximate Acreage
2 A 2	37 St. George Rd.	31
2 C 3	100 Tower Hill Rd.	61
2 D 4	200 Warren Rd.	44
2 E 2	1091 Dunhamtown Brimfield Rd.	16
2 E 6	20 Mulcare Rd.	150
2A E 8	120 Tower Hill Rd.	50
2A D 8	Tower Hill Rd.	5
2A D 7	Tower Hill Rd.	5
2A D 9	Tower Hill Rd.	3
2A E 9	Tower Hill Rd.	3
3 A 2.1	Tower Hill Rd.	165
3 A 7	50 Tower Hill Rd.	38
3 B 3	161 Brookfield Rd.	44
3 B 8.1	1 Devil's Lane	10
3 B 9	Devil's Lane	27
3 B 9.1	Devil's Lane	1
3 B 9.2	Devil's Lane	2
3 B 9.3	Devil's Lane	2
3 B 10	4 Devil's Lane	7
3 B 11	285 Brookfield Rd.	5
3 B 11.1	Brookfield Rd.	4
3 B 13.1	Brookfield Rd.	11
3 B 14	Brookfield Rd.	28
3 C 1.5	41 Little Rest Rd.	15
3 C 4	Little Rest Rd.	33
3 C 12	Brookfield Rd.	90
3 C 12.2	278 Brookfield Rd.	8
3 C 13	Brookfield Rd.	37
3A D 5	Marsh Hill Rd.	3
3A D 6	March Hill Rd.	3
3B A 5	Cubles Dr.	18
3A D 7	March Hill Rd.	2
4 A 1	Warren Town Line	1
4 C 2	Brookfield Rd.	62
4 C 3	Apple Rd	37
4 C 4	Little Alum Rd.	26
4 C 5	Apple Rd.	23
4 D 2	Apple Rd.	101

**Continued on next two pages*

Chapter 61A Parcels: Agricultural/Horticultural, Town of Brimfield, 2004-Continued

Map Parcel ID	Location	Approximate Acreage
4 G 2	Little Alum Rd.	0.15
4 H 3	27 Hall Place	74
4 H 4	Little Alum Rd.	13
4 H 6	Little Alum Rd.	32
5 A 1.3	Little Alum Rd.	15
5 A 4	East Hill Rd.	10
5 A 4.3	220 East Hill Rd.	9
5 B 2	228 Little Alum Rd.	2
5 B 2.1	Little Alum Rd.	25
5 B 3	Brookfield Rd.	45
5 B 4	Little Alum Rd	130
5 B 5	144 Little Alum Rd.	25
6 C 2.4	East Hill Rd.	8
6 C 7	Cubles Dr.	12
6 C 8	Brookfield Rd.	26
6 D 6.1	128 East Hill Rd.	16
7 A 12.3	1337 Dunhamtown Brimfield Rd.	21
7 A 22	Harnois Rd.	14
7 A 22.1	53 Harnois Rd.	102
7 A 22.4	Harnois Rd.	16
8 C 12.1	Dunhamtown Palmer Rd.	3
8 C 12.2	136 Dunhamtown Palmer Rd.	5
8 C 18	64 Washington Rd.	10
8 D 8	Dunhamtown Palmer Rd.	0.4
8 D 11.4	Dunhamtown Palmer Rd.	7
8 D 11.5	Dunhamtown Brimfield Rd.	14
8 D 18.10	Dunhamtown Brimfield Rd.	3
8 D 19	1242 Dunhamtown Brimfield Rd.	4
8 D 19	1342 Dunhamtown Brimfield Rd.	11
8 F 1	7 Kings Bridge Rd	7
9 A 2	260 Dunhamtown Palmer Rd.	32
9 B 1	Dunhamtown Palmer Rd.	99
9 D 2	145 Old Palmer Rd.	10
10 D 8	65 St Clair Rd.	8
11 A 12	Prospect Hill Rd	59
11 A 13	92 Palmer Rd.	184
11 A 13.1	80 Palmer Rd.	7
11 B 3	12 Hollow Rd.	13
12 A 3	Warren Rd	71

Chapter 61A Parcels: Agricultural/Horticultural, Town of Brimfield, 2004-Continued

Map Parcel ID	Location	Approximate Acreage
12 A 10	17 Warren Rd.	13
12 A 16.2	Prospect Hill Rd.	8
12 A 28	53 Prospect Hill Rd.	150
12 A 3.1	71 Warren Rd.	6
13 A 1	11 Hollow Rd.	36
13 A 4	Palmer Rd.	24
13 A 26	34 Mill Lane Rd.	85
15 A 5	28 McIntyre Rd.	114
16 B 2	Five Bridge Rd.	3
16 B 3	81 Five Bridge Rd.	28
17 A 1.1	Haynes Hill Rd.	26
17 A 3	Haynes Hill Rd.	21
17 A 5	153 Haynes Hill Rd.	33
17 B 10.1	104 Paige Hill Rd.	10
17 B 10.2	130 Paige Hill Rd.	30
17 C 10.21	Paige Hill Rd.	18
17 C 6	97 Paige Hill Rd.	18
17 C 6.2	Paige Hill Rd.	33
17 C 12	Holland Rd.	78
17 C 12.1	Agard Rd.	12
17 C 13	Paige Hill Rd.	8
17 D 1	137 Holland Rd.	55
17 E 3	125 Paige Hill Rd.	12
17 E 4	Agard Rd.	47
17 E 4.1	Agard Rd.	5
17 F 1	Five Bridge Rd.	3
17 F 2	Five Bridge Rd.	31
18 A 7	130 Hollow Rd	22
18 B 1	Haynes Hill Rd.	67
18 B 4	Haynes Hill Rd.	9
18 B 6	Haynes Hill Rd.	61
18 B 10	Hollow Rd.	73
18 B 13	Hollow Rd.	33
18 B 15	Hollow Rd.	1
18 B 16	Hollow Rd.	0.5
18 B 20	Hollow Rd.	29
18 B 20.1	Hollow Rd.	16
18 B 20.3	Hollow Rd.	4
18 B 21	47 Hollow Rd.	18
18 B 21.3	Hollow Rd.	11
18 B 21.4	33 Hollow Rd.	13

Source: Chapter 61 Parcels: Agricultural Land, Brimfield Assessors Data

Community Vision

Description of Process

The Town of Brimfield's open space and recreation goals were developed through the following planning process:

On July 8, 2003 OGIA staff conducted a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis with members of the Open Space and Recreation Committee to begin determining the major concerns and priorities of Brimfield residents. The results from this analysis were to be used to generate discussion at a public forum.

A public forum was held on September 25, 2003 at the Brimfield Town Hall. The main focus of the public forum was to identify the major open space and recreation priorities of Brimfield residents. Citizens in attendance reviewed the open space and recreation priorities generated by the SWOT analysis conducted with the Open Space and Recreation Committee and were provided the opportunity to suggest additional priorities.

Once a final list of potential open space and recreation priorities was compiled at the public forum, citizens in attendance were each given a set number of votes, in the form of dot stickers, to select their open space and recreation priorities for the Town. Votes were tabulated and the top five open space and recreation priorities were selected for the Town.

On November 13th, the Brimfield Open Space and Recreation Committee convened to review and discuss the results of the public forum. Information gathered at the forum was used to establish the major goals and objectives of the new plan

Open Space and Recreation Goals

The following open space and recreation goals and objectives were established as a result of the planning process:

Goal 1: Protect present and future drinking water supplies.

Goal 2: Protect the Town's critical natural, scenic, and historic resources from unplanned development.

Goal 3: Preserve the Town's unique rural character and agricultural heritage.

Goal 4: Expand and link existing wildlife habitats to create wildlife corridors

Analysis of Needs

Summary of Resource Protection Needs

There are several natural resources in Brimfield that would benefit from a higher level of protection and management. These resources include underground aquifers, major surface waters, and the wildlife habitat areas in the western section of town. Preserving these natural resources often requires protecting the open space lands above or adjacent to them.

Preserving large areas of open space land over the town's aquifers reduces potential sources of contaminant and therefore reduces the overall threat to drinking water supplies. Permanently protecting the open space lands over these underground aquifers will provide the community with a higher level of drinking water protection. These aquifers may someday serve as a future municipal water supply.

Sherman Pond and Little Alum Pond are valuable natural resources that require increased protection from the negative consequences of dense residential development along their shores. Degradation of water quality in these two ponds could limit the town's ability to provide water-based recreational opportunities to residents and visitors. Protecting water quality in the ponds will require reducing negative impacts (sedimentation, contamination, erosion, etc) from adjacent residential development.

Enhancing the effectiveness of the habitat areas in the western section of town involves securing permanent protection status for these lands and creating a wildlife corridor by linking these lands together. Wildlife corridors are especially effective for protecting migrating wildlife and wildlife that require a wide feeding area. The western section of Brimfield is well suited for a wildlife corridor since it already possesses substantial permanently protected wildlife habitat in the form of Brimfield State Forest. In order to create a wildlife corridor in this area, the town should identify undeveloped parcels of land that can act as links and then secure permanent protection status for these parcels.

Summary of Community's Needs

The citizens of Brimfield value the Town's unique natural resources and the community's small town, rural character. Residents are aware that others will be drawn to the Town for the same reasons they have chosen to live there; large tracts of open space land, scenic views, natural beauty, a wide range of recreational opportunities, and close proximity to employment centers. As the Town grows, additional housing, commercial development, and infrastructure will be required to meet the needs of an expanding population. The residents of Brimfield want to ensure that this new development does not adversely effect the Town's critical natural resources and the open space lands that help to protect and preserve them.

Management Needs

Citizens of Brimfield recognize that as the Town's population grows, the demand for residential and commercial development, municipal infrastructure, and new facilities and services will also increase. As the Town develops to accommodate a growing population, a higher level of management and oversight will be required to protect Brimfield's unique landscape and rural character. The Town will need to develop a number of effective land preservation and land use strategies designed to ensure that future development does not threaten the Town's numerous valuable natural resources and high quality of life standards.

The Goals and Objectives section of this plan outlines numerous strategies for protecting and preserving open space and recreational lands. These strategies range from forming partnerships with wildlife and land preservation organizations to revising the Town's open space communities' bylaw to include greater incentives for developers to follow the open space development model. By utilizing these strategies, and developing additional strategies to adapt to changing circumstances, the Town can ensure a balance between new development and the preservation of its critical natural resources.

Goals and Objectives

The Brimfield Open Space and Recreation Committee has established the following goals and objectives based on the Open Space and Recreation priorities established by Brimfield residents:

Goal 1: Protect present and future drinking water supplies.

- Objectives:**
1. Create a large format map for Town officials that identifies high yielding aquifers in the Town and the large Chapter 61 parcels above these aquifers.
 2. Coordinate open space land preservation efforts with local and regional land trusts and conservation organizations.
 3. Institute a program that records information (i.e. flow rates, depth, water quality, and location) relating to the installation of new wells in the Town.

Goal 2: Protect the Town's critical natural, scenic, and historic resources from unplanned development.

- Objectives:**
1. Establish a committee to study the feasibility of creating an historic overlay zoning district that will provide a higher level of protection for the Town's historic buildings and sites.
 2. Hold informational meetings for Town residents who are interested in placing some form of conservation restriction on their open space lands.

3. Consider adopting a pond overlay district and seasonal conversion bylaw to protect the Town's major water bodies; Sherman Pond and Little Alum Pond
4. Establish a committee to study the feasibility of converting the rail road line south of Route 20 into a rail trail

Goal 3: Preserve the Town's unique rural character and agricultural heritage.

- Objectives:**
1. Hold informational meetings for Town residents who are interested in placing some form of agricultural preservation restriction on their agricultural lands.
 2. Consider revising the Town's Open Space Community bylaw to provide greater incentives for developers to choose the Open Space Community model over traditional development models.

Goal 4: Expand and link existing wildlife habitats to create wildlife corridors.

- Objectives:**
1. Create a large format map for Town officials that identifies large undeveloped parcels that link permanently preserved wildlife habitat and thereby create wildlife corridors.
 2. Establish partnerships with local wildlife conservation organizations, particularly Norcross, in order to purchase or acquire conservation restrictions on parcels that would assist in creating wildlife corridors.

Goal 1: Protect Present and Future Drinking Water Supplies

Objective 1: Create a large format map for Town officials that identifies high yielding aquifers in the Town and the large Chapter 61 parcels above these aquifers.

Limiting development over underground aquifers is an effective strategy for protecting present and future drinking water supplies from potential contamination. Contamination of aquifers can result from a number of potential contamination sources associated with residential and commercial development, including malfunctioning septic systems, household and industrial commercial spills, and automobile fluid spills (gas, oil, anti-freeze, etc.).

Permanently protecting open space lands over aquifers reduces the risk of aquifer contamination in the following ways:

- Development is prohibited on permanently protected open space parcels and therefore sources of residential and commercial contamination are prevented.
- Contaminants carried by sub-surface water from surrounding parcels can pass through undeveloped open space land and can undergo bio-remediation by micro-organisms within the soil.

- Unlike impervious surface areas such as asphalt, open space land absorbs rainfall and directs it to underground aquifers before it can pick up contaminants as run-off.

The preservation of large areas of open space land over aquifers reduces potential sources of contaminant and therefore reduces the overall threat to drinking water supplies. Permanently protected open space land over underground aquifers provides a community with a higher level of drinking water protection.

In the creation of the map, large parcels of land classified under the Chapter 61 program were selected based on the Town's ability to exercise its *first-right-of-refusal* when these parcels are offered for sale. Under the conditions of the Chapter 61 program, the Town is granted the right to purchase Chapter 61 parcels offered for sale (first-right of refusal) at fair market value. In exchange for granting this right to the Town, landowners who enroll their land in the Chapter 61 program are granted a reduction in land taxes. The Town's right to purchase Chapter 61 parcels offered for sale expires after 120 days and the landowner is free to seek private purchasers for the land. One of the keys to taking advantage of a first-right-of-refusal option is to identify Chapter 61 parcels of land that are of interest to the Town and to have mechanisms in place for purchasing these parcels when they are offered for sale.

Objective 2: Coordinate open space land preservation efforts with local and regional land trusts and conservation organizations.

Due to the recent rise in land values, most communities in Massachusetts do not possess the financial resources required to purchase many of the open space lands they have identified for acquisition. One of the approaches many communities have adopted is to establish partnerships and alliances with land preservation organizations, such as land trusts, private and public wildlife conservation organizations, and federal and state conservation agencies. Through partnerships with these organizations, communities can increase their ability to permanently protect land using the following methods:

- Communities and land conservation organizations can pool financial resources to purchase land and hold the land in joint ownership.
- Cities and towns can assign their first-right-of-refusal on Chapter 61 parcels to land conservation organizations.
- Communities can draw upon the expertise and data resources of conservation organizations and governmental agencies when developing land preservation initiatives.
- Grants from governmental agencies can be used to fund local open space and recreation preservation initiatives.

Similar to most communities in Massachusetts, Brimfield does not possess sufficient financial resources to purchase many of the open space and recreation lands of interest to the Town. Establishing partnerships with land conservation organizations and governmental agencies can significantly improve the Town's ability to protect critical open space lands. Several wildlife and land conservation organizations are active in the Brimfield area. These

organizations include: The Opacum Land Trust, Norcross Wildlife preservation, the Nature Conservancy, and The Trustees of Reservations.

Objective 3: Institute a program that records information (i.e. flow rate, depth, water quality, and location) relating to the installation of new wells in the Town.

Data collected when new wells are drilled can be useful for monitoring the quantity (flow rates) and quality of the Town's drinking water supplies. This information could prove especially valuable when considering potential sources for a future public water supply. Data could be collected by the Brimfield Board of Health as part of the permitting procedure for the installation of new wells.

Goal 2 Protect the Town's critical natural, scenic, and historic resources from unplanned development.

Objective 1: Establish a committee to study the feasibility of creating an historic overlay zoning district that will provide greater protection for the Town's historic buildings and sites.

Brimfield has a dense cluster of historic buildings and sites located in and around its Town Center. The Town should consider creating an historic overlay zoning district to provide a higher level of protection for these valuable historic assets. The goal of an historic overlay district is not necessarily to prevent development adjacent to historic structures, but to regulate this development to ensure that it does not detract from nearby historic structures and sites.

Objective 2: Hold informational meetings for Town residents who are interested in placing some form of conservation restriction on their open space lands.

Because Brimfield has limited municipal funds to dedicate to the purchase of open space land, the Town will need to develop other preservation strategies. One strategy for protecting open space land is to appeal to landowners to place some form of permanent protection on their parcels. This permanent protection could take the form of a conservation restriction, sale of development rights, or an outright gift of land to the Town. Staff from state agencies, conservation organizations, and land trusts are available to host informational meetings for interested citizens. Several landowners in attendance at the public forum expressed an interest in learning more about the methods that can be employed to preserve their open space parcels.

Objective 3: Consider adopting a pond overlay district and seasonal conversion bylaw to protect the Town's major water bodies; Sherman Pond and Little Alum Pond.

The numerous residences surrounding Little Alum Pond and Sherman Pond pose a threat to the water quality of these surface waters. Residences along the shoreline can contaminate the waters of the ponds with effluent from faulty or inadequate septic systems and household chemicals. The town should consider adopting a Lake/Pond Overlay District. This overlay district would provide additional protection for pond and lake ecosystems by regulating certain uses within its boundaries. The overlay district could establish erosion and sediment controls, such as a requirement for the paving of driveways and private roads adjacent to the pond. In

addition, the town should consider adopting a seasonal conversion bylaw that sets requirements for the conversion of seasonal homes to year-round residences. A seasonal conversion bylaw would require an assessment of the seasonal home's suitability for year-round occupation. Deficiencies, such as inadequate or faulty septic systems, would need to be corrected before year-round occupation of the residence was permitted. Examples of a Lake/Pond Overlay District and Seasonal Conversion bylaw are presented in the Appendix.

Objective 4: Establish a committee to study the feasibility of converting the railroad line south of Route 20 into a rail trail.

A rail trail would be a valuable asset to the Town and would enhance the Town's image as a destination for outdoor recreational activities. Now is the time to study the possibility of establishing a rail trail, before development begins to occur along the length of the railroad line. If it is determined that Brimfield should pursue the development of a rail trail, the Town will need to begin preserving sections of open space land along its length.

Goal 3: Preserve the Town's unique rural character and agricultural heritage.

Objective 1: Hold informational meetings for Town residents who are interested in placing an agricultural preservation restriction on their agricultural lands.

The Agricultural Preservation Restriction Program (APR) is administered by the Massachusetts Department of Agricultural Resources (MDAR). The program protects agricultural lands by purchasing permanent deed restrictions on farmlands. MDAR provides the following description of the program:

The APR Program is a voluntary program which is intended to offer a non-development alternative to farmers and other owners of "prime" and "state important" agricultural land who are faced with a decision regarding future use and disposition of their farms. Towards this end, the program offers to pay farmers the difference between the "fair market value" and the "agricultural value" of their farmland in exchange for a permanent deed restriction which precludes any use of the property that will have a negative impact on its agricultural viability (Mass.gov 2004)

Because farmers develop a close connection and appreciation of the land, they are often strong advocates of open space and agricultural land preservation. Agricultural land owners in Brimfield may be interested in the APR Program because it will allow them to receive compensation for the development value of their land while preserving the land as open space. Representatives of the APR Program could host an informational meeting for interested landowners in Brimfield.

Objective 2: Consider revising the Town's Open Space Community bylaw to provide greater incentives for developers to choose the Open Space Community model over traditional development models.

As it is currently written, the Town's Open Space Community bylaw does not provide incentives for developers to create open space communities. Since creating open space communities is a relatively new approach to development, most developers will not follow this model unless there are incentives that outweigh the additional cost and risk. Some communities have offered density bonuses to developers in order to encourage the creation of open space communities. A density bonus allows a developer to build a set number of additional homes on a parcel of land above the number of houses permitted by the town's zoning bylaws. A density bonus is given in exchange for the developer agreeing to develop the parcel based on the open space community model.

Goal 4: Expand and link existing wildlife habitats to create wildlife corridors.

Objective 1: Create a map that identifies large undeveloped parcels that link permanently preserved wildlife habitat and thereby create a wildlife corridor.

Brimfield State Forest, located in the lower southwest corner of the Town, provides a large expanse of permanently protected wildlife habitat on which to build a wildlife corridor upon. The map will identify large undeveloped parcels of land above Brimfield State Forest that could serve to expand natural habitat and create a wildlife corridor. The Town would then seek to achieve permanent protection status for these lands.

Objective 2: Establish partnerships with local wildlife conservation organizations, particularly Norcross, in order to purchase or acquire conservation restrictions on parcels that would assist in creating wildlife corridors.

Partnerships with local wildlife conservation agencies will assist the Town in preserving wildlife habitat and open space land. Norcross, Opacum, and other local wildlife conservation organizations have both the expertise and financial resources to assist the Town in acquiring additional wildlife habitat. The Town's goal of creating a wildlife corridor is consistent with the preservation approaches employed by wildlife conservation organizations.

Five-Year Action Plan

1. Protect present and future drinking water supplies

Actions:

(2004-2008)

Coordinate open space land preservation efforts with local and regional conservation organizations in order to acquire permanent protection status for open space parcels that provide increased protection to underground aquifers and surface waters.

Who: Open Space Committee, Conservation Commission

(2004-2008)

Institute a program that records information (i.e. flow rates, depth, water quality, and location) relating to the installation of new wells in the Town.

Who: Board of Health

2. Protect the Town's critical natural, scenic, and historic resources from unplanned development

Actions:

(2004-2005)

Establish a committee to study the feasibility of creating a historic overlay zoning district that will provide a higher level of protection for the Town's historic buildings and sites.

Who: Board of Selectman, Historical Commission.

(2004-2005)

Hold informational meetings for Town residents who are interested in placing some form of conservation restriction on their open space lands.

Who: Open Space Committee

(2004-2006)

Consider adopting a pond overlay district and seasonal conversion bylaw to protect the Town's major water bodies; Sherman Pond and Little Alum Pond. If the bylaws were considered feasible, the bylaws would be presented to Town Meeting for a vote.

Who: Board of Selectman

(2004-2005)

Establish a committee to study the feasibility of converting the rail road line south of Route 20 into a rail trail. After conducting the study, the Committee would present its findings to the Board of Selectman for further action.

Who: Recreation Committee, Board of Selectman

3: Preserve the Town's unique rural character and agricultural heritage – Actions:

Actions:

(2004-2005)

Hold informational meetings for Town residents who are interested in placing some form of agricultural preservation restriction on their agricultural lands.

Who: Open Space Committee

(2004-2006)

Consider revising the Town's Open Space Community bylaw to provide greater incentives for developers to choose the Open Space Community model over traditional development models. Revisions of the bylaw would be presented to Town Meeting for a vote.
Who: Board of Selectman

4: Expand and link existing wildlife habitats to create wildlife corridors.

Actions:

(2004-2008)

Establish partnerships with local wildlife conservation organizations, particularly Norcross, in order to purchase or acquire conservation restrictions on parcels that would assist in creating wildlife corridors.
Who: Open Space Committee, Conservation Commission

In addition to the above goals determined by Brimfield residents, the Open Space and Recreation Committee recommends:

(2004-2005)

Establishment of a committee to oversee the process of implementing the necessary changes required to bring municipal recreation sites in to compliance with the Americans with Disabilities Act (ADA).
Who: ADA Coordinator, Recreation Committee, Board of Selectman

(2004-2008)

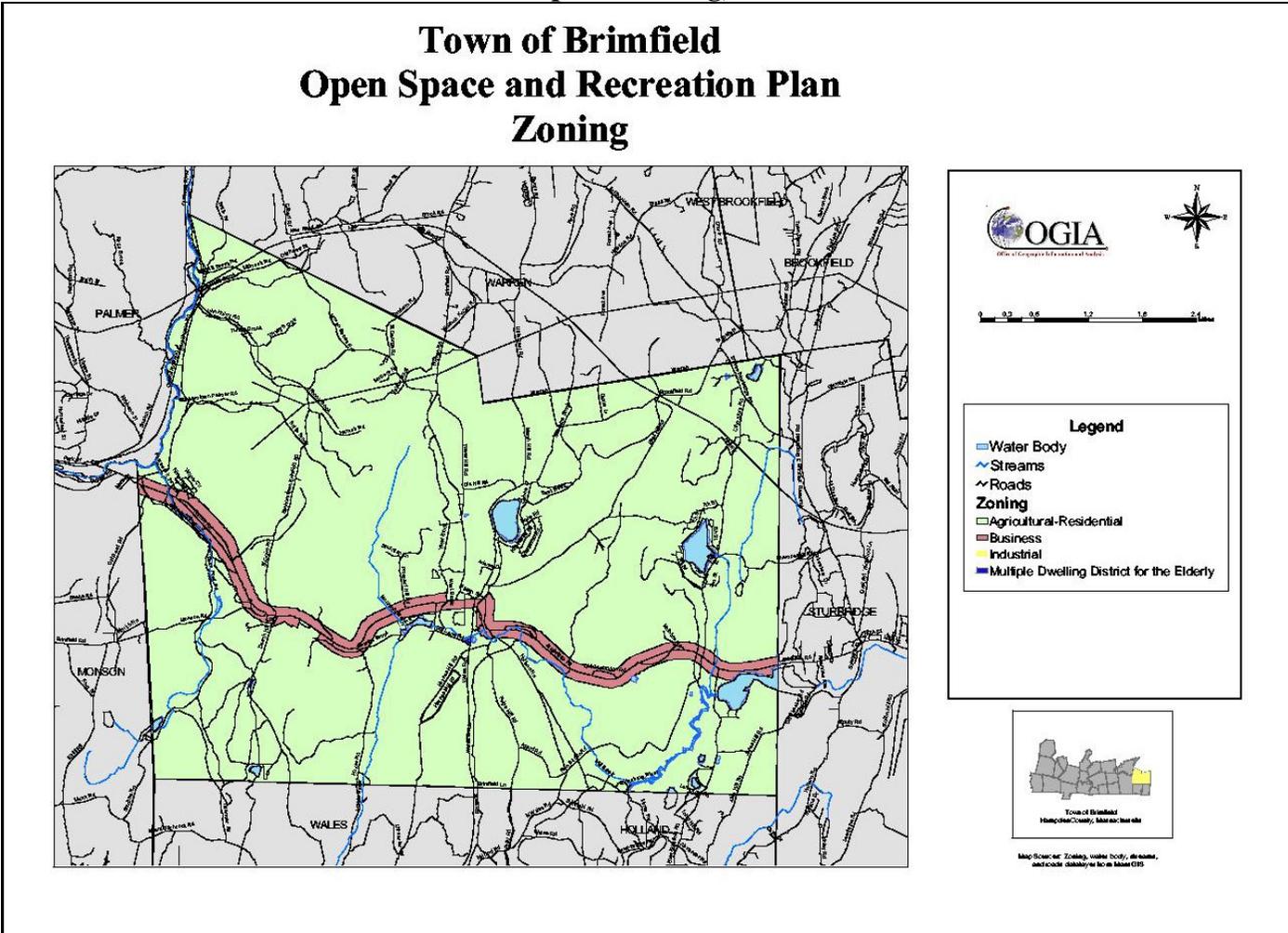
Establishment of a permanent Open Space and Recreation Committee to oversee the implementation of this plan.
Who: Board of Selectman

Public Comments

Public Comments are included in the 2004 Brimfield Open Space and Recreation Plan archived at the Brimfield Town Hall.

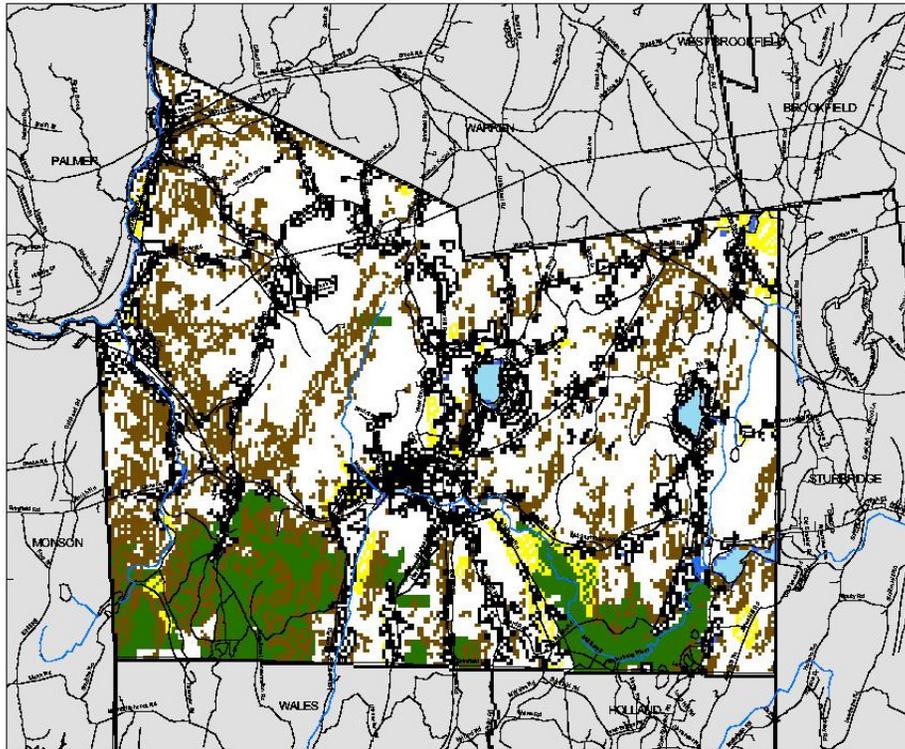
Map 1-1: Zoning, 2004

**Town of Brimfield
Open Space and Recreation Plan
Zoning**



Map 1-2: Soils and Geologic Features

**Town of Brimfield
Open Space and Recreation Plan
Soils and Geologic Features**

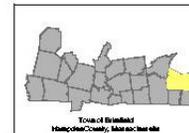


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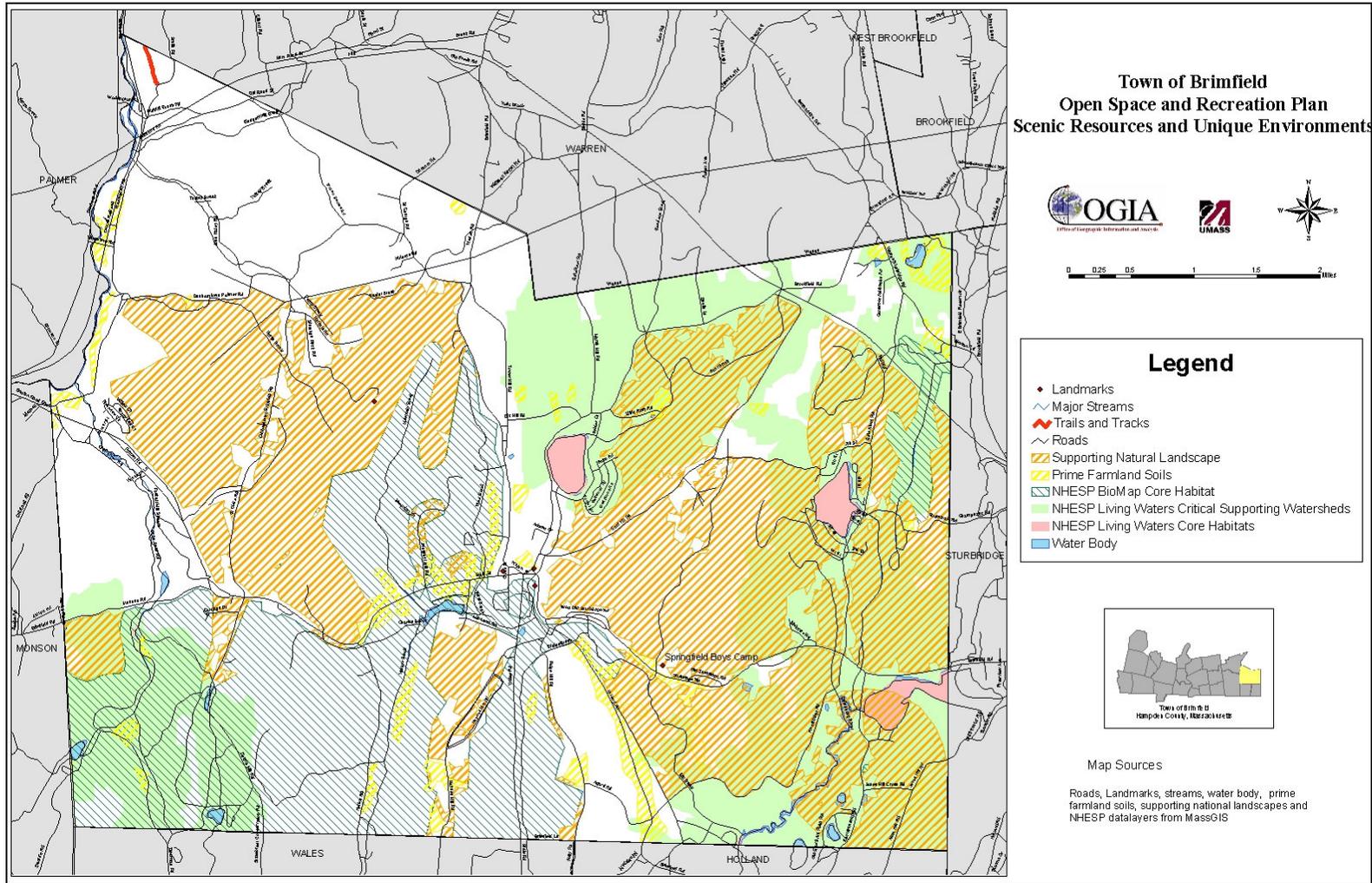
Legend

- ~ Roads
- ~ Streams
- Water Body
- Slope > 25%
- Prime Farmland Soils
- Permanent Protection
- Land Use
 - Cropland
 - Commercial
 - Industrial
 - Residential



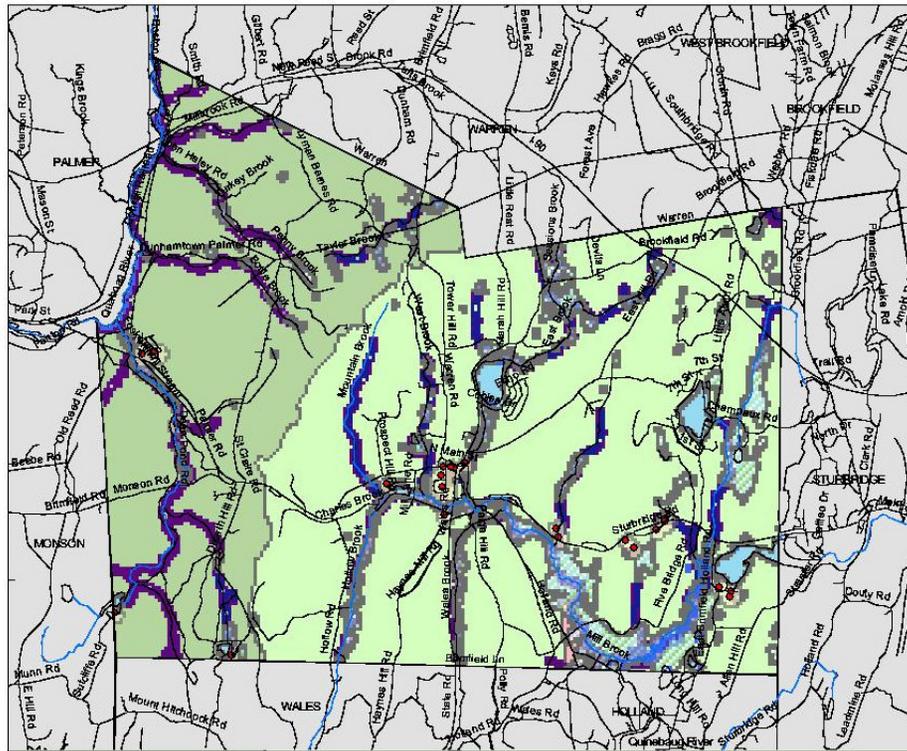
Map Sources:
Roads, streams, water bodies,
open space lands, slope, prime
farmland soils and landuse
datalayers from MassGIS

Map 1-3: Scenic Resources and Unique Environments Map



Map 1-4: Water Resources

**Town of Brimfield
Open Space and Recreation Plan
Water Resources**



OGIA
Office of Geographic Information and Assessment

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4

Legend

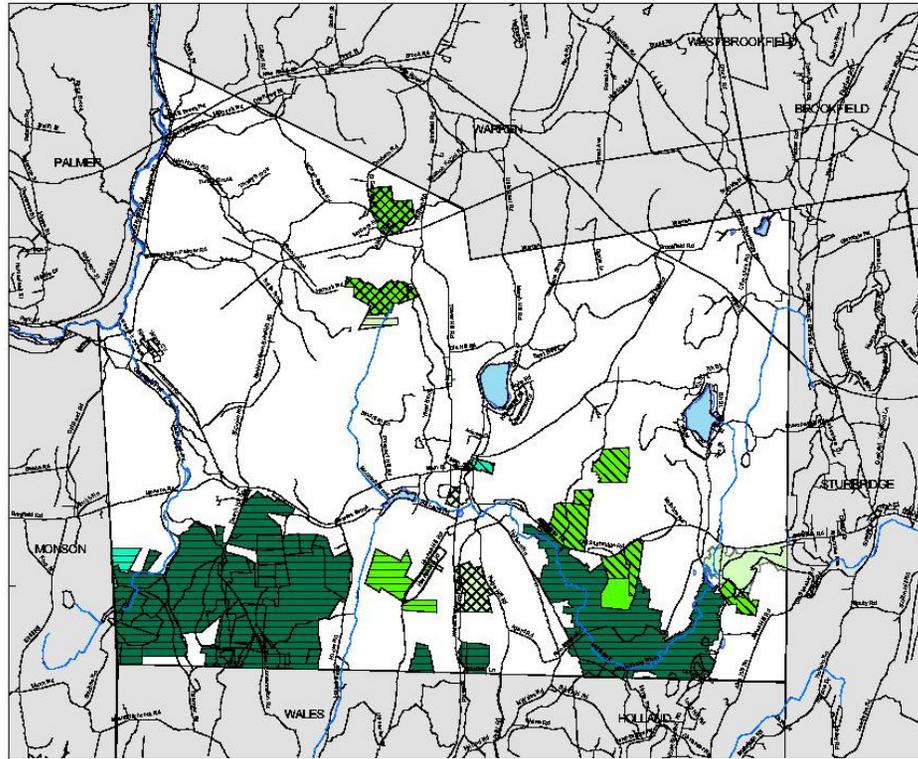
- Aquifer yield (gpm)**
 - 100-300
- Watersheds**
 - CHICOPEE
 - QUINEBAUG
- NWI buffer (feet)**
 - 100
 - 200
- RPA buffer (feet)**
 - 100
 - 200
- Interim wellhead protection
- Public water supply
- Streams
- Roads
- Water Body
- NWI Wetland



Map Source: MassGIS Database, EOE's Basemap and Analysis

Map 1-5: Protected Open Space, 2004

Town of Brimfield Open Space and Recreation Plan Protected Open Space

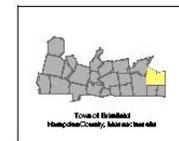


0 0.2 0.4 1.2 1.6 2.4 Miles

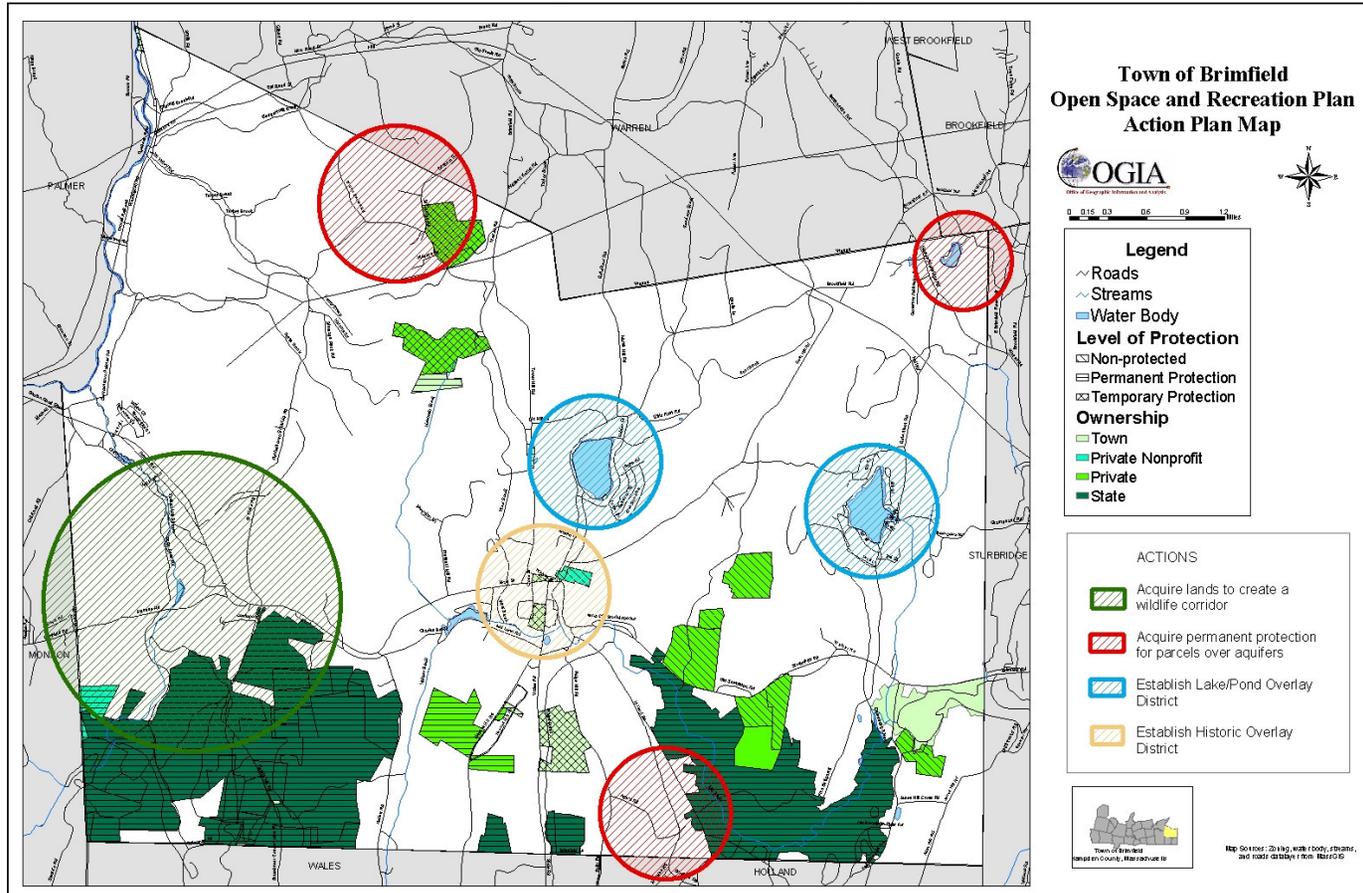
Legend

- ~ Roads
- ~ Streams
- Water Body
- Level of Protection**
- Non-protected
- Permanent Protection
- Temporary Protection
- Ownership**
- Town
- Private Nonprofit
- Private
- State



Map Source: Trails, water body, drainage, and road data by the town GIS.

Map 1-6: Action Plan Map



United Nations Agenda 21 Analysis

Introduction

Members of the Brimfield Community Development Plan Committee requested an analysis of the applicability of United Nations (UN) Agenda 21 to the Town of Brimfield. The analysis consists of four main components: a brief history and description of UN Agenda 21, chapter summaries of the document, an examination of current sustainable practices in Brimfield that are in alignment with the goals of UN Agenda 21, and a set of potential initiatives based on UN Agenda 21 for the Town to consider. References for this study are included in Appendix 1-A.

UN Agenda 21

United Nations Agenda 21 was developed at a global meeting hosted by the United Nations General Assembly on December 22, 1989. The primary focus of the meeting was to devise a set of strategies designed to halt and reverse the effects of environmental degradation. The document is intended to serve as a guide for increasing sustainable practices at the global, national, and local levels. The document was officially adopted by the United Nations Conference on Environment and Development at the Earth Summit in Rio de Janeiro, Brazil on June 14, 1992. The United Nation's Department of Public Information provides the following description of UN Agenda 21:

Agenda 21, adopted by the United Nations Conference on Environment and Development on 14 June 1992, is the international community's response to the degradation of the global environment. It is a comprehensive programme of action to be implemented — from now and into the twenty-first century — by Governments, development agencies, United Nations organizations and independent sector groups in every area where human (economic) activity affects the environment.

Underlying Agenda 21 is the notion that humanity has reached a defining moment in its history. We can continue our present policies, which serve to deepen the economic divisions within and between countries; which increase poverty, hunger, sickness and illiteracy worldwide; and which are causing the continued deterioration of the ecosystem on which we depend for life on Earth.

Or we can change course. We can improve the living standards of those who are in need. We can better manage and protect the ecosystem and bring about a more prosperous future for us all. "No nation can achieve this on its own," states the preamble to Agenda 21. "Together we can — in a global partnership for sustainable development."(United Nations 2004 p.1).

UN Agenda 21 acknowledges the essential role that local communities play in achieving global sustainability.

Many of the problems and solutions listed in Agenda 21 have their roots in local activities, so local authorities have a key role to play in making sustainable development happen. Local authorities, such as municipal governments, build and maintain such structures as drinking water systems and roads. They oversee the planning of housing and industrial development, set local environmental policies and help to implement national environmental policies. As the level of government closest to the people, they play a vital role in educating and mobilizing the public around sustainable development (Office 2004).

Summary of UN Agenda

A basic knowledge of UN Agenda 21 is necessary to understand the following analysis of its applicability to the Town of Brimfield. A summary of UN Agenda 21 chapters, relating to the preservation of the environment, is presented below. A number of environmental chapters have been omitted from the summary since these chapters are not applicable to Brimfield (i.e. Combating Desertification, Sustainable Mountain Development, and Protecting and Managing the Oceans). Chapter summaries were written by The Office of Public Information, Bahai Community of the United Kingdom. The complete text of UN Agenda 21 can be accessed at the United Nations website (www.un.org).

Summary of United Nations Agenda 21 Chapters Addressing Preservation and Protection of the Environment

Social and Economic Dimensions

Chapter 8: Making Decisions for Sustainable Development

The way most people make decisions, whether in government, business or as individuals, separates economic, social and environmental factors. It is necessary to understand the links between environment and development in order to make development choices that will be economically efficient, socially equitable and responsible, and environmentally sound.

Conservation and Management of Resources

Chapter 10: Managing Land Sustainably

Increasing human demand for land and its natural resources is creating competition and conflicts. If we are going to meet human requirements in a sustainable manner, we must resolve these conflicts, and find more effective ways of using land and its natural resources.

Chapter 11: Combating Deforestation

Forests are a source of timber, firewood and other goods. They also play an important role in soil and water conservation, maintaining a healthy atmosphere and maintaining biological diversity of plants and animals. Forests are renewable and, when managed in a way that is

compatible with environmental conservation, can produce goods and services to assist in development.

Chapter 12: Sustainable Agriculture and Rural Development

Hunger is already a constant threat to many people, and the world's long-term ability to meet the growing demand for food and other agricultural products is uncertain.

Chapter 15: Conservation of Biological Diversity

The essential goods and services on our planet depend on the variety and variability of genes, species, populations and ecosystems. Biological resources feed and clothe us, and provide housing, medicines and spiritual nourishment. The loss of the world's biological diversity continues, mainly from habitat destruction, over-harvesting, pollution and the inappropriate introduction of foreign plants and animals. This decline in biodiversity is largely caused by humans, and represents a serious threat to our development.

Chapter 18: Protecting and Managing Fresh Water

Fresh water is vital for drinking, sanitation, agriculture, industry, urban development, hydropower generation, inland fisheries, transportation, recreation and many other human activities. It is also critical for the healthy functioning of nature. In many parts of the world, there is widespread scarcity, gradual destruction and increased pollution of freshwater resources.

Chapter 19: Safer Use of Toxic Chemicals

Chemicals are used throughout the world and are necessary to meet social and economic goals, but a better job must be made of reducing their health and environmental impacts. Some of the world's major industrial areas are so contaminated by chemicals that there is damage to human health, genetic structures and reproduction. In addition, long-range pollution is affecting the Earth's atmosphere and climate.

Chapter 20: Managing Hazardous Wastes

An increasing amount of hazardous waste is affecting human health and the environment, but many countries do not have the expertise to manage the problem. Governments often lack information about how much and what types of pollution are released, and what risk they pose to people and the environment. All national environmental protection plans should include targets for hazardous-waste reduction.

Chapter 21: Managing Solid Wastes and Sewage

Rapidly growing quantities of garbage and sewage from cities pose threats to human health and the environment. Each year as many as 5.2 million people, including 4 million children, die from diseases caused by the improper disposal of sewage and solid waste. Urban wastes pollute the air, land and water over a wide area. In developing countries, less than 10

percent of urban wastes are treated, and only a small proportion of that treatment meets acceptable standards. By the end of the century, over 2 billion people will lack basic sanitation, and about half the urban population in developing countries will not have adequate waste disposal. Unsustainable consumption, particularly in industrialized nations, is increasing the amount and variety of wastes, and quantities could increase four to fivefold by the year 2025. By the end of the decade, waste-disposal costs could double or triple, particularly in industrialized countries, as disposal sites fill up and stricter environmental controls are imposed. The best way to cope with waste problems is through a waste-prevention approach, focused on changes in lifestyles and in production and consumption patterns.

Sustainable Practices in the Town of Brimfield

The Town of Brimfield is currently employing a number of sustainable practices that are in alignment with the goals of UN Agenda 21. These practices promote the preservation and protection of Brimfield's natural resources and the environment. A description of these sustainable practices is presented below and is organized based on the chapter headings in UN Agenda 21.

Making Decisions for Sustainable Development

UN Agenda 21 emphasizes that decisions relating to sustainable development need to be made within a framework that acknowledges the link between the environment and future development. One of the guiding principles of Executive Order 418 is that future residential and commercial development must be balanced with the need to protect and preserve critical natural resources. As a result of the EO418 planning process, the goals and objectives of this community development plan reflect the need to balance future development in the Town of Brimfield with the need for natural resource protection. The Town's recently updated Open Space and Recreation Plan is also based on the principle of balanced growth and it provides recommendations for protecting critical natural resources while accommodating future development in the Town

Managing Land Sustainability

Brimfield has numerous working landscapes that provide a dependable form of sustainable economic development. In addition to its agricultural lands, Brimfield possesses large expanses of forested land that are a source of timber and wood products. Many of these parcels of agricultural and forestland are enrolled in the Massachusetts Chapter 61 Program, a program that encourages the preservation of working landscapes by offering tax abatements. One of the requirements for enrollment in the Chapter 61 program is the development of a forest management plan for wooded parcels. Preserving working landscapes and developing management plans for forestland are two practices that promote land sustainability within the Town.

Combating Deforestation

Agenda 21 recognizes forestland as a value renewable resource that requires sustainable management. Forestland can provide wildlife habitat, recreational opportunities, and a sustainable form of economic development. Many large forested parcels of land in Brimfield are enrolled in the Chapter 61 Program, which requires owners to maintain a forest management plan that adheres to the principles of sustainable management. Hull Forest Products, a lumber manufacturing and forestland management company, owns and manages large tracts of forestland in Brimfield and surrounding communities. The company has received SmartWood certification. This certification is awarded to forest harvesting operations that practice sustainable forest management.

Conservation of Biological Diversity

Brimfield possesses large expanses of relatively undisturbed forestland that provide critical habitat for a diversity of wildlife species. Habitat lands under permanent protection, such as Brimfield State Forest; help to ensure that biological diversity is protected today and in the future. The Town of Brimfield also possesses numerous wetland habitats that support a wide range fish, plant, and animal species. These wetlands are protected from unplanned development by local and state legislation.

Wildlife conservation organizations and local land trusts play an important role in the conservation of biological diversity. In Brimfield and neighboring communities, there are several local and regional conservation organizations that are actively involved in protecting wildlife habitat. These organizations include the Opacum Land Trust, Norcross Wildlife Foundation, and the Trustees of Reservations. The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife has designated areas of Core Habitat throughout the State. Core Habitats are areas that have been assigned priority for preservation by the state since these areas support a high level of biodiversity. A Core habitat area is located in Brimfield and includes Brimfield State Forest, the Wales Wildlife Management Area, and Norcross Wildlife Sanctuary. In 2002, the Opacum Land Trust launched the *Podunk Woods Biodiversity Initiative*. The initiative seeks to protect the Core Habitat area in Brimfield and neighboring towns through the acquisition of land and conservation restrictions (Opacum 2004)

Protecting and Managing Fresh Water Supplies

One of the main goals of Brimfield's recently updated Open Space and Recreation Plan is to *Protect present and future drinking water supplies*. The fact that this goal received the most votes at a recent Community Development Plan public meeting indicates that the protection of fresh water supplies is a major concern for Brimfield residents. This high level of concern by residents is likely to translate into strong community support for initiatives designed to protect the Town's current and potential sources of drinking water. One of the objectives stated in the 2004-2009 Brimfield Open Space and Recreation Plan is for the Town to acquire open space lands over moderate to high-yielding underground aquifers in order to protect potential sources of drinking water. These underground aquifers may one day serve as the Town's future municipal water supply.

Managing Hazardous Wastes

The Town of Brimfield operates an annual toxic waste and large item disposal program. Residents of the Town can bring their paints, solvents, toxic household chemicals, and large items to a central location for disposal. These programs help to protect the environment by discouraging the illegal dumping of toxic wastes and large appliances in remote forested areas. The improper disposal of toxic chemicals can result in soil and ground water contamination. In addition to marring the natural beauty of open space lands, discarded appliances and machinery can contaminate soils and underground aquifers with toxic fluids and heavy metals.

Potential Initiatives

This section of the analysis provides potential initiatives in alignment with UN Agenda 21 for the Town of Brimfield. The following proposed initiatives are designed to promote sustainable practices within the Town and support the major environmental goals established by UN Agenda 21.

Permanently Protect Agricultural Lands

UN Agenda 21 promotes sustainable agricultural practices, which includes the protection of a community's valuable agricultural farmlands. Because agricultural lands are relatively flat and possess soils with good drainage, these lands are often the first lands to be converted to residential and commercial development. Local agricultural production is beneficial for both the community and the environment. Food produced at the local level does not require long-distance transport and therefore greatly reduces the consumption of fuel and the production of greenhouse gases. For the local community, local food production is a form of sustainable economic development that creates jobs and helps preserve the community's agricultural heritage.

The Town can employ two potential strategies for permanently protecting agricultural lands. The first approach involves acquisition of farmland by the Town and leasing to a local farmer. The Town can require that the land be maintained in agricultural production for the length of the lease. The Town can place a legal restriction on the land in order to ensure permanent protection. With the acquisition/lease approach, the Town is able to protect farmland, but avoids having the responsibility of maintaining the land in agricultural production. In the second approach, the Town promotes the State's Agricultural Preservation Restriction (APR) Program to residents who own agricultural lands. The APR Program, administered by the Massachusetts Department of Food and Agriculture, buys the development rights to farmland in exchange for the imposition of permanent protection status on the land. The land cannot be developed and cannot be altered in anyway that will affect its capacity for agricultural production.

Establish a Community Supported Agriculture Program

Another strategy to encourage sustainable agriculture is to establish a Community Supported Agriculture Program. A Community Supported Agriculture (CSA) Program sells shares in the annual production of a farm to community members at the beginning of the growing

season. Throughout the growing season, shareholders are entitled to a portion of the weekly harvest. CSA's provide farmers with a source of secure income and community members with a source of local produce. CSA's help support local farmers and keep agricultural lands in production. The Town could institute a CSA by purchasing agricultural land and leasing it, at little or no cost, to a non-profit organization composed of community members. The non-profit organization would be responsible for agricultural production on the farm and distributing weekly harvests to shareholders.

Preferred Suppliers Program for Municipal Purchases

Even small rural Towns such as Brimfield make substantial municipal purchases throughout the year. One method for encouraging and promoting sustainability is to purchase municipal supplies that are produced using sustainable practices. This may include purchasing supplies that are; composed of recyclable materials, are less damaging to the environment, or are sold by companies that are committed to sustainable practices. The Town could designate a list of environmentally friendly preferred suppliers for the purchasing of municipal goods and services.

Evaluate Municipal Toxic Chemical Use

UN Agenda 21 calls for the responsible use of toxic chemicals by governments and promotes the use of alternative chemicals that are less toxic and pose fewer risks to people and the environment. Town governments use a wide range of toxic chemicals in the course of providing municipal services to citizens of the community. Examples of these chemicals include solvents, paints, pesticides, herbicides, and cleaners. The Town could conduct a study of the toxic chemicals it uses and develop strategies for reducing, eliminating, or finding alternatives to these chemicals.

Adopt a Lake/Pond Overlay District and Seasonal Conversion Bylaw

Little Alum Pond and Sherman Pond are valuable natural resources that provide a range of sustainable recreational opportunities for residents. Preserving these two important water resources requires protecting their waters from contamination and degradation caused by the dense residential development along their shores. The Town can provide a higher level of protection to these two major water bodies by adopting a lake/pond overlay district and seasonal conversion bylaw. Additional information concerning lake/pond overlay districts and seasonal conversion bylaws can be found in the 2004 Brimfield Open Space and Recreation Plan.

Establish Partnerships for Land Conservation Organizations

One of the guiding principles of UN Agenda 21 is that future development and the protection of the environment are closely linked. The Town's goal of balancing future development with the preservation of its natural resources will depend heavily on its ability to protect open space lands. Because the Town has limited funds to devote to the acquisition and permanent protection of open space land, it should create partnerships with land preservation and wildlife conservation organization that are active in the region, such as the Norcross Wildlife Foundation and Opacum

Land Trust. Through careful planning, both the Town and the conservation organizations can acquire parcels that achieve their objectives.

Land Use Suitability Map

Based on priorities established by citizens of Brimfield, the Land Use Suitability Map identifies areas and natural resources that require increased protection from future development. The map provides a useful framework for guiding future land use decisions by town committees and officials. These decisions may involve:

- Purchasing or obtaining the development rights to parcels of land that protect critical natural resources, such as historic sites, recreational areas, water resources, and wildlife habitat.
- Revising the Town’s zoning bylaw and zoning map to provide a higher level of protection for Brimfield’s unique historic and natural resources.
- Creating incentives for new development models, such as open space communities, that protect open space lands and preserve the rural character of the Town.
- Locating municipal infrastructure and services in areas best suited for future commercial and residential development.

In addition to providing a framework for resource protection, the map identifies land in Brimfield that is absolutely constrained (land that is not available for future development) and land that is potentially available for future commercial and residential development. In this respect, the Land Use Suitability Map provides a useful “snap shot” of Brimfield’s current level of land development and its potential for supporting future development.

Land Use Recommendations

The land use recommendations indicated on the map are based on goals established by the Brimfield Open Space and Recreation Plan/Community Development Plan Committee. The Committee’s goals were based on priorities established by citizens of Brimfield at a public forum held on September 25, 2003. The Committee established the following four goals:

Goal 1: Protect present and future drinking water supplies.

Goal 2: Protect the Town’s critical natural, scenic, and historic resources from unplanned development.

Goal 3: Preserve the Town’s unique rural character and agricultural heritage.

Goal 4: Expand and link existing wildlife habitats to create wildlife corridors.

A detailed description of these goals and can be found in the Goals and Objectives Chapter of the 2004-2009 Brimfield Open Space and Recreation Plan.

Map 1-7: Land Use Suitability Map, 2004

**Town of Brimfield, Massachusetts
Community Development Plan
Land Use Suitability Map**

