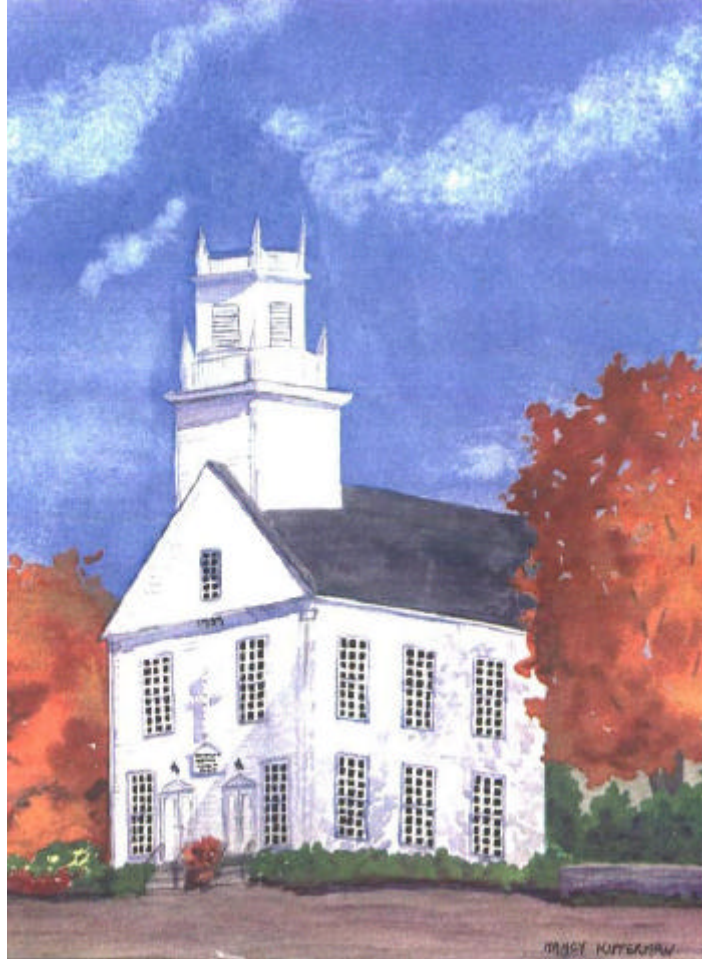


# SPRINGFIELD, NH



# TOWN PLAN 2005



# SPRINGFIELD MASTER PLAN

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## **CHAPTER I. INTRODUCTION**

The Planning Board expended considerable effort gathering public input on this Master Plan update in order to prepare a plan which reflects our town's collective vision for the future of our community. The overall guideline for the future development of our community expressed by the people of Springfield through this Master Planning process is:

Over the next ten years, the Town of Springfield should remain primarily a rural residential community with uncrowded living conditions, a quiet and undisturbed lifestyle, and a scenic and unpolluted natural environment.

### **PURPOSE OF MASTER PLAN**

The process of developing an updated Town Master Plan is an opportunity to undertake a comprehensive evaluation of our community's needs and desires as they pertain to the anticipated growth of our Town. The overall purpose of the Master Plan is to provide guidelines for the future growth and development of our community. It is a guide for future growth and a tool for public officials and private citizens in decision-making and in the administration of the Springfield Subdivision Regulations and Zoning Ordinance. It is a consensus-building, planning process which attempts to identify the guidelines for growth of our Town as preferred by the townspeople and not just a few individuals. The following Springfield Town Plan is based on reports supplied by Planning Board members, other officials and agencies, and on responses and comments developed by questionnaires. An attempt has been made to reflect the consensus viewpoints from these sources concerning the Town's past, present and desired future. The goal of this master-planning process is to proactively chart a course identifying the desired future of our community. Without this comprehensive planning process, in a relatively short time Springfield can find it has lost many of the facets our townspeople cherish.

### **PROCESS TO UPDATE THE MASTER PLAN**

At its August 1979 meeting the Planning Board unanimously voted to prepare a Master Plan in accordance with the NH Planning Statutes, Chapter 36. In 1988, the Board updated the plan in accordance with current data and information.

The process for updating the 2004 Springfield Master Plan began in the spring of 2000. At that time, the Planning Board and interested citizens identified the pertinent issues to address and the questions to include in a Community Survey. With the assistance of volunteers, a Community Survey was prepared and administered in the summer of 2000. Tabulation of the survey results was completed in the fall of 2000.

Under New Hampshire law (RSA 674:2, 3 & 4), the preparation and adoption of the Master Plan is under the purview of the Planning Board. For each chapter of the Master Plan update, the Regional Planning Commission prepared a draft for the Planning Board to review and critique. Following this review, the Regional Planning Commission incorporated the requested revisions.

After all the revised draft chapters were completed, they were assembled into an integrated document for the Planning Board's review. The Planning Board conducted a public hearing on the draft Master Plan update on June 2, 2005 and adopted the updated Town Plan at the end of the public hearing.

It is the intent of the Planning Board to update the Master Plan as they perceive conditions are changing which warrant a fresh look at how to address these challenges. As reflected in RSA 674:2, the Master Plan is recommended to be updated every five to ten years to remain current. Future boards have a point of departure for keeping it current in changing times and for dealing with new problems, needs and issues.

### **ACCOMPLISHMENTS SINCE ADOPTION OF THE 1988 MASTER PLAN UPDATE**

Before we look to the future and sort through the development issues facing our community, it is beneficial to look back and take stock of the accomplishments the Town has achieved since adoption of the 1988 Master Plan update. This is not intended to be an exhaustive listing of those accomplishments, but rather a summary of the highlights. Included are:

- Construction of the Fire House & Highway Garage Building;
- Addition of a new Library at the Town Office Building;
- Renovations of the Town Offices;
- Improvements to the Town Hall;
- Establishment of a Historical Society Building;
- Construction of the Recreation Fields;
- Expansion of the Town Beach; and
- Enlargement of the Cemetery.

### **PRIORITIES FOR IMPLEMENTATION OF THE 2005 MASTER PLAN UPDATE**

The Planning Board's efforts in developing this long range Master Plan has resulted in numerous recommendations on a variety of topical areas. In an effort to provide some guidance in the intermediate term, the Planning Board has identified the top priorities for implementation of the 2005 Master Plan Update as follows:

1. Water resource and forest protection;
2. Review and update town regulations and ordinances; and
3. Update the Capital Improvements Program.

## **ACKNOWLEDGMENTS**

The Planning Board wishes to acknowledge with gratitude the constructive assistance and input of the following, and others whose past and present contributions were invaluable in developing the Town Plan and the updates:

The Board of Selectmen  
Other Town Officials  
Questionnaire Respondents  
Committee on Land Use Controls  
Citizen Volunteers  
Upper Valley Lake Sunapee Regional Planning Commission

A strength of the Springfield Master Plan is that it is based on the views of the Town's citizens and local officials. The Upper Valley Lake Sunapee Regional Planning Commission facilitated the master planning process for the Planning Board in the update of the Master Plan to prepare a document that reflects the goals and desires of the Town of Springfield and its citizens.

The Planning Board wants to extend special thanks to Nancy Kipperman for permission to use her artwork for the cover of the Town Plan.

## CHAPTER II. CITIZEN ATTITUDES

In 1973, 1979 and 1986, questionnaires were circulated by the Springfield Planning Board to determine attitudes of town residents and non-resident property owners about the future of the town. This procedure proved to be so useful that it was repeated in 2000 in preparation for this revision of the Town Plan. In 2000, questionnaires were mailed to 793 property owners in Springfield. Three hundred and sixty-five (365) of those receiving a questionnaire completed and returned it for an excellent response rate of forty-six percent (46%).

Not surprisingly, the majority of those expressing an opinion continued to place the highest value on Springfield's uncrowded living conditions and, its quiet and undisturbed lifestyle and its natural scenery. Preservation of these values was the clear priority assigned to those updating the Town Plan. Furthermore, the great majority of respondents chose the existing zoning system (One zone: Rural Residential) as the means most likely to maintain the qualities they most valued. Protecting open space was the overwhelming concern.

Specific changes to the Springfield Zoning Ordinance favored by the majority included protection against noise, light and odor pollution, and regulations on communications towers. Also mentioned by a minority were scenic roads protection, regulations on heavy trucks, control of clear-cutting and development, and enforcement of existing building codes.

Regarding future development, most respondents deemed as acceptable the annual rate of growth experienced by Springfield over the past fifteen years. The respondents who had an opinion expressed a clear preference for year-round residences, home based businesses and seasonal/second home residences as the types of land use toward which future development should be aimed. Majorities supported light industrial and senior housing development, but a majority opposed commercial development, multiple family housing, two-family housing and condominiums. Protecting open space was the clear priority for those expressing an opinion about land use.

Only a minority supported specific designated zones for commercial or light industrial development. When asked where such development should be concentrated, a plurality of respondents (177) favored the Exit 12A area, while approximately the same number were evenly divided between the area centered on 4 Corners Road and Rte 4A (91) and those who wanted no further light industrial commercial development at all (94). On the question of public investment for water or sewer facilities to support commercial development, responses were overwhelmingly unfavorable (39 Yes; 229 No).

The survey revealed strong support for preservation of every kind of natural resource. For surface waters, aquifers and wetlands, the survey results revealed support for the following protective measures:

- Water Quality Testing;
- Controls on Motor Size and Boat Speed;
- Setback Requirements;
- Minimum Lot Frontage Requirements;
- Cutting Restrictions; and
- Shorefront Conservation Strips.

Item 13 of the survey invited respondents to add additional comments. The intent of this section was to see if there were any concerns which the rest of the survey had not covered. It was possible, but not likely that this section would reveal major issues which a large number of people would like to see addressed. More likely was the possibility that creative, new ideas would surface.

Several recurrent themes did surface:

- Better enforcement of existing ordinances is needed, especially those which pertain to the appearance of properties in the town (respondents may believe ordinances are more restrictive than they are);
- A desire for more town activities (social, recreational);
- A careful approach to light industrial/commercial development, recognizing there are tax benefits but also that the town character must be preserved;
- Many opinions on minimum lot sizes and “junky houses”; and
- Roads (many, many opinions).

While not all of these ideas will be addressed in this revision of the Town Plan, it is important to recognize that many can be implemented quickly if sufficient support arises. All residents are encouraged to bring these ideas to the attention of town officials at the annual town forum, planning board meetings or regular selectmen meetings.

## CHAPTER III. REGIONAL SETTING

It is important to understand the Town of Springfield's setting in the region to identify the factors primarily responsible for fueling the growth and development being experienced in the Town of Springfield itself.

Map 1 shows the centers of economic, social, recreational and other activities which most significantly affect Springfield. Those influences are discussed in some detail in the land use chapter. They are familiar to most residents and it is important to consider the role they have played in the past development and they could play in the future growth of the Town. For example: regional services, recreational facilities and employment centers located in other parts of the Region and beyond reduce local needs in those categories or, at least, change such needs selectively. Put another way, Springfield is primarily a bedroom community for people working in the regional economic centers depicted in Map 1 and it is the growth in these nearby regional economic centers that generates the demand for much of the development in Springfield.

Springfield's road system provides the major link to its region. Interstate 89, with interchanges 12A and 13, provides Springfield with convenient access northwest to the Lebanon-Hanover-White River Junction area and southeast to Concord and Manchester. New Hampshire Route 114 and the Town's arterials provide access to neighboring communities including Sunapee/Georges Mills, New London, Wilmot, Grantham and Enfield and to other major roads including Route 11 east and west, Route 10 north and south, U.S. 4.

Another very important factor affecting population growth in Springfield is its inclusion in the Kearsarge Regional School District. Time after time, new families looking for a place to settle first decide which school district they want their children to attend. Towns located within the Kearsarge Regional School District have experienced considerable growth over the past twenty years since it is considered to be one of the best school districts in the Region and it should continue to be one of the most influential factors generating population growth in the future. This is particularly true for Springfield since property values in Springfield are relatively low compared with the other communities in the school district making Springfield a more affordable option for many families.

Because of convenient access provided by Interstate 89, the proximity to regional economic centers, the location of several recreational amenities in the area and service by good school districts, the region and its communities will be a focal point for development pressures as compared with other New Hampshire regions without such growth generators. In a fast growing state, the communities of such focal regions need to be prepared to deal with the problems and issues of growth and land use change. Springfield is no exception.

**MAP 1: REGIONAL SERVICE CENTERS**

## **CHAPTER IV. GROWTH POLICIES - VISION FOR SPRINGFIELD'S FUTURE**

The following summarizes growth policies to guide future growth. These policies are not cast in stone, nor are they all inclusive, but serve only as a point of departure for discussion, revision, deletion, addition and detailing in the future as growth and change occur, problems are resolved and new issues arise.

- A. No future new public water supply or sewage disposal systems in the Town are anticipated. All water and sewage needs will be met through private, on-site facilities to eliminate future capital costs and operation and maintenance charges; to contribute to tax rate control; and to foster a pattern of low density development which will preserve the rural character, quality and values of the Town and its traditions, identity and integrity.
- B. Future growth should conform to the capacity of the physical environment (soils, topography, forest and water resources) to support development activity without the aid of man-made public facilities or structures which could result in costly exploitation at the expense of residents and taxpayers.
- C. The Town shall be protected against development or land use change which will require costly public investments or services.
- D. Growth which yields as much, or more, tax revenue as it generates in public sector costs is to be encouraged to restrict the property tax burden.
- E. A broad range of residential, commercial and industrial options is to be encouraged in future development, subject only to reasonable restrictions to minimize adverse impacts on adjacent property values and against nuisances, hazards etc., which compromise, in any way, the peaceful enjoyment of private property by residents and taxpayers, and the rural character, quality and values of the community.
- F. It is intended that the Town shall grow (and the tax base broaden) in harmony with its physical environment, with its rural character and with the rights of its residents and taxpayers.
- G. Springfield seeks to protect and preserve our natural resources.
- H. Springfield should actively manage future growth through master planning and implementing the master plan through land use regulations and capital improvement programming.



- I. Springfield should accommodate a balanced mix of housing types and values including affordable housing while maintaining the rural character of the community.
- J. Springfield should expand opportunities for, and accessibility to, outdoor recreational opportunities that complement the rural character of the Town.

## CHAPTER V. DEMOGRAPHIC AND ECONOMIC DEVELOPMENT

### 1. Population

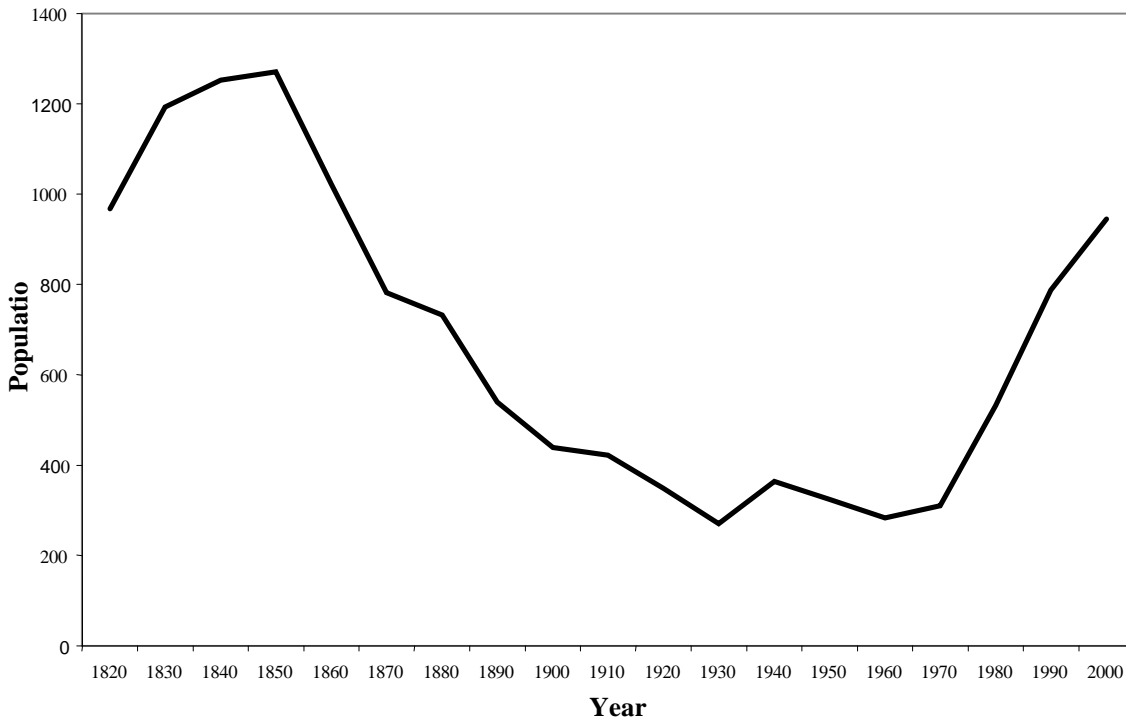
The historical fluctuation in Springfield's population is illustrated in Figure 1: Springfield Population - 1820 to 2000. The figure depicts the early growth in population in Springfield that peaked in 1850 before the out-migration to the western U.S. due to the availability of better agricultural lands and to the attractive jobs available in the industrialized urban areas. After a long period of decline, the population of Springfield started to increase again in 1960 and has been rising dramatically since 1970. From a population of 283 persons in 1960, Springfield's population has risen to 945 persons by 2000 which represents over a three fold increase in forty years. During the 1970's Springfield's population increased by 222 persons for a 72% gain over the 1970 population. Springfield's actual gain in population during the decade of the 1980's was even higher with the addition of 256 persons, but resulted in a smaller percentage gain due to the higher population at the start of the decade. Between 1990 and 2000, Springfield added 157 persons. This equates to 19.9 percent increase in population over the last ten years which was the eighth fastest percentage increase in population out of the thirty communities located in the Region. The Town's percentage growth in population from 1990 to 2000 (19.9%) was just over four times the percentage increase in population for Sullivan County (4.8%) and almost double the percentage increase in population for the State of New Hampshire (11.4%) over that same time period.

**Table 1: Comparison of Population Growth in Springfield with Population Growth in Sullivan County and the State of New Hampshire**

Jurisdiction	1970	1980			1990			2000		
	#	#	# Gain	% Gain	#	# Gain	% Gain	#	# Gain	% Gain
Springfield	310	532	222	72%	788	256	48%	945	157	19.9%
Sullivan County	30,949	36,063	5,114	16.5%	38,592	2,529	7%	40,948	1,866	4.8%
New Hampshire	737,681	920,610	182,929	24.8%	1,109,252	188,692	20.5%	1,235,786	126,534	11.4%

Source: U.S. Census

**Figure 1: Springfield Population 1820 – 2000**



Source: U.S. Census Bureau, Census 1820-2000.

The population density (persons per square mile) in Springfield has risen steadily since 1970 from 7.2 persons per square mile to 21.2 persons per square mile in 2000. And yet the population density of Springfield in 2000 was the sixth lowest of the thirty communities in the Region and was lower than both the population density of the Region in 2000 (83.3 persons per square mile) and the State of New Hampshire in 2000 (136.9 persons per square mile).

Table 1 and Figure 1 document the percentage of Springfield's population by age group from 1970 to 2000. The information shows that the working age group population in Springfield has been the fastest growing sector steadily increasing from 174 persons (55%) in 1980 to 599 persons (63%) in 2000. From 1980 to 2000, the percentage of population in the pre-school age group declined from 8% to 5%. While the percentage of people in the student age group decreased from 22% to 19% between 1970 and 2000, the actual numbers of students increased from 67 in 1970 to 178 in 2000. The elderly age group increased from 50 to 117 persons over the 30 year period while the percentage of the population in that age bracket dropped from 16% to 12%.

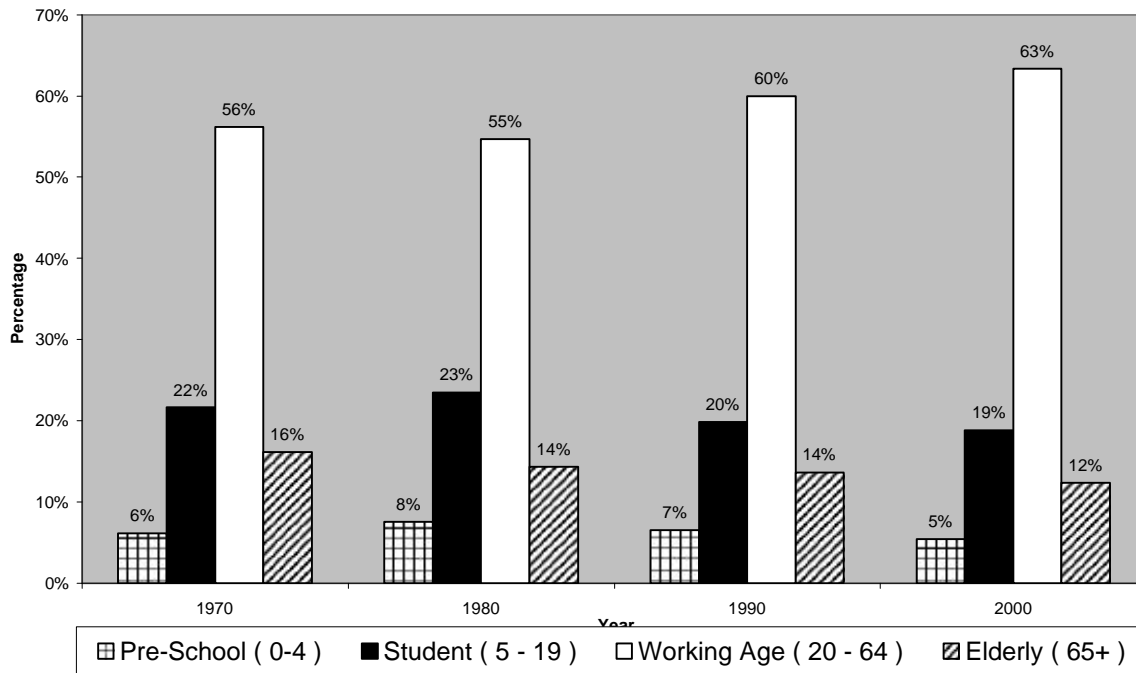
**Table 2: Springfield Age Distribution: 1970-2000**

Age Group	1970		1980		1990		2000	
	#	%	#	%	#	%	#	%
Pre-School (0-4 years)	19	6.1%	40	7.5%	51	6.5%	51	5.4%
Student (5-19 years)	67	21.6%	125	23.5%	157	19.9%	178	18.8%
Working Age (20-64 years)	174	56.1%	291	54.7%	473	60.0%	599	63.4%
Elderly (65+ years)	50	16.1%	76	14.3%	107	13.6%	117	12.4%
Total Population	310	100%	532	100%	788	100%	945	100%

Source: U.S. Census

In 2000, the population of Springfield was almost evenly split between males and females with 49% of the population being males and the remaining 51% females.

**Figure 2: Springfield Percentage Population by Age Group: 1970-2000**



Source: US Census Bureau, Census 1970-2000. Note that numbers may not sum to 100 percent due to rounding.

## 2. Housing

Total housing units in Springfield have risen steadily since 1970. As reflected in Figure 3: Springfield Total Housing Units: 1970-2000 on the following page, total housing units have increased from 281 units in 1970 to 534 units in 2000. The change in total housing units and seasonal housing units and the percentage change by decade for both is outlined in Table 3: Springfield Housing Units: 1970-2000 below. While the total housing units have been on the rise in Springfield since 1970, the seasonal housing units have been on the decline. The data indicates that since 1970, 32 seasonal housing units have been converted to year-round housing.

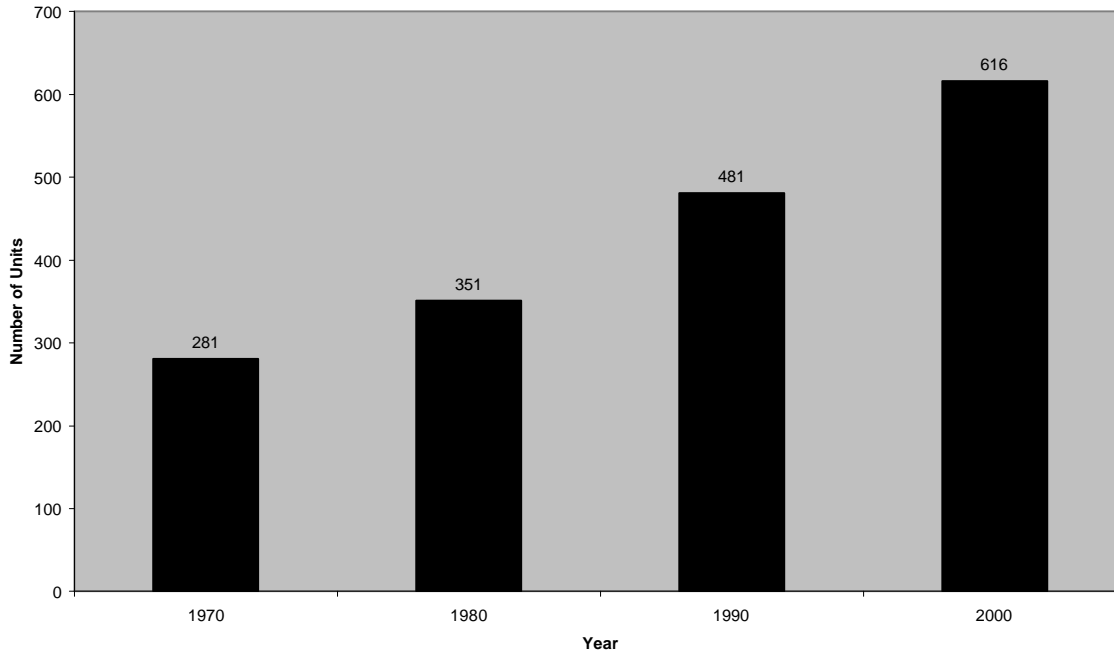
**Table 3: Springfield Housing Units: 1970-2000  
Based on U.S. Census Data**

Housing Units				Change		Change		Change	
Total Year-Round and Seasonal Units				1970-1980		1980-1990		1990-2000	
1970	1980	1990	2000	#	%	#	%	#	%
281	351	481	536	+70	+24.9%	+132	+37%	+55	+11.4%
Seasonal Housing Units									
161	144	155	129	-17	-10.6%	+11	+7.6%	-26	-16.8%

Source: U.S. Census

The U.S. Census Data on year-round housing units in Springfield appears to have dramatically underestimated the growth in housing in the 1990's. The U.S. Census data is based on a sampling of households and a projection of that data to the town as a whole. If the sample size is small in a small community, the margin of error can be relatively large which appears to be the case in this situation. Building permit data supplied by the Town for the 1990-2000 period reveals that building permits for 109 new homes were issued during that time frame. During that same time frame, 26 homes were converted from seasonal to year-round use. The combination added 135 year-round residences in Springfield during the 1990's. Table 4 to follow reflects the change in both year-round and seasonal housing units based on building permit data during the 1990's in lieu of using the 2000 U.S. Census data.

**Figure 3: Springfield Total Housing Units: 1970-2000**



Source: US Census Bureau, Census 1970-1990; Town Building Permit Data for 2000.

**Table 4: Springfield Housing Units: 1970-2000  
Based on Building Permit Data for 1990-2000**

Housing Units				Change		Change		Change	
Total Year-Round and Seasonal Units				1970-1980		1980-1990		1990-2000	
1970	1980	1990	2000	#	%	#	%	#	%
281	351	481	616	+70	+24.9%	+130	+37.0%	+135	+28.1%
Seasonal Housing Units									
161	144	155	129	-17	-10.6%	+11	+7.6%	-26	-16.8%

Source: U.S. Census for 1970, 1980 & 1990 Data; Town Data for 2000

Table 5 to follow identifies the persons per year-round housing unit from 1970 to 2000. The 2000 data for year-round housing units uses the building permit data from the Town during the 1990's. The data reflects that the figure for persons per year-round housing unit has declined to 2.45 persons per unit in 2000.

**Table 5: Persons Per Year-Round Housing Unit  
Springfield: 1970 - 2000**

	Year			
	1970	1980	1990	2000
Year-Round Occupied Housing Units	120	207	326	384
Year-Round Population	310	532	788	945
Persons Per Year- Round Occupied Housing Unit	2.58	2.57	2.42	2.45

Source: U.S. Census for 1970, 1980 & 1990 Data; Town Data on Year-Round Housing Units for 2000

### 3. Population and Housing Projections

As outlined in Table 6 to follow, the New Hampshire Office of State Planning projects the year-round population of Springfield to increase by 240 persons between 2000 and 2020 which equates to an annual growth rate of 1.1%. This would equate to adding about 12 year-round residents per year or about 5 new single family homes per year assuming continuation of the 2.45 persons per residence in 2000.

**Table 6: Springfield Year-Round Population Projections**

Jurisdiction	2000	2010		2020			
	#	#	# Gain	% Gain	#	# Gain	% Gain
Springfield	945	1,061	116	12.3%	1,185	124	11.7%
Sullivan County	40,458	44,324	3,866	9.6%	48,654	4,330	9.8%
New Hampshire	1,235,786	1,385,562	149,776	12.1%	1,520,566	135,004	9.7%

Source: U.S. Census and NH Office of State Planning Population Projections

By comparison, the annual growth rate during the 1990's was 1.8%, the annual growth rate during the 1980's was 4.0% and the annual growth rate during the 1970's was 5.5%. The annual growth rate over the thirty year period between 1970 and 2000 was 3.8% while the annual growth rate over the twenty year period between 1980 and 2000 was 2.9%.

Alternative year-round population projections are presented in Table 7 to follow. A linear population projection using the 1.8% annual growth rate experienced by Springfield during the 1990's results in a projection of 1,350 year-round residents by the year 2020. This would add 405 year-round residents over the twenty year period or about 20 persons per year resulting in about 8 new homes built per year again assuming the 2000 figure of 2.45 persons per residence. A linear population projection using the 2.9% annual growth rate experienced by Springfield between 1980 and 2000 results in a projection of 1,674 year-round residents by the year 2020. This would add 729 year-round residents over the twenty year period or about 36 persons per year resulting in about 15 new homes built per year again assuming the 2000 figure of 2.45 persons per residence.

Over the thirteen year period between 1990 through 2002, there were 158 building permits issued for new homes in Springfield for an average of 12 new homes per year. In addition, during the decade of the 1990's, about 17% of the existing stock of seasonal homes (26 homes) were converted to year-round use. If this same growth rate in new housing and conversion of seasonal to year-round housing occurred over the next twenty years and assuming the 2000 figure of 2.45 persons per year-round housing unit, 342 year-round residents would be added over the next ten years and 675 year-round residents would be added over the next twenty years.

**Table 7: Alternative Year-Round Population Projections**

Growth Rate	2000	2010		2020			
	#	#	# Gain	% Gain	#	# Gain	% Gain
1990-2000 Trend 1.8% per Year	945	1,130	185	19.6%	1,350	220	19.5%
1980-2000 Trend 2.9% per Year	945	1,258	313	33.1%	1,674	416	33.1%
Building Permit Trend: 1990-2002	945	1,287	342	36.2%	1,620	333	24.4%

Source: UVLSRPC



### Conclusion on Year-Round Population and Housing Projections:

The NHOEP Population Projections appear to underestimate the population growth potential of Springfield. The Town has already issued building permits for 49 new homes in the first three years of the 2000-2010 period. If the trend established in the 1990's of losing seasonal homes to year-round use continues, then all of these new homes are assumed to be for year-round use. That would leave only one more year-round unit to be built in the community over the next seven years for the OEP population projection to be accurate.

The population projections based on the 1990-2002 building permit trend appears to most accurately reflect the potential growth in population over the next twenty years. The building permit trend based on the 1990-2002 period equates to about 12 new year-round homes per year and about 2 seasonal homes converted each year to year-round use. This 14 units per year would equate to a population growth of about 34 persons per year assuming 2.45 persons per unit or about 680 persons over the twenty year period.

The seasonal population in Springfield can be estimated using the U.S. Census count of seasonal housing units and a person per seasonal unit based on a 1984 survey of seasonal homes around Lake Sunapee adjusted to reflect the local and national trend towards a decreasing family size per housing unit. As reflected in Table 8 to follow, the number of seasonal homes in Springfield peaked in 1990 at 155 housing units. By 2000, that figure had decreased to 129 seasonal housing units. Presumably, 26 of the seasonal housing units existing in 1990 had been converted to year-round housing in response to the increased demand for year-round housing in the region. A 1984 survey of seasonal homes conducted around Lake Sunapee revealed an average seasonal household size of 4.2 persons per housing unit. This figure has been adjusted in Table 8 to reflect the local and national trend towards a smaller family size per housing unit. The projection in seasonal housing units and seasonal population is based on continuation of the trend in the 1990's of a decreasing number of seasonal units and a continuation of the trend towards a smaller family size per housing unit. Based on these assumptions, the seasonal housing units in Springfield are projected to decrease from 129 units in 2000 to 89 units in 2020 while the seasonal population is projected to decrease from 452 persons in 2000 to 285 in 2020.

**Table 8: Historical and Projected Seasonal Housing Units and Seasonal Population in Springfield**

<b>Year</b>	<b># Housing Units</b>	<b>Persons Per Unit</b>	<b>Seasonal Population</b>
1980	144	4.5	648
1990	155	3.9	605
2000	129	3.5	452
2010	107	3.3	353
2020	89	3.2	285

Source: UVLSRPC

#### 4. Economic Development

The growth in Springfield in recent years has been fueled primarily by economic development in the Upper Valley and the New London economic development centers. Springfield has become primarily a bedroom community for people to find less expensive housing associated with employment opportunities created in the economic centers in the Upper Valley and New London.

Industry and commercial ventures in Springfield are following the basic growth pattern of a rural setting with the decline of numerous shops and mills. Currently, there is one store in full operation, supplying gas and minimum food needs. Other commercial activities include maple sugaring, the hotel/cottage complex at Twin Lake Village & Hideaway Lodge, and the Fox Stand Function Hall. This recreational industry is a major contributor to the Town's revenue and to its commerce and employment potential. Another primary industry in Springfield is logging. There are two lumbering operations, one of which is located near I-89 and has undergone heavy expansion. Between them, the two lumbermills provide the largest employment in Town and generate millions of board feet of lumber annually. A major wood chip/generating plant was completed near Exit 12A. This large industrial facility supplies electricity to PSNH and should contribute significant revenue to the Town.

Expanded use of natural resources by the recreation and logging industry may suggest an early stage of economic growth. As towns surrounding Springfield continue to grow, Springfield may offer an attractive alternate location for industry. This is why it is important to consider how and where the Town wants to grow to eliminate potentially adverse impacts of poorly sited, incompatible growth. The Georges Mills Road, which was identified in the last master plan update as a location to encourage light industrial growth, continues to be a preferred location for that type of development.

Another concern should be the provision of in-town employment opportunities for Springfield's young people, to permit them to settle here if they so choose. Cooperative enterprises, perhaps based on the Town's forest resources might be considered initially. Controlled public sector costs and a healthy tax base can attract some economic investment and activity and a high level of employment. Such investment should not adversely impact residential property or destroy rural character and amenities if it is sited and buffered on adequate tracts of land of adequate size to provide on-site utilities and to protect adjacent property against devaluing hazards and nuisances.

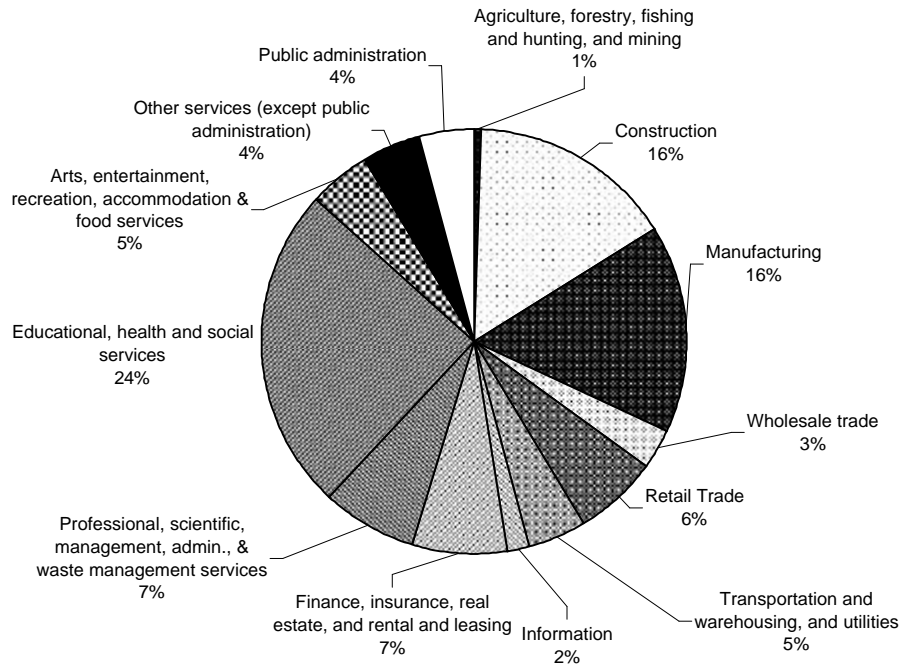
Springfield's timber resources and lumber mills also could support manufactured wood products industries, e.g.: furniture, cabinets etc. Lumber and related industries could be encouraged to expand in Springfield to improve its economy and employment opportunities.

The Town's economic welfare is related closely to the area "perceived by the business community as an attractive, high-amenity region" with good highway transportation access. Low unemployment and housing vacancy rates have been minor constraints. Overall, the prospects for growth are good, particularly in the professional/service area of Lebanon/Hanover and with the Newport/Claremont manufacturing area lagging.

The percentage of Springfield's resident employment by industry sector is presented graphically in Figure 4 to follow. The predominant employment sectors, which combined equal almost half of Springfield's employment, include educational, health and social services (24%), manufacturing (16%) and construction (16%).

A comparison of the resident employment by industry sector between the Town of Springfield, the UVLSRPC Region and the nation is provided in Table 9 to follow. The resident employment in Springfield is significantly higher in the construction sector with a percentage of employment about double that of the region and the nation. The percentage of resident employment in Springfield in the retail trade sector is about half the percentage in the region and the nation. The percentage of people employed in the arts, entertainment, recreation, accommodations and food services sector is slightly lower than the region and the nation. The percentage of resident employment in Springfield in the education, health and social services (24%) is lower than the region (31%), but higher than the nation (20%).

**Figure 4: Percentage of Springfield Resident Employment by Industry: 2000**



Source: US Census Bureau, Census 2000.

**Table 9: Comparison of Springfield Resident Employment by Industry Sector in 2000 with the UVLSRPC Region and the Nation**

Industry Sector	Percentage of Resident Employment		
	Springfield	UVLSRPC Region	Nation
Agriculture, forestry, fishing, hunting & mining	1	1	2
Construction	16	6	7
Manufacturing	16	15	14
Wholesale trade	3	3	4
Retail Trade	6	12	12
Transportation, warehousing & utilities	5	3	5
Information	2	3	3
Finance, insurance, real estate & rental and leasing	7	4	7
Professional, scientific, management, administration, & waste management services	7	7	9
Education, health & social services	24	31	20
Arts, entertainment, recreation, accommodation & food services	5	7	8
Other services	4	4	5
Public administration	4	3	5

Source: U.S. Census

#### Unemployment and Underemployment:

The Town of Springfield and the UVLSRPC Region has very low unemployment rates, far below state and national averages. As shown below in Table 10 below, the unemployment rate in Springfield is about one-half the rate in the state of New Hampshire and the U.S. Data from the Department of Employment Security indicates the unemployment rate in Springfield in about one-third the unemployment rate throughout the country. This tight labor market can constrict economic growth.

The problem with the measure of unemployment is that it does not consider the situation of those employed. Underemployment refers to those who are not fully utilizing their skills in the work place. Often, skilled machine tool trades persons who are out-of-work cannot find comparable employment and settle for one or more lower-paying and less-skilled jobs. Many of these individuals work low-paying jobs, collect assistance or have given up looking for work altogether. The Region and those underemployed persons will benefit from more information and planning for this population.

**Table 10: Comparison of Unemployment Rates  
Springfield, New Hampshire & U.S.: 1990 & 2000**

Year	Unemployment Rate		
	Springfield	New Hampshire	U.S.
1990	3.6%	5.7%	5.6%
2000	1.5%	2.8%	4.0%

Sources: N.H. Department of Employment Security & U.S. Bureau of Labor Statistics

**Income:**

The fact that there has been a close balance between regional labor supply and demand has helped contribute to the relatively high wage levels found in the Region. Employers have had to compete for workers, thus driving up wage rates. A second factor which strongly influences regional wage levels is the mix of employment in the Region: about one-third of all private sector jobs are found in the service sector, which is characterized by a high proportion of professional employment opportunities with correspondingly high wage levels.

Median household income is defined as the earnings derived by all members of the household, which divides the top and bottom half of all household incomes. It is a measure of economic well-being and/or poverty. The median household income for the Town of Springfield in 2000 was \$44,659 which was about 10% lower than the median household income for the state of New Hampshire and about 6% higher than that found across the U.S. for the same year.

**Table 11: Comparison of Median Household Income  
Springfield, New Hampshire & U.S.: 1990 & 2000**

	Median Household Income		
Year	Springfield	New Hampshire	U.S.
1990	\$32,562	\$36,329	\$30,056
2000	\$44,659	\$49,467	\$41,994

Source: U.S. Census

Per capita income is total income divided by the number of individuals within the community or region. These figures consider the population of an area. The per capita income in the Town of Springfield has mirrored the figure in the state of New Hampshire since 1990 and has been consistently a little higher than found across the U.S. as shown in Table 12 below.

**Table 12: Comparison of Per Capita Income  
Springfield, New Hampshire & U.S.: 1990 & 2000**

	Per Capita Income		
Year	Springfield	New Hampshire	U.S.
1990	\$15,625	\$15,959	\$14,420
2000	\$23,263	\$23,844	\$21,587

Source: U.S. Census

Poverty:

The US Census Bureau uses money and income thresholds by family size and composition to determine if an individual is “poor”. If a family’s total income is less than that family’s defined threshold, than every individual in that family is considered poor. These thresholds do not vary geographically, however, they are adjusted annually for inflation. For instance, a family of five with three wages earners and two dependents earning an annual income of \$22,000 would not be considered poor as their income exceeds the poverty threshold for this family unit (\$20,380 for 1999).

The proportion of poor individuals within the Region is relatively low compared to other parts of the US such as Kentucky, Mississippi and Oklahoma. Poverty is one measure of the individuals who try to make ends meet with an income that is less than “livable”. The overall poverty level for the UVLSRPC Region has remained constant from 1990 to 2000 at 7.6 percent and the poverty level in the state of New Hampshire has remained relatively constant at about 6.5%. The poverty level in Springfield dropped from 8.0% in 1990 to 5.1 % in 2000. In 1990, the poverty level in Springfield exceeded both the Region and state levels, but was still considerably less than that found across the nation. By 2000 the poverty level in Springfield was lower than the levels in both the Region and the state and was about 2½ times less than the poverty level found across the nation.

**Table 13: Comparison of Poverty Levels - Persons in Poverty  
Springfield, New Hampshire & U.S.: 1990 & 2000**

Year	Poverty Level		
	Springfield	New Hampshire	U.S.
1990	8.0%	6.4%	13.1%
2000	5.1%	6.5%	12.4%

Source: U.S. Census



## CHAPTER VI. NATURAL RESOURCES

These are the resources which define Springfield's rural character and charm. These are the resources which attract and, thereby, provide the Town's economic and tax base. As such, these are the resources people feel strongly about protecting in order to retain Springfield's rural character and maintain Springfield as a highly desirable place to live, visit and work. Springfield's natural resources to a large extent create and define Springfield's rural character. The many small lakes and ponds and rolling hills are the focal points in an area blessed with natural beauty. Springfield's natural resources include forests, open fields and agricultural lands, mineral resources, wildlife and rare plant species resources, scenic resources, wetlands, surface water resources and ground water resources. How the community manages and protects these resources while accommodating the development pressures will determine to a large extent whether or not the Town is successful in retaining its rural character.

### Physical Features

Springfield, NH is located in Sullivan County, north of the towns of New London and Sunapee off I-89 between Concord and Lebanon. The Town encompasses a total of 28,479 acres or 44.5 square miles in area and is a community with one of the largest land areas in the Region. The Town can be generally characterized as high, hilly, wooded, and rural with several water bodies and large acreages of forest cover mixed with occasional individual homes and groups of houses along the road system.

Topography can be characterized as upland. The highest elevations and steep slopes in Town are found in the northeast half of Springfield where the ground rises to the divide between the Connecticut and Merrimack River Basins. North of Route 4A there are several elevations in excess of 2000 feet including; Aaron's Ledge (2022), Melvin Hill (2280), and Pillsbury Royal Arch Hill (1940 ft.), Col. Sanborn Hill (2020 ft.), Hoyt Hill (1800 ft.), Thorpe Hill (1840 ft.), and, in the southwest area: Leavitt Hill (1580 ft.), Prospect Hill (1560 ft.) and Pitcher Hill (1650).

Springfield's unique physical characteristics including high elevations, steep slopes and water bodies have been, and will be, important determinants of land use.

### Forest Resources

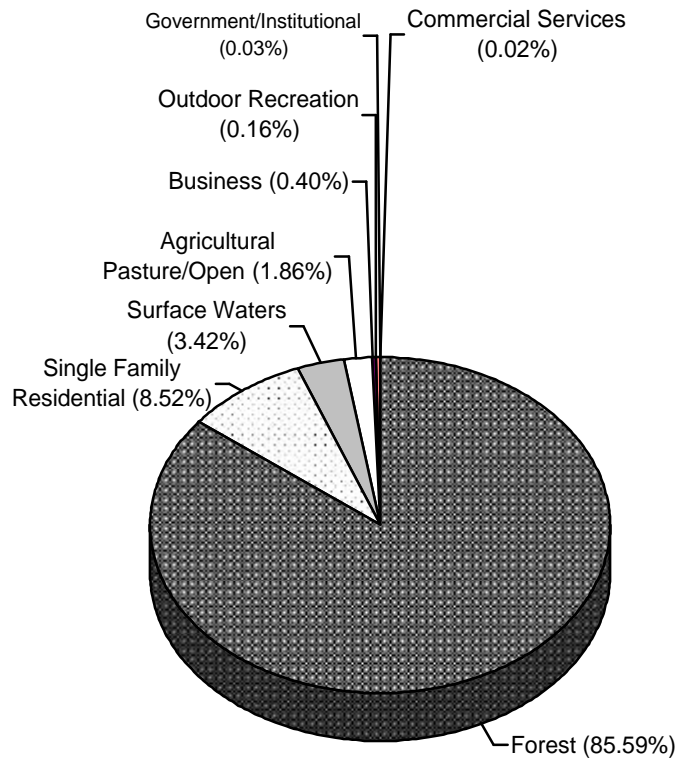
Based on current land use mapping done by UVLSRPC using 1998 orthophotos, about 24,373 acres or 85% of the total area of Springfield is currently covered with forests. Forest use was by far and away the most dominant land use in Springfield (see Table 14 and Figure 5). This was not always the case though, as indicated by the many stone walls that now crisscross acres of forest. These walls once bounded pastures. Back when those farms were working, the pastures had been

**Table 14: Current Land Use in Springfield - 1998**

Use	Area in Acres	Percent of Total Town Area
Forest	24,373 acres	85.58 %
Single Family Residential	2,426 acres	8.52 %
Surface Waters	975 acres	3.42%
Agricultural Pasture/Open	529 acres	1.86 %
Business	115 acres	0.40 %
Outdoor Recreation	45 acres	0.16%
Government/Institutional	9 acres	0.03 %
Commercial Services	7 acres	0.02 %
Total	28,479 acres	100 %

Source: UVLSRPC using 1998 Orthophotos.

**Figure 5: Current Land Use in Springfield - 1998**



cleared and the wood was either burned, saved for firewood, or turned into lumber to build the farms.

Over the years, most farms have disappeared for one reason or another, and the fields have grown over again. During World War II, it was hard to find help to run the remaining large farms and people could no longer afford to take care of large areas of open land. They didn't need to raise their own food or need large pastures for hay and silage. Fuel was also readily available in the form of coal, oil or kerosene and was fairly cheap replacing wood heat. The forest became a little less valuable. They were left to develop into what they are today. Now our forests have become very valuable again. Wood is once again a major form of fuel for many people in the area.

High elevations and steep slopes have encouraged the preservation of forest tracts particularly in the eastern portion of Town. There is little "virgin" timber in the Town since over ¾ of its area was once "improved" land and most of the balance has been lumbered since the old "Mast Road" or "King's Highway" was built for Royal Navy purposes before the Town was settled. However, older reforestation has left substantial stands of timber in the area in and around Gile Forest and in the southwest between I-89 and the New London Road, and smaller amounts elsewhere. Except for the relatively small area still in farm or pasture use the town is typified by forest cover - particularly in the visible and predominant hill sections.

Lumbering is a major industry in Springfield today, as it was in the past, and is increasing in importance. The increasing residential growth is also putting pressure on forests and lumbering operations. As more people move into the area, land is divided into smaller and smaller lots. It is important in looking at the future of Springfield and its forests to look at what large numbers of small lots will do to the value of those forests and to encourage development patterns which preserve large tracts of forest resources. The generating plant at Exit 12-A underscores the growing use of forest resources as do the Town's two major lumber mills

Much of the forested land in Springfield is located on hillsides which have steep slopes (see Map 2) and shallow soils and is not very suitable for development. However, these forest resources have value for other reasons such as providing marketable timber, providing wildlife habitat, acting as a natural erosion control measure and contributing significantly to scenic values. Recognizing and understanding the benefits provided by undeveloped forest resources will assist the community in making informed decisions about the future of this important resource. Forest lands have many benefits which include:

- Forests are an economic resource providing jobs, a renewable energy resource, raw materials needed for construction and by the makers of furniture, paper, and other wood products.
- Forests are an important part of the mix of natural resources needed to attract and sustain tourism by providing the playground for a wide variety of recreational activities.
- Forests are a significant component of the natural landscape and its splendid scenic qualities. In particular, the scenic vistas of the wooded hillsides contrasting with the clear blue mountain lakes are an important scenic resource to maintain.
- Forests help to improve air quality.

- Forests provide a natural means of land stabilization which can assist in minimizing soil erosion and thus minimizing sedimentation impacts on the water quality of nearby streams and lakes.

- **MAP 2: WETLANDS AND STEEP SLOPES**

## Community Survey Results: Forest Resources

The Community Survey conducted by the Springfield Planning Board in 2000 provided the following feedback related to forest resources. When asked to rate the importance of preserving certain natural resources, 86% felt preservation of scenic natural resources was very important and 84% felt preservation of natural areas was very important. Natural areas and scenic natural resources often include forest resources.

## Issues: Forest Resources

1. Poorly managed forest harvesting operations can result in negative environmental effects such as wildlife habitat degradation or elimination, and soil erosion resulting in adverse impacts on surface water quality due to sedimentation from storm water flows.
2. Forested hillsides and hilltops are important components in the mosaic of natural and cultural features combining to form the scenic landscape in Springfield. Subdivision and development of large areas of forested land, particularly on the hillsides and hilltops surrounding Springfield's lakes and ponds, could result in substantial loss of tree cover. The end result of this change to the scenic landscape would be to irretrievably convert what is now a rural image into a suburban one.

## Goal: Forest Resources

Preserve and protect Springfield's forest resources to ensure that they continue to have environmental, aesthetic and economic values.

## Recommendations: Forest Resources

1. The Conservation Commission should study and evaluate whether additional safeguards are needed relative to forestry practices which can cause significant adverse impacts on stream and lake water quality if storm water drainage is not adequately managed. The Commission should bring any recommended amendments to local land use regulations to the Planning Board for consideration and any recommended changes to the state laws governing forestry practices to the attention of the local legislators.
2. The Planning Board should reevaluate the standards and controls provided by the Subdivision Control Regulations and the Site Plan Review Regulations relative to management of storm drainage generated by new subdivision and site developments respectively. In particular, clearing of lots for development needs to be incorporated into surface water drainage plans to ensure proper management of storm water flows generated by developments.
3. The Planning Board should consider developing and adopting a ridgeline protection ordinance aimed at protecting the town's scenic quality and rural character.

4. The Planning Board should consider adopting a Steep Slopes Conservation Overlay District to reduce the development density in steep slope areas and to not permit construction in steep slope areas.
5. The Planning Board should study developing and incorporating design standards into the Zoning Ordinance and/or Subdivision Control Regulations which would preserve rural character. These design standards would include protection of significant open space resources through siting standards for building envelopes. A building envelope area is defined as the area within the lot which conforms with all setback and buffer requirements and includes enough developable land to accommodate the construction of a typical rural lot including a house, driveway, on-site wastewater disposal system and a water well.

Defining a maximum building envelope area will assist in managing the amount of tree removal and site disturbance on lots in new developments. It would permit the Planning Board some measure of management over the location and siting of new homes particularly when trying to preserve a natural feature such as an open field. The Planning Board should consult the following publications, among others, in developing such subdivision design standards to preserve rural character:

- “Preserving Rural Character” - Planning Advisory Service Report # 429, and
- “Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development” - Yaro, Robert D. et al.

6. The Planning Board should consider crafting and adopting a forest conservation district that would preserve areas like the Gile Memorial Forest for forestry and recreational uses. Factors to consider in deciding where to establish such a district might include: areas that are relatively remote, areas that have no road frontage and poor or no road access, areas with relatively large land holdings, areas providing significant wildlife habitat, areas currently used for forestry purposes, hillsides with relatively steep slopes and conserved properties intended for forestry and recreational uses.

#### Agricultural and Open Space Resources

At the end of the 19th century, agricultural uses dominated the local landscape. As detailed in Table 14 above, only 529 acres or 1.86% of the total area of Springfield is in agricultural pasture/open space use in 1998 based on mapping of land use by UVLSRPC. The scarcity of these resources becomes evident in comparing the percentage of open lands in Springfield with those in the State. Springfield has about one-fifth of the percentage of agricultural/open space lands which exists statewide.

In the first half of the 20th century there were several large farms in Springfield and almost every home had at least one cow, a horse, and poultry. Farms were more self-sufficient. Farmers cut their own wood, raised sheep to be sheared, had pigs and beef for their own use, and raised grain to be threshed. Every farmer kept his fields mowed, his bushes cut, and his land rich for planting. Some of these farmers were Frank Colby, Justin Nichols, and Carl Heath. Men who raised cattle

and delivered milk out of town were William Hill, Chester Colcord and Dallas Patten. Charles McDaniels, Frank Colby and Henry Kidder also were involved in substantial farming operations.

In contrast to much of the steep, forested areas which pose significant constraints for development, agricultural lands usually impose the least constraints to development for other types of uses whether they be for residential, commercial, industrial or institutional purposes. Since growth tends to occur on the most suitable and accessible land (which also is usually best for agricultural use) it is important to consider measures to control its development. This in large part explains why so few of these resources remain today. It is also the reason why the community needs to act soon if any of these locally important resources are to be retained. The needs for local and sub-regional food self-sufficiency could return due to high future energy and transportation costs. Local agriculture could become more profitable and competitive under such conditions.

Prime agricultural soils in Springfield are shown on Map 3. A breakdown of the categories mapped are presented in the table to follow.

**Table 15: Prime Agricultural Soils in Springfield**

<b>Agricultural Soil Category</b>	<b>Land Area in Acres</b>	<b>Percentage of Total Town Land Area</b>
Prime Farmland of National Significance	333 acres	1.2%
Farmland of Statewide Importance	346 acres	1.3%
Farmland of Local Importance	4,043 acres	14.7%
Prime Farmland if Drained	3 acres	0.01%
<b>Total Prime Farmland</b>	<b>4,725 acres</b>	<b>17.1%</b>

Source: Agricultural soil types based on mapping by the USDA Natural Resource Conservation Service (NRCS).



**MAP 3: PRIME AGRICULTURAL SOILS**

If any of these resources are to be preserved for future generations of residents or visitors, then the community needs to understand and recognize the importance of these agricultural and open space resources to the Town. The values or benefits imparted by open space and agricultural lands include the following:

- enhance the rural and small-town character which have been identified as desirable aspects of Springfield;
- provide scenic views that contribute to the quality of life in Town and to a visitor's aesthetic experience;
- promote tourism;
- encourage community pride and help maintain a balance between the natural world and the world of mankind;
- enhance and protect wildlife habitats; and
- ensure a positive fiscal impact on the Town by enhancing property values and keeping property taxes down.

Concerns about preservation of farmland in Springfield today are motivated primarily by aesthetic benefits provided by open space lands. As noted above, open space lands enhance the rural and small-town character of Springfield and provide scenic views that contribute to the quality of life in Town and to a visitor's aesthetic experience. Additionally, protection of farmlands will help preserve some prime agricultural soils which are becoming a scarce national, state and local resource with the continuing decline of agricultural land use.

The current use program in New Hampshire provides property owners the benefit of reduced property taxes on open space lands, but does not ensure long-term protection of these valuable resources. The purchase of conservation easements, development rights or fee simple acquisition of significant open space lands affords ongoing, long-term protection for these important resources. These open space resources, which are so readily developable, are irretrievably lost once converted to one of the competing suburban or urban land uses which places an emphasis on protection efforts of this scarce remaining natural resource.

#### Community Survey Results: Agricultural and Open Space Resources

The Community Survey conducted by the Springfield Planning Board in 2000 provided the following feedback relative to agricultural and open space resources. When asked to rate the importance of preserving certain natural resources, 66% felt preservation of agricultural lands was very important.

#### Issue: Agricultural and Open Space Resources

Springfield's agricultural and open space lands have dwindled to only about 529 acres or just under 2% of the area of Town. Once converted and developed for other uses, they are irretrievably lost. As noted above, these open space resources provide strong visual contrast with the lakes and wooded hillsides and are a key component in creating the striking visual landscape of Springfield.

### Goal: Agricultural and Open Space resources

Conserve our agricultural and open space lands for their positive impact on the economic base resulting from their scenic and aesthetic qualities, particularly on the tourism and recreation markets, and for their food production value.

### Recommendations: Agricultural and Open Space Resources

1. The Springfield Conservation Commission should work closely with the local and state land protection organizations to preserve some of this remaining scarce resource through the use of conservation easements or fee simple acquisition.
2. The Town should consider amending the Zoning Ordinance to give the Planning Board the authority to require an alternative development layout, such as that provided by a Cluster Development Ordinance, in lieu of the standard suburban lot layout in instances where the Planning Board feels a proposed development may adversely affect significant natural or historic resources, such as an important parcel of agricultural or other open space land.
3. The Planning Board should study developing and incorporating design standards into the Zoning Ordinance and/or Subdivision Control Regulations which would preserve rural character. These design standards would include protection of significant open space resources through siting standards for building envelopes. A building envelope area is defined as the area within the lot which conforms with all setback and buffer requirements and includes enough developable land to accommodate the construction of a typical rural lot including a house, driveway, on-site wastewater disposal system and a water well.
4. Defining a maximum building envelope area will assist in managing the amount of tree removal and site disturbance on lots in new developments. It would permit the Planning Board some measure of management over the location and siting of new homes particularly when trying to preserve a natural feature such as an open field. The Planning Board should consult the following publications, among others, in developing such subdivision design standards to preserve rural character:
  - “Preserving Rural Character” - Planning Advisory Service Report # 429, and
  - “Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development” - Yaro, Robert D. et al.

### Earth Mineral Resources

Based on soil types and aquifer information, there are very few sand and gravel resource deposits in Springfield. Essentially, since the Town of Springfield, with its higher elevations, is at the upper end of several watersheds, the bulk of the sand and gravel deposits caused by the erosive powers of the streams have been deposited in other communities further downstream.

Sand and gravel operations occupy a prominent place in our economy. These earth resources provide construction aggregate for roads and other development activities and thus it is important that known deposits of these resources be identified and wisely used.

At the same time earth excavations can be a disruptive land use, creating dust, noise, fumes, and heavy truck traffic and leaving a damaged landscape. Excavation activities may cause erosion and sedimentation, fuel spills, and exposure of the water table which may in turn contaminate the groundwater. Excavation too close to the water table may result in local flooding in wet years when the water table is unusually high. Thus, it is important that excavation operations be performed with care. Plans for excavations should consider impacts on aesthetics, wildlife, ground and surface waters, air quality, roads, adjacent land uses, and the character of the surrounding area. Restoration plans and security to ensure implementation of those plans are needed for every excavation.

This section of the Springfield Master Plan discusses construction materials located in the Town of Springfield. Sources of information on the location of construction material resources include:

- 1) The Sullivan County Soils Survey provides soils maps which identify the locations of deposits of sand, gravel, roadfill, and topsoil, all of which are designated in the soils survey as construction. The soils are rated as good, fair or poor for roadfill soils, and topsoil. Probable and improbable ratings are provided for each soil type for sandy and gravel soils. The ratings are based on observed performance of the soils and on estimated data and test data conducted as part of the Natural Resource Conservation Soil Survey. Sand and gravel probabilities from soil types were digitized by Complex Systems Research Center in April 2001. This information is intended for town-wide land use planning purposes and not site specific planning because it does have limitations. Due to map scales and associated margins of error, there may be small areas of different soil types included within the mapped area of another soil type.

Map 4 to follow depicts the probable deposits of gravel and sand based on soil types. This information reflects there are only a few areas in Springfield which have sand resources available with most of these scattered around the northwest sector of town. Only about 128 acres of soils that may have the potential as sand resources exist in Springfield. This represents only 0.5% of the total land area in Town. Based on soil type, there are just 3 acres in Springfield with potential for gravel resources which represents 0.01% of the total land area in Town.

- 2) A recently completed, cooperative project by the N.H. Department of Environmental Services and the U.S. Geological Survey has resulted in the study and mapping of stratified-drift aquifers in New Hampshire. The Town of Springfield is covered in two reports entitled: "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Contoocook River Basin, South-Central New Hampshire" and "Geohydrology and Water Quality of Stratified-Drift Aquifers in the Lower Connecticut River Basin, Southwestern New Hampshire" by the U.S. Geological Survey in cooperation with the N.H. Department of Environmental Services.

**MAP 4: CONSTRUCTION MATERIALS AND EARTH RESOURCES**

By their very nature, stratified-drift aquifers are prime sand and gravel deposits. The locations of these stratified-drift aquifers in Springfield are displayed on Map 5: Watersheds and Groundwater Resources. This map shows the existence of stratified-drift aquifers mainly in three areas: 1) along Route 4A between Town Farm Road and Bowman Road, 2) along the North Branch of the Sugar River south of McDaniel's Marsh and 3) along the east side of Georges Mills Road north of I-89. In total, 549 acres of land in Springfield is underlain by stratified-drift aquifers which represents about 2% of the total land area in Town. Currently there are no sand and gravel excavations operating in Springfield.

One of the provisions of the state law governing earth excavations (RSA 155-E) is that a town must allow reasonable opportunities somewhere in town for excavations. Local regulations affecting earth excavations in Springfield currently include:

- 1) A new application for an earth excavation in Springfield would first entail obtaining approval from the Zoning Board of Adjustment for a Use Permitted by Special Exception in the Rural Residential District.
- 2) The second step would be for an applicant to apply to the Planning Board for approval of an earth excavation permit under the local earth excavation regulations adopted by the Town.

These provisions seem to provide for reasonable opportunities while providing local review processes to ensure appropriate locations for such potentially disruptive uses and adequate standards and safeguards to provide for responsible operations causing minimal environmental impacts.

One of the provisions of the state law allows a town in which known aquifers exist, so designated by the U.S. Geological Survey, to protect those groundwater resources by prohibiting any excavation which would substantially damage a known aquifer. The Stratified-Drift Aquifer Maps provides the information to the Planning Board to make this evaluation as part of an application for an earth excavation. The possible damage resulting from an earth excavation located directly over a known aquifer could include adverse affects on the water table from digging too deep and the danger of pollution from spills of truck oils and other chemicals used on the site which could percolate through the soils into the groundwater.

Construction materials resources are valuable for their use in local construction and for export to other communities. Responsible excavation operations which provide careful attention to environmental concerns and site restoration can continue to provide Springfield with a stable economic resource that also meets other goals of preserving rural character, aesthetics and the environment.

**MAP 5: WATERSHEDS AND GROUNDWATER RESOURCES**

### Issues: Earth Mineral Resources

1. Earth excavations can be a disruptive land use, creating dust, noise, fumes, and heavy truck traffic and leaving a damaged landscape. Excavation activities may cause erosion and sedimentation, fuel spills, and exposure of the water table which may in turn contaminate the groundwater. Excavation too close to the water table may result in local flooding in wet years when the water table is unusually high.

### Goals: Earth Mineral Resources

1. Ensure that extraction methods will not result in significant degradation to the aesthetic, environmental, or economic values of surrounding areas.
2. Ensure the restoration of land areas that are disturbed by the extraction of earth minerals.

### Recommendations: Earth Mineral Resources

1. The Planning Board should carefully review any proposals for new earth excavations.

It is important that excavation operations be performed with care. Plans for excavations should consider impacts on aesthetics, wildlife, ground and surface waters, air quality, roads, adjacent land uses, and the character of the surrounding area. Restoration plans and security to ensure implementation of those plans are needed for every excavation.

2. The Planning Board should require the applicant for a new earth excavation to identify the location of the proposed operation relative to the known aquifers based on the referenced "Stratified-Drift Aquifer Maps". If the proposed operation overlays a known aquifer, then the Planning Board should require the applicant to demonstrate that his earth excavation operation will not substantially damage the known aquifer.
3. In reviewing an earth excavation application for a new gravel pit, the Planning Board should call upon any outside engineering or environmental consultants, including the Natural Resource Conservation Service, at the applicants expense, for advice on potential adverse impacts of the proposed operation and recommendations on how to mitigate those impacts, and review of the proposed reclamation plans.

### Wildlife and Rare Plant Species Resources

The wide variety of ecosystems provided by the lakes and streams, forests, fields, and wetlands found in Springfield support a diverse population of wildlife.

In 1987, the New Hampshire Fish and Game Department mapped deer yards throughout the state using aerial photography to locate areas with dense evergreen cover that are ten acres or more in size. Map 6 Wildlife Habitat in Springfield reveals that there are four fairly substantial deer wintering areas in the southern one-third of Town that are ten acres or more in size.



**MAP 6: WILDLIFE HABITAT**

Rare species and natural communities information from the N.H. Natural Heritage Inventory indicates there are not any areas in Springfield where such resources may possibly occur.

Important benefits imparted by wildlife and plant resources include:

- An abundant and diverse supply of wildlife and plant resources provides opportunities for education, entertainment, leisure, and recreation including hunting, fishing, photography, bird watching, nature studies, art and similar activities.
- The presence or absence of native wildlife species, sensitive to pollution or loss of habitat, helps to indicate the condition of the natural environment.
- Abundant and healthy wildlife and plant resources help attract visitors and support entertainment, educational and recreational business opportunities.

#### Community Survey Results: Wildlife and Rare Plant Species Resources

The Community Survey conducted by the Springfield Planning Board in 2000 provided the following feedback relative to natural areas. When asked to rate the importance of preserving certain natural resources, 84% felt preservation of natural areas was very important.

#### Issues: Wildlife and Rare Plant Species Resources

1. Subdivision and development can directly eliminate wildlife habitats and the existence of rare plant species. Additionally, subdivision and development can result in fragmentation of wildlife habitats which can lead to degradation of the habitat and/or loss of the wildlife altogether.
2. Methods of waste disposal, construction, road paving and maintenance, and other human activities can lead to pollution or destruction of wildlife habitats and rare plant species resources.

#### Goal: Wildlife and Rare Plant Species Resources

Encourage protection measures and preserve sufficient healthy habitats to ensure the continuation of the community's wildlife and rare plant species resources.

#### Recommendations: Wildlife and Rare Plant Species Resources

1. The Springfield Conservation Commission should develop a community inventory of wildlife and their essential habitat requirements to supplement the deer wintering area information developed by the N.H. Fish & Game Department. This inventory can then serve as the basis for development of a wildlife habitat overlay map which can be used to evaluate the potential wildlife habitat impacts of new development proposals and to serve

as the basis for changes to zoning regulations and/or subdivision regulations so that any adverse impacts from new developments on remaining essential wildlife habitat is minimized.

## Scenic Resources

Springfield's diverse landscape features including its wooded hillsides, open fields, mountain lakes, wetlands and small settlements blend together and contrast to create Springfield's splendid scenic qualities. Perhaps no other single feature is so important in defining the rural and small town character cherished by those who come to live, work and visit in this community. The lingering image of a sunset over Lake KOLELEMOOK with the autumn colors in full blaze, and other images like it, is one of the primary reasons why we were attracted here in the first place, why this is a special place to be today, and why we want to remain here in the future. Preservation of these scenic resources is critical to maintaining the rural and small town character of Springfield. The challenge is to accommodate development while preserving the Town's scenic resources and rural character.

The following is a list of some of the best scenic views in Springfield as identified by the Planning Board. The Map of Scenic Resources to follow is keyed to this list by number.

1. View of Aaron's Ledge and McDaniel's Marsh from McDaniel's Marsh;
2. Looking west to Croydon Mountain from George Hill Road;
3. Looking west to Croydon Mountain from Philbrick Hill Road;
4. Looking north to Cardigan Mountain and the White Mountains from Sanborn Hill;
5. Looking southeast to Mt. Kearsarge over Little Lake Sunapee from Oak Hill;
6. Looking southwest to Mt. Sunapee over Little Lake Sunapee from Oak Hill;
7. Looking southwest over Lake Sunapee from Royal Arch Hill;
8. Looking northeast over Lake KOLELEMOOK from Route 114;
9. Looking north to Mt Moosilauke and the White Mountains and west to Croydon Mountain from the Rest Area off I-89;
10. Views of Morgan Pond from its shoreline; and
11. The 280 degree view from the top of Aaron's Ledge including a view of the Vermont mountains to the west.

**MAP 7: SCENIC RESOURCES**

Benefits or values imparted by scenic views and vistas include:

- Unspoiled scenic views are a vital component of the local economy since they are a key factor in attracting the second home and business components of the property tax base along with attracting visitors and vacationers which support local tourist-related and recreational-related businesses.
- Scenic resources are a vital component in defining the small town and rural character of the town.

### Community Survey Results: Scenic Resources

The Community Survey conducted by the Springfield Planning Board in 2000 provided the following feedback relative to scenic natural resources. When asked to rate the importance of preserving certain natural resources, 86% felt preservation of scenic natural resources was very important. In fact, the preservation of scenic natural resources received the highest rating from respondents of any natural resource to protect.

As part of the 2000 Community Survey, people in Town were asked why they feel Springfield is an attractive place to live. Scenic quality was second only to uncrowded living conditions to respondents as their preferred reason for living in town.

### Issues: Scenic Resources

1. Inappropriate development within the viewshed of a scenic resource, particularly viewsheds visible from the public road system or public properties, can destroy its scenic value.
2. Views of ridgelines or hilltops are particularly vulnerable to poorly sited communication towers or residential developments which can have a significant negative impact on the scenic qualities of the landscape. The Town currently does not have regulations in place for the siting of telecommunication facilities.
3. The traditional strip residential development pattern along the existing road network results in promoting an image of suburban residential sprawl throughout Town. The actual development pattern is one of strip residential development along the road system, but predominantly undeveloped areas behind those strips.

### Goals: Scenic Resources

1. Preserve and protect important scenic resources to ensure that Springfield continues to maintain a small town, rural identity.
2. Ensure that scenic resources continue to provide aesthetic and economic value for residents, visitors and businesses.

## Recommendations: Scenic Resources

1. The Planning Board should develop proposed regulations for the siting of telecommunication facilities to put before the voters.
2. The Planning Board should consider developing and adopting a ridgeline protection ordinance aimed at protecting the town's scenic quality and rural character.
3. The Planning Board, in coordination with the Conservation Commission, should consider conducting a more detailed scenic resource inventory of the community. This scenic resource inventory can be used to incorporate aesthetic concerns into the site plan review and subdivision processes.
4. The desired image of rural character can best be achieved by reversing the pattern of strip residential development along the existing road system with undeveloped areas behind the residential strip to promote open space along the existing road system and developing residential uses behind these field or forest open spaces.

The Planning Board should study developing and incorporating design standards into the Zoning Ordinance and/or Subdivision Control Regulations which would preserve rural character. These design standards would include protection of significant open space resources through siting standards for building envelopes. A building envelope area is defined as the area within the lot which conforms with all setback and buffer requirements and includes enough developable land to accommodate the construction of a typical rural lot including a house, driveway, on-site wastewater disposal system and a water well.

Defining a maximum building envelope area will assist in managing the amount of tree removal and site disturbance on lots in new developments. It would permit the Planning Board some measure of management over the location and siting of new homes particularly when trying to preserve a natural feature such as an open field. The Planning Board should consult the following publications, among others, in developing such subdivision design standards to preserve rural character:

- "Preserving Rural Character" - Planning Advisory Service Report # 429, and
- "Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development" - Yaro, Robert D. et al.

## Water Resources

Springfield's water resources are highly valued by both residents and visitors to the area. Lake Kolelemook, Little Lake Sunapee, Baptist Pond, McDaniel's Marsh and numerous brooks and smaller ponds contribute to the scenic environment, provide habitat and recreation opportunities, and are a factor in the local and regional economy. In this section, issues related to surface water resources, including brooks, lakes and ponds, floodplains and wetlands are discussed.

### Community Survey Results - Water Resources

Protection of the quality of Springfield's water resources is important to Springfield property owners as reflected in the Community Survey. When asked to rate the importance of preserving certain natural resources, 83% felt preservation of ground waters was very important, 82% felt preservation of surface waters was very important and 68% felt preservation of wetlands was very important. In fact, the preservation of these resources received the third, fourth and fifth highest ratings from respondents of all the natural resources to protect.

The community survey respondents provided the following feedback on the items they would favor relative to lakes, ponds, wetlands, streams and aquifers:

- 76% favored water quality testing;
- 72% favored controls on motor size and boat speed;
- 68% favored setback requirements;
- 57% favored minimum lot frontage requirements;
- 52% favored cutting restrictions; and
- 52% favored shorefront conservation strips.

#### Watersheds, Brooks, Ponds and Lakes

With its higher elevations, lands in Springfield are the headwaters of four different watersheds. A major surface water divide runs through Springfield. The Sugar River and Mascoma River Watersheds flow into the Connecticut River to the west while the Blackwater River and Smith River Watersheds drain into the Merrimack River to the east. The areas of these watersheds and the percentage of area of Springfield they represent are presented in the table to follow. The Sugar River Watershed is by far the largest watershed in Springfield occupying about 75% of the total Town area. About thirty-five percent of this watershed drains into Lake Sunapee with the outflow being the main branch of the Sugar River. The other sixty-five percent of this watershed constitutes the upper portion of the North Branch of the Sugar River which joins the main branch in Newport after flowing through Grantham and Croydon. Springfield's lakes and ponds cover 975 acres, or a little over 3% of the total town. The lakes, ponds and streams in Springfield are shown on Map 5: Watersheds & Groundwater Resources on page 39.

**Table 16: Watersheds in Springfield**

<b>Watershed Name</b>	<b>Area in Acres</b>	<b>Percent of Total Town</b>
Sugar River Watershed	21,320 acres	74.9%
Blackwater River Watershed	5,139 acres	18.0%
Smith River Watershed	1,943 acres	6.8%
Mascoma River Watershed	77 acres	0.3%

Source: Watershed boundary information from the NH Department of Environmental Services - 1994.

A Build-Out Analysis for Springfield conducted by UVLSRPC in 2003 revealed that 1,734 additional housing units could be built over time in Springfield which could support a year-round population increase of about 3,080. The water quality impacts resulting from this level of development in Town could be substantial.

Surface water pollution can result from a variety of human activities within a watershed. In general, the closer the activity is to the brook or pond, the greater its impact is on the surface water quality. Much can be done at the local level to prevent degradation of surface water quality. Shoreline protection and erosion and sedimentation control can both be used to reduce the amount of pollution that would otherwise enter streams, lakes and ponds as a result of a given development. Springfield's water bodies are currently protected to different degrees through a variety of means. The NH Shoreland Protection Act applies to lakes and ponds over ten acres in size. The Shoreland Act provides for a fifty foot building setback and a 75 to 125 foot septic system setback, depending on soil types. The Act also regulates the siting of solid waste facilities, the fertilizing of lawns, shoreline frontage, and requires that any existing natural woodland buffer within 150 feet of the shore be maintained.

Springfield's Zoning Ordinance includes Special Provisions for Waterfront Development that apply to lakes and ponds. These provisions include a minimum lot size standard, a minimum shore frontage requirement, and setbacks for buildings, parking areas and septic systems. The Zoning Ordinance also provides that septic systems shall have a minimum setback of 100 feet from any stream.

Erosion and sedimentation control is another tool which can be used to decrease surface water quality degradation associated with development. While special attention to shoreline development and maintenance of adequately sized vegetated buffers prevents much sedimentation, development in the headwaters of a stream, which also tend to contain the steeper lands, can result in erosion and the associated sedimentation of surface waters.

Development on steep slopes is a significant source of sedimentation of surface waters for several reasons. The erosion potential is greater because the soils tend to be shallower in these areas and



the volume and velocity of surface water runoff is higher. The resulting sedimentation can be associated with increased siltation and turbidity and increased nutrient and chemical loading. Areas with slopes over 15 percent pose a challenge to develop in an environmentally sound and cost-effective way. Land with slopes over 25 percent is often best left as open space due to the potential for erosion when disturbed.

Issues: Water Resources: Watersheds, Brooks, Ponds and Lakes

1. The potential for an additional 1,734 lots supporting an estimated 3,080 year-round residents living in Springfield at full build-out would mean about three thousand more people fertilizing lawns, washing cars, using household chemicals, and expecting ice-free roads to drive on in winter. With no centralized wastewater treatment in Springfield, all wastewater would enter the hydrological cycle with only the benefit of septic system treatment. Although this level of growth will not occur within the time frame of this Master Plan, the Town should plan now for the projected impacts this potential growth may have on the water quality of lakes, ponds and streams and assess the need for zoning density changes or other action which might preempt further water quality degradation.
2. The N.H. Office of State Planning and Audubon Society of New Hampshire recommend a minimum one hundred foot vegetated buffer along the shoreline of all surface water features including lakes, ponds and streams to gain an adequate level of removal of most major pollutants (Buffers for Wetlands and Surface Waters - A Guidebook for New Hampshire Municipalities, 1995). This recommendation is based on a review of the most recent scientific literature. Springfield's Special Provisions for Waterfront Development require only a fifty foot setback for buildings except for multi-family residential or commercial buildings and clusters in which case the minimum setback is 150 feet. The Special Provisions indicate existing natural vegetation should be maintained as a buffer where possible. The provisions for a natural buffer could be strengthened.
3. The shorelines of lakes and ponds in Springfield, and Lake Kolelemook in particular, have already been the focus of some residential development. It is recognized that the interests of property owners in expanding or redeveloping these residences must be balanced with the need to prevent further water quality degradation.
4. Improvements could be made in Springfield's land use regulations as they pertain to erosion and sedimentation control for steep slope areas. Consideration could be given to limiting clear cutting on steep slopes, lowering the density of development in areas containing steep slopes or prohibiting development activities from occurring on the steep slope areas. Additional regulations are also needed to address development activities on moderate slopes, design and construction of driveways, and construction projects that disturb large areas or result in large impervious areas. These are all activities with a high risk for resulting erosion and sedimentation if improperly planned but an opportunity for prior review to address the issue if regulations are in place.

5. Boat discharges of grey water, sewage and/or fuel into lakes can significantly degrade water quality and negatively affect wildlife.
6. Eurasian milfoil and other nuisance plants and animals can contaminate surface waters and negatively affect desirable species and human activities.
7. Runoff from roads often enters surface waters directly or via drainage structures and carries with it salt, sediment and other pollutants.
8. The Sugar River Watershed Council has recently been formed to address water quality issues within the Sugar River watershed. Springfield is represented on this watershed group. Participation by representatives from the Town of Springfield is important since land in Springfield is where most of the headwaters of the North Branch of the Sugar River originate.

Goal: Water Resources: Watersheds, Brooks, Ponds and Lakes

Maintain or improve the water quality in all of the Town's watersheds and surface water features. Ensure they continue to support recreational, visual, environmental, and other important values.

Recommendations: Water Resources: Watersheds, Brooks, Ponds and Lakes

1. The Town should plan now for the projected impacts the potential build-out growth may have on the water quality of lakes, ponds and streams and assess the need for zoning density changes or other action which might preempt further water quality degradation.
2. Consider increasing the width of the natural vegetative buffer along the shorelands of lakes and ponds to the one hundred foot minimum recommended by the state to increase protection of surface waters in Springfield and consider strengthening the natural vegetative buffer requirements along the shorelines of lakes and ponds. Additionally, the Town should consider implementing these same natural vegetative buffer requirements along the shorelines of streams in Springfield.
3. The Zoning Ordinance should be carefully reviewed to ensure that changes of use and expansions of existing waterfront structures are permitted only when they are not in conflict with water quality objectives. This would include expansions that do not reduce the distance between the structure and the shoreline or significantly increase the impervious surface area within the shoreline buffer.
4. Steps the Town can take to ensure that development is sited or constructed in a way that will minimize sedimentation of surface waters include:
  - A) consideration being given to limiting clear cutting on steep slopes, lowering the density of development in areas containing steep slopes or prohibiting development activities from occurring on the steep slope areas;

- B) strengthening the town's zoning, subdivision, and driveway regulations to ensure that proper care is taken to prevent erosion and sedimentation during and after construction when development occurs on moderate slopes (15%-25%) through such means as requiring erosion/sedimentation control plans for the steeper portions of driveways and building sites;
  - C) adopting driveway regulations with standards to limit the grade of and control runoff from driveways that can themselves be a source of erosion problems; and
  - D) strengthening the Site Plan Review Regulations to ensure that larger construction projects, including those involving reuse or redevelopment of a site, do not generate erosion and sedimentation during or after construction.
5. Cooperate with the state's efforts to control pollution associated with boating.
  6. Cooperate with the state's efforts to eliminate the introduction and spread of nuisance species in lakes.
  7. The Town and State should provide ongoing opportunities for those responsible for road construction and maintenance to learn about cost effective methods for reducing the amount of polluted runoff that enters surface water from roads.
  8. The Town of Springfield should be represented and participate on the Sugar River Watershed Council. This is particularly important since land in Springfield is where most of the headwaters the North Branch of the Sugar River originate.

### Floodplains

The 100 year floodplain areas in Springfield are detailed on the 1977 Flood Hazard Boundary Maps. The major floodplain area in Town is the area along the North Branch of the Sugar River and its tributaries on the west side of the community. While these floodplain areas are the flatter areas along brooks predicted by the Federal Emergency Management Agency (FEMA) to flood an average of once every hundred years, important flood storage capacity is also provided by Springfield's lakes, ponds, and wetlands.

Floodplains fill an important need, as flood water must go somewhere, and can be very hazardous areas to locate development in. Development in the floodplain can lead to property damage and risks to health and safety. Development in one area of the floodplain can also cause increased risks to other areas. If structures, or other impermeable surfaces such as paved parking areas, are located in the floodplain, flood levels will increase elsewhere and the limits of the floodplain areas are also likely to increase.

Federal flood insurance regulations do not require that a community prohibit development in the floodplain, only that structures be elevated or flood proofed. However, these minimal

requirements do not take resident's safety or the incremental effects of floodplain development into account, only the insurability of the structures themselves.

Springfield currently does not participate in the National Flood Insurance Program and does not regulate construction located within the identified 100 year floodplain by requiring elevating or flood proofing for structures built in the floodplain. The major impact of not participating in the National Flood Insurance Program is that property owners are not able to obtain a federally backed loan or mortgage for improving an existing or building a new structure in the identified floodplain areas.

#### Issues: Water Resources: Floodplains

1. Springfield does not participate in the National Flood Insurance Program and does not regulate construction located within the identified 100 year floodplain by requiring elevating or flood proofing for structures built in the floodplain.
2. Floodplains are not appropriate areas for the development of structures or creation of impermeable surfaces.

#### Goal: Water Resources: Floodplains

Manage development of the 100 year floodplain to preclude the construction of buildings and the creation of impermeable surfaces in order that the floodplain can perform its function of passing and storing flood waters and so as not to adversely affect downstream property owners.

#### Recommendations: Water Resources: Floodplains

1. Consider land use regulations as needed to meet FEMA's minimum requirements for participation in the National Flood Insurance Program if it is found that existing structures are located within the identified 100 year floodplain areas.
2. Consider limiting development in the floodplain to uses that would not pose a threat to health or safety if a flood occurs and do not involve the development of structures or creation of impermeable surfaces.

#### Wetlands

Most wetland areas in Springfield are found in areas of poorly drained soils associated with brooks and ponds. These include much of the area around McDaniel's Marsh, Gove Brook and Colcord Brook draining into Bog Brook, Bog Brook draining into Stocker Pond, and the area to the north and west of Baptist Pond. Wetlands in Springfield are shown on Map 2: Wetlands and Steep Slopes on page 29. Approximately 2,159 acres, or just under 8% of the total area of Springfield, is comprised of wetlands.

Wetlands provide a number of valuable functions: These include:

- storage of floodwaters;
- storage and adsorption of soluble nutrients that otherwise would contaminate downstream water bodies;
- discharge of water to water bodies during periods of low flow;
- groundwater recharge;
- filtration;
- habitat for many species that depend on wetlands for part or all of their life cycle; and
- recreational opportunities.

Wetlands are inappropriate areas for construction of buildings or septic systems or activities that involve alteration of the natural drainage patterns.

#### Issues: Water Resources: Wetlands

1. Springfield's Zoning Ordinance does not provide for a setback between wetlands and structures. Springfield's Zoning Ordinance does provide for a 150 foot setback between any part of a septic system and a marsh, but does not for a setback for other types of wetlands (i.e. bogs and swamps). The N.H. Office of State Planning recommends a minimum of a one hundred foot setback for structures and septic systems to protect wetlands. If at all possible, this 100 foot setback should be maintained as a natural vegetative buffer to assist with the filtering of pollutants before entering wetland areas.
2. For consistency purposes, the Town should consider amending the local definition of a wetland in the Zoning Ordinance to coincide with the definition used by the state and federal governments. Currently, Springfield's definition of a wetland is based on soil type and all areas designated as swamps, marshes and bogs. The state and federal definition of a wetland is based on soils, hydrology and vegetation. The end result is that some of the poorly drained soil areas are not true wetlands due to hydrology and vegetation characteristics.

#### Goal: Water Resources: Wetlands

Promote protection of wetlands for the valuable functions they provide as cited above.

#### Recommendations: Water Resources: Wetlands

1. The wetland protections currently provided for in the Zoning Ordinance should be strengthened. The Town should consider implementation of a minimum setback of 100 feet for all structures and septic systems from wetlands and maintain this area as a natural vegetative buffer.

2. The Town should amend the Zoning Ordinance to redefine a wetland to be consistent with the state and federal definition which is based on soils, hydrology and vegetation and to substitute the word wetland in the Ordinance for other terms such as marsh.

### Groundwater Resources

Groundwater is water that is found in the ground in the pores of subsurface deposits. The term "aquifer" describes water saturated earth materials from which a water supply can be obtained. There are three types of groundwater aquifers: stratified drift, till and bedrock. Stratified drift and till aquifers are composed of unconsolidated glacial deposits while bedrock aquifers are fractures in solid rock. In stratified drift aquifers, the materials are sorted sand and gravel. In till aquifers, the materials are a gravel, sand, silt, and clay mixture. All water supply in Springfield, except for the Twin Lake Villa Resort located in the southeast corner of town, is currently provided by individual wells drawing from one of these types of groundwater resources. The New London-Springfield Water Precinct provides the water supply for the Twin Lake Villa Resort in Springfield and the village area of the Town of New London. Gravel packed wells accessing a stratified drift aquifer on Colby Point in Little Lake Sunapee are the water source for the Water Precinct.

Stratified drift aquifers are generally capable of storing, transmitting and yielding the larger volumes of water needed for a public water supply. Through a cooperative effort of U.S. Geological Survey and N.H. Department of Environmental Services, stratified drift aquifers have been mapped for Springfield (Map 5: Watersheds and Groundwater Resources on page 39). Areas underlain with stratified drift aquifers in Springfield include: the area along Route 4A between Bowman Road and Town Farm Road, the area along Town Farm Road near Route 4A, the area along Bog Brook south of McDaniel's Marsh to the Grantham town line, the area along Baptist Pond Road between Stocker Pond and Long Pond and the area north of I-89 along Georges Mills Road.

Several land uses are associated with greater than average risk of groundwater contamination due to the activities and materials involved. Uses which are not appropriate in important aquifer areas include:

- Any principal use involving the production, sale, storage, or transportation of fuel oil, gasoline, or other regulated substances;
- Car washes;
- Disposal, processing, or recycling of regulated substances;
- Septage lagoons;
- Snow dumps;
- Solid waste facilities;
- Storage of road salt or other de-icing chemicals;
- Subsurface wastewater disposal systems other than domestic wastewater and groundwater remediation systems;
- Transportation terminals;

- Underground storage of fuel or other regulated substances; and
- Vehicle service and repair shops.

Other uses may or may not pose an undue risk depending on the control measures proposed and the degree of threat to water quality which would result if the control measures failed. Uses that warrant special consideration include:

- Cleaning services;
- Commercial agriculture and related activities;
- Excavations;
- Food processing facilities;
- General service and repair shops;
- Laboratories and professional offices;
- Manufacturing facilities;
- Metal working shops;
- Any use rendering impervious more than 20% of the lot area; and
- Any other use which involves regulated substances in quantities greater than those associated with normal household use.

Since all water supply in Springfield currently comes from wells, all of the above uses need to be carefully planned and monitored to ensure contamination does not occur.

#### Issues: Water Resources: Groundwater Resources

1. Springfield residents, visitors and businesses are dependent on groundwater both for a source of potable water and for dilution of contaminants in wastewater. Therefore, great care must be taken to prevent hazardous substances from entering the groundwater and to limit development density to a level that enables adequate dilution.
2. Chemicals used by homeowners and small businesses often end up in the hydrologic cycle due to the expense and impracticality of proper disposal.
3. While the state regulates underground storage tanks of 1,100 gallons and greater and requires testing and periodic replacement, no such oversight exists for tanks smaller than this. This means that leaks in residential underground oil tanks generally go undetected until a large quantity of oil has entered the groundwater.
4. Road salt is a potential source of contamination of private wells and potential public water supply aquifers.

#### Goal: Water Resources: Groundwater Resources

Protect the groundwater resources located in Town to ensure that an adequate supply of clean drinking water is available to residents, visitors and businesses.

## Recommendations: Water Resources: Groundwater Resources

1. Springfield's Zoning Ordinance and Site Plan Review Regulations should be reviewed to ensure that existing and future private supply wells throughout town are protected from activities that are associated with hazardous substances. Local land use boards should closely scrutinize nonresidential land use proposals through Special Exception and Site Plan Review processes for potential adverse impacts on the groundwater. The Zoning Ordinance should continue to provide for a density of development and minimum lot size consistent with groundwater quality protection.
2. When given the opportunity, Springfield should continue to participate in regional hazardous waste collections to provide a practical cost effective means of disposal.
3. Springfield should consider adopting and implementing local underground storage tank regulations to help prevent contamination of groundwater by those underground storage tanks not covered by the state's regulations.
4. The Town and State should provide ongoing opportunities for those responsible for winter road maintenance to learn about safe, cost effective methods for reducing the use of road salt.

## Soil Resources

Soils information for Springfield, including soil type and slope, was collected and mapped by soil scientists from the U.S.D.A. Natural Resource Conservation Service. The suitability for different types of uses varies with the type and slope of the soil. Some of these are important to note.

Soils are rated for their suitability to support dwellings with basements. Categories include severe, moderate, slight and not rated. These ratings are shown on Map 8: Restrictions for Dwellings with Basements. The information reveals that just over 55% of Springfield is included in the severe rating, about 37% in the moderate rating, just under 5% in the slight rating and just under 4% in the category not rated.

The suitability of soils for supporting septic systems has a similar rating system and these are depicted on Map 9: Suitability of Soils for Septic Systems. This map shows that over 75% of the soils in Springfield are rated severe for supporting septic systems, just under 3% are rated moderate, just under 2% are rated slight and just over 20% are not rated.

The presence of a seasonal high water table is another factor to take into account in locating on-site wastewater systems. Soil types can be used as an indicator of where these water tables are located. Map 10: High Water Table depicts two kinds of seasonal high water tables: perched and apparent. A perched water table is where the free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hard pan. Therefore there is a dry layer of soil underneath a wet layer. An apparent water table is one where there is free water present in all



**MAP 8: RESTRICTIONS FOR DWELLINGS WITH BASEMENTS.**

**MAP 9: SUITABILITY OF SOILS FOR SEPTIC SYSTEMS**

**MAP 10: HIGH WATER TABLE**

horizons from its upper boundary to below two meters or to the depth of observation. Almost 12% of Springfield is underlain by perched water tables and just under 3% is underlain by apparent water tables based on the soils information.

In summary, soils in Springfield present limitations for both constructing dwellings with basements and septic systems. Over one out of two acres in Springfield has severe restrictions for dwellings with basements. About three out of four acres in Springfield exhibit severe restrictions for their suitability to accommodate on-site wastewater systems with much of this due to high water tables. This underscores the need to truck in much of the soil needed to construct mounded on-site wastewater systems.

#### Issues: Soil Resources

1. With about three out of four acres in Springfield exhibiting severe restrictions for their suitability to accommodate on-site wastewater systems, care must continue to be taken to ensure that new lots created through the subdivision process are capable of supporting an on-site septic system and that the Town continues to require a state approved septic system design before a building permit is issued for a new residence, for additional bedrooms for an existing residence and for commercial or industrial uses needing on-site wastewater treatments systems.

#### Recommendations: Soil Resources

1. The Planning Board should continue to coordinate closely with the Department of Environmental Services (DES) on new subdivision proposals and ensure that each new lot created is capable of supporting an on-site wastewater system by continuing to require state subdivision approval through DES.
2. The Board of Selectmen should continue to require a septic system design approved by the Department of Environmental Services before a building permit is issued for a new residence, for additional bedrooms for an existing residence and for commercial or industrial uses needing on-site wastewater treatments systems.

#### **Conserved Lands**

The Town of Springfield is fortunate to have 8,249 acres of conserved land that represents 29% of the total area of the Town. As reflected on Map 11: Conserved Lands, Trails and Recreation, the bulk of this area is provided by the Gile Memorial Forest, along with contiguous conserved parcels, all located on the east side of the community both north and south of Route 4A. Other significant conserved areas include parcels located on the east and west side of the McDaniel's Marsh and parcels along Bog Brook to the south of McDaniel's Marsh.

**MAP 11: CONSERVED LANDS, TRIALS AND RECREATION**

Cost of community service studies conducted in a number of New Hampshire communities have demonstrated over and over again that the revenues from conserved open space land more than pays for the cost of services associated with such properties. Basically, it's people that demand services so that residential, commercial or industrial development typically cost more for a community to provide those services than they generate for the town in property taxes. And not only are these open space properties a net gain for the community in terms of property taxes, they are most often the properties cited by residents as critical in defining their community's rural character.

#### Community Survey Results: Conserved Lands

Protection of open space in Springfield is important to Springfield property owners as reflected in the Community Survey. When asked their opinion about the development of various types of land uses in Springfield in the future, protected open space received the most support of any land use. Ninety percent of those responding to the survey supported protecting open space in Springfield in the future while only 5% did not support it and 5% had no opinion.

When asked to rate the importance of preserving certain natural resources, 86% thought preservation of scenic natural resources was very important, 84% felt the preservation of natural areas was very important, 82% thought preservation of surface waters was very important, 68% felt preservation of wetlands was very important, and 66% thought preservation of agricultural lands was very important. In fact, the preservation of these resources received the first, second, fourth, fifth and sixth highest ratings from respondents of all the natural resources to protect. All of these natural resources contribute in one way or another to open space resources.

#### Issues: Conserved Lands

1. The community lacks any strategy or program for conserving additional land areas in Springfield.

#### Goals: Conserved Lands

1. Identify and preserve those land areas in the community that merit conservation efforts.

#### Recommendations: Conserved Lands

1. The Springfield Conservation Commission should take the lead in sponsoring educational programs for Springfield residents and political leaders relative to the benefits to the community of continuing to conserve land resources.
2. The Springfield Conservation Commission should take the lead in identifying additional land resources worthy of protection in Springfield. This effort should be accomplished with input from Springfield property owners and the Town's leaders.

3. The Town is encouraged to utilize the services of a land protection organization to assist the community in land preservation efforts whether through conservation easements or land purchases.

## **CHAPTER VII. COMMUNITY FACILITIES & SERVICES AND RECREATION**

Community facilities and services play an important role by contributing to the general welfare of residents, and add to the quality of life in a community. Naturally, the demand is far from static. Existing facilities may become inadequate because they are not cared for, because they do not satisfy current needs, and due to increased and often new demands which accompany population growth and changes in lifestyle. To plan for the community facilities which will be needed in the future, it is first necessary to determine the extent of existing facilities. This chapter serves as a review of these facilities and services. It should also be noted that the primary concern is with physical facilities and not with operating programs. The suitability of the existing facilities to meet future demands will also be considered.

The following plan for community facilities and services includes an inventory of facilities and equipment, an analysis of relevant trends and needs, and recommendations to meet future demands based on the Town's anticipated growth. The plan is divided into separate sections, each addressing a specific community facility or service. They include:

- Library Service
- Cemeteries
- Fire Protection
- Highway Department
- Police Protection Service
- Recreation Facilities and Services
- Town Buildings & Management of Town Government
- Educational Services

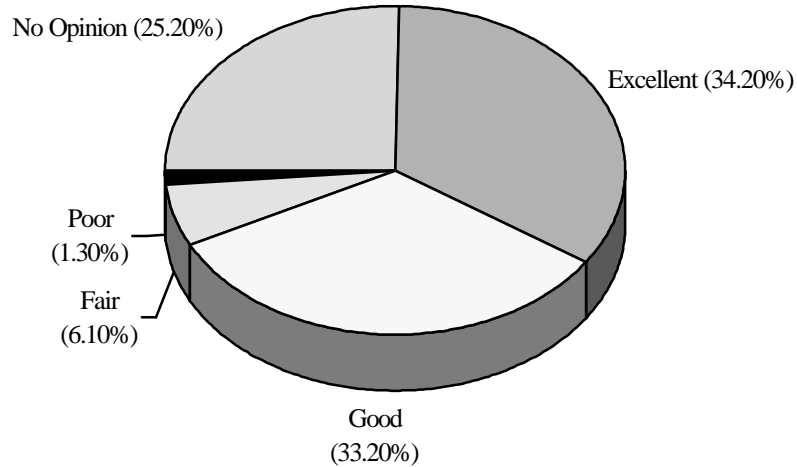
### **LIBRARY SERVICE**

The Springfield Public Library is attached to the Town Office Building. The library which has about 2,200 square feet of floor space was built in 1994. The library has two floors and an elevator provides handicapped access to both levels. It has a collection of approximately 16,000 volumes. The library is staffed with one part-time librarian, which is equivalent of about one person half-time, and twenty-five (25) volunteers. The library has five (5) computers, three (3) printers, one (1) copier and a TV/VCR.

Since the American Library Association no longer publishes suggested minimum standards for libraries, there is no current standard for evaluating Springfield Public Library's size, services, etc.



**Figure 6: Library Service Rating**



Community Survey Results: Library Service

Sixty-seven percent (67%) of the total survey respondents rated the library service as excellent or good, six percent (6%) rated the service as fair, one percent (1%) rated the service as poor and twenty-five percent (25%) had no opinion.

Of those familiar with the library service, ninety percent (90%) rated the service as excellent or good, eight percent (8%) rated the service as fair, and two percent (2%) rated the service as poor.

Issues: Library Service

1. The Springfield Public Library has now utilized the space available for the book collection with the 16,000 volumes. The Town will need to decide whether to add more space for continuing to expand the book collection or to begin replacing old books with new ones as they are acquired.
2. Although not an issue specific only to the library, meeting room space in the Town is limited.

### Recommendations: Library Service

1. For the long term, the Town should study whether to add onto the library to provide additional space for an expanded collection and to consider whether meeting space should be incorporated into those plans.

### **CEMETERIES**

The Town of Springfield has seven cemeteries. Five of these cemeteries are private cemeteries maintained by the Town. There are plenty of available burial lots still remaining and additional land to develop into burial plots. The Town does not need additional land over the next fifteen years to develop for additional cemeteries.

These cemeteries are maintained by one part-time (half-time) person during the summer months. The cemeteries are maintained with four hand mowers, one riding mower and lawn trimmers. The riding mower is three years old and should be replaced every five years. Cemetery maintenance equipment is now stored in part of the old highway garage building.

### Community Survey Results: Cemeteries

Over half of those responding to the survey had no opinion about the cemetery maintenance service. Of those familiar with the cemetery maintenance service, eighty-six percent (86%) rated the service as excellent or good, eleven percent (11%) rated the service as fair, and three percent (3%) rated the service as poor.

### Issues: Cemeteries

1. A small building about 12' x 12' is needed for storage of cemetery maintenance equipment. The preferred location for this storage building is the lower corner of the lower Pleasant View Cemetery.
2. Trees need to be removed along the road in the lower cemetery.
3. Cemetery stone walls are in need of repair.
4. The Webster Pass cemetery has no available access.

### Recommendations: Cemeteries

1. The Town should consider erecting a small storage building to house cemetery maintenance equipment.
2. When additional cemetery space is needed, the Town should consider removing the trees along the road in the lower cemetery.

3. The Town should evaluate the needs for repairing the stone walls around the cemeteries and develop a plan for repairing these stone walls.
4. The Town should study the alternative means of gaining access to the Webster Pass cemetery and acquire access when the opportunity presents itself.

**FIRE PROTECTION**

The Springfield Fire Department is a volunteer department which includes twenty-five volunteer firefighters. These volunteers have various levels of capability and training and include several EMTs.

An inventory of the current equipment in the Fire Department, the life expectancy and the estimated replacement cost in 2004 dollars is provided in the table to follow.

**Table 17: Fire Department Equipment**

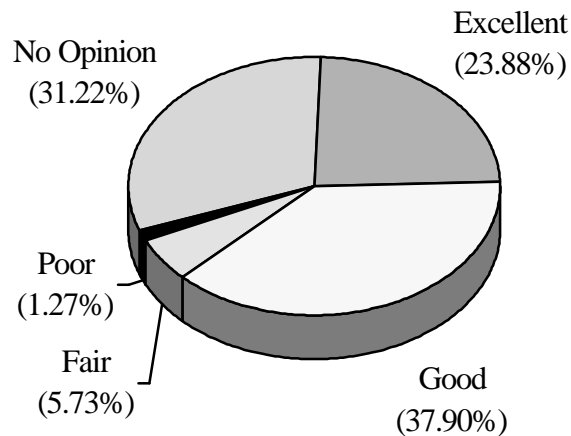
<b>Description of Equipment</b>	<b>Life Expectancy</b>	<b>Estimated Cost in 2004 Dollars</b>
1979 Chevrolet Equipment/Rescue Van	25 years	\$35,000
1981 Pumper - 1,000 gpm	25 years	\$160,000
1993 Tanker Truck-1,500 gal.	30 years	\$100,000
1998 Pickup Truck-3/4 ton	25 years	\$25,000
1999 Pumper-1,250 gpm	25 years	\$160,000

The fire station and the highway garage are all housed in the same building constructed in 1995. The fire station portion of the building has four bays in a 50' x 70' portion of the building area. In addition, a 30' x 50' attached building area contains office space and space for a meeting room.

## Community Survey Results: Fire Protection & Rescue Services

Sixty-two percent (62%) of the total survey respondents rated the fire protection and rescue services as excellent or good, six percent (6%) as fair, one percent (1%) as poor and thirty-one percent (31%) has no opinion.

**Figure 7: Fire Protection and Rescue Service Rating**



Of those familiar with the fire and rescue services, ninety percent (90%) rated the services as excellent or good, eight percent rated the services as fair and two percent (2%) rated the services as poor.

### Issues: Fire Protection and Rescue Services

1. The Town currently has no organized program for capital planning and budgeting for the replacement of equipment for the Fire and Rescue Department and evaluating those needs in relation to other capital improvement needs of the community.
2. The Fire Department has identified the replacement of the 1981 pumper truck as the highest equipment replacement need.
3. The 30' x 50' meeting room attached to the building housing the fire and the highway departments is not heated directly. This area is heated in the winter by heating the adjacent bays and allowing the heat to overflow into this meeting space.

Recommendations: Fire Protection and Rescue Services

1. It is recommended that the Planning Board reinstate the development of a Capital Improvement Program and update it annually.
2. The Capital Improvement Program should include replacement of all of the equipment in the Fire and Rescue Department over time with the replacement of the 1981 pumper truck the top priority.
3. Lack of adequate meeting space for the various boards and groups in Town has been identified as an issue. Improving the 30' x 50' meeting room attached to the fire and highway building by adding direct heating would make this space more inviting to be used year-round by a larger number of boards and groups in town.

**HIGHWAY DEPARTMENT**

The Springfield Highway Department includes a road agent and a crew of one year-round position. In addition, during the winter, the Highway Department contracts for snowplowing services.

An inventory of the Highway Department equipment currently includes the following:

**Table 18: Highway Department Equipment**

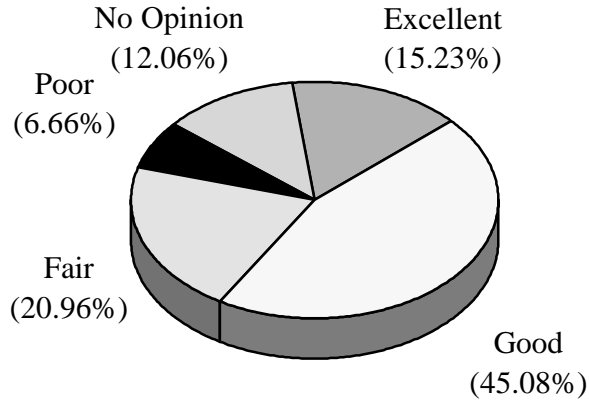
Description of Equipment	Life Expectancy	Estimated Cost in 2004 Dollars
1976 Elgin Street Sweeper	30 years	\$10,000 (Tag-along-broom)
1987 Cat Loader	25 years	\$95,000
1994 Grader	25 years	\$150,000
2000 Ford F550 Dump Truck & Plow	7 years	\$45,000
2002 International Dump Truck & Plow	10 years	\$65,000

The Highway Department garage is located at 720 Main Street. The Highway Department garage was built in 1995 and is 70' x 40' in size. This 2,800 square feet of floor space provides space for four bays. The Highway Department garage is attached to the 50' x 70' Fire Department building. The two departments share an attached meeting space which measures 30' x 50' in size. In addition, the Highway Department has a 30' x 40' covered pole shed for the storage of salt and sand.

Community Survey Results: Highway Department

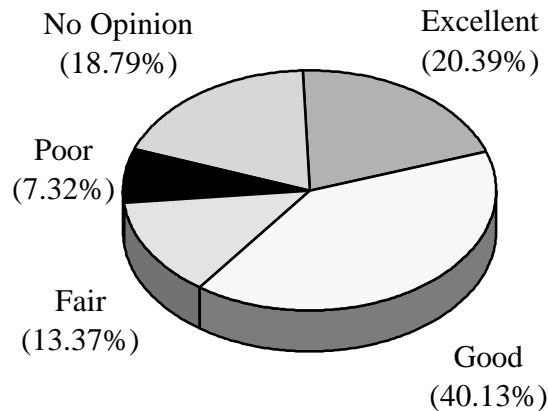
The 1994 Community Survey provided feedback on Highway Department snowplowing and road maintenance services.

**Figure 8: Maintenance of Town Roads Service Rating**



Sixty percent (60%) of those responding to the survey rated the maintenance of Town road service as excellent or good, twenty-one percent (21%) rated the service as fair, seven percent (7%) rated the service as poor and twelve percent (12%) had no opinion.

**Figure 9: Snowplowing of Town Service Rating**



At the time of the survey in 1994, sixty percent (60%) of all the people responding to the survey rated the snowplowing service as good, thirteen percent (13%) rated the service as fair, seven percent (7%) rated the service as poor and eighteen percent (18%) had no opinion.

#### Issues: Highway Department

1. The Town currently has no current up-to-date Capital Improvement Program.
2. As the mileage of Town-maintained roads increases, the need to add personnel and equipment grows accordingly.
3. The Town salt storage shed is not large enough, is in disrepair and needs to be replaced.

#### Recommendations: Highway Department Services

1. It is recommended that the Planning Board reinitiate the development of a Capital Improvement Program and update it annually.
2. The Capital Improvement Program should include construction of a new salt and sand storage shed along with replacement of all of the equipment in the Highway Department over time.
3. As new growth adds new streets to the Town's system for both summer and winter maintenance, the Town will need to consider adding both new equipment and personnel to provide summer and winter road maintenance services.

### **POLICE PROTECTION SERVICE**

The Police Department Office is located in the basement of the Springfield Town Office Building occupying a space of about 216 sq. ft. (12' x 18'). Police Department personnel includes a full-time police chief and three part-time officers.

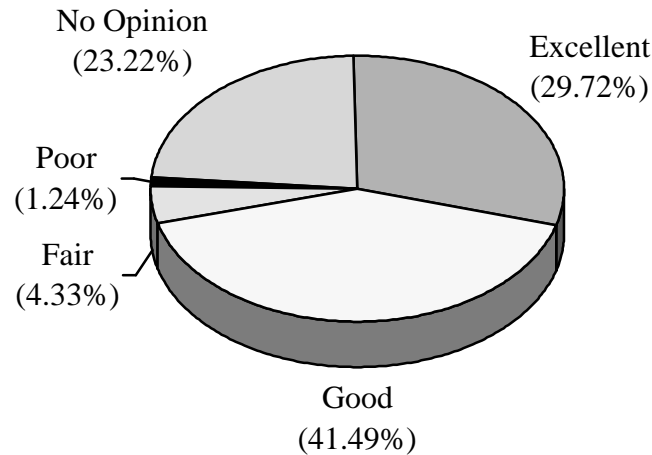
The principal piece of equipment is the one police cruiser. The current police cruiser which was purchased in 2004 at a total cost of about \$34,000 including the vehicle and fit-up for police use has a life expectancy of about five years. In addition, the police department has a lap top computer valued at about \$1,100. The department plans to purchase two portable radios in 2004 at a cost of about \$2,200 each.

#### Community Survey Results: Police Protection Service

Seventy-one percent (71%) of the total survey respondents rated the police protection service as excellent or good, four percent (4%) rated the service as fair, one percent (1%) rated the service as poor and twenty-three percent (23%) has no opinion regarding the service. Of those expressing an opinion with the police protection service, ninety-three percent (93%) rated the service as

excellent or good, six percent (6%) rated the service as fair and one percent (1%) rated the service as poor.

**Figure 10: Police Protection Service Rating**



Issues: Police Protection Service

1. Stairs must be used to access the Police Department office in the basement of the Town Office building providing poor access for seniors and the handicapped.
2. More storage space is needed for the Police Department.
3. The Police Department would like to see the driveway completed around the back of the Town Office building.
4. If All Terrain Vehicle (ATV) use is approved by the state for the Gile Forest, the Police Department needs a motorcycle to provide off-road access to patrol that area.
5. The Police Department estimates that with population growth reaches another 500 people in Springfield, the Police Department will need to add another police officer and patrol vehicle.

Recommendations - Police Protection Service

1. For the long-term, the Town needs to either plan for improving the access, including both pedestrian and driveway, and space available to the Police Department in the Town Office building or to consider other locations for the department. Consideration should be given to evaluating the possibility of incorporating the Police Department into the Safety Services and Highway Building.

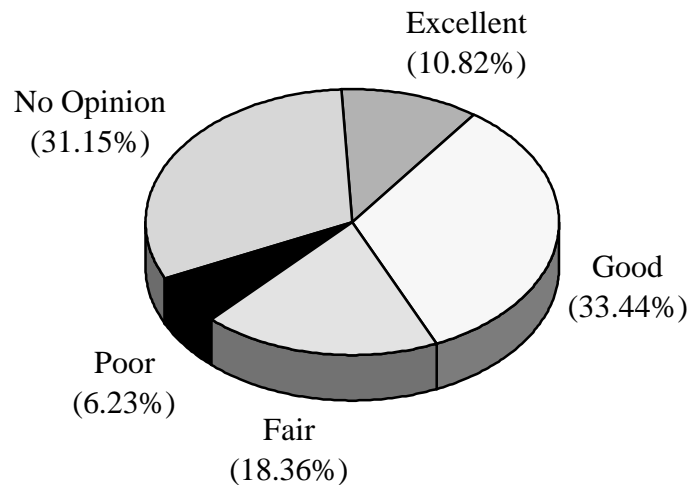


2. If All Terrain Vehicle (ATV) use is approved by the state for the Gile Forest, the Town should plan for the purchase of a motorcycle to patrol that area by incorporating the cost into a Capital Improvement Program for the Town.
3. The Town should plan to incorporate the purchase of another police cruiser into a Capital Improvement Program for the Town and add the cost of another police officer into the operating budget when the population of the community increases by another 500 people.

## RECREATION FACILITIES & SERVICES

Recreation services for the Town are provided through a Recreation Committee consisting of five volunteer members. Existing recreational facilities include the Town beach on the west end of Lake Kolemook and the recreational field complex across from the Town Office Building. The Town beach that includes two parcels totaling about 0.55 acres is open to Town residents and guests. The facility has a public boat ramp, picnic tables, a port-a-potty and a swimming raft. Swimming lessons organized and run by the Recreation Committee are provided in the summer. The recreational field complex is located on a parcel of about twenty acres and currently includes two fields for baseball and/or softball. A small maintenance storage shed (about 12' x 20') is located on the property. A summer soccer camp is planned for the field complex.

**Figure 11: Recreation Service Rating**



### Community Survey Results: Recreation Facilities & Services

Forty-four percent (44%) of all those responding to the survey rated the recreation services as either excellent or good, eighteen percent (18%) rated the service as fair, six percent (6%) rated the service as poor and thirty-one percent (31%) had no opinion. Of those who rated the service,

sixty-five percent (65%) rated the recreation service as excellent or good, twenty-seven percent (27%) rated the service as fair and nine percent (9%) rated the service as poor.

#### Issues: Recreational Facilities and Services

1. The need for a skateboard park, tennis courts and an outdoor basketball court have been identified. Alternative plans and locations to meet these needs are being considered.
2. The Recreation Committee has identified the need to improve the method of communicating recreational events and programs to the community.
3. The Recreation Committee has identified the need for the following recreational facility improvements:
  - a. Construct a building at the beach area for changing;
  - b. Add a small raft for younger children at the beach;
  - c. Replace and add picnic tables at the beach area;
  - d. Add a port-a-potty at the recreational field complex in the summer;
  - e. Construct storage shelves in the maintenance/storage building at the recreational field complex;
  - f. Construct benches for the recreational field complex;
  - g. Purchase a tent for future outdoor summer events; and
  - h. Purchase a public announcing system for recreational use.

#### Recommendations - Recreational Facilities and Services

1. Continue to plan for the development of a skateboard park, tennis courts and an outdoor basketball court. Funding for these recreational improvements should be incorporated into the Town Capital Improvement Program and the Town should also seek funding through the Land and Water Conservation Fund.
2. The Recreation Committee should explore alternative methods to improve communication about upcoming recreation events and programs including:
  - a. School announcements;
  - b. Incorporating announcements into a Town website if developed;
  - c. Posting on a community bulletin board; and
  - d. Publishing a quarterly newsletter.
3. The Town should consider incorporating the following list of recreational improvements into a Town Capital Improvement Program:
  - a. Construct a building at the beach area for changing;
  - b. Add a small raft for younger children at the beach;
  - c. Replace and add picnic tables at the beach area;
  - d. Add a port-a-potty at the recreational field complex in the summer;

- e. Construct storage shelves in the maintenance/storage building at the recreational field complex;
- f. Construct benches for the recreational field complex;
- g. Purchase a tent for future outdoor summer events; and
- h. Purchase a public announcing system for recreational use.

## **TOWN BUILDINGS & MANAGEMENT OF TOWN GOVERNMENT**

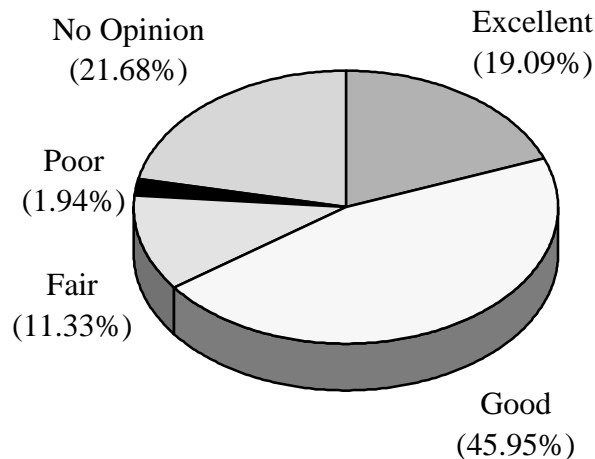
The Springfield Town Office Building has two floors with outside dimensions which measure 25' x 71'. Originally built in 1948 as the Memorial School for grades 1 through 8, the building stopped being used as a school in 1971 when it was converted for Town office use. The east wing of the top floor houses the Town offices staffed with two people and a Town Clerk. The west wing of the top floor is occupied by the kindergarten. The Police Department office is located in the east wing of the basement. A meeting room measuring 21.5' x 21.5' occupies the west wing of the basement.

The Town Hall/Meeting Hall building measuring 40' x 60' was moved onto its current site in 1851. The building is currently undergoing renovations to the sills, floor and foundation. The building serves numerous town functions. A nondenominational church is located on the second floor.

The Historical Society's collection is currently housed in a small building (about 26' x 32') originally built as a one room schoolhouse known as the Center School. Later the building was converted for use as the Libbie Cass Library which continued until 1993. The Historical Society took over the building in 1995.

The old highway garage building is a heated, concrete block building constructed in about 1958. This 36' x 40' building is used for storage for both the Highway and Cemetery Departments.

**Figure 12: Management Town Government Service Rating**



Community Survey Results: Town Buildings & Management of Town Government

Sixty-Five percent (65%) of those responding to the Community Survey thought the management of the Town Government was excellent or good, another eleven percent (11%) thought it was fair, only two percent (2%) thought it was poor, and twenty-two percent (22%) had no opinion

Issues: Town Buildings & Management of Town Government

1. The Town Office Building is limited in space. Additional office space is needed both for the short and long term. If the kindergarten were to move, then the vacated space would provide adequate expansion area for the town offices. However, the kindergarten is not likely to move due to transportation issues and costs. As the Town population grows, additional office space and storage space for the Town government will be needed. Other improvements in the Town offices include the need to replace old wiring, the need to add more telephone lines and the need to update computers including DSL connection.
2. Improvements needed in the Town Hall/Meeting Hall include expanding the kitchen size and providing handicapped access to the second floor.
3. The Historical Society building has no heat, no running water, and no bathrooms.

## Recommendation: Town Buildings & Management of Town Government

1. The long-term needs for Town Office space should be studied. The Selectmen should appoint a committee to identify the short and long-term office space needs and then retain an architect to identify and evaluate alternative solutions and make recommendations to the committee. The committee should make recommendations for the Town to implement. The capital costs of meeting the long-term office needs should be added to the Town's Capital Improvement Program (CIP).
2. Identified improvements to Town buildings should be incorporated into a Town Capital Improvement Program.

## **EDUCATIONAL SERVICES**

Educational services for Springfield's youth are provided by the Kearsarge Regional School District, a cooperative school district including the towns of Bradford, Springfield, New London, Springfield, Sutton, Wilmot, and Warner. Students attend Kindergarten in Springfield. Springfield's elementary students are taught at the New London Elementary School, grades 6-8 are taught at the Kearsarge Middle School in New London, and grades 9-12 attend the Kearsarge Regional High School in North Sutton.

Springfield's student enrollment history and forecast are shown in the tables to follow. From 1998 to 2003 the student enrollments from Springfield in the Kearsarge Regional School District increased from 159 total students to 211 total students. This represents an increase of 52 students or a 33% increase over that five year period.

**Table 19: Springfield Student Enrollment History**

<b>Year</b>	<b>K - 5</b>	<b>Middle</b>	<b>High</b>	<b>Total</b>
1998	76	41	42	159
1999	77	43	40	160
2000	93	42	52	187
2001	97	46	56	199
2002	102	44	51	197
2003	102	59	50	211

Source: K. Lee, Kearsarge Regional School District

**Table 20: Springfield Student Enrollment Projection**

<b>Year</b>	<b>K - 5</b>	<b>Middle</b>	<b>High</b>	<b>Total</b>
2004	93	68	52	213
2005	92	86	52	230
2006	95	79	71	245
2007	90	87	82	259
2008	106	72	95	273
2009	114	73	98	285
2110	138	50	104	292
2011	146	61	92	299
2012	158	63	89	310
2013	163	86	71	320

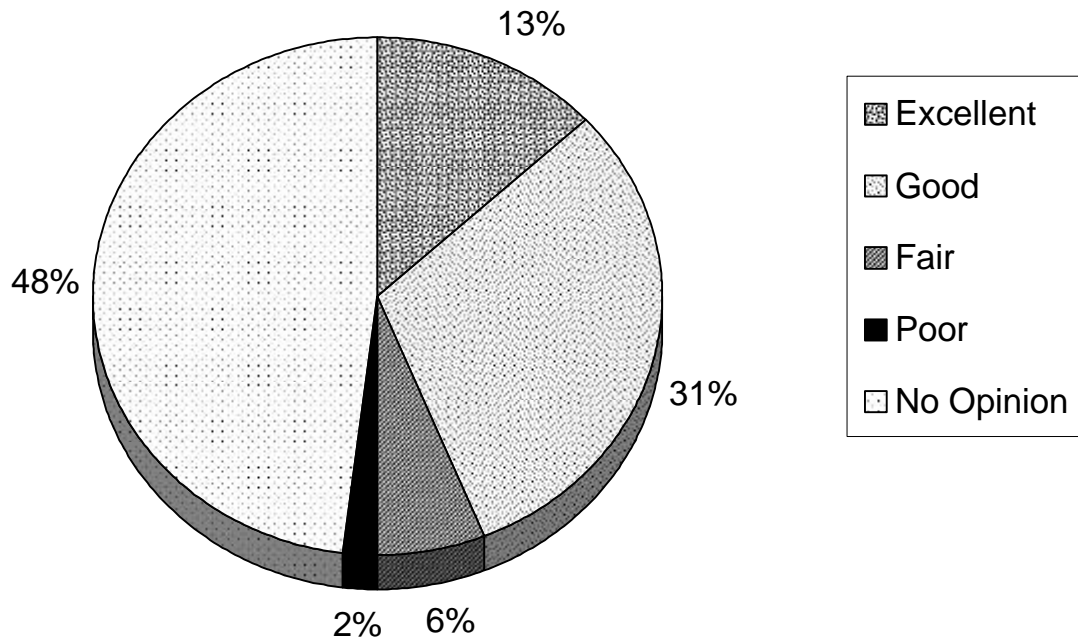
Source: K. Lee, Kearsarge Regional School District; Student projections were based on using the 5 year average progression ratio.

The projections for the number of Springfield students is anticipated to continue to grow at a very rapid rate. From the total Springfield student enrollment in 2003 of 211 students, the student population from Springfield is projected to increase to 320 students by 2013 for a 51% increase over that time span.

Community Survey Results: Educational Services

Just under 2% of the respondents identified good schools as the number one reason for Springfield being an attractive place to live.

**Figure 13: School Services Rating**



When asked to rate the school services, almost half (48%) of the respondents had no opinion leading one to believe most of these were non-resident property owners. Almost an equal percentage (44%) rated the school services as either excellent or good.

Of those respondents familiar with the school services, 84% rated the service as excellent or good with 12% rating the services as fair and 4% rating the services as poor.

Issues: Educational System:

1. The major issue facing the community is the continuation of rapidly increasing student enrollments resulting from new residential developments and the rapidly escalating costs for educating those students. Additionally, there are issues of the distance to school facilities for Springfield students and parents and the associated transportation costs. There is also concern that the student enrollment in the school district is becoming too large overall.

Recommendations: Educational System

1. Given the population growth patterns and trends and the student population projections, the community may want to reevaluate the approach to providing educational services for the Town and consider and evaluate other options available to the community.



## CHAPTER VIII. TRANSPORTATION

Transportation is an essential service that provides for the movement of people, goods, and services both within Town and to places outside of Town. Transportation also provides connectivity between people, various land uses and other communities. Although transportation may be accomplished using a variety of different modes, the automobile is the dominant form of transportation in Springfield given its current infrastructure and low population density.

As a small, rural community, Springfield maintains a small network of highways that primarily serves local full-time and seasonal residents. The primary transportation feature affecting growth in Springfield is Interstate 89 which provides convenient access to the growing regional employment center in Hartford, Lebanon and Hanover. The state maintains several roads in Springfield in addition to I-89 including Route 114 and Route 4A.

The Springfield road system includes most levels of service and classifications found in rural communities including: an interstate expressway, arterials, collectors, and local access streets. Map 12 to follow depicts the existing road system. Interstate 89 is accessible via interchanges 12A, 13 and the Georges Mills, Grantham, and Baptist Pond Roads. Arterials such as 4A (NH Turnpike No. 4) and Route 114 (New London, Main Street and Grantham sections) Georges Mills, and Four Corners roads are on the state system. Expansion of two types is anticipated: 1) reopening of old roads, and 2) development and town-take over of new ways in approved subdivisions.

As previously noted, the old road system grew in natural conformity with the Town's topography and provided good town-wide access both to village centers at intersections, and to dispersed, low-density settlement on the land. In other words, the historic road system provides the proper framework for sound future land use patterns. Its extension will tend to reconnect stubs in some areas, improving accessibility and circulation and facilitating plowing and other maintenance.

A safe and efficient road system also requires improvements and maintenance of existing roads. In terms of winter maintenance, most town roads are suitable. There are needs for turnarounds or improvements on some.

Existing road conditions emphasize the need for the Town standards for future driveways, culverts and set back so that future conditions will be improved.

Plowing for each storm involves over 200 miles of traveling for the 37 miles of town maintained roads. With current growth rates, it won't be long before the town maintained road system has increased to 50 miles of road. Most 50' rights-of-way with turnarounds may be Town roads in the near future. Changes and anticipated growth emphasized the need for the stronger guidelines adopted. The reopening of old roads will be at least as serious a concern as new private road construction later accepted as Town maintained. Future budgets will reflect both, but it is hoped

**MAP 12: ROAD SYSTEM**

that revenue generated by growth will pay for increased levels of Town services including the road system.

### Community Survey Results:

The Springfield Planning Board conducted a community survey to gauge the opinion of residents with a variety of land use issues including transportation. Responses in the survey indicate an overall desire by residents to protect and maintain the uncrowded living conditions and small-town atmosphere in Springfield.

The survey results indicate that about 6 out of 10 residents rated the repair and maintenance of the road system and snowplowing services as excellent or good. In addition, 61% of those responding to the survey thought preservation of unimproved roads and trails was very important.

### Goals: Transportation

The Springfield Planning Board supports a few broad transportation goals to guide future community growth. Those goals are:

- To provide a cost-effective transportation system that will meet, to the greatest extent possible, the mobility needs of local residents as well as provide for the safe and efficient movement of goods, services and people;
- To minimize the negative impacts of the transportation system on the natural and cultural environment;
- To improve the Town's road maintenance and reconstruction program; and,
- To preserve the rural character of the Town.

### Roadway Classification:

The public maintained road system in Springfield totals 67.69 miles. Of that network of public roads, 37.16 miles (55%) are maintained by the Town. See Table 21 for a breakdown of roadway miles by classification.

All public roads are broken into seven different highway classifications per RSA 229:5 as outlined below.

- A. Class I. Primary State Highways consist of all highways on the primary State highway system, except for those segments of certain highways within the urban compact section of cities and towns listed in RSA 229:5, V. State maintained.
- B. Class II. Secondary State Highways consist of all highways on the secondary State highway system, except for urban compact sections. State maintained.
- C. Class III. State Recreational Roads consist of all roads leading to and within State reservations designated by the legislature. State maintained.

- D. Class III-a. Boating Access Roads provide public access to any public water in the State. State maintained.
- E. Class IV. Urban Compact Section Highways consist of all streets and highways within compact sections of cities and towns listed in RSA 229:5, V. Municipally maintained.
- F. Class V. Town or City Roads and Streets consist of all highways which the municipality has the responsibility to maintain regularly, except for those within compact sections. Municipally maintained.
- G. Class VI. All other existing public ways including all highways discontinued as open highways and subject to gates and bars and all highways that have not been maintained and repaired by the municipality in suitable condition for travel for 5 successive years or more. Unmaintained.

Table 21 outlines roadway miles based on this highway classification system. The number shown for class VI roads reflects the information available through the current NHDOT road inventory database.

**Table 21: Roadway Miles in Springfield by Roadway Classification**

<b>Roadway Classification</b>	<b>Roadway Miles</b>
Class I. Primary State Highways	2.97 miles
Class II. Secondary State Highways	21.57 miles
Class III. State Recreational Roads	0 miles
Class III-a. Boating Access Roads	0 miles
Class IV. Urban Compact Highways	0 miles
Class V. Town Roads and Streets	37.16 miles
Class VI. Unmaintained Roads	17.23 miles
Total Roadway Miles	84.92 miles
Total Maintained Roadway Miles	67.69 miles

Road Conditions:

The Town’s roads are generally maintained in good condition as reflected in the responses to the Community Attitude Survey. However, concern has been expressed repeatedly about the poor condition of Route 114. Road maintenance costs are an important consideration in most municipalities as the expense to operate a highway department is typically a large percentage of a community’s annual budget. As roadway reconstruction projects are very expensive, maintaining roads in a consistent good condition to prevent severe deterioration can help to keep the costs down.

The Town of Springfield should consider updating the Road Surface Management System (RSMS) last done by UVLSRPC for Springfield in 1995. An RSMS consists of a computer software program made available through the UNH Technology Transfer Center that is used in managing municipal highways. Through the RSMS process, a road inventory is performed, the data are added to the software program and analyses are then performed that help to prioritize

roadway improvements and to budget for repairs. The Upper Valley Lake Sunapee Regional Planning Commission is available to assist member communities with RSMS data collection and computer database development.

Wider, straighter and flatter roads can adversely affect natural and scenic resources. A minimum travel surface width of 20 feet on local roads and 22 feet for collector roads are allowed under Springfield Subdivision Regulations. According to AASHTO's Guidelines for Geometric Design of Very Low-Volume Local Roads, the recommended total roadway width, including traveled way and shoulders, for both minor and major access roads is 18 feet for design speeds up to 40 mph (Washington, D.C., AASHTO, 2001).

#### Scenic Roads:

Any road other than a class I or II highway may be designated as a scenic road by town meeting vote per RSA 231:157. Designated scenic roads enjoy certain protections designed to preserve the scenic qualities of stone walls and larger trees within the public right-of-way along these scenic corridors. These resources serve as defining features of our New England vernacular; stone walls and trees add to the aesthetics of the community and contribute to the rural character of the Town. To date, no road in Springfield has been approved as a scenic road.

#### Bridges, Culverts and Drainage:

Bridges and culverts are important structures providing access over surface water and drainage features. If damaged, they can potentially cut off or delay emergency vehicle service to the Town or a residential area. Those locations that are accessed by only one route over a bridge or large culvert without alternate routes are most susceptible. It is particularly important that these structures be built of appropriate minimum dimensions to accommodate at least 25-year storm events and be maintained in good structural condition.

Impervious surfaces including roads, driveways and parking lots can adversely affect surface waters. Springfield's Subdivision Regulations include a provision on roadway and site drainage.

Stormwater is an important issue relative to site development and roadway/driveway design and maintenance. To maintain roads in good condition, it is imperative to drain water off roadways. Once stormwater is appropriately drained off roadways, it is also important to manage it so that it does not create pollution problems in adjacent surface waters. Roads are a primary source of nonpoint pollution in our waterways. Pollutants from roadways can include sediments such as sand, petroleum products and salt. In residential areas, lawns, failed septic systems and driveways can also contribute to pollutants in drainage. Best Management Practices (BMPs) can be implemented by the Town to maintain good water quality and to minimize flood damage to Town infrastructure. Those BMPs might include such things as vegetated buffer zones around surface waters, drainage basins that minimize erosion and allow for sediments to settle out and slope stabilization methods.

Based on information in the New Hampshire Department of Transportation Ten-Year Transportation Improvement Program, the bridges in Springfield appear to be in good structural condition. No public bridges in Springfield are listed on the State Red List, a list of potentially or known deficient structures.

#### Access to Highways and Roads:

Access points along highway and road corridors have major impact upon safety and roadway capacity. Too many, uncoordinated curb cuts and/or driveways can cause high accident situations or other safety hazards. Improperly designed and constructed accesses could cause adverse harm to the adjacent roadway and to the health and safety of Town residents and to the traveling public. Therefore, accesses should be designed, built and maintained in the best way possible to provide access to sites and to minimize potential problems.

New ways will tend to provide local access to back land off the arterial and collector system. It is important that the Planning Board encourage new layouts which restrict the number of new intersections with the existing road system. New access roads leading to, and running through, adjacent parcels to connect with others will involve fewer intersections, improving safety and eliminating future problems.

Internally the above approach will serve local needs for convenient circulation and access. Externally, the Town is well connected to neighboring communities (except Grafton to the north) via the existing arterial system and to more distant points via I-89. Since there is no current or foreseeable alternative to the individual motor vehicle in rural areas, a safe and efficient road system will remain basic to Springfield's future welfare.

The New Hampshire Department of Transportation regulates access by issuing driveway permits for all residential driveways, commercial entrances and new subdivision roadways along Class I and II highways. The State's design requirements indicate that two driveways are permitted for one site if highway frontage exceeds 500 feet. Additionally, the maximum width of any access should not exceed 50 feet, driveway turn radii should not exceed 50 feet, and that driveway grades should slope away from the highway to the existing ditch line.

The Town of Springfield has adopted driveway regulations as authorized by RSA 236:13-V to require a permit for all driveways, entrances or exits to public ways under municipal jurisdiction. The driveway regulations are based on safety issues such as adequate site distances, maximum grade and proper drainage. All new access points should be given careful consideration in order to maintain and preserve the health, safety and general welfare of the Town.

#### Impact of Developments:

Major subdivisions, multi-unit housing developments or commercial developments can have a significant impact upon the community in terms of increased traffic volumes and/or weight loads on Town roads and bridges. Such developments also increase the demand for Town services, causing the Town to increase annual expenditures to meet the new demands. Any large

development proposal should be closely evaluated for its likely impact on existing infrastructure and to determine if it might meet the scattered and premature clause in RSA 674:36-II, a. In doing so, large development proposals should be judged to assure that the safety of the public will not be at risk, and that the Town's budget will not be overburdened by the needed increase in services.

Traffic Volumes:

Traffic volumes in Springfield have steadily increased along Route 114, Route 4A and on local roads during the last 10 years. The following table documents the average daily traffic volumes at seven locations in Springfield between 1990 and 2003.

**Table 22: Average Daily Traffic Volumes (ADT) at Select Locations in Springfield**

ROUTE	LOCATION	STATION/ ID NO.	1990 ADT	1991 ADT	1992 ADT	1993 ADT	1994 ADT	1995 ADT	1996 ADT	1997 ADT	1998 ADT	1999 ADT	2000 ADT	2001 ADT	2002 ADT	2003 ADT
NH 4A	WEST OF BOWMAN RD	62419001	600	600		670	610			690	710	680		770		
NH 4A	AT WILMOT TL	82419011					340				430			560		
NH 114 (GRANTHAM RD)	AT GRANTHAM TL	82419050								710			620			670
NH 114 (NEW LONDON RD)	NORTH OF LITTLE SUNAPEE RD	82419051								580			670			690
NH 114 (NEW LONDON RD)	1 MILE SOUTH OF LAKE KOLELEMOOK	82419052	1000		870			980			1100			1500		
BOWMAN RD	NORTH OF TOWN FARM RD	82419053	600			570							620			400
GEORGE HILL ROAD	OVER BOG BROOK	82419054					250				270			380		

Source: NH Department of Transportation and UVLSRPC

Commuting Patterns:

Most residents in Springfield who were employed commute out of Town to work. In 2000, 83% of Springfield's working residents commuted out of Town to work, with 27.4% commuting to the Upper Valley towns of Lebanon, Hanover, Enfield and Hartford. In 2000, 17.2 % of residents in Springfield who were employed worked in Springfield. The following table summarizes the information on where Springfield residents commute to work based on 2000 Census data.

**Table 23: Springfield Residents Commuting to What Town to Work - 2000**

<b>Town</b>	<b>Number of Workers</b>	<b>% of Total Workers</b>
Lebanon	89	17.2%
Springfield	88	17.1%
New London	70	13.6%
Newport	46	8.9%
Grantham	38	7.6%
Hanover	33	6.4%
Sunapee	23	4.4%
Claremont	12	2.3%
Enfield	11	2.1%
All Others Combined (Under 10 Workers Each)	105	20.4%
Total	515	100%

Source: U.S. Census

For 216 people working in Springfield in 2000, where did they come from? As indicated in the table to follow, 40.7% of those employed in Springfield lived in Springfield. In 2000, only four other communities had 10 or more workers commuting to Springfield to work.

**Table 24: People Commuting from What Town to Work in Springfield - 2000**

<b>Town</b>	<b>Number of Workers</b>	<b>% of Total Workers</b>
Springfield	88	40.7%
New London	14	6.5%
Sunapee	14	6.5%
Belmont	11	5.1%
Claremont	10	4.6%
All Others Combined (Under 10 Workers Each)	79	36.6%
Total	216	100%

Source: U.S. Census



## Recommendations:

1. Maintain existing roadways and bridges in consistent, good working condition and not allow the structures to deteriorate necessitating costly rehabilitation or reconstruction.
2. Amend current road standards in the Subdivision Regulations to encourage narrower roadway widths that protect scenic resources and discourage speeding while maintaining adequate widths for emergency vehicles.
3. Encourage the proper design, construction and maintenance of roadways and bridges to protect natural and scenic resources.
4. Encourage naturally vegetated buffers (a minimum 100 feet of width) on the shores of all surface waters, including lakes, ponds, streams and wetlands. Discourage impervious surfaces, such as roads or driveways, in these shorelands.
5. Revise the Subdivision Regulations to strengthen the provisions for managing stormwater drainage. Encourage adequate ditching methods and sizing of culverts to facilitate effective roadway drainage of stormwater. Bridges and culverts should be of adequate size and minimum capacity to withstand a 25-year flood. Ditches should be constructed and maintained as to facilitate effective stormwater drainage while minimizing water flow speeds to reduce erosion and to allow maximum penetration into the soil.
6. Continue to employ dust control measures on dirt roads to reduce negative impacts to adjacent properties and water quality.
7. Encourage good driveway design and construction through implementation of the Driveway Regulations.
8. Empower the Town Planning Board to impose off-site improvements for developments determined to have a significant impact upon Town infrastructure. The Town must take certain steps before off-site improvements can be imposed on developers following the NH Supreme Court's decision in the Simonsen v. Derry case. In order to do this, the Town must have an up-to-date Master Plan, be authorized to and adopt a capital improvement program that meets statutory requirements and adopt an impact fee ordinance.
9. Consider encouraging future development in ways that protects natural and scenic resources, minimizes infrastructure expansion and minimizes on-going maintenance needs. The Planning Board might consider amending the existing Zoning Ordinance to include overlay districts to protect shorelands of all surface waters, hillsides with steep slopes, floodplains, prime agricultural soils and habitat. These resources can be protected while accommodating development in other areas that are better suited.

10. Preserve old logging access and class VI roads for recreational use, excluding all terrain vehicle (ATV) use.

# CHAPTER IX. LAND USE

## INTRODUCTION

Land use both determines and responds to the character of a community. Existing land use patterns are the physical expression of numerous public and private decisions which have been made in the past; in turn, patterns of existing land use have a substantial impact on the location and type of future growth.

Land use considerations are closely related to virtually every other facet of planning. All of the chapters of this Master Plan which discuss population, housing, the local economy, transportation, community facilities, historic resources, water resources, and open space relate in some way to land use. For example, the recommendations in the Natural Resource Chapter pertaining to preservation of wetland, surface water and ground water resources in Springfield are, in part, land use recommendations. Springfield's land use plan is really a synthesis of land use considerations and many of the recommendations which appear elsewhere in this plan.

Much of Springfield's planning and future decision-making revolve around the proper use of manmade and natural resources. Manmade resources include, by way of example, the road network, public and private buildings, farms and recreation facilities. Springfield's natural resources include its forests, surface and groundwater, scenic views, clean air, wildlife, and soils. They present both opportunities for and constraints to development and must be conserved or used with care so as to not preclude their continued use. Development in Springfield has shown that some areas are naturally better suited for a particular use than others. If Springfield is to protect its natural resources and provide a high quality of life for its citizens, then the capability of Springfield's natural resources to accommodate development must be considered. Springfield needs to try to strike a balance between responding to the development pressures while preserving the natural resources and rural, small town quality of life treasured by all.

Another factor affecting the land use of our community, which has been invisible until relatively recently, is land use planning and regulations. The process of consensus building through the preparation of the Master Plan to determine what direction the community wants for its future is a relatively new process. Historically, development has occurred where it is easiest and least costly to develop and where access, sewage disposal and water supply were least problematic. Most of the relatively flat sites with good soils and access have already been developed. Much of the remaining area which could be developed has environmental limitations which constrain development. How the community chooses to plan for the future use of those more environmentally sensitive areas will to a large extent determine the future land use patterns and quality of life in Springfield.

In this chapter on Land Use, first the Community Survey results pertinent to land use are presented followed by the land use goals. After that is a synopsis of the historical land use in Springfield followed by a discussion of current land use. Next comes a discussion on land

capability, critical land uses, surface drainage, a summary of recent building permit and subdivision activity and then a discussion of land use patterns and trends. Population growth at build-out is addressed next followed by a discussion of future land use. The chapter closes with the presentation of key land use issues and recommendations.

#### Community Survey Results: Land Use

The Community Survey gathered information on land use from a number of angles. When asked their opinion of the 1.8 % annual growth rate experienced by the Town between 1985 and 1999, about one-fifth indicated it was more growth than desired, about three-fifths indicated it was an acceptable level of growth, 5% stated it was less growth than desired and about one-fifth had no opinion.

People responding to the survey indicated the pattern of light industrial and/or commercial development they would prefer to see is as follows:

- 11% Scattered throughout Town;
- 44% Focused at Exit 12A (Current Master Plan suggests);
- 22% Focused from 4 Corners Road, west on Route 4A (Current Master Plan suggests); and
- 23% No further industrial/commercial development in Town.

People responding to the survey clearly were not in support of investing in water and sewer facilities to support commercial development with 69% opposed to the idea.

A majority of those responding to the survey favored adoption of more specific zoning regulations as follows:

- 70% supported regulations to protect against odors;
- 63% supported regulations to protect noise pollution;
- 58% supported regulations to protect light pollution; and
- 56% supported regulations to restrict communication towers.

The following summarizes the results of the question asking whether people support or do not support development in the future of the types of land uses listed below. They are listed by the level of support received for each land use type. A majority of those responding supported protected open space, year round residences, home-based businesses, seasonal/second homes, senior housing and light industrial uses. Land use types receiving less than majority support from those responding to the survey included commercial, resort facilities, two-family dwellings, RV parks/campgrounds, condominiums and multi-family dwellings.

**Table 25: Support for Future Land Use Development**

Land Use Type	Support Development		Do Not Support Development		No Opinion	
	#	%	#	%	#	%
Protected Open Space	296	90%	15	5%	18	5%
Year Round Residences	272	81%	30	9%	34	10%
Home-Based Business	255	76%	34	10%	47	14%
Seasonal/Second Homes	241	72%	56	17%	39	11%
Senior Housing Units	190	58%	87	27%	48	15%
Light Industrial	164	51%	118	37%	41	12%
Commercial	125	39%	154	47%	45	14%
Resort Facilities	127	39%	144	45%	52	16%
Two-Family Dwellings	107	32%	186	55%	46	13%
RV parks/campgrounds	101	30%	199	60%	33	10%
Condominiums	56	17%	216	68%	48	15%
Multi-Family Dwellings	48	14%	254	73%	46	13%

Although not included in the Community Survey, the Planning Board discussed and added the following uses to the list of uses the community does not want to see develop in Springfield in the future:

- Heavy Industrial Uses;
- Outdoor Tracks for Motorized Vehicles;
- Junk Yards; and
- Salvage Yards.

Although not included in the Community Survey, the Planning Board discussed and added the following uses to the list of uses the community does want to see develop in Springfield in the future:

- Agricultural Uses;
- Forestry Uses; and
- Single-family residential including manufactured housing.

A majority of the survey respondents favored the following provisions on lakes, ponds, wetlands, streams and aquifers:

- 76% favored water quality testing;
- 72% favored controls on boat size and motor speed;
- 68% favored setback requirements;
- 57% favored minimum lot frontage requirements; and
- 52% favored shorefront conservation strips; and 52% favored cutting restrictions.

Those responding to the survey showed very strong support for natural resource preservation. All of the following natural resources received a very important preservation designation by those responding to the survey:

- 86% Scenic Natural Resources;
- 84% Natural Areas;
- 83% Ground Waters;
- 82% Surface Waters;
- 68% Wetlands;
- 66% Agricultural Lands;
- 65% Historic Buildings/Sites; and
- 61% Unimproved roads/trails.

The Town currently has one zone district, Rural Residential, throughout Town. Although somewhat difficult to interpret the results, the survey respondents seemed to support retaining the one zone district approach rather than create and designate additional zone districts for specific purposes such as commercial, light industrial, etc.

### **Goals: Land Use**

The Planning Board spent considerable effort soliciting public input on the Master Plan update in order to develop a plan which reflects the community's collective vision for the future of Springfield. The Planning Board developed and administered a Community Survey which provided the Board with guidance throughout the process of updating the Master Plan.

The Planning Board developed the following land use goals based on input received from public meetings on updating the Master Plan, feedback compiled from results of the Community Survey and considerable discussion among the Board members.

1. To remain, over the next fifteen years, primarily a rural residential community with uncrowded and quiet living conditions and a scenic and unpolluted natural environment.
2. To preserve, protect, improve and enhance the natural, agricultural, scenic, recreational, cultural, and historic resources and the desirable characteristics of the

traditional Northern New England land use settlement pattern. Compact patterns of development are preferable to non-contiguous development and the spread of strip land use development along the public road system.

3. To maintain and to improve the accessibility to and the economic viability of the existing village center.
4. To ensure that the density, intensity, and siting of future development is consistent with the capacities of access, on-site water supply, and on-site wastewater disposal systems and the natural resource constraints to support such land use development;
5. To protect the character of rural areas and their natural resources through continued wise use and enjoyment of natural resources, and by avoiding scattered development and incompatible land uses;
6. To maximize protection of natural resources such as streams, wetlands, aquifers, lakes, wildlife, agricultural/open lands, hillsides and ridges.
7. To afford the opportunity for a variety of housing types and values including affordable housing.

#### Historical Land Use

Present land use pattern of development in Springfield is based primarily on a road system which was developed to serve a rural community of the mid-1800's.

Generally, the land was characterized by open fields for farm and dairy use with a dispersed population that was served by a wide-ranging road network. However, travel and communications limitations resulted in discernable centers where public and private services such as schools, blacksmith and shoe shops, and saw and grist mills were conveniently available. Many of the outlying population concentrations are now largely deserted since the farm population, once dispersed over the Town's area, migrated elsewhere (e.g. to the mid-west for easier farming and to urban areas for economic opportunities). Much of the open land has returned to forest and the old roads have become trails in many areas. However, the mid-1800's pattern of land use, serving almost 1300 people, suggests a valid-option for future growth if low density development is related to the carrying capacity of town soils and other natural resources.

## CURRENT LAND USE

One hundred and fifty years after the agriculturally-oriented population peaked, residential growth has once again raised the population to the historic high experienced in the 1860's. Much of the current land use is less intensive than 150 years ago with the migration off the land and the disappearance of outlying centers. The woodchip generating plant near Exit 12A on I-89, several automobile service facilities and large saw-mill operations (e.g. Durgin Crowell, Abenaki, etc.) are the Town's major business uses. The post office and public buildings are concentrated in the Kolelemook-West Springfield area.

Of 28,479 acres, about 7500 acres or about 26% of the total area in Town are in public hands for the foreseeable future (Gile Street Forest, town forest lands). The balance of the Town is developed for residences, second homes and some agricultural purposes. The predominant pattern of residential development is a spider-like pattern of sprawl along the Town road system. Previous development in the Twin Lake Village – Colby Hill area has not been intensive, with about 30 lots ranging in size from about 2 to 8 acres for year-round residence and second home use. About 100 Eastman lots in the west part of Town range from 1 to 3 acres.

**Table 26: Current Land Use in Springfield – 1998**

<b>Use</b>	<b>Area in Acres</b>	<b>Percent of Total Town Area</b>
Forest	24,373 acres	85.58%
Single Family Residential	2,426 acres	8.52%
Surface Waters	975 acres	3.42%
Agricultural Pasture/Open	529 acres	1.86%
Business	115 acres	0.40%
Outdoor Recreation	45 acres	0.16%
Government/Institutional	9 acres	0.03%
Commercial Services	7 acres	0.02%
<b>Total</b>	<b>28,479 acres</b>	<b>100%</b>

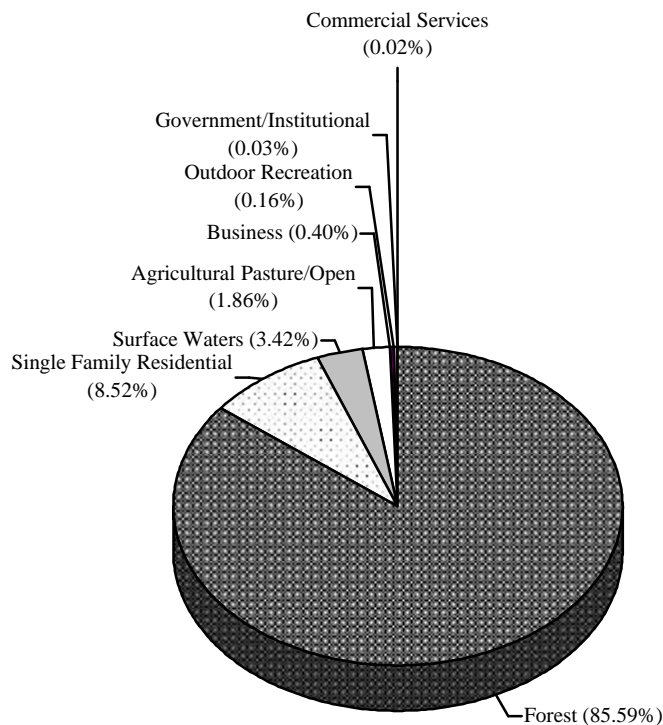
Source: UVLSRPC using 1998 Orthophotos.



The map to follow of existing land uses in Springfield in 1998 was prepared by UVLSRPC using 1998 Orthophotos. The table above and the figure below depict the mix of land uses existing in Springfield in 1998 when the orthophotos were flown. The rural nature of Springfield is confirmed by the fact that by the undeveloped land use categories (forest, surface waters & agricultural pastures/open fields) represent about 91% of the total Town area and developed land uses represent only about 9% of the total area of Town. Of the developed land uses, single-family residential is far and away the dominant land use representing 93% of all the developed land in Springfield.

Some comparative numbers from the 1988 Master Plan update substantiate that the Town is continuing to grow. In 1988, only 5% of the Town's area was "developed" and 95% was undeveloped in either forest (91%) or agricultural uses (4%).

**Figure 14: Current Land Use in Springfield - 1998**



**MAP 13: CURRENT LAND USE**

## LAND CAPABILITY

The fundamental premise of the land capability concept is that the natural features of the environment vary in their ability to support development. Steep slopes, flood-prone areas, wetland soils, the soil type and slope, and the presence of bedrock at or near the surface can serve as major constraints to development. While it is, at times, possible to overcome such natural constraints through intensive engineering, this is often a costly and elaborate process; efficient and environmentally sound planning seeks to guide growth into areas with adequate natural capability and capacity to support development.

One of the chief factors to consider in assessing land capability is the capacity of the site to treat sewage effluent properly. Inadequate soil capability to absorb and treat septic effluent has already caused nutrient enrichment of surface waters; poor site planning can also cause the contamination of private well waters by failed septic systems.

This section discusses the soil capabilities and drainage characteristics that affect the kind of uses a site can absorb economically without generating deleterious environmental impact.

The physical properties of each soil type in Springfield determine, to a large extent, the capabilities of the land to support development. A variety of physical factors are responsible for this determination: depth to bedrock, shrink-swell properties, bearing capacity, drainage, corrosivity and toxicity. Definitions of these soil properties can be found in the Soil Conservation Service's Soil Survey for Grafton County New Hampshire. For the purposes of the Master Plan, the soil characteristics most important to identify are:

- 1) their ability to safely and effectively process effluent from on-site septic disposal systems.
- 2) their ability to physically support the construction and maintenance of roads, building foundations and infrastructure; and

- Soils Capable of Supporting Septic Systems

The capability of Springfield's soils to effectively process septic system effluent has direct implications on the future growth of the Town. If soils are inadequate for effluent processing, then they should not be approved for development. If they are, then the environment and, specifically water resources, will be negatively impacted as a result of failed on-site wastewater treatment systems. As indicated on the Suitability of Soils for Septic Systems Map shown in the Natural Resources Chapter, Springfield has very few deposits of soils classified by the Soil Conservation Service as having only "slight" or "moderate" constraints for septic system disposal. Roughly three-fourths of the land area poses severe limitations for processing septic system effluent. Virtually all of the remaining area exhibits moderate or moderate/severe constraints for assimilating septic system effluent since only a small area poses slight limitations.

- Suitability to Support Buildings with Foundations

According to the Natural Resource Conservation Service, each soil type can be classified as having either slight, moderate, or severe restrictions in supporting the construction of buildings with foundations. Obviously, those soils identified as having slight restrictions can accommodate higher land uses at higher densities or intensities. Those soils classified as having “moderate” restrictions can support proportionately less dense and intense land use development. Soils rated as having “severe” development constraints should be considered unsuitable for intense uses (commercial, industrial, high-medium density residential); these should be used for forestry, agricultural, conservation, or very low density residential uses, provided on-site investigation confirms that development is feasible given special engineering provisions.

All of Springfield’s soils have been mapped according to these three classifications and are depicted on the Restrictions for Dwellings with Basements Map found in the Natural Resources. The information indicates that fifty-five (55) percent of the land area has soils that exhibit severe constraints to building development, thirty-seven (37%) percent of the land area exhibits moderate or moderate/severe limitations, only about five (5) percent of the land area poses slight limitations to development and about four (4) percent of the land area not rated.

## **CRITICAL LAND USES**

Additionally, five categories of critical land use that are all environmentally sensitive to development were presented in the Natural Resource Chapter. The critical land uses categories discussed in the Natural Resources Chapter include wetlands, floodplains, steep slopes, aquifers, and prime agricultural lands. Each of these natural resources has been mapped which are presented in the Natural Resources Chapter. These are critical resources that should either not be developed or be developed only in an environmentally sensitive manner.

## **SURFACE DRAINAGE**

The hydraulic characteristics of a natural watershed and the potential impacts of surface drainage from land use development are important factors in analyzing Springfield’s land use carrying capacity.

Surface drainage from Springfield is divided into four major drainage basins or watersheds as shown on the Watersheds and Groundwater Resources Map found in the Natural Resources Chapter. As reflected in the table to follow, most of the town lies within the Sugar River

Watershed. This watershed alone encompasses 75% of the total area in Springfield. Smaller areas of Town are covered by the Blackwater River Watershed (5,139 acres or 18%), the Smith River Watershed (1,943 acres or 7%) and the Mascoma River Watershed (77 acres and less than 1%).

**Table 27: Watersheds in Springfield**

<b>Watershed</b>	<b>Area in Acres</b>	<b>Percent of Town Area</b>
Sugar River Watershed	21,320 acres	75%
Blackwater River Watershed	5,139 acres	18%
Smith River Watershed	1,943 acres	7%
Mascoma River Watershed	77 acres	< 1%
<b>Total</b>	<b>28,479 acres</b>	<b>100%</b>

Source: UVLSRPC GIS Mapping

Any alteration of water course dynamics in town can have potential consequences on one of these drainage corridors. Most significant of these potential consequences is increased peak storm runoff resulting from development. New buildings, roads and parking lots decrease the amount of permeable surface that can absorb rainfall or snowmelt, thereby increasing the amount of runoff that concentrates in a watercourse during a storm. This increased concentration can consequently cause flooding that damages erosion and turbidity levels that adversely impact water quality.

Such impact not only can adversely affect public health and safety, but the Town may find itself liable for making repairs to private, as well as public, property damage by cumulative increased peak runoff. One way of avoiding these potential problems is to establish a town wide policy of requiring new development to release stormwater at a rate that does not exceed the existing natural condition. This “zero-peak runoff” policy would involve either detaining increased peak runoff on-site in manmade basins, and/or by injecting runoff into the ground where sand and gravel deposits are of sufficient depth to rapidly absorb the water.

Another significant factor affecting water quality from new development is the physical characteristics of a watershed basin and its associated network which can be more susceptible to assimilate pollutants during periods of low flow. When septic leachate or fertilizers enter the receiving waters, they can result in periods when the water has high levels of nutrients or potential for pathogenic contamination.

Water quality is generally highest in the undeveloped areas. Sinuous drainage networks (i.e. winding streams or wetland areas) tend to improve water quality. Basins that are long and narrow provide more opportunity for direct contamination from abutting land uses than those that are more circular. Basin boundary influence must be measured ultimately in the context of slope, soils and geological conditions.

## **SUBDIVISION & BUILDING PERMIT ACTIVITY**

The building permit data from 1990 through 2003 reflects there were three periods of growth over the past 14 years. During the economic slowdown from 1990 - 1992, there were an average of 7.5 building permits for new residences issued each year. Between 1993 and 2001, the number of new residences jumped to 12.5 per year with only one year with less than ten new residences. The rate for construction of new homes almost doubled again for the last two years (2002 and 2003) when the town issued building permits for an average of 22.5 new homes each year. Although only two years in duration, the recent rate of development will become a concern if it continues for any extended period.

Over the fourteen year period, the Town issued a total of 181 building permits for new homes for an average of about 13 new homes per year. Two-thirds of those new homes have been single family dwellings. Just under 30% have been manufactured homes and the remaining 3% have been multi family dwellings. Eighty percent of the building permits issued were for year-round homes while 20% were issued for seasonal use.

As reflected in the table to follow, the number of new subdivision lots approved has ranged from a low of no new lots in 1993 and 2002 to a high of 30 lots in 1990. Over the fourteen year period, a total of 146 new lots have been approved for an average of about 10.5 new lots per year. Looking at both the building permit and subdivision lot data together indicates there is a relatively stable inventory of lots. With 10.5 new lots being created each year and 13 new homes being built each year, then the lot inventory is decreasing by about 2.5 lots each year. Almost all of the subdivision activity has been minor subdivisions using existing road frontage. There have been only three major subdivisions over the 14 year period. As existing road frontage is consumed, there may be demand for more major subdivisions in the future creating new roads and all the attendant issues. These last two issues in combination should motivate the Planning Board to seek outside assistance when handling major subdivision applications.

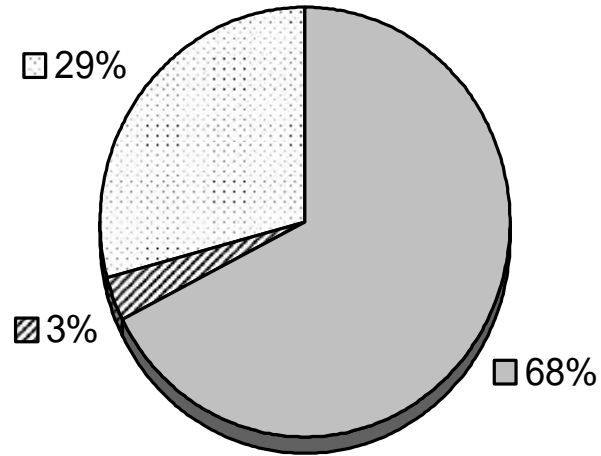
**Table 28: Building Permits for New Dwelling Units  
Springfield, NH 1990 – 2003**

Year	Type of Dwelling Unit			Total Dwelling Units	Year Round Units	Seasonal Units
	Single Family	Multi Family	Manufactured Home			
1990	2	0	7	9	7	2
1991	6	0	2	8	6	2
1992	5	0	1	6	5	1
1993	6	0	4	10	8	2
1994	6	0	7	13	10	3
1995	10	2	2	14	11	3
1996	8	2	2	12	9	3
1997	9	0	5	14	11	3
1998	1	0	7	8	6	2
1999	10	2	3	15	11	4
2000	6	0	6	12	9	3
2001	13	0	2	15	11	4
2002	19	0	3	22	17	5
2003	21	0	2	23	23	0

Note: Includes any dwelling unit demolitions.

Source: Information submitted by the Town to NHOEP for the annual survey of building permit activity.

**Figure 15: New Dwelling Units by Type - 1990-2003**



■ Single Family ■ Multi-Family ■ Manufactured Home

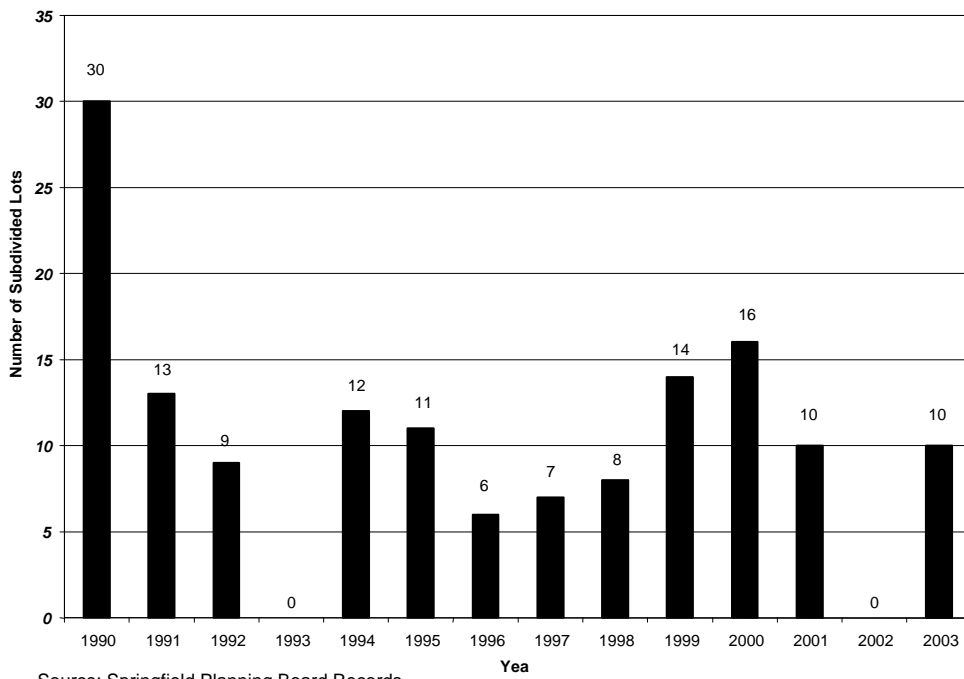


**Table 29: Number of New Subdivision Lots  
Springfield, NH 1990 – 2003**

Year	Number of New Subdivisions		Total Number of New Lots
	Major Subdivisions	Minor Subdivisions	
1990	1	4	30
1991		4	13
1992		3	9
1993			0
1994		6	12
1995		5	11
1996		3	6
1997		4	7
1998		5	8
1999	1	4	14
2000	1	3	16
2001		5	10
2002			0
2003		6	10
<b>TOTAL</b>	<b>3</b>	<b>52</b>	<b>146</b>

Source: Planning Board Records

**Figure 16: Number of New Subdivision Lots**



Source: Springfield Planning Board Records.

## LAND USE PATTERNS & TRENDS

The general configuration of current land use is the familiar rural spider-web pattern sprawling along those portions of the road system which survived from the 1800's era. Most of the "back land" had reverted to wood-land and, as noted, over 25% of the Town's area is more-or-less permanently in public ownership for forest use.

Thirty-five years ago, the periods of population decline and stability had ended and, with them, the migration from the land ceased and a slow increase in residential land use began. Today, the trend is accelerating substantially with over three times as many people living in Springfield today as 30 years ago! There is no reason to expect that either stability or decline will reverse the trend in the next decade or two – particularly with statewide and regional growth at high levels. Population growth translates into land use change. Presently, growth and change are only in early stages in gross terms. More people require more permanent dwellings – some converted second homes and some new dwellings in formerly open areas. This may constitute only minor land use change but suggests a clear indication of more substantial change to come. The incremental changes brought about by residential growth over the past thirty years has begun to change the rural character of the community. The rural character of the community is being challenged because of suburbanization of the existing Town road frontages resulting in a sprawling spider-like development pattern along the existing road system. Aesthetic natural amenities of a high order are typical of the Town's excellent physical environment and generally will remain so for years but not forever, in view of increasing internal and external development pressures. All the elements for growth are presently in place: area development, accessibility, natural attractiveness, and an inventory of approved subdivision lots.

Present land use can be characterized as equivalent to that of 1860's in overall density but not in character. As previously noted, 150 years ago, more land was open in agricultural and dairy use while, today, reforestation of open space continues and the Town's development is primarily single-family residential uses. The most important present land use feature is the existence of the initial stages of rapid percentage growth in relatively low yield-high cost residential development. Less back land is in use today than was in use 150 years ago, but more land convenient to the road system is devoted to permanent dwellings each year contributing to the expansion of the spider-like residential sprawl along existing Town roads. The population of Springfield is projected to increase by 71% between 2000 and 2020 based on the building permit trends between 1990 and 2002.

In summary, present land use trends are more significant for the future growth and change which they confirm and forecast, than for their current impact on the Town's physical characteristics.

## POPULATION GROWTH AT BUILD-OUT

In August 2003, UVLSRPC completed a Build-Out Study of the Town of Springfield as the first step in the update of the Springfield Master Plan. The Springfield Planning Board initiated a study of the build-out potential of the community to answer questions such as:

- How much additional land area can be developed under existing land use regulations and where will this growth occur?
- How many residential lots could be added?
- How much could the population of Springfield increase at full build-out?
- Are there areas projected for development which the community would prefer to not develop or develop at a lower density?

What is a Build-Out Study and how is it done? This Build-out Analysis looked at the potential development of Springfield under existing land use regulations. This provides the community the opportunity to then examine this projected future development of the Town to see if it is consistent with the desires of the community.

A Build-Out Study is a model for predicting development possibilities. Like all projections, it is predicated on assumptions which are outlined in the study report. Timing is not relevant to the Build-out Study as it is assumed that time is condensed to allow all possible development to occur today. Economic realities may prevent expansion to the projected possibilities. The Build-Out Study holds static demographic, technological, zoning changes, expansion of municipal infrastructure and other variables which affect development patterns in order to create a picture of Springfield when fully built-out under today's conditions.

The basic methodology for the Build-Out Study was to first map areas which has already been developed or were protected from development. Then maps for conserved lands, wetlands, and steep slopes were prepared for the Town. Based on the Town's current land use regulations, the development potential of the undeveloped or unprotected areas of Town was calculated.

Some of the results of this Build-Out Study are summarized as follows:

1. Under Springfield's existing zoning and subdivision regulations, 7,928 acres remain that could be developed for residential uses. This represents just under 30% of the land area in Springfield (28,479 acres).
2. At full build-out, this remaining developable area could support an additional 2,789 dwelling units including both permanent and seasonal housing. This represents an increase of 525% in dwelling units for the Town over the 534 dwelling units existing in 2000. At full build-out, the total number of dwelling units is projected to be 3,323.
3. At full build-out, the additional 2,789 dwelling units could support a population increase of 4,944 which would represent a 523% increase over the 2000 permanent and seasonal population of 945. The full build-out population could reach 5,889 which is over six times the 2000 total Town population.

4. Much of the growth in residential development is projected to occur in some of the more rural areas of the community as reflected on the New, Occupied Residential Units at Full Build-Out Map to follow. Rural parts of the community such as the area north of Route 4A, the Sanborn Hill area and the area around McDaniel's Marsh all can accommodate a fairly large amount of residential development as depicted on the map. Suburbanization of these rural areas would conflict with the goal of the community to remain primarily a rural residential Town.

**MAP 14: NEW, OCCUPIED RESIDENTIAL UNITS AT FULL BUILD-OUT**

## **FUTURE LAND USE**

Population projections detailed in the Demographic & Economic Development Chapter indicate the Town should anticipate adding about 680 people between 2000 and 2020. The Office of Energy & Planning reports that the per capita land consumption in New Hampshire has risen to 1.6 acres per capita. Using this assumption, the 680 growth in population would result in 1,088 additional acres being consumed for residential development. However small the land use change may be in relation to total available acreage, there is good reason for concern since it can be expected to be in-fill along existing roads, intensifying the “spider web” pattern established over 100 years ago and giving the impression of higher densities than really exist when the back land is averaged in. Therefore, the trend may be partially back to the old situation but without the wide dispersal on the land which characterized the predominantly agricultural community of years ago, i.e.: there will be a sharp contrast between relatively dense development of accessible, developable land and more passive use of less desirable, more costly to develop, back land.

Given such a pattern, attaining “the desired future” expressed by many residents (e.g.: retention of rural character and amenities) does not present serious problems if growth is confined to that which is “digestible” in terms of low public sector costs and taxes and which the natural physical conditions (soils, slopes etc.), will support. Although the “best” land may redevelop first, reasonable public policies and prudent implementation can protect the Town’s residents and taxpayers against adverse fiscal and physical impacts by appropriate attention in the near future. Future land use change can be guided in positive directions.

Certain trends do forecast patterns that development may take in the next 10 or 20 years.

As noted in the Regional Setting section, growth in Springfield will be influenced by convenient access provided by I-89 to regional economic centers in both the Concord and Lebanon areas, the proximity of several recreational amenities in the area and service by a good school district.

To conclude, the mid-1800’s land use pattern provides a good model for future growth and development. Since it was based essentially on the same road system as exists today (except for ways which have been abandoned but could be reopened in many cases), it is undoubtedly the most topographically, physically and, therefore, economically valid approach to regrowth and redevelopment. In terms of land use, the historic pattern can offer a practical future mix of residences and businesses. Institutional, recreational and personal services are encouraged to locate in the village center. Light industrial and commercial services are encouraged to locate along the Georges Mills Road north of I-89 and from Four Corners to Shad Hill Road along Route 4A. Outside of these areas, low density residential infill is encouraged. Please refer to the Future Land Use Map to follow.

Future land use patterns and densities and future actions by town officials also will depend on economic and population pressure, on private sector decisions and the resulting availability of land within the Town. Large tracts in private hands are of particular concern as future determinants of the physical and fiscal character of the Town. Decisions to sell off large tracts to be broken up could alter the situation far sooner and more drastically than would the rate of change suggested by the population forecast which extends current trends. Such decisions could

**MAP 15: FUTURE LAND USE MAP**



either preserve and enhance or begin to destroy the Town's rural character.

Some actions by town officials can help encourage digestible changes. Subdivision regulations should encourage common driveways and access roads along arterials and some major collectors to limit access between local centers to a few, safely separated points. Such limitations would not affect land use patterns significantly, but would help preserve natural rural character along the road system.

It should be stressed that any prudent measures adopted to encourage rates of land use change will not significantly affect town-wide growth which is primarily a product of market conditions. It is equally important to emphasize that, if redevelopment based on the Town's historic 1800's pattern can be achieved, it need not be at the expense of private property rights or values. In fact, such values will be increased substantially by far-sighted, intelligent policies and implementation measures. Communities which exercise foresight preserve and enhance character and quality and enjoy relatively low public sector costs and taxes. Those which fail to anticipate and deal with growth problems invariably deteriorate and pay dearly for their failure in lost amenities and heavy fiscal burdens. It is never too early to act, but it often is too late!

#### **Issues: Land Use**

1. Preservation of the McDaniel's Marsh and Bog Brook areas was identified as a priority by the Planning Board. This major wetland complex is the largest wetland/stream complex in Town. It extends north into Grafton just south of Route 4A and flows downstream to the Grantham town line and beyond. These wetlands are wildlife magnets and support a variety of species. This whole linear stream/wetland complex functions as a wildlife corridor.
2. Ensuring that the Gile State Forest and other similar forested areas with large tracts of undeveloped land remain available for forestry, recreational and open space uses and discourage or minimize residential development. The uncertainty associated with the state's policy on privatization of state lands leads to concern for the long-term use of the Gile State Forest and the possibility of it being converted to other uses.
3. Another priority identified by the Planning Board is shore line protection around all types of surface waters including lakes and ponds, streams and wetlands. Studies evaluating impacts on water quality have demonstrated the importance and effectiveness of natural vegetative buffers as the last line of defense in filtering pollutants before they reach the surface water resource. A combination of root depths and vegetative species is best mixing grasses, bushes and trees to form the vegetative buffer.
4. Conservation of Starr Lake and the surrounding property which includes substantial frontage on Baptist Pond was identified as a property the Town would like to see preserved if the property owner is amenable. The undeveloped or underdeveloped lake frontage on this property make it unique.

5. The Town's zoning ordinance currently has no provision for Cluster Developments. The Planning Board has identified this as an issue to be addressed. They would like to have this more flexible approach to laying out a subdivision while preserving open space as an option for development in the community.
6. The Town should consider the use of overlay districts as a method to protect natural resources including, but not limited to, steep slopes, wetlands and groundwater resources.
7. The Town has been experiencing considerable residential growth and the population projections reflect that this growth is anticipated to continue in the future as documented in the Population Chapter. For the long-term, the Town needs to address the issue of managing the density of residential development in the community, particularly the more rural areas of the community with relatively poor access. As reflected in the Build-Out Study, substantial growth potential exists in some of the rural parts of the community. Suburbanization of these rural areas would not be consistent with the Town's goal of preserving the community's rural character.

### **Recommendations: Land Use**

1. Protect the McDaniel's Marsh and the Bog Brook water, wetland and wildlife resources. Alternative approaches could include one or more of the following:
  - implementation of a large minimum lot size zone district to reduce the density of development in this environmentally sensitive area;
  - adoption of a large setback to provide for wildlife corridors along and around these water resources. The publication "Buffers for Wetlands and Surface Waters - A Guidebook for New Hampshire Municipalities" last revised in May, 1997 was prepared by a consortium of organizations including: Audubon Society of New Hampshire, UNH Cooperative Extension, Natural Resource Conservation Service, and the NH Office of State Planning (now the Office of Energy and Planning). While the publication recommends a minimum buffer width of one hundred feet from all surface waters including lakes, ponds, streams and wetlands, it recognizes that larger buffers are needed particularly for the protection of wildlife corridors. The publication recommends a minimum buffer width of 660 feet to protect travel corridors for all wildlife except black bears.
  - Crafting and adopting a Wetlands Overlay District which would include buffers; and
  - Developing a Shoreland Overlay District to protect lakes, ponds and streams which would include buffers.
2. Consider establishing a Forest Conservation District for the Gile State Forest area and other similar forested areas with large tracts of undeveloped land to ensure continued availability for forestry, recreational and open space uses and discourage or minimize residential development. A Forest Conservation District would provide for these forestry, recreational and open space uses while requiring a large minimum lot size in the range of

25 to 50 acres to manage both the use and intensity of development permitted.

In this type of resource protection district, residential use is often permitted only with approval of a Special Exception by the Zoning Board of Adjustment.

3. The Town should consider adopting a more substantial natural buffer around lakes and ponds. The minimum buffer width of one hundred feet is recommended in the publication "Buffers for Wetlands and Surface Waters - A Guidebook for New Hampshire Municipalities" last revised in May, 1997.
4. The Town should consider adding streams to the water resources protected by the shore land regulations. Again, a minimum natural buffer of one hundred feet from the high water mark is recommended along streams by the publication cited above.
5. The Town should encourage the owner of Starr Lake property, which includes substantial frontage on Baptist Pond, to consider conservation of this unique resource and to discuss this possibility with a land trust organization.
6. The Town should consider adopting a Cluster Development provision in the zoning ordinance to provide another option for subdivision design in the community. This would provide the Planning Board and the subdivider with a more flexible approach to laying out a subdivision while preserving important open space resources.
7. The Town should consider the use of overlay districts as a method to protect natural or sensitive resources such as steep slopes and groundwater resources.
8. The Town should consider alternative methods to manage long-term growth and density of residential development in the community. As reflected in the Build-Out Study, substantial growth potential exists in the rural parts of the community. Suburbanization of these rural areas would not be consistent with the Town's goal of remaining a rural, residential community. The more traditional approach would be to create and implement different zone districts with alternative lot sizes and permitted densities of development. A new innovative approach developed in Norwich, Vermont manages the density of development based on distance from the Town service center, the quality of the road providing access to the development from the Town center and contiguity with preserved open space. The permitted density decreases with increasing distance from the Town service center, with decreasing quality of road providing access and with contiguity with conserved lands.

## CHAPTER X. SPRINGFIELD TOWN PLAN SUMMARY

### A. Introduction

The intent of this summary is to provide a synopsis of the Town Plan. The Springfield Town Plan consists of all the text, maps, graphs, etc, which have been presented in some detail in the previous chapters. As a document, it represents viewpoints expressed in 1973, 1979, 1986 and 2000 concerning growth and land use change. The document should be subjected to continuing review as outside circumstances and the needs and desires of Springfield residents and taxpayers change in the future. Obviously, new regional and local conditions will call for new thinking on growth policies and new responses to problems and issues. It will be the continuing responsibility of future Planning Boards to respond to future growth concerns and to reflect, as accurately as possible, the views of Town residents and taxpayers on measures for dealing with concerns. Those views should be the underlying basis for updating and improving the Town Plan. If the Plan is to be useful as a growth guideline and as a tool for public and private decision-making, policy development and constructive action, it must be a product of perceived community needs as well as of enlightened planning and leadership. It should be reviewed and revised every five to ten years or as necessary.

This Town Plan Summary is based on the material developed in the preceding chapters and is presented in the same sequence.

### B. Citizen Attitudes

In 2000, community attitude questionnaires were mailed to 793 property owners in Springfield. Three hundred and sixty-five (365) of those receiving a questionnaire completed and returned it for an excellent response rate of forty-six percent (46%). Chapter II summarizes the input from this community survey. Further, specific feedback from the questionnaire has been incorporated into the appropriate chapters throughout the Master Plan update.

### C. Regional Setting

The most important elements of the Town's regional setting are: The highway network (I-89 etc.); employment and activity centers in the area ( Lebanon-Hanover-White River Junction, New London, Concord, Sunapee, Newport, and Claremont); and natural and man-made growth generators (lakes, golf courses, colleges, ski areas). All will influence and shape the community's future growth and land use change. Springfield is in a growth region of a growing state. Interstate 89, recreation, industry and commerce and natural resources (forest, farm etc.), will impact the Town's future.

June 2005

#### **D. Growth Policies - Vision for Springfield's Future**

1. No future new public water supply or sewage disposal systems in the Town are anticipated. All water and sewage needs will be met through private, on-site facilities to eliminate future capital costs and operation and maintenance charges; to contribute to tax rate control; and to foster a pattern of low density development which will preserve the rural character, quality and values of the Town and its traditions, identity and integrity.
2. Future growth should conform to the capacity of the physical environment (soils, topography, forest and water resources) to support development activity without the aid of man-made municipal (water and sewer) facilities.
3. The Town shall be protected against development or land use change which will require costly municipal investments or services.
4. Growth which yields as much, or more, tax revenue as it generates in public sector costs is to be encouraged to restrict the property tax burden.
5. A broad range of residential, commercial and industrial options is to be encouraged in future development, subject only to reasonable restrictions to minimize adverse impacts on adjacent property values and against nuisances, hazards etc., which compromise, in any way, the peaceful enjoyment of private property by residents and taxpayers, and the rural character, quality and values of the community.
6. It is intended that the Town shall grow (and the tax base broaden) in harmony with its physical environment, with its rural character and with the rights of its residents and taxpayers.
7. Springfield seeks to protect and preserve our natural resources.
8. Springfield should actively manage future growth through master planning and implementing the master plan through land use regulations and capital improvement programming.
9. Springfield should accommodate a balanced mix of housing types and values including affordable housing while maintaining the rural character of the community.
10. Springfield should expand opportunities for, and accessibility to, outdoor recreational opportunities that complement the rural character of the Town.

## **E. Transportation**

The construction and acceptance of new ways and the reopening of old roads to serve growth and land use change will create new maintenance and construction burdens to insure durable, safe roads and bridges. More mileage also will mean additional costs for both summer and winter maintenance. Future rural transportation will be supplied by the individual motor vehicle. Subdivision regulations should foster common driveways along arterials to limit access on that system to widely-separated, safe points. Similar controls might be considered on major collectors for safety. Such limitation would not affect land use patterns significantly.

## **F. Natural Resources**

Springfield, NH (28,479 acres) is high, hilly, wooded and generally rural with several water bodies, wetlands and large expanses of forest cover. Highest Town elevations are found in northeast Springfield where steep slopes have encouraged the preservation of forest tracts. Physical characteristics have been and will continue to be important determinants of land use.

(Recreation addressed under Community Facilities & Services) Conservation needs are met substantially by 8,249 acres of state and town forests and privately held conserved parcels. The Plan suggests local measures be considered for protecting surface and ground water resources, agricultural and open space resources, wildlife habitat, rare plant species and scenic resources.

Historically, much of the Town's area was in field over a century ago when farms and pastures flourished. Now most of the land has gone back to forest (86%), at a time when wood has become a valuable resource both for lumber for new homes and for energy as a heat source. The Town should maintain a low average density which would provide large open wood-lot areas in common with the timber to be managed productively as the owners choose. A small lot (1 to 2 acres) pattern would preclude timber operations on a profitable scale for lumber and fuel. Clustering might permit private common on-site water and sewer systems.

Most of Springfield's self sufficient farms of the past have reverted to forest and/or have been sold for summer homes and subdivision building lots. Growth tends to consume the most accessible and suitable land which is also the best for agriculture. Concerns about preservation of farmland in Springfield today are motivated primarily by aesthetic benefits provided by open space lands. Open space lands enhance the rural and small-town character of Springfield and provide scenic views that contribute to the quality of life in Town and to a visitor's aesthetic experience.

## **G. Demographic & Economic Development**

Population projections for year-round residents suggest an increase from 945 in 2000 to 1,287 in 2010 to 1,620 in 2020. The seasonal population is projected to continue to decline and decrease from 452 in 2000 to 353 in 2010 and to 285 in 2020. Permanent dwelling units should increase from 384 in 2000 to about 664 in 2020 while seasonal units are projected to decrease from 129 in 2000 to 89 in 2020. . It is possible that the population and housing figures could be exceeded due to outside growth pressures and in-town land use change based on private development decisions. Any growth policies, plan and programs should assume more rapid change rather than less. This plan evaluated several alternative growth projections and assumed population and housing projections based on the relatively rapid growth period from 1990 through 2002.

Today in Springfield commerce and industry are limited to the generating plant, automobile service facilities and lumber mills which utilize local forest resources. With increasing growth the Town should consider how, where and at what rate commerce and industry should be encouraged. Institutional, recreational and personal services are encouraged to locate in the village center. Light industrial and commercial services are encouraged to locate along the Georges Mills Road north of I-89 and from Four Corners to Shad Hill Road along Route 4A. Outside of these areas, low density residential infill is encouraged except to preserve the natural resources identified elsewhere in this Plan. In-town employment opportunities should be considered, some based on the Town's forest resources. Controlled public sector costs could attract investment and employment opportunities. If economic growth occurs, measures should be adopted to prevent adverse impacts on residential property or the Town's rural character and amenities, by requiring proper siting and buffering and adequate tracts to provide on-site utilities. The Town also has a significant recreation industry.

## **H. Community Facilities & Services**

- 1. Library Service:** The library book collection has reached 16,000 volumes which occupies all the available floor space. For the long term, the Town should study whether to add onto the library to provide additional space for an expanded collection. Future planning should include improvements and additions to the former Central School building and action to maintain service to the community. No program should be initiated without a reasonable forecast of patronage growth and needs.
- 2. Cemeteries:** Although additional cemetery space is not needed at this time, other projects include erecting a small maintenance storage building, repairing stone walls and study alternative means to access the Webster Pass cemetery.
- 3. Fire Protection:** A fire chief and volunteer fire department officers and personnel are responsible for fire protection. On-going training is provided to maintain up-to-date techniques. The District Forest Fire Chief and the Springfield Forest Fire Warden are responsible for forest fire prevention and suppression.. The Springfield Rescue Squad

provides vital emergency services. This Plan recommends reestablishing the Capital Improvement Program and programming the equipment replacement needs of the Fire Department along with all the other Town capital needs. Replacement of the Fire Department's 1981 pumper truck is their highest priority.

4. **Highway Department:** The Springfield Highway Department includes a road agent and a crew of one year-round position. In addition, during the winter, the Highway Department subcontracts for snow plowing services. Capital needs include construction of a new salt and sand storage shed, addition of a backhoe, replacement of the street sweeper and additional equipment to keep abreast of the additional maintenance responsibilities necessitated by growth.
5. **Police Protection:** A police chief and deputy officers provide police services in cooperation with neighboring towns, the county sheriff and the state police. Civil Defense activities are an important part of Town protective services providing equipment, rescue, first aid, communications etc. For the long-term, the Town needs to either plan for improving the access and space available to the Police Department in the Town Office Building or consider other locations for the department.
6. **Recreation Facilities and Services:** Recreation services for the Town are provided through a Recreation Committee consisting of volunteer members. Existing recreational facilities include the Town beach on the west end of Lake Kolemook and the recreational field complex across from the Town Office Building.
7. **Town Buildings & Management of Town Government:** The long-term needs for Town Office space should be studied and the cost of the preferred alternative should be incorporated into a Capital Improvement Program for the Town.
8. **Education:** Population growth will be reflected in corresponding Springfield enrollment increases in the Kearsarge district system from a total of 211 students in 2003 to around 320 students projected for 2013 for approximately a fifty percent increase in student enrollments over the ten year period. Given the population growth patterns and trends and the student population projections, the community may want to reevaluate the approach to providing educational services for the Town and consider and evaluate other options available to the community.

## **I. Land Use – Past, Present & Future**

The mid-19<sup>th</sup> century land use pattern of settlement shows a widely dispersed population town-wide along a larger road system adapted to the topography. The 1850 population of almost 1300 also was served by a number of sub-centers containing schools, shops, mills, stores etc. Migration to the mid-west where farming was easier, evacuated many areas of Town. As people left, the farms and fields returned to forests and some of the sub-centers disappeared entirely. Growth since 1960 gives clues to the anticipated pattern of future land use change with “infill” growth in a sprawl or spider-like pattern along the remaining



road network and on reopened old roads. Projecting the population ahead to 2020, an additional 680 people are anticipated to make Springfield their home by then for a 71% increase in population since 2000. Here suitable planning and special requirements (average density per subdivided parcels) can minimize growth problems by eliminating the need for public water and sewer systems, and by reducing other public sector service costs.

Since it was based essentially on today's road system (except for ways which have been abandoned but could be reopened in many cases), it is undoubtedly the most topographically, physically and, therefore, economically valid approach to regrowth and redevelopment.

In terms of land use, the mid-1800's land use pattern offers a practical mix of residences and businesses. Institutional, recreational and personal services are encouraged to locate in the village center. Light industrial and commercial services have developed and are encouraged to locate along the Georges Mills Road north of I-89 and from Four Corners to Shad Hill Road along Route 4A provided they develop in harmony with the rural character of the Town. Outside of these areas, low density residential infill is encouraged except to preserve the natural resources identified elsewhere in this Plan. . The major land use challenge facing Springfield is accommodating the amount of projected residential growth on more environmentally challenging sites while preserving the resources and characteristics that make Springfield attractive as a place to live.

## **J. Recommendations**

Listed to follow are the recommendations in chapters of this master plan update presented by topical category:

### **1. Transportation**

- a. Maintain existing roadways and bridges in consistent, good working condition and not allow the structures to deteriorate necessitating costly rehabilitation or reconstruction.
- b. Amend current road standards in the Subdivision Regulations to encourage narrower roadway widths that protect scenic resources and discourage speeding while maintaining adequate widths for emergency vehicles.
- c. Encourage the proper design, construction and maintenance of roadways and bridges to protect natural and scenic resources.
- d. Encourage naturally vegetated buffers (a minimum 100 feet of width) on the shores of all surface waters, including lakes, ponds, streams and wetlands. Discourage impervious surfaces, such as roads or driveways, in these shorelands.

- e. Revise the Subdivision Regulations to strengthen the provisions for managing stormwater drainage. Encourage adequate ditching methods and sizing of culverts to facilitate effective roadway drainage of stormwater. Bridges and culverts should be of adequate size and minimum capacity to withstand a 25-year flood. Ditches should be constructed and maintained as to facilitate effective stormwater drainage while minimizing water flow speeds to reduce erosion and to allow maximum penetration into the soil.
- f. Continue to employ dust control measures on dirt roads to reduce negative impacts to adjacent properties and water quality.
- g. Encourage good driveway design and construction through implementation of the Driveway Regulations.
- h. Empower the Town Planning Board to impose off-site improvements for developments determined to have a significant impact upon Town infrastructure. The Town must take certain steps before off-site improvements can be imposed on developers following the NH Supreme Court's decision in the Simonsen v. Derry case. In order to do this, the Town must have an up-to-date Master Plan, be authorized to and adopt a capital improvement program that meets statutory requirements and adopt an impact fee ordinance.
- i. Consider encouraging future development in ways that protects natural and scenic resources, minimizes infrastructure expansion and minimizes on-going maintenance needs. The Planning Board might consider amending the existing Zoning Ordinance to include overlay districts to protect shorelands of all surface waters, hillsides with steep slopes, floodplains, prime agricultural soils and habitat. These resources can be protected while accommodating development in other areas that are better suited.
- j. Study and consider designating scenic roads in Town.
- k. Preserve old logging access and class VI roads for recreational use, excluding all terrain vehicle (ATV) use.

## **2. Natural Resources**

### **a. Forest Resources**

1. The Conservation Commission should study and evaluate whether additional safeguards are needed relative to forestry practices which can cause significant adverse impacts on stream and lake water quality if storm water drainage is not adequately managed. The Commission should bring any recommended amendments to local land use regulations to the Planning Board for consideration and

any recommended changes to the state laws governing forestry practices to the attention of the local legislators.

2. The Planning Board should reevaluate the standards and controls provided by the Subdivision Control Regulations and the Site Plan Review Regulations relative to management of storm drainage generated by new subdivision and site developments respectively. In particular, clearing of lots for development needs to be incorporated into surface water drainage plans to ensure proper management of storm water flows generated by developments.
3. The Planning Board should consider developing and adopting a ridgeline protection ordinance aimed at protecting the town's scenic quality and rural character.
4. The Planning Board should consider adopting a Steep Slopes Conservation Overlay District to reduce the development density in steep slope areas and to not permit construction in steep slope areas.
5. The Planning Board should consider crafting and adopting a forest conservation district that would preserve areas like the Gile Memorial Forest for forestry and recreational uses. Factors to consider in deciding where to establish such a district might include: areas that are relatively remote, areas that have no road frontage and poor or no road access, areas with relatively large land holdings, areas providing significant wildlife habitat, areas currently used for forestry purposes, hillsides with relatively steep slopes and conserved properties intended for forestry and recreational uses.

**b. Agricultural & Open Space Resources**

1. The Springfield Conservation Commission should work closely with the local and state land protection organizations to preserve some of this remaining scarce resource through the use of conservation easements or fee simple acquisition.
2. The Town should consider amending the Zoning Ordinance to give the Planning Board the authority to require an alternative development layout, such as that provided by a Cluster Development Ordinance, in lieu of the standard suburban lot layout in instances where the Planning Board feels a proposed development may adversely affect significant natural or historic resources, such as an important parcel of agricultural or other open space land.

**c. Earth Mineral Resources**

1. The Planning Board should carefully review any proposals for new earth excavations.

It is important that excavation operations be performed with care. Plans for excavations should consider impacts on aesthetics, wildlife, ground and surface waters, air quality, roads, adjacent land uses, and the character of the surrounding area. Restoration plans and security to ensure implementation of those plans are needed for every excavation.

2. The Planning Board should require the applicant for a new earth excavation to identify the location of the proposed operation relative to the known aquifers based on the referenced "Stratified-Drift Aquifer Maps". If the proposed operation overlays a known aquifer, then the Planning Board should require the applicant to demonstrate that the earth excavation operation will not substantially damage the known aquifer.
3. In reviewing an earth excavation application for a new gravel pit, the Planning Board should call upon any outside engineering or environmental consultants, including the Natural Resource Conservation Service, at the applicants expense, for advice on potential adverse impacts of the proposed operation and recommendations on how to mitigate those impacts, and review of the proposed reclamation plans.

**d. Wildlife & Rare Plant Species Resources**

1. The Springfield Conservation Commission should develop a community inventory of wildlife and their essential habitat requirements to supplement the deer wintering area information developed by the N.H. Fish & Game Department.. This inventory can then serve as the basis for development of a wildlife habitat overlay map which can be used to evaluate the potential wildlife habitat impacts of new development proposals and to serve as the basis for changes to zoning regulations and/or subdivision regulations so that any adverse impacts from new developments on remaining essential wildlife habitat is minimized.

**e. Scenic Resources**

1. The Planning Board should develop proposed regulations for the siting of telecommunication facilities to put before the voters.
2. The Planning Board should consider developing and adopting a ridgeline protection ordinance aimed at protecting the town's scenic quality and rural character.
3. The Planning Board, in coordination with the Conservation Commission, should consider conducting a more detailed scenic resource inventory of the community. This scenic resource inventory can be used to incorporate aesthetic concerns into the site plan review and subdivision processes.
4. The desired image of rural character can best be achieved by reversing the pattern of strip residential development along the existing road system with undeveloped areas behind the residential strip to promote open space along the existing road system and developing residential uses behind these field or forest open spaces.

The Planning Board should study developing and incorporating design standards into the Zoning Ordinance and/or Subdivision Control Regulations which would preserve rural character. These design standards would include protection of significant open space resources through siting standards for building envelopes. A building envelope area is defined as the area within the lot which conforms with all setback and buffer requirements and includes enough developable land to accommodate the construction of a typical rural lot including a house, driveway, on-site wastewater disposal system and a water well.

Defining a maximum building envelope area will assist in managing the amount of tree removal and site disturbance on lots in new developments. It would permit the Planning Board some measure of management over the location and siting of new homes particularly when trying to preserve a natural feature such as an open field. The Planning Board should consult the following publications, among others, in developing such subdivision design standards to preserve rural character:

- "Preserving Rural Character" - Planning Advisory Service Report # 429, and
- "Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development" - Yaro, Robert D. et al.

**f. Water Resources: Watersheds, Brooks, Ponds & Lakes**

1. The Town should plan now for the projected impacts the potential build-out growth may have on the water quality of lakes, ponds and streams and assess the need for zoning density changes or other action which might preempt further water quality degradation.
2. Consider increasing the width of the natural vegetative buffer along the shorelands of lakes and ponds to the one hundred foot minimum recommended by the state to increase protection of surface waters in Springfield and consider strengthening the natural vegetative buffer requirements along the shorelines of lakes and ponds. Additionally, the Town should consider implementing these same natural vegetative buffer requirements along the shorelines of streams in Springfield.
3. The Zoning Ordinance should be carefully reviewed to ensure that changes of use and expansions of existing waterfront structures are permitted only when they are not in conflict with water quality objectives. This would include expansions that do not reduce the distance between the structure and the shoreline or significantly increase the impervious surface area within the shoreline buffer.
4. Steps the Town can take to ensure that development is sited or constructed in a way that will minimize sedimentation of surface waters include:
  - A) consideration being given to limiting clear cutting on steep slopes, lowering the density of development in areas containing steep slopes or prohibiting development activities from occurring on the steep slope areas;
  - B) strengthening the town's zoning, subdivision, and driveway regulations to ensure that proper care is taken to prevent erosion and sedimentation during and after construction when development occurs on moderate slopes (15%-25%) through such means as requiring erosion/sedimentation control plans for the steeper portions of driveways and building sites;

- C) adopting driveway regulations with standards to limit the grade of and control runoff from driveways that can themselves be a source of erosion problems; and
  - D) strengthening the Site Plan Review Regulations to ensure that larger construction projects, including those involving reuse or redevelopment of a site, do not generate erosion and sedimentation during or after construction.
5. Cooperate with the state's efforts to control pollution associated with boating.
  6. Cooperate with the state's efforts to eliminate the introduction and spread of nuisance species in lakes.
  7. The Town and State should provide ongoing opportunities for those responsible for road construction and maintenance to learn about cost effective methods for reducing the amount of polluted runoff that enters surface water from roads.
  8. The Town of Springfield should be represented and participate on the Sugar River Watershed Council. This is particularly important since land in Springfield is where most of the headwaters the North Branch of the Sugar River originate.

**g. Water Resources: Floodplains**

1. Consider land use regulations as needed to meet FEMA's minimum requirements for participation in the National Flood Insurance Program if it is found that existing structures are located within the identified 100 year floodplain areas.
2. Consider limiting development in the floodplain to uses that would not pose a threat to health or safety if a flood occurs and do not involve the development of structures or creation of impermeable surfaces.

**h. Water Resources: Wetlands**

1. The wetland protections currently provided for in the Zoning Ordinance should be strengthened. The Town should consider implementation of a minimum setback of 100 feet for all structures and septic systems from wetlands and maintain this area as a natural vegetative buffer.

2. The Town should amend the Zoning Ordinance to redefine a wetland to be consistent with the state and federal definition which is based on soils, hydrology and vegetation and to substitute the word wetland in the Ordinance for other terms such as marsh.

**i. Groundwater Resources**

1. Springfield's Zoning Ordinance and Site Plan Review Regulations should be reviewed to ensure that existing and future private supply wells throughout town are protected from activities that are associated with hazardous substances. Local land use boards should closely scrutinize nonresidential land use proposals through Special Exception and Site Plan Review processes for potential adverse impacts on the groundwater. The Zoning Ordinance should continue to provide for a density of development and minimum lot size consistent with groundwater quality protection.
2. When given the opportunity, Springfield should continue to participate in regional hazardous waste collections to provide a practical cost effective means of disposal.
3. Springfield should consider adopting and implementing local underground storage tank regulations to help prevent contamination of groundwater by those underground storage tanks not covered by the state's regulations.
4. The Town and State should provide ongoing opportunities for those responsible for winter road maintenance to learn about safe, cost effective methods for reducing the use of road salt.

**j. Soil Resources**

1. The Planning Board should continue to coordinate closely with the Department of Environmental Services (DES) on new subdivision proposals and ensure that each new lot created is capable of supporting an on-site wastewater system by continuing to require state subdivision approval through DES.
2. The Board of Selectmen should continue to require a septic system design approved by the Department of Environmental Services before a building permit is issued for a new residence, for additional bedrooms for an existing residence and for



commercial or industrial uses needing on-site wastewater treatments systems.

**k. Conserved Lands**

1. The Springfield Conservation Commission should take the lead in sponsoring educational programs for Springfield residents and political leaders relative to the benefits to the community of continuing to conserve land resources.
2. The Springfield Conservation Commission should take the lead in identifying additional land resources worthy of protection in Springfield. This effort should be accomplished with input from Springfield property owners and the Town's leaders.
3. The Town is encouraged to utilize the services of a land preservation organization to assist the community in land preservation efforts whether through conservation easements or land purchases.

**3. Community Facilities & Services**

**a. Library Service**

1. For the long term, the Town should study whether to add onto the library to provide additional space for an expanded collection and to consider whether meeting space should be incorporated into those plans.

**b. Cemeteries**

1. The Town should consider erecting a small storage building to house cemetery maintenance equipment.
2. When additional cemetery space is needed, the Town should consider removing the trees along the road in the lower cemetery.
3. The Town should evaluate the needs for repairing the stone walls around the cemeteries and develop a plan for repairing these stone walls.
4. The Town should study the alternative means of gaining access to the Webster Pass cemetery and acquire access when the opportunity presents itself.

**c. Fire Protection**

1. It is recommended that the Planning Board reinstate the development of a Capital Improvement Program and update it annually.
2. The Capital Improvement Program should include replacement of all of the equipment in the Fire and Rescue Department over time with the replacement of the 1981 pumper truck the top priority.
3. Lack of adequate meeting space for the various boards and groups in Town has been identified as an issue. Improving the 30' x 50' meeting room attached to the fire and highway building by adding direct heating would make this space more inviting to be used year-round by a larger number of boards and groups in town.

**d. Highway Department**

1. It is recommended that the Planning Board reinstate the development of a Capital Improvement Program and update it annually.
2. As new growth adds new streets to the Town's system for both summer and winter maintenance, the Town will need to consider adding both new equipment and personnel to provide summer and winter road maintenance services.

**e. Police Protection Service**

1. For the long-term, the Town needs to either plan for improving the access, including both pedestrian and driveway, and space available to the Police Department in the Town Office building or to consider other locations for the department. Consideration should be given to evaluating the possibility of incorporating the Police Department into the Safety Services and Highway Building.
2. The Town should plan to incorporate the purchase of another police cruiser into a Capital Improvement Program for the Town and add the cost of another police officer into the operating budget when the population of the community increases by another 500 people.

**f. Recreation Facilities and Services**

1. Continue to plan for the development of a skateboard park, tennis courts and an outdoor basketball court. Funding for these recreational improvements should be incorporated into the Town Capital Improvement Program and the Town should also seek funding through the Land and Water Conservation Fund.
2. The Recreation Committee should explore alternative methods to improve communication about upcoming recreation events and programs including:
  - a. School announcements;
  - b. Incorporating announcements into a Town website if developed;
  - c. Posting on a community bulletin board; and
  - d. Publishing a quarterly newsletter.
3. The Town should consider incorporating recreational improvements into a Town Capital Improvement Program.

**g. Town Buildings & Management of Town Government**

1. The long-term needs for Town Office space should be studied. The Selectmen should appoint a committee to identify the short- and long-term office space needs and then retain an architect to identify and evaluate alternative solutions and make recommendations to the committee. The committee should make recommendations for the Town to implement. The capital costs of meeting the long-term office needs should be added to the Town's Capital Improvement Program (CIP).
2. Identified improvements to Town buildings should be incorporated into a Town Capital Improvement Program.

**4. Land Use**

1. Protect the McDaniel's Marsh and the Bog Brook water, wetland and wildlife resources. Alternative approaches could include one or more of the following:
  - a. implementation of a large minimum lot size zone district to reduce the density of development in this environmentally sensitive area;
  - b. adoption of a large setback to provide for wildlife corridors along and around these water resources. The publication "Buffers for Wetlands and Surface Waters - A Guidebook for

New Hampshire Municipalities” last revised in May, 1997 was prepared by a consortium of organizations including: Audubon Society of New Hampshire, UNH Cooperative Extension, Natural Resource Conservation Service, and the NH Office of State Planning (now the Office of Energy and Planning). While the publication recommends a minimum buffer width of one hundred feet from all surface waters including lakes, ponds, streams and wetlands, it recognizes that larger buffers are needed particularly for the protection of wildlife corridors. The publication recommends a minimum buffer width of 660 feet to protect travel corridors for all wildlife except black bears which have a much broader range and benefit from an even wider buffer.

- c. Crafting and adopting a Wetlands Overlay District which would include buffers; and
  - d. Developing a Shoreland Overlay District to protect lakes, ponds and streams which would include buffers.
2. Consider establishing a Forest Conservation District for the Gile State Forest area and other similar forested areas with large tracts of undeveloped land to ensure continued availability for forestry, recreational and open space uses and discourage or minimize residential development. A Forest Conservation District would provide for these forestry, recreational and open space uses while requiring a large minimum lot size in the range of 25 to 50 acres to manage both the use and intensity of development permitted.

In this type of resource protection district, residential use is often permitted only with approval of a Special Exception by the Zoning Board of Adjustment.

- 3. The Town should consider adopting a more substantial natural buffer around lakes and ponds. The minimum buffer width of one hundred feet is recommended in the publication “Buffers for Wetlands and Surface Waters - A Guidebook for New Hampshire Municipalities” last revised in May, 1997.
- 4. The Town should consider adding streams to the water resources protected by the shore land regulations. Again, a minimum natural buffer of one hundred feet from the high water mark is recommended along streams by the publication cited above.
- 5. The Town should encourage the owner of Star Lake property which includes substantial frontage on Baptist Pond to consider conservation

of this unique resource and to discuss this possibility with a land trust organization.

6. The Town should consider adopting a Cluster Development provision in the zoning ordinance to provide another option for subdivision design in the community. This would provide the Planning Board and the subdivider with a more flexible approach to laying out a subdivision while preserving important open space resources.
7. The Town should consider the use of overlay districts as a method to protect natural or sensitive resources such as steep slopes and groundwater resources.
8. The Town should consider alternative methods to manage long-term growth and density of residential development in the community. As reflected in the Build-Out Study, substantial growth potential exists in the rural parts of the community. Suburbanization of these rural areas would not be consistent with the Town's goal of remaining a rural, residential community. The more traditional approach would be to create and implement different zone districts with alternative lot sizes and permitted densities of development. A new innovative approach developed in Norwich, Vermont manages the density of development based on distance from the Town service center, the quality of the road providing access to the development from the Town center and contiguity with preserved open space. The permitted density decreases with increasing distance from the Town service center, with decreasing quality of road providing access and with contiguity with conserved lands.

# APPENDIX: COMMUNITY ATTITUDE SURVEY

## SURVEY SUMMARY

- 800 Surveys Mailed to Property Owners
- 365 Surys Completed & Returned
- Response Rate = 46%
  
- Breakdown of Responses:
  - 189 Permanent Residents
  - 63 Seasonal Residents
  - 113 Nonresident Property Owners

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## 2000 TOWN PLAN SURVEY

Once again the Planning Board is updating the Town Plan as required by the New Hampshire Planning Statutes. The Town Plan is a guideline for future growth and is a tool for public and private decision making. We need your thoughts on growth issues and problems facing the town, as well as, options for achieving the future you want for yourself and for your town.

We, therefore, ask you to complete this questionnaire on these issues. This is the fourth time since 1973 that a questionnaire has been distributed. Some of the questions are similar to see if there has been any shift in your views. Other questions have been added to relate to more recent, specific concerns.

The importance of this effort is to encourage the kind of constructive growth and change which will lead to a desirable future for Springfield and its people. No questionnaire can cover all the issues in detail, but your answers, and any other comments or suggestions you wish to make, will be most helpful and important in considering means for achieving that desired future.

Copies of the Town Plan and Zoning Ordinance can be viewed at the Library and the Town Hall. The results of this Questionnaire will be posted as soon as they have been tabulated.

PLEASE RETURN THIS FORM TO THE TOWN OFFICE BY AUGUST 4<sup>TH</sup>.

## QUESTIONNAIRE

1. a. 189 Springfield is my permanent residence
- b. 63 Springfield is my seasonal/secondary residence
- c. 113 I am a nonresident Springfield property owner

2. In an order of 1 through 9 with 1 being your first choice, why do you feel Springfield is an attractive place to live?

#1		2	3	4	5	6	7	8	9
<u>168</u>	a. uncrowded living conditions	50	24	8	5	2	6	0	1
<u>23</u>	b. friendly people	56	47	48	28	9	7	2	6
<u>5</u>	c. good schools	15	12	16	24	41	39	8	29
<u>8</u>	d. community spirit	4	22	32	53	38	19	18	8
<u>15</u>	e. outdoor recreation	<u>29</u>	<u>42</u>	<u>38</u>	<u>38</u>	<u>32</u>	<u>18</u>	<u>10</u>	<u>4</u>
<u>53</u>	f. scenic quality	64	49	88	19	3	7	3	5
<u>3</u>	g. self-employment opportunities	1	5	5	9	15	32	44	58
<u>2</u>	h. area employment opportunities	5	7	10	12	14	21	64	55
<u>12</u>	i. convenience to out-of-town services (medical, shopping, etc.)	21	21	28	23	32	33	17	27

3. Between 1985 and 1999 the population of Springfield increased from 680 to 893, which is an annual growth rate of 1.8%. What is your opinion of this growth?

- a. 64 more growth than desired
- b. 210 acceptable level of growth
- c. 17 less growth than desired
- d. 69 no opinion

4. What is your opinion about the development of the following types of land uses in Springfield in the future?

Land Use Type	Support Development	Do Not Support Development	No Opinion
a. year round residences	<u>272</u>	<u>30</u>	<u>34</u>
b. seasonal/second home residences	<u>241</u>	<u>56</u>	<u>39</u>
c. light industrial	<u>164</u>	<u>118</u>	<u>41</u>
d. commercial	<u>175</u>	<u>154</u>	<u>45</u>
e. home based businesses	<u>255</u>	<u>34</u>	<u>47</u>
f. resort facilities	<u>127</u>	<u>144</u>	<u>52</u>
g. RV parks/campgrounds	<u>181</u>	<u>199</u>	<u>33</u>
h. senior housing units	<u>190</u>	<u>87</u>	<u>48</u>
i. two-family dwellings	<u>107</u>	<u>186</u>	<u>46</u>
j. multi family dwellings	<u>48</u>	<u>254</u>	<u>46</u>
k. condominiums	<u>56</u>	<u>216</u>	<u>48</u>
l. protected open space	<u>296</u>	<u>15</u>	<u>18</u>
m. other: <u>CAMP</u> <u>CHILDREN'S SUMMER</u>	<u>1</u>		
<u>FARMS, AGRICULTURE</u>	<u>2</u>		
<u>FOREST</u>	<u>1</u>		
<u>TRAILER PARKS</u>		<u>1</u>	
<u>LANDFILL, WASTE DUMP,</u>		<u>1</u>	
<u>LOADING TRAILER STATION</u>		<u>1</u>	

5. The town currently has one zone, Rural Residential. Home businesses are permitted by the Zoning Ordinance. Commercial and industrial businesses are permitted by "special exception" through application and approval with the Zoning Board. Which approach do you favor?

	YES	NO	NO OPINION
a. remain one zone, Rural Residential	<u>222</u>	<u>32</u>	<u>27</u>

OR

b. in addition to the rural residential zone, designate zone(s) for specific purposes, i.e. light industrial, commercial, agricultural, etc.	<u>115</u>	<u>52</u>	<u>9</u>
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6. What pattern of light industrial and/or commercial development would you prefer to see in Springfield? (check all that apply).

44 scattered throughout town

177 focused at Exit 12A (current Master Plan suggests)

91 focused from 4 Corners Road, west on Route 4A (current Master Plan suggests)

     other (please specify): WILBROCK HILL TO C+R, GRANITUM RD - (2), CENTER of

94 no further light industrial/commercial development in town

TOWN - (1)

7. Do you favor public investment in limited water and sewer facilities (i.e. districts) to support commercial development?

YES 39 NO 229 NO OPINION 62

8. Please name the recreational and cultural opportunities in Town that are important to you and your family:

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- b. What additional cultural and recreation programs or facilities should the Town offer?

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- c. Do you favor increasing Town funding for cultural and recreational purposes?

YES 155 NO 108 NO OPINION 79



9. Do you favor adopting more specific zoning regulations:

	YES	NO	NO OPINION
a. to protect against noise pollution	199	71	45
b. to protect against light pollution	179	75	53
c. to protect against odor pollution	216	49	45
d. to restrict communication towers	171	90	47
e. other: <u>PROTECT AGAINST CLEAR CUTTING</u>			

PROTECT SCENIC ROADS - RESTRICT HEAVY TRUCKS ON TOWN RD.

10. On lakes, ponds, wetlands, streams, and aquifers, please check those items you favor:

- 207 a. minimum lot frontage requirements
- 261 b. controls on motor size and boat speed
- 278 c. water quality testing
- 189 d. shorefront conservation strips
- 248 e. setback requirements
- 191 f. cutting restrictions

NO ANTENNAS  
NO LOW EMO CAMPS + ANTENNAS  
NADP BUILDING CODES

g. other ENFORCEMENT OF SEPTIC REQUIREMENTS

b. " of PRESENT RULES

200' SEPTIC SETBACK - PUBLIC ACCESS TO ALL LAKES

11. Based upon your knowledge and experience how do you rate the following Town NO. 1107015 or services? Please explain and/or comment in question #13. LAKES + PONDS

	excellent	good	fair	poor	no opinion	
a. police	96	184	14	4	15	
b. fire & rescue	75	113	18	4	38	
c. transfer station/recycling	25	119	22	21	75	
d. town roads - maintenance	58	142	66	21	28	
e. town roads - snowplowing	64	126	47	23	28	
f. library	107	104	19	4	78	
g. management of town	59	142	26	6	67	
h. recreation	28	102	56	10	46	
i. kindergarten	76	72	8	2	150	
j. public schools	34	94	19	6	144	
k. cemetery maintenance	41	76	15	5	103	

12. How important is the preservation of the following natural resources in Springfield to you?

	very	moderately	slightly	not
a. scenic natural resources	<u>282</u>	<u>37</u>	<u>5</u>	<u>4</u>
b. historic buildings/sites	<u>214</u>	<u>84</u>	<u>28</u>	<u>4</u>
c. agricultural lands	<u>211</u>	<u>76</u>	<u>25</u>	<u>8</u>
d. natural areas	<u>273</u>	<u>41</u>	<u>7</u>	<u>4</u>
e. surface waters	<u>265</u>	<u>49</u>	<u>5</u>	<u>6</u>
f. ground waters	<u>270</u>	<u>39</u>	<u>11</u>	<u>5</u>
g. wetlands	<u>212</u>	<u>69</u>	<u>22</u>	<u>7</u>
h. unimproved roads/trails	<u>190</u>	<u>82</u>	<u>25</u>	<u>12</u>

13. Finally, please take a few minutes to add any additional comments. What would you like to see changed or improve in the town in the future? What are your opinions on town issues which have not been addressed by this questionnaire? Your comments are appreciated and will be helpful to the effort of revising the Town Master Plan.

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- **Detailed responses to the open ended questions can be obtained in the Town**